

Compilation of Changes to the CPC Scheme Between 2018.05 and 2018.08

Presentation Details

Entries for new symbols and headings:	<i>Black text in italics</i>
Entries for existing symbols and headings	
—text insertions:	<i>Green text in italics with yellow background</i>
—text deletions:	Red strikethrough text with grey background
Entries for deleted symbols and headings:	Black strikethrough text

- In cases when the originating project cannot be found, "N/A" is given for the Project information (e.g. the change could be due to an Editorial Correction).
- Projects ending in "-F" indicate finalisation after reclassification was completed.

Project: N/A (A01B)

A01B

SOIL WORKING IN AGRICULTURE OR FORESTRY; PARTS, DETAILS, OR ACCESSORIES OF AGRICULTURAL MACHINES OR IMPLEMENTS, IN GENERAL (making or covering furrows or holes for sowing, planting, or manuring [A01C 5/00](#); soil working for engineering purposes [E01](#), [E02](#), [E21](#); {measuring areas for agricultural purposes [G01B](#)})

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

A01B 69/04	covered by	A01B 69/008
A01B 69/06	covered by	A01B 69/005
A01B 69/08	covered by	A01B 69/006

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A01C)

A01C

PLANTING; SOWING; FERTILISING (combined with general working of soil [A01B 49/04](#); parts, details or accessories of agricultural machines or implements, in general [A01B 51/00](#) - [A01B 75/00](#); {apparatus for spreading sand or salt [E01C](#); sowing and fertilising with aircraft [B64D 1/16](#) - [B64D 1/20](#)})

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A01D)

A01D

HARVESTING; MOWING {(parts, details or accessories of agricultural machines or implements in general [A01B 51/00](#) - [A01B 75/00](#))}

NOTES

1. This subclass covers the shredding or pulverising of stubble, e.g. for the purpose of producing mulch, but does not cover other mechanical destruction of unwanted vegetation, which is covered by group [A01M 21/02](#)
2. In this subclass, in groups [A01D 34/00](#), [A01D 42/00](#), [A01D 43/00](#), [A01D 57/00](#), [A01D 67/00](#), [A01D 69/00](#) and [A01D 75/00](#), it is desirable to add the indexing code of group [A01D 2101/00](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A01G)

A01G

HORTICULTURE; CULTIVATION OF VEGETABLES, FLOWERS, RICE, FRUIT, VINES, HOPS OR SEAWEED; FORESTRY; WATERING (picking of fruits, vegetables, hops, or the like [A01D 46/00](#); plant reproduction by tissue culture techniques [A01H 4/00](#); devices for topping or skinning onions or flower bulbs [A23N 15/08](#); propagating unicellular algae [C12N 1/12](#); plant cell culture [C12N 5/00](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[A01G 33/02](#) covered by [A01G 33/00](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A01H)

U A01H 6/00

Angiosperms, i.e. flowering plants, characterised by their botanic taxonomy

WARNING

Group [A01H 6/00](#) is incomplete pending reclassification of documents from groups [A01H 5/00](#), [A01H 5/02](#), [A01H 5/04](#), [A01H 5/06](#), [A01H 5/08](#), [A01H 5/10](#), and [A01H 5/12](#).

All groups listed in this Warning should be considered in order to perform a complete search.

A01H 6/16

• Balsaminaceae, e.g. Impatiens

WARNING

Group [A01H 6/16](#) is incomplete pending reclassification of documents from group [s A01H 5/00](#), [A01H 5/02](#), [A01H 5/04](#), [A01H 5/06](#), [A01H 5/08](#), [A01H 5/10](#), and [A01H 5/12](#). Group [A01H 6/16](#). ~~Group [A01H 6/16](#)~~ is also impacted by reclassification into group [A01H 6/165](#).

All groups listed in this Warning should be considered in order to perform a complete search.

Project: N/A (A01J)

A01J

MANUFACTURE OF DAIRY PRODUCTS (preservation, pasteurisation, sterilisation of milk products [A23](#); for chemical matters, see subclass [A23C](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A01K)

A01K

ANIMAL HUSBANDRY; CARE OF BIRDS, FISHES, INSECTS; FISHING; REARING OR BREEDING ANIMALS, NOT OTHERWISE PROVIDED FOR; NEW BREEDS OF ANIMALS

NOTE

This subclass covers:

- equipment for the care, culture or rearing of all animals, or for obtaining their products, unless provided for elsewhere, e.g. milking [A01J](#), shoeing animals [A01L](#), veterinary devices [A61D](#), culture of animal cells [C12M](#), [C12N](#);

- methods of breeding animals or new animal breeds.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

A01K 3/00

Pasturing equipment, e.g. tethering devices; {Guiding corridors; Corrals, e.g. portable, collapsible;} Grids for preventing cattle from straying; Electrified wire fencing (electric circuits **devices** or apparatus for supplying electric wire fencing [H05C](#))

Project: N/A (A01L)

A01L

SHOEING OF ANIMALS {(making metal horseshoes by rolling [B21H 7/12](#); making horseshoes or appurtenances therefor by forging or pressing [B21K 15/02](#); casting of metals [B22D](#))}

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A01M)

A01M

CATCHING, TRAPPING OR SCARING OF ANIMALS (appliances for catching swarms or drone-catching [A01K 57/00](#); fishing [A01K 69/00](#) - [A01K 99/00](#); biocides, pest repellants or attractants [A01N](#)); APPARATUS FOR THE DESTRUCTION OF NOXIOUS ANIMALS OR NOXIOUS PLANTS

NOTE

in this subclass, terms "killing" and "destruction" cover "non-chemical sterilisation" of invertebrates

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A01N)

A01N

PRESERVATION OF BODIES OF HUMANS OR ANIMALS OR PLANTS OR PARTS THEREOF; BIOCIDES, e.g. AS DISINFECTANTS, AS PESTICIDES, AS HERBICIDES (preparations for medical, dental or toilet purposes [A61K](#); methods or apparatus for disinfection or sterilisation in general, or for deodorising of air [A61L](#)); PEST REPELLANTS OR ATTRACTANTS (decoys [A01M 1/06](#); medicinal preparations [A61K](#)); PLANT GROWTH REGULATORS (compounds in general [C01](#), [C07](#), [C08](#); fertilisers [C05](#); soil conditioners or stabilisers [C09K 17/00](#))

NOTES

1. This subclass covers:
 - compositions, physical forms, methods of application of specific materials or the use of single compounds or compositions
 - chemosterilants for the sexual sterilisation of invertebrates, e.g. insects (sex sterilants for other purposes [A61K](#)).
2. This subclass does not cover materials which affect the growth of a plant solely by supplying nutrients, i.e. plant food, ordinarily required for growth or materials which are used to prevent or cure mineral deficiencies in plants, e.g. addition of iron chelates to cure iron chlorosis, which materials are covered by class [C05](#).
3. In this subclass, the following expression is used with the meaning indicated:

- "plant growth regulators" are those materials which alter the plant through a chemical modification of the plant metabolism, such as auxins.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

A01N 43/824	covered by	A01N 43/82
A01N 43/828	covered by	A01N 43/82
A01N 43/832	covered by	A01N 43/82
A01N 43/836	covered by	A01N 43/82
A01N 53/02	covered by	A01N 53/00
A01N 53/04	covered by	A01N 53/00
A01N 53/06	covered by	A01N 53/00
A01N 53/08	covered by	A01N 53/00
A01N 53/10	covered by	A01N 53/00
A01N 53/12	covered by	A01N 53/00
A01N 53/14	covered by	A01N 53/00
A01N 55/10	covered by	A01N 55/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (A01N)

U A01N 3/00

Preservation of plants or parts thereof, e.g. inhibiting evaporation, improvement of the appearance of leaves {or protection against physical influences such as UV radiation using chemical compositions; Grafting wax}{preservation of foodstuffs [A23](#); preservation or chemical ripening of fruit or vegetables [A23B 7/00](#)}; {(protective coverings [A01G 13/02](#))} Grafting wax

M A01N 3/04

• Grafting-wax

NOTE

~~For compositions containing more than one known active ingredients (e.g. synergistic mixtures) the symbol A01N 2300/00 is additionally given to the symbol of the main ingredient.~~

M A01N 25/00 -
A01N 65/00

Biocides; Pest repellants or attractants; Plant growth regulators

NOTES

1. Attention is drawn to the definitions of groups of chemical elements following the title of section [C](#).

2. In groups [A01N 27/00](#) - [A01N 65/00](#), *the last place priority rule is applied, i.e. at each hierarchical level*, in the absence of an indication to the contrary, ~~classification-an active ingredient~~ is ~~made~~classified in the last appropriate place ~~for an active ingredient~~.

3. A composition, i.e. a mixture of two or more active ingredients is classified in the last of groups [A01N 27/00](#) - [A01N 65/00](#) that provides for at least one of these active ingredients.

4. Any part of a composition which is not identified by the classification according to Note (3), and which itself is determined to be novel and non-obvious, must also be classified in the last appropriate place in groups [A01N 27/00](#) - [A01N 65/00](#). The part can be either a single ingredient or a composition in itself.

5. Any part of a composition which is not identified by the classification according to Note (3) or (4), and which is considered to represent information of interest for search, may also be classified in the last appropriate place in groups [A01N 27/00](#) - [A01N 65/00](#). This can, for example, be the case when it is considered of

interest to enable searching of compositions using a combination of classification symbols. Such non-obligatory classification should be given as "additional information".

~~3-6.~~ Where a compound is described as existing in tautomeric forms, it is classified as if existing in the form which is classified last in the system.

~~4-7.~~ Compounds covered by different main groups according to alternatively specified parts of their formulae are classified in every one of the relevant main groups.

~~5-8.~~ Salts formed between two or more organic compounds are classified as the compound providing the essential ion and it is also classified as the compound providing the other ion.

~~6-9.~~ Salts or metal chelates of an organic compound are classified as that compound.

~~7-10.~~ In this subclass, a foodstuff is not considered as an active ingredient.

~~8-11.~~ Different materials applied in sequence, at different times, are considered as a mixture of all materials employed.

~~9-12.~~ Synergistic or potentiated compositions are classified as if the synergist or potentiator were an active ingredient.

~~10-13.~~ In groups [A01N 25/00](#) - [A01N 65/00](#), the symbol X means nitrogen, oxygen, sulfur or a halogen; Y means nitrogen, oxygen or sulfur. A dotted line between atoms indicates an optional bond, e.g. **... ..** indicates one or two single bonds or a double bond.

~~11. In groups [A01N 25/00](#) - [A01N 65/00](#), it is required to use Combination Sets for classifying mixtures of (active or formulation-relevant) ingredients. Symbols relating to additional ingredients of mixtures or specific formulation types are added to the Combination Set of the main ingredient. The additional ingredient may be a further active ingredient (for example in case of synergistic mixtures) or may relate to a particular special formulation ingredient (such as a surfactant or safener) or to a special formulation embodiment (like a wettable powder or microcapsule).~~

Project: N/A (A21B)

A21B

BAKERS' OVENS; MACHINES OR EQUIPMENT FOR BAKING (domestic baking equipment [A47J 37/00](#); combustion apparatus [F23](#); domestic stoves or ranges being wholly or partly ovens [F24B](#), [F24C](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A21C)

A21C

MACHINES OR EQUIPMENT FOR MAKING OR PROCESSING DOUGHS; HANDLING BAKED ARTICLES MADE FROM DOUGH

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A22B)

A22B

SLAUGHTERING**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A22C)

A22C

PROCESSING MEAT, POULTRY, OR FISH (preserving [A23B](#); obtaining protein compositions for foodstuffs [A23J 1/00](#); fish, meat or poultry preparations [A23L](#); disintegrating, e.g. chopping meat, [B02C 18/00](#); preparation of proteins [C07K 1/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A23B)

A23B

PRESERVING, e.g. BY CANNING, MEAT, FISH, EGGS, FRUIT, VEGETABLES, EDIBLE SEEDS; CHEMICAL RIPENING OF FRUIT OR VEGETABLES; THE PRESERVED, RIPENED, OR CANNED PRODUCTS (preserving foodstuffs in general [A23L 3/00](#); preserving in general [A61L](#); applying food preservatives in packages [B65D 81/28](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A23C)

A23C

DAIRY PRODUCTS, e.g. MILK, BUTTER, CHEESE; MILK OR CHEESE SUBSTITUTES; MAKING THEREOF (obtaining protein compositions for foodstuffs, {e.g. from milk} , [A23J 1/00](#); preparation of peptides, e.g. of proteins, in general [C07K 1/00](#))

NOTE

This subclass covers:

- the chemical aspects of making dairy products
- the apparatus used for performing techniques provided for therein, e.g. for concentration, evaporation, drying, preservation, or sterilisation, unless such apparatus is specifically provided for in another subclass, e.g. [A01J](#) for treatment of milk or cream for manufacture of butter or cheese.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A23G)

A23G

COCOA; COCOA PRODUCTS, e.g. CHOCOLATE; SUBSTITUTES FOR COCOA OR COCOA PRODUCTS; CONFECTIONERY; CHEWING GUM; ICE-CREAM; PREPARATION THEREOF

NOTES

1. In this subclass, the following term is used with the meaning indicated:

- "ice-cream" includes any edible frozen or congealed semi-liquid or pasty substance, e.g. slush ice

2. In this subclass, subject matter which cannot be completely classified in a single one of the main groups should be classified in each relevant main group

3. The classification symbols of groups:

[A23G 1/305](#), [A23G 1/56](#), [A23G 3/343](#), [A23G 3/346](#), [A23G 4/062](#), [A23G 9/322](#) and [A23G 9/52](#)

can be followed by additional symbols preceded by the sign "+", e.g. [A23G 1/56 +D8](#). The symbols give further information concerning structure, composition or form and have the meaning as listed below:

D	. Containing organic compounds
D2	.. containing microorganisms, enzymes
D4	.. containing vitamins, antibiotics
D6	.. containing beet sugar or cane sugar if specifically mentioned; containing other carbohydrates, e.g. starches, gums, alcohol sugar, polysaccharides, dextrans
D8	.. containing cocoa fat if specifically mentioned; containing products of cocoa fat; containing other fats, e.g. fatty acid, fatty alcohol, their esters, lecithin, paraffins
D10	.. containing amino-acids, proteins, e.g. gelatine, polypeptides
D12	.. containing dairy products
D14	.. containing fruits, nuts, e.g. almonds, seeds, plants or their extracts (gums D6)
F	. Containing inorganic compounds
H	. Products with special structure
H2	.. foamed, gas-expanded or cellular products
H4	.. products with a supported structure
H4D	... products with an inedible support, e.g. a stick
H4F	... products with an edible support, e.g. a cornet
H6	.. products with a composite structure, e.g. laminated products
H8	.. hollow products, e.g. with inedible or edible filling, fixed or movable within the cavity

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A23J)

A23J

PROTEIN COMPOSITIONS FOR FOODSTUFFS; WORKING-UP PROTEINS FOR FOODSTUFFS; PHOSPHATIDE COMPOSITIONS FOR FOODSTUFFS (fodder [A23K](#); protein compositions or phosphatide compositions for pharmaceuticals [A61K](#); phosphatides per se [C07F 9/10](#); proteins per se [C07K](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (A23J)

M A23J 3/00

Working-up of proteins for foodstuffsNOTE

In groups [A23J 3/04](#) - [A23J 3/20](#), *the last place priority rule is applied, i.e. at each hierarchical level*, in the absence of an indication to the contrary, ~~classification-a substance~~ is ~~made~~*classified* in the last appropriate place.

Project: N/A (A23L)

A23L

FOODS, FOODSTUFFS, OR NON-ALCOHOLIC BEVERAGES, NOT COVERED BY SUBCLASSES [A23B](#) - [A23J](#); THEIR PREPARATION OR TREATMENT, e.g. COOKING, MODIFICATION OF NUTRITIVE QUALITIES, PHYSICAL TREATMENT (shaping or working, not fully covered by this subclass, [A23P](#)); PRESERVATION OF FOODS OR FOODSTUFFS, IN GENERAL

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (A23L)

M A23L 3/00

Preservation of foods or foodstuffs, in general, e.g. pasteurising, sterilising, specially adapted for foods or foodstuffs (preservation of flour or bread [A21D](#); processes specially adapted for particular foods or foodstuffs, see the relevant groups for the foods or foodstuffs in [A23](#); preserving foods or foodstuffs in association with packaging [B65B 55/00](#); preservation of alcoholic beverages [C12H](#))

NOTE

In groups [A23L 3/3472](#) - [A23L 3/3562](#), the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place. {This Note corresponds to IPC Note (1) relating to [A23L 3/3472](#) - [A23L 3/3562](#)}

U A23L 3/34

- by treatment with chemicals

U A23L 3/3454

- • in the form of liquids or solids

U A23L 3/3463

- • • Organic compounds; Microorganisms; Enzymes

M A23L 3/34635

- • • • {Antibiotics}

NOTE

In groups [A23L 3/3472](#) - [A23L 3/3562](#), in the absence of an indication to the contrary, classification is made in the last appropriate place

Project: N/A (A23N)

A23N

MACHINES OR APPARATUS FOR TREATING HARVESTED FRUIT, VEGETABLES OR FLOWER BULBS IN BULK, NOT OTHERWISE PROVIDED FOR; PEELING VEGETABLES OR FRUIT IN BULK; APPARATUS FOR PREPARING ANIMAL FEEDING- STUFFS (machines for cutting straw or fodder [A01F 29/00](#); disintegrating, e.g. shredding, [B02C](#); severing, e.g. cutting, splitting, slicing [B26B](#), [B26D](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A23P)

A23P

SHAPING OR WORKING OF FOODSTUFFS, NOT FULLY COVERED BY A SINGLE OTHER SUBCLASSNOTE

Attention is drawn to subclasses [A01J](#), [A21C](#), [A22C](#), [A47J](#), [B02C](#), in addition to other subclasses of [A23](#), in connection with the shaping or working of foodstuffs

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A24B)

A24B

MANUFACTURE OR PREPARATION OF TOBACCO FOR SMOKING OR CHEWING; TOBACCO; SNUFFWARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (A24B)

M A24B 15/00

Chemical features or treatment of tobacco; Tobacco substitutes ([A24B 3/00](#) takes precedence)

NOTE

In groups [A24B 15/30](#) - [A24B 15/42](#), the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place for a substance. {This Note corresponds to IPC Note (1) relating to [A24B 15/30](#) - [A24B 15/42](#).}

U A24B 15/18

- Treatment of tobacco products or tobacco substitutes

U A24B 15/28

- • by chemical substances

U A24B 15/281

- • • {the action of the chemical substances being delayed}

M A24B 15/283

- • • • {by encapsulation of the chemical substances}

NOTE

In groups [A24B 15/30](#) - [A24B 15/42](#), in the absence of an indication to the contrary, classification is made in the last appropriate place for a substance

Project: N/A (A24C)

A24C

MACHINES FOR MAKING CIGARS OR CIGARETTESWARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A24D)

A24D

CIGARS; CIGARETTES; TOBACCO SMOKE FILTERS; MOUTHPIECES FOR CIGARS OR CIGARETTES; MANUFACTURE OF TOBACCO SMOKE FILTERS OR MOUTHPIECES**WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: N/A (A24F)**

A24F

SMOKERS' REQUISITES; MATCH BOXES (lighters [F23Q](#))**WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: N/A (A41B)**

A41B

SHIRTS; UNDERWEAR; BABY LINEN; HANDKERCHIEFS**WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: N/A (A41D)**

A41D

OUTERWEAR; PROTECTIVE GARMENTS; ACCESSORIES (eye or ear protectors [A61F 9/00](#), [A61F 11/00](#); sweating suits [A61H 36/00](#))**NOTE**

In this subclass, the following term is used with the meaning indicated:

- "outerwear" covers dressing-gowns, bathing costumes and pyjamas

WARNING*In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: N/A (A41F)**

A41F

GARMENT FASTENINGS; SUSPENDERS**WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: N/A (A41G)**

A41G

ARTIFICIAL FLOWERS; WIGS; MASKS; FEATHERS**WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.*

Project: N/A (A41H)

A41H

APPLIANCES OR METHODS FOR MAKING CLOTHES, e.g. FOR DRESS-MAKING, FOR TAILORING, NOT OTHERWISE PROVIDED FOR (machines, appliances, or methods for making particular articles of apparel, see the relevant groups for these articles in [A41B](#) - [A41F](#); cutting tools or machines in general [B26](#); weaving, braiding, lace-making, knitting, tufting, treating of textiles [D03](#) - [D06](#); sewing-machines, sewing appliances, seam-ripping devices [D05B](#); cutting or otherwise severing textile materials [D06H 7/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A42B)

A42B

HATS; HEAD COVERINGS (headbands, head-scarves [A41D 20/00](#), [A41D 23/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A42C)

A42C

MANUFACTURING OR TRIMMING HATS OR OTHER HEAD COVERINGS

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (A42C)

U A42C 1/00

Manufacturing hats

M A42C 1/02

· Making hat-bats; Bat-forming machines; Conical bat machines; Bat-forming tools (~~felted in general [D04H](#)~~)

M A42C 5/00

Fittings or trimmings for hats, e.g. hat-bands (~~artificial flowers, feathers [A41G](#)~~)

Project: N/A (A43B)

A43B

CHARACTERISTIC FEATURES OF FOOTWEAR; PARTS OF FOOTWEAR

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[A43B 21/10](#) - [A43B 21/16](#) covered by [A43B 21/06](#)

[A43B 21/34](#) covered by [A43B 21/24](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A43C)

A43C

FASTENINGS OR ATTACHMENTS OF FOOTWEAR; LACES IN GENERAL**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A43D)

A43D

MACHINES, TOOLS, EQUIPMENT OR METHODS FOR MANUFACTURING OR REPAIRING FOOTWEAR**NOTE**

In this subclass, a method of manufacturing footwear which is dependent on a distinct machine or tool, is classified in the group covering the machine or tool for the manufacture.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A44B)

A44B

BUTTONS, PINS, BUCKLES, SLIDE FASTENERS, OR THE LIKE (fastenings specially adapted for footwear [A43C](#))**NOTE**

This subclass covers buckles or slide fasteners whether used as haberdashery or otherwise.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[A44B 1/16](#) covered by [A44B 1/14](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (A44C)

M A44C

**JEWELLERY; BRACELETS; OTHER PERSONAL ADORNMENTS; COINS
(~~jewel boxes A45C 11/16~~)****WARNING**

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[A44C 11/02](#) covered by [A44C 5/18](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

M A44C 3/00

Medals; Badges (~~pendants, crosses, crucifixes or charms A44C 25/00; settings for holding gems or the like A44C 17/02~~); Badges (frames or housings for storing same A47G 1/12)

M A44C 27/00

Making jewellery or other personal adornments (~~single step processes, see the relevant places, e.g. making rings from wire B21F 37/00~~)

Project: N/A (A46B)

A46B

BRUSHES (handles not integral with brushware [B25G](#))WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[A46B 11/02](#) covered by [A46B 11/00](#) or [A46B 11/0017](#)
or [A46B 11/0017](#) or
[A46B 11/002](#)

[A46B 11/04](#) covered by [A46B 11/00](#) or [A46B 11/0013](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A46D)

A46D

MANUFACTURE OF BRUSHESWARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0019 (A47)

M A47

FURNITURE (~~arrangements of seats for, or adaptations of seats to, vehicles B60N~~); DOMESTIC ARTICLES OR APPLIANCES; COFFEE MILLS; SPICE MILLS; SUCTION CLEANERS IN GENERAL (~~ladders E06C~~)NOTE

In this subclass, the following term is used with the meaning indicated:

- "furniture" covers also easels or stands, e.g. for blackboards or drawing tables.

Project: N/A (A47B)

A47B

TABLES; DESKS; OFFICE FURNITURE; CABINETS; DRAWERS; GENERAL DETAILS OF FURNITURE (furniture jointing [F16B](#))NOTE

In this subclass, the following terms are used with the meanings indicated:

- "tables" covers also tables or underframes therefor for other than domestic use;
- "cabinets" or "racks" covers also cabinets or racks for storage in general.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[A47B 21/013](#) and subgroups covered by [A47B 21/00](#) and subgroups are

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A47C)

A47C

CHAIRS (seats specially adapted for vehicles [B60N 2/00](#)); SOFAS; BEDS (upholstery in general [B68G](#))WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

A47C 23/053 covered by [A47C 23/05](#), [A47C 23/0507](#),
[A47C 23/0515](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0019 (A47C)

U A47C 1/00 Chairs adapted for special purposes (features relating to vertical adjustability [A47C 3/20](#); convertible chairs [A47C 13/00](#); chairs or personal conveyances specially adapted for patients or disabled persons [A61G 5/00](#); operating chairs, dental chairs [A61G 15/00](#))

U A47C 1/02

- Reclining or easy chairs (supports for parts of body [A47C 7/36](#), [A47C 7/50](#), [A47C 7/54](#))

U A47C 1/022

- • having independently-adjustable supporting parts

C A47C 1/03

- • • the parts being arm-rests {(conversion into a bed [A47C 17/12](#))}

WARNING

Group [A47C 1/03](#) is incomplete pending reclassification of documents from group [A47C 7/54](#), [A47C 7/543](#) and [A47C 7/546](#).

Group [A47C 1/03](#) is also impacted by reclassification into groups [A47C 1/0303](#), [A47C 1/0305](#), [A47C 1/0307](#), [A47C 1/0308](#) and [A47C 7/541](#).

All groups listed in this Warning should be considered in order to perform a complete search.

N A47C 1/0303

- • • {adjustable rectilinearly in vertical direction}

WARNING

Group [A47C 1/0303](#) is incomplete pending reclassification of documents from groups [A47C 1/03](#), [A47C 7/54](#), [A47C 7/543](#) and [A47C 7/546](#).

All groups listed in this Warning should be considered in order to perform a complete search.

N A47C 1/0305

- • • • {by peg-and-notch or pawl-and-ratchet mechanism}

WARNING

Group [A47C 1/0305](#) is incomplete pending reclassification of documents from groups [A47C 1/03](#), [A47C 7/54](#), [A47C 7/543](#) and [A47C 7/546](#).

All groups listed in this Warning should be considered in order to perform a complete search.

N A47C 1/0307

- • • • {adjustable rectilinearly in horizontal direction}

WARNING

Group [A47C 1/0307](#) is incomplete pending reclassification of documents from groups [A47C 1/03](#), [A47C 7/54](#), [A47C 7/543](#) and [A47C 7/546](#).

All groups listed in this Warning should be considered in order to perform a complete search.

N A47C 1/0308

- • • • {adjustable by rotation}

WARNING

Group [A47C 1/0308](#) is incomplete pending reclassification of documents from groups [A47C 1/03](#), [A47C 7/54](#), [A47C 7/543](#) and [A47C 7/546](#).

All groups listed in this Warning should be considered in order to perform a complete search.

M A47C 1/031

- • having coupled {concurrently} adjustable supporting parts

- U A47C 1/032 . . . the parts being movably-coupled seat and back-rest ([A47C 1/035](#) takes precedence)
- M A47C 1/03255 . . . {with a central column, e.g. rocking office chairs ~~{seat and back-rest not movably coupled A47C 3/026}~~}
- C A47C 1/03261 . . . {characterised by elastic means}
- WARNING**
*Group [A47C 1/03261](#) is incomplete pending reclassification of documents from group [A47C 7/14](#).
 Group [A47C 1/03261](#) is also impacted by reclassification into groups [A47C 1/03277](#) and [A47C 1/03279](#).
 All groups listed in this Warning should be considered in order to perform a complete search.*
- C A47C 1/03266 . . . {with adjustable elasticity}
- WARNING**
*Group [A47C 1/03266](#) is incomplete pending reclassification of documents from group [A47C 7/14](#).
 Group [A47C 1/03266](#) is also impacted by reclassification into groups [A47C 1/03277](#) and [A47C 1/03279](#).
 All groups listed in this Warning should be considered in order to perform a complete search.*
- C A47C 1/03272 . . . {with coil springs}
- WARNING**
*Group [A47C 1/03272](#) is incomplete pending reclassification of documents from group [A47C 7/14](#).
 Group [A47C 1/03272](#) is also impacted by reclassification into group [A47C 1/03274](#).
 Groups [A47C 7/14](#), [A47C 1/03272](#) and [A47C 1/03274](#) should be considered in order to perform a complete search.*
- N A47C 1/03274 . . . {of torsion type}
- WARNING**
*Group [A47C 1/03274](#) is incomplete pending reclassification of documents from groups [A47C 1/03272](#) and [A47C 7/14](#).
 Groups [A47C 1/03272](#), [A47C 7/14](#) and [A47C 1/03274](#) should be considered in order to perform a complete search.*
- C A47C 1/03277 . . . {with **bar or** leaf springs}
- WARNING**
*Group [A47C 1/03277](#) is incomplete pending reclassification of documents from groups [A47C 1/03261](#), [A47C 1/03266](#) and [A47C 7/14](#).
 Group [A47C 1/03277](#) is also impacted by reclassification into group [A47C 1/03279](#).
 All groups listed in this Warning should be considered in order to perform a complete search.*
- N A47C 1/03279 . . . {of torsion type}
- WARNING**
*Group [A47C 1/03279](#) is incomplete pending reclassification of documents from groups [A47C 1/03261](#), [A47C 1/03266](#), [A47C 1/03277](#) and [A47C 7/14](#).
 All groups listed in this Warning should be considered in order to perform a complete search.*

- E A47C 1/03283 {with fluid springs}
- WARNING**
Group A47C 1/03283 is incomplete pending reclassification of documents from group A47C 7/14. Groups A47C 7/14 and A47C 1/03283 should be considered in order to perform a complete search.
- E A47C 1/03288 {with resilient blocks}
- WARNING**
Group A47C 1/03288 is incomplete pending reclassification of documents from group A47C 7/14. Groups A47C 7/14 and A47C 1/03288 should be considered in order to perform a complete search.
- M A47C 1/034 . . . the parts including a leg-rest or foot-rest ([A47C 1/037](#) takes precedence; ~~{supports for the feet or the legs coupled to fixed parts of the chair A47C 7/50; independent foot-rests or leg-rests A47C 16/02}~~)
- U A47C 3/00 Chairs characterised by structural features; Chairs or stools with rotatable or vertically-adjustable seats ([A47C 1/00](#), [A47C 4/00](#) take precedence)**
- U A47C 3/02 . Rocking chairs (specially for children [A47D 13/10](#))
- C A47C 3/025 . . with seat, or seat and back-rest unit elastically {or pivotally} mounted in a rigid {base} frame
- WARNING**
Group A47C 3/025 is impacted by reclassification into group A47C 3/0251. Groups A47C 3/025 and A47C 3/0251 should be considered in order to perform a complete search.
- N A47C 3/0251 . . . {driven by electric motors}
- WARNING**
Group [A47C 3/0251](#) is incomplete pending reclassification of documents from groups [A47C 3/025](#), [A47C 3/0252](#), [A47C 3/0255](#), [A47C 3/0257](#), [A47C 3/026](#) and [A47C 3/027](#). All groups listed in this Warning should be considered in order to perform a complete search.
- C A47C 3/0252 . . . {connected only by an elastic member positioned between seat and base frame}
- WARNING**
Group [A47C 3/0252](#) is impacted by reclassification into group [A47C 3/0251](#). Groups [A47C 3/0252](#) and [A47C 3/0251](#) should be considered in order to perform a complete search.
- C A47C 3/0255 . . . {pivotally mounted in the base frame, e.g. swings}
- WARNING**
Group [A47C 3/0255](#) is impacted by reclassification into group [A47C 3/0251](#). Groups [A47C 3/0255](#) and [A47C 3/0251](#) should be considered in order to perform a complete search.
- C A47C 3/0257 . . . {slidingly movable in the base frame, e.g. by rollers}
- WARNING**
Group [A47C 3/0257](#) is impacted by reclassification into group [A47C 3/0251](#). Groups [A47C 3/0257](#) and [A47C 3/0251](#) should be considered in order to perform a complete search.

- C A47C 3/026
- • • with central column, e.g. rocking office chairs; Tilting chairs
- WARNING**
Group [A47C 3/026](#) is impacted by reclassification into group [A47C 3/0251](#). Groups [A47C 3/026](#) and [A47C 3/0251](#) should be considered in order to perform a complete search.
- C A47C 3/027
- • • with curved rocking members between seat and {base} frame
- WARNING**
Group [A47C 3/027](#) is impacted by reclassification into group [A47C 3/0251](#). Groups [A47C 3/027](#) and [A47C 3/0251](#) should be considered in order to perform a complete search.
- M A47C 3/20
- Chairs or stools with vertically-adjustable seats (tables with variable height [A47B 9/00](#) {; locking of telescopic systems in general [F16B 7/10](#)})
- U A47C 7/00** **Parts, details, or accessories of chairs or stools (attaching to floor [A47B 91/08](#))**
- U A47C 7/02
- Seat parts (adaptation of seats to mounting in tubular chairs [A47C 5/06](#); such parts not restricted to chairs [A47C 23/00](#); removable upholstered units or cushions [A47C 27/00](#))
- C A47C 7/021
- • {Detachable or loose seat cushions}
- WARNING**
Group [A47C 7/021](#) is impacted by reclassification into group [A47C 7/0213](#). Groups [A47C 7/021](#) and [A47C 7/0213](#) should be considered in order to perform a complete search.
- N A47C 7/0213
- • • {detachably secured to seats, e.g. by ties or hook and loop straps}
- WARNING**
Group [A47C 7/0213](#) is incomplete pending reclassification of documents from group [A47C 7/021](#). Groups [A47C 7/021](#) and [A47C 7/0213](#) should be considered in order to perform a complete search.
- D A47C 7/022
- • {especially profiled for adaptation to body contour} <administratively transferred to [A47C 7/029](#)>
- U A47C 7/025
- • {Springs not otherwise provided for in [A47C 7/22](#) - [A47C 7/35](#)}
- U A47C 7/028
- • • {with wooden springs, e.g. slated type}
- N A47C 7/029
- • {of non-adjustable shape adapted to a user contour or ergonomic seating positions}
- C A47C 7/14
- • of adjustable shape; elastically mounted {; adaptable to a user contour or ergonomic seating positions (movably-coupled seat and backrests with elastic adjustment means [A47C 1/03261](#); elastically-mounted back-rests or backrest-seat units in the base frame [A47C 7/44](#))}
- WARNING**
Group [A47C 7/14](#) is impacted by reclassification into groups [A47C 7/142](#), [A47C 7/144](#), [A47C 7/44](#), [A47C 7/441](#), [A47C 7/443](#), [A47C 7/444](#), [A47C 7/445](#), [A47C 7/4454](#), [A47C 7/446](#), [A47C 7/448](#), [A47C 1/03261](#), [A47C 1/03266](#), [A47C 1/03272](#), [A47C 1/03274](#), [A47C 1/03277](#), [A47C 1/03279](#), [A47C 1/03283](#) and [A47C 1/03288](#). All groups listed in this Warning should be considered in order to perform a complete search.

- N A47C 7/142 . . . {by fluid means}
- WARNING
Group [A47C 7/142](#) is incomplete pending reclassification of documents from group [A47C 7/14](#).
Groups [A47C 7/14](#) and [A47C 7/142](#) should be considered in order to perform a complete search.
- N A47C 7/144 . . . {with array of movable supports}
- WARNING
Group [A47C 7/144](#) is incomplete pending reclassification of documents from group [A47C 7/14](#).
Groups [A47C 7/14](#) and [A47C 7/144](#) should be considered in order to perform a complete search.
- U A47C 7/36 . Support for the head or the back
- M A47C 7/38 . . for the head {(adjustable coupled to reclining or easy chairs [A47C 1/036](#); ~~for operating or dental chairs A61G 15/00; for car seats B60N 2/80~~)}
- M A47C 7/383 . . . {Detachable or loose head- or neck-supports, e.g. horse-shoe shaped ~~(detachable head rests for cars B60N 2/882)~~}
- U A47C 7/40 . . for the back
- M A47C 7/42 . . . of detachable {or loose} type ~~-(detachable or loose back supports associated with beds A47C 20/027)}~~
- C A47C 7/44 . . . with elastically-mounted {back-rest or backrest-seat unit in the base} frame
- WARNING
Group [A47C 7/44](#) is incomplete pending reclassification of documents from group [A47C 7/14](#).
Group [A47C 7/44](#) is also impacted by reclassification into groups [A47C 7/444](#), [A47C 7/445](#) and [A47C 7/445A](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- E A47C 7/441 {with adjustable elasticity}
- WARNING
Group [A47C 7/441](#) is incomplete pending reclassification of documents from group [A47C 7/14](#).
Groups [A47C 7/14](#) and [A47C 7/441](#) should be considered in order to perform a complete search.
- C A47C 7/443 {with coil springs}
- WARNING
Group [A47C 7/443](#) is incomplete pending reclassification of documents from group [A47C 7/14](#).
Group [A47C 7/443](#) is also impacted by reclassification into group [A47C 7/444](#).
Groups [A47C 7/14](#), [A47C 7/443](#) and [A47C 7/444](#) should be considered in order to perform a complete search.
- N A47C 7/444 {of torsion type}
- WARNING
Group [A47C 7/444](#) is incomplete pending reclassification of documents from groups [A47C 7/14](#), [A47C 7/44](#) and [A47C 7/443](#).
All groups listed in this Warning should be considered in order to perform a complete search.

- C A47C 7/445 {with *bar or* leaf springs}
- WARNING
Group A47C 7/445 is incomplete pending reclassification of documents from groups A47C 7/14 and A47C 7/44. Group A47C 7/445 is also impacted by reclassification into group A47C 7/4454. All groups listed in this Warning should be considered in order to perform a complete search.
- N A47C 7/4454 {of torsion type}
- WARNING
Group A47C 7/4454 is incomplete pending reclassification of documents from groups A47C 7/14, A47C 7/44 and A47C 7/445. All groups listed in this Warning should be considered in order to perform a complete search.
- E A47C 7/446 {with fluid springs}
- WARNING
Group A47C 7/446 is incomplete pending reclassification of documents from group A47C 7/14. Groups A47C 7/14 and A47C 7/446 should be considered in order to perform a complete search.
- E A47C 7/448 {with resilient blocks}
- WARNING
Group A47C 7/448 is incomplete pending reclassification of documents from group A47C 7/14. Groups A47C 7/14 and A47C 7/448 should be considered in order to perform a complete search.
- M A47C 7/50 . Supports for the feet or the legs {coupled to fixed parts of the chair} (coupled to other adjustable parts {of the *reclining or easy* chair} [A47C 1/034](#), [A47C 1/037](#); {stand-alone rests or supports for the feet or the legs, e.g.} [footstools A47C 16/02](#))
- C A47C 7/506 . . {of adjustable type}
- WARNING
Group A47C 7/506 is impacted by reclassification into groups A47C 7/5062, A47C 7/5064, A47C 7/5066 and A47C 7/5068. All groups listed in this Warning should be considered in order to perform a complete search.
- N A47C 7/5062 . . . {rectilinearly}
- WARNING
Group A47C 7/5062 is incomplete pending reclassification of documents from group A47C 7/506. Groups A47C 7/506 and A47C 7/5062 should be considered in order to perform a complete search.
- N A47C 7/5064 {in vertical direction}
- WARNING
Group A47C 7/5064 is incomplete pending reclassification of documents from group A47C 7/506. Groups A47C 7/506 and A47C 7/5064 should be considered in order to perform a complete search.

- N A47C 7/5066
- • • {by rotation}
- WARNING
Group [A47C 7/5066](#) is incomplete pending reclassification of documents from group [A47C 7/506](#).
Groups [A47C 7/506](#) and [A47C 7/5066](#) should be considered in order to perform a complete search.
- N A47C 7/5068
- • • • {actuated by linkages}
- WARNING
Group [A47C 7/5068](#) is incomplete pending reclassification of documents from group [A47C 7/506](#).
Groups [A47C 7/506](#) and [A47C 7/5068](#) should be considered in order to perform a complete search.
- C A47C 7/54
- Supports for the arms
- WARNING
Group [A47C 7/54](#) is impacted by reclassification into groups [A47C 7/541](#), [A47C 1/03](#), [A47C 1/0303](#), [A47C 1/0305](#), [A47C 1/0307](#) and [A47C 1/0308](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N A47C 7/541
- • {of adjustable type (adjustable arm-rests of reclining or easy chairs [A47C 1/03](#))}
- WARNING
Group [A47C 7/541](#) is incomplete pending reclassification of documents from groups [A47C 1/03](#), [A47C 7/54](#), [A47C 7/543](#) and [A47C 7/546](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- C A47C 7/543
- • {movable to inoperative position}
- WARNING
Group [A47C 7/543](#) is impacted by reclassification into groups [A47C 7/541](#), [A47C 1/03](#), [A47C 1/0303](#), [A47C 1/0305](#), [A47C 1/0307](#) and [A47C 1/0308](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- C A47C 7/546
- • {of detachable type}
- WARNING
Group [A47C 7/546](#) is impacted by reclassification into groups [A47C 7/541](#), [A47C 1/03](#), [A47C 1/0303](#), [A47C 1/0305](#), [A47C 1/0307](#) and [A47C 1/0308](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- C A47C 7/62
- Accessories for chairs
- WARNING
Group [A47C 7/62](#) is impacted by reclassification into groups [A47C 7/622](#), [A47C 7/624](#), [A47C 7/626](#) and [A47C 7/628](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N A47C 7/622
- • {Receptacles, e.g. cup holders, storage containers}
- WARNING
Group [A47C 7/622](#) is incomplete pending reclassification of documents from groups [A47C 7/62](#), [A47C 7/68](#) and [A47C 7/70](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N A47C 7/624
- • • {located on side of seat, e.g. on armrest}
- WARNING
Group [A47C 7/624](#) is incomplete pending reclassification of documents from groups [A47C 7/62](#), [A47C 7/68](#) and [A47C 7/70](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N A47C 7/626
- • • {directly under the seat}
- WARNING
Group [A47C 7/626](#) is incomplete pending reclassification of documents from groups [A47C 7/62](#), [A47C 7/68](#) and [A47C 7/70](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N A47C 7/628
- • • • {accessible by displacement of seat}
- WARNING
Group [A47C 7/628](#) is incomplete pending reclassification of documents from groups [A47C 7/62](#), [A47C 7/68](#) and [A47C 7/70](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- C A47C 7/66
- • Means to protect against weather
- WARNING
Group [A47C 7/66](#) is impacted by reclassification into groups [A47C 7/664](#) and [A47C 7/666](#).
Groups [A47C 7/66](#), [A47C 7/664](#) and [A47C 7/666](#) should be considered in order to perform a complete search.
- N A47C 7/664
- • • {of umbrella type}
- WARNING
Group [A47C 7/664](#) is incomplete pending reclassification of documents from group [A47C 7/66](#).
Groups [A47C 7/66](#) and [A47C 7/664](#) should be considered in order to perform a complete search.
- N A47C 7/666
- • • {of enclosure type with side panels}
- WARNING
Group [A47C 7/666](#) is incomplete pending reclassification of documents from group [A47C 7/66](#).
Groups [A47C 7/66](#) and [A47C 7/666](#) should be considered in order to perform a complete search.
- C A47C 7/68
- • Arm-rest tables {; or back-rest tables-} (~~suspended or hinged panels forming a table A47B-5/00~~); Cup-holders}
- WARNING
Group [A47C 7/68](#) is incomplete pending reclassification of documents from group [A47B 39/00](#).
~~Groups Group A47B-39/00 and A47C 7/68~~ is also impacted by reclassification into groups [A47C 7/622](#), [A47C 7/624](#), [A47C 7/626](#) and [A47C 7/628](#).
All groups listed in this Warning should be considered in order to perform a complete search.

- C A47C 7/70
- • • of foldable ~~for detachable~~-type
- WARNING**
Group [A47C 7/70](#) is impacted by reclassification into groups [A47C 7/705](#), [A47C 7/622](#), [A47C 7/624](#), [A47C 7/626](#) and [A47C 7/628](#). All groups listed in this Warning should be considered in order to perform a complete search.
- N A47C 7/705
- • • {of detachable type}
- WARNING**
Group [A47C 7/705](#) is incomplete pending reclassification of documents from group [A47C 7/70](#). Groups [A47C 7/70](#) and [A47C 7/705](#) should be considered in order to perform a complete search.
- C A47C 7/72
- • Adaptations for incorporating lamps, radio sets, bars, telephones, ventilation, heating or cooling arrangements or the like
- WARNING**
Group [A47C 7/72](#) is impacted by reclassification into groups [A47C 7/723](#) and [A47C 7/727](#). Groups [A47C 7/72](#), [A47C 7/723](#) and [A47C 7/727](#) should be considered in order to perform a complete search.
- N A47C 7/723
- • • {with display screens}
- WARNING**
Group [A47C 7/723](#) is incomplete pending reclassification of documents from group [A47C 7/72](#). Groups [A47C 7/72](#) and [A47C 7/723](#) should be considered in order to perform a complete search.
- U A47C 7/725
- • • {for illumination, e.g. lamps}
- N A47C 7/727
- • • {with speakers}
- WARNING**
Group [A47C 7/727](#) is incomplete pending reclassification of documents from group [A47C 7/72](#). Groups [A47C 7/727](#) and [A47C 7/727](#) should be considered in order to perform a complete search.
- M A47C 27/00
- Stuffed Spring, stuffed or fluid mattresses {or cushions} specially adapted for chairs, beds or sofas-~~arrangements for preventing bed-sores or for supporting patients with burns, e.g. mattresses specially adapted therefor, A61G 7/057; ready-made upholstery pads in general B68G 5/00; making mattresses B68G 7/00~~**
- M A47C 27/002
- {Mattress *or cushion* tickings or covers (~~bed cover holders A47C 21/02; mattress hand-straps A47C 31/08; bed linen-, blankets or counterpanes A47G 9/0238 A47G 9/02~~)}
- M A47C 27/08
- {Fluid mattresses, e.g. ~~pneumatic mattresses, {Liquid mattresses or mattresses with fluid-like particles cushions}~~(connecting valves to inflatable elastic bodies [B60C 29/00](#))}
- M A47C 27/081
- • {~~Pneumatic mattresses of pneumatic type~~}
- M A47C 27/085
- • {~~Liquid mattresses of liquid type~~, e.g. filled with water or gel}
- M A47C 27/086
- • {~~Fluid with fluid-like particles mattresses~~, e.g. filled with beads}
- M A47C 27/087
- • {with means for connecting opposite sides ~~of the mattress~~, e.g. internal ties or strips}

Project: N/A (A47G)**A47G****HOUSEHOLD OR TABLE EQUIPMENT (book-ends [A47B 5/00](#); knives [B26B](#))**NOTE

This subclass covers equipment for similar use in hotels, dressing rooms, vehicles, or the like, not otherwise provided for

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[A47G 25/42](#)

covered by

[A47G 25/40](#),[A47G 2025/4092](#)[A47G 25/46](#)

covered by

[A47G 25/44](#), [A47G 2025/448](#)[A47G 25/64](#)

covered by

[A47G 25/62](#), [A47G 2025/629](#)[A47G 29/02](#)

covered by

[A47B 97/001](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A47H)**A47H****FURNISHINGS FOR WINDOWS OR DOORS (concerned with the functioning of the door or window [E05](#); roller blinds [E06B](#))**WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[A47H 13/10](#)

covered by

[A47H 15/02](#)[A47H 13/12](#)

covered by

[A47H 15/04](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0336 (A47J)**M A47J****KITCHEN EQUIPMENT ~~{{domestic washing or cleaning A47L; refuse receptacles B65F 1/00}}~~; COFFEE MILLS; SPICE MILLS; APPARATUS FOR MAKING BEVERAGES (disintegrating, e.g. mincing, [B02C](#); severing, e.g. cutting, slicing, [B26B](#), [B26D](#))**WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

U A47J 19/00**Household machines for straining foodstuffs; Household implements for mashing or straining foodstuffs (for foodstuffs in bulk [A23N](#))****C A47J 19/02**

- Citrus fruit squeezers; Other fruit juice extracting devices

WARNING

Group [A47J 19/02](#) is incomplete pending reclassification of documents from group [A47J 19/022](#).

Group [A47J 19/02](#) is also impacted by reclassification into groups [A47J 19/023](#) and [A47J 19/025](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- F A47J 19/022
(Frozen)
- {Hand devices}
- WARNING**
Group [A47J 19/022](#) is no longer used for the classification of documents as of August 1, 2018.
The content of this is being reclassified into groups [A47J 19/023](#) and [A47J 19/02](#).
Groups [A47J 19/022](#), [A47J 19/023](#) and [A47J 19/02](#) should be considered in order to perform a complete search.
- N A47J 19/023
- {including a pressing cone or reamer}
- WARNING**
Group [A47J 19/023](#) is incomplete pending reclassification of documents from groups [A47J 19/02](#) and [A47J 19/022](#).
Groups [A47J 19/02](#), [A47J 19/022](#) and [A47J 19/023](#) should be considered in order to perform a complete search.
- E A47J 19/025
- - {withincluding a pressing screw}
- WARNING**
Group [A47J 19/025](#) is incomplete pending reclassification of documents from group [A47J 19/02](#).
Groups [A47J 19/02](#) and [A47J 19/025](#) should be considered in order to perform a complete search.
- M A47J 27/00** **Cooking-vessels ([A47J 29/00](#) - [A47J 33/00](#) takesake precedence)**
- M A47J 27/56
- Preventing boiling over, e.g. of milk (appliances for preventing or destroying foam in dairy apparatus for treating milk [A01J 11/02](#); ~~preventing foaming in boiling in general B01B 1/02~~)
- C A47J 27/62
- by devices for automatically controlling the heat supply by switching off heaters or for automatically lifting the cooking-vessels ~~{(heat supply regulation in beverage-making machines [A47J 31/047](#); timing devices for beverage-making machines [A47J 31/52](#))}~~
- WARNING**
Group [A47J 27/62](#) is impacted by reclassification into groups [A47J 36/32](#) and [A47J 36/321](#).
Groups [A47J 27/62](#), [A47J 36/32](#) and [A47J 36/321](#) should be considered in order to perform a complete search.
- U A47J 29/00** **Egg-cookers**
- M A47J 29/02
- for eggs or poached eggs; Time-controlled cookers ~~{(coffee-makers [A47J 31/52](#); controlled igniting means in cooking-vessels [A47J 36/32](#); bread-toasters [A47J 37/0814](#))}~~
- M A47J 31/00** **Apparatus for making beverages (household machines or implements for straining foodstuffs [A47J 19/00](#); preparation of non-alcoholic beverages, e.g. by adding ingredients to fruit or vegetable juices, [A23L 2/00](#); coffee or tea pots [A47G 19/14](#); tea infusers [A47G 19/16](#); ~~dispensing beverages on draught [B67D 1/00](#)~~; brewing of beer [C12C](#); preparation of wine or other alcoholic beverages [C12G](#))**
- U A47J 31/44
- Parts or details {or accessories} of beverage-making apparatus (filters or strainers [A47J 31/06](#))
- C A47J 31/46
- Dispensing spouts, pumps, drain valves or like liquid transporting devices
- WARNING**
Group [A47J 31/46](#) is impacted by reclassification into groups [A47J 31/461](#), [A47J 31/468](#) and [A47J 31/469](#).

Groups A47J 31/46, A47J 31/461, A47J 31/468 and A47J 31/469 should be considered in order to perform a complete search.

- N A47J 31/461
- • • {Valves, e.g. drain valves}
- WARNING
Group [A47J 31/461](#) is incomplete pending reclassification of documents from group [A47J 31/46](#).
Groups [A47J 31/46](#) and [A47J 31/461](#) should be considered in order to perform a complete search.
- U A47J 31/462
- • • {with an intermediate liquid storage tank}
- U A47J 31/465
- • • • {for the heated water}
- U A47J 31/467
- • • • {for the infusion}
- N A47J 31/468
- • • {Pumping means}
- WARNING
Group [A47J 31/468](#) is incomplete pending reclassification of documents from group [A47J 31/46](#).
Groups [A47J 31/46](#) and [A47J 31/468](#) should be considered in order to perform a complete search.
- N A47J 31/469
- • • {Details of hydraulic circuits}
- WARNING
Group [A47J 31/469](#) is incomplete pending reclassification of documents from group [A47J 31/46](#).
Groups [A47J 31/46](#) and [A47J 31/469](#) should be considered in order to perform a complete search.
- M A47J 31/50
- • Urns with devices for keeping beverages hot or cool ~~{devices for warming-up drink-containers not being a part of the beverage-making apparatus A47J 36/24; thermally-insulated vessels A47J 41/00}~~
- C A47J 31/52
- • Alarm-clock-controlled mechanisms for coffee- or tea-making apparatus ~~{or timers without an alarm-device (water-level controls A47J 31/56; safety devices A47J 31/58)}~~; *Timers for coffee- or tea-making apparatus; Electronic control devices for coffee- or tea-making apparatus*
- WARNING
*Group [A47J 31/52](#) is impacted by reclassification into groups [A47J 31/521](#), [A47J 31/525](#), [A47J 31/5251](#), [A47J 31/5253](#) and [A47J 31/5255](#).
All groups listed in this Warning should be considered in order to perform a complete search.*
- N A47J 31/521
- • • {the electronic control being performed over a network, e.g. by means of a computer or a handheld device}
- WARNING
Group [A47J 31/521](#) is incomplete pending reclassification of documents from group [A47J 31/52](#).
Groups [A47J 31/52](#) and [A47J 31/521](#) should be considered in order to perform a complete search.
- N A47J 31/525
- • • {the electronic control being based on monitoring of specific process parameters}
- WARNING
Group [A47J 31/525](#) is incomplete pending reclassification of documents from group [A47J 31/52](#).

Groups [A47J 31/52](#) and [A47J 31/525](#) should be considered in order to perform a complete search.

N A47J 31/5251

. . . . {of pressure}

WARNING

Group [A47J 31/5251](#) is incomplete pending reclassification of documents from group [A47J 31/52](#).

Groups [A47J 31/52](#) and [A47J 31/5251](#) should be considered in order to perform a complete search.

N A47J 31/5253

. . . . {of temperature}

WARNING

Group [A47J 31/5253](#) is incomplete pending reclassification of documents from group [A47J 31/52](#).

Groups [A47J 31/52](#) and [A47J 31/5253](#) should be considered in order to perform a complete search.

N A47J 31/5255

. . . . {of flow rate}

WARNING

Group [A47J 31/5255](#) is incomplete pending reclassification of documents from group [A47J 31/52](#).

Groups [A47J 31/52](#) and [A47J 31/5255](#) should be considered in order to perform a complete search.

M A47J 36/00

Parts, details or accessories of cooking-vessels ([A47J 27/00](#) - [A47J 33/00](#) take precedence insofar as these parts, details or accessories are restricted to a particular kind of cooking-vessel provided for in a single one of these groups; **heating devices for cooking-vessels in general F24**)

C A47J 36/32

. *Time-controlled igniting mechanisms or alarm devices* {; ~~Time-controlled igniting mechanisms or alarm~~ *Electronic control* devices {(in egg-cookers [A47J 29/02](#); in coffee-makers [A47J 31/52](#); *in* bread-toasters [A47J 37/0814](#))}

WARNING

Group [A47J 36/32](#) is incomplete pending reclassification of documents from group [A47J 27/62](#).

Group [A47J 36/32](#) is also impacted by reclassification into group [A47J 36/321](#). Groups [A47J 36/32](#), [A47J 27/62](#) and [A47J 36/321](#) should be considered in order to perform a complete search.

N A47J 36/321

. . {the electronic control being performed over a network, e.g. by means of a handheld device}

WARNING

Group [A47J 36/321](#) is incomplete pending reclassification of documents from groups [A47J 36/32](#) and [A47J 27/62](#).

Groups [A47J 36/32](#), [A47J 27/62](#) and [A47J 36/321](#) should be considered in order to perform a complete search.

Project: N/A (A47K)

A47K

SANITARY EQUIPMENT NOT OTHERWISE PROVIDED FOR (connecting to water supply or waste pipe, sinks [E03C](#); water-closets [E03D](#)); TOILET ACCESSORIES (cosmetic equipment [A45D](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A47L)

A47L

DOMESTIC WASHING OR CLEANING (brushes [A46B](#); cleaning quantities of bottles or of other hollow articles of one kind [B08B 9/00](#); laundry [D06F](#)); **SUCTION CLEANERS IN GENERAL** (cleaning in general [B08](#))

NOTE

Machines or implements which can be used for cleaning windows, window shades, window screens, venetian blinds, as well as floors, carpets, furniture, walls or wall coverings are classified in group [A47L 11/00](#) or [A47L 13/00](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A61B)

A61B

DIAGNOSIS; SURGERY; IDENTIFICATION (analysing biological material [G01N](#), e.g. [G01N 33/48](#); obtaining records using waves other than optical waves, in general [G03B 42/00](#))

NOTE

This subclass covers instruments, implements and processes for diagnostic, surgical and person-identification purposes, including obstetrics, instruments for cutting corns, vaccination instruments, finger-printing, psycho-physical tests.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

A61B 5/0295	covered by	A61B 5/026
A61B 5/151	covered by	A61B 5/1411
A61B 5/153	covered by	A61B 5/1405
A61B 5/154	covered by	A61B 5/1438
A61B 5/157	covered by	A61B 5/00 and s. gr.
A61B 17/03	covered by	A61B 17/00
A61B 17/125	covered by	A61B 17/122
A61B 17/138	covered by	A61B 17/12
A61B 17/76	covered by	A61B 17/744
A61B 17/78	covered by	A61B 17/744
A61B 17/90	covered by	A61B 17/88
A61B 17/94	covered by	A61B 17/29

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0122 (A61B)

U A61B 5/00

Detecting, measuring or recording for diagnostic purposes (radiation diagnosis [A61B 6/00](#); diagnosis by ultrasonic, sonic or infrasonic waves [A61B 8/00](#)); Identification of persons

U A61B 5/0002

· {Remote monitoring of patients using telemetry, e.g. transmission of vital signals via a communication network ([A61B 5/07](#) takes precedence; transmission systems for measured values [G08C](#); transmission [H04B](#); transmission of digital information [H04L](#); wireless communication networks [H04W](#))}

U A61B 5/0031

· · {Implanted circuitry}

- C A61B 5/0033
- {Features or image-related aspects of imaging apparatus classified in [A61B 5/00](#), e.g. for MRI, optical tomography or impedance tomography apparatus; arrangements of imaging apparatus in a room (image data processing or generation [G06T](#))}
- WARNING
1. Group [A61B 5/0033](#) and subgroups are not complete pending a reorganisation.
 2. Group [A61B 5/0033](#) is impacted by reclassification into group [A61B 5/0036](#). Groups [A61B 5/0033](#) and [A61B 5/0036](#) should be considered in order to perform a complete search.
- U A61B 5/0035
- {adapted for acquisition of images from more than one imaging mode, e.g. combining MRI and optical tomography}
- N A61B 5/0036
- {including treatment, e.g., using an implantable medical device, ablating, ventilating}
- WARNING
- Group [A61B 5/0036](#) is incomplete pending reclassification of documents from groups [A61B 5/0033](#) and [A61B 5/4836](#). Groups [A61B 5/0033](#), [A61B 5/0036](#) and [A61B 5/4836](#) should be considered in order to perform a complete search.
- U A61B 5/05
- Detecting, measuring or recording for diagnosis by means of electric currents or magnetic fields; {Measuring using microwaves or radiowaves}([A61B 5/02](#), [A61B 5/04](#), [A61B 5/11](#) take precedence)
- M A61B 5/055
- involving electronic [[EMR](#)] or nuclear [[NMR](#)] magnetic resonance, e.g. magnetic resonance imaging (~~arrangements or instruments for measuring magnetic variables involving electronic or nuclear magnetic resonance, in general G01R 33/20~~)

Project: RP0226 (A61B)

- U A61B 5/15
- Devices for taking samples of blood (hypodermic syringes [A61M 5/178](#))
- NOTE
- In these subgroups, the following terms are used with the meaning indicated:
- "piercing element" means skin penetrating component e.g. blade, needle, lancet, laser beam;
 - "piercing or lancing device" means device ready to be used for lancing;
 - "driving device" means device for driving a piercing element e.g. spring
- WARNING
- This group and its subgroups are not complete pending a reorganisation. See also [A61B 5/14](#), [A61B 5/1405](#) and subgroups
- U A61B 5/150007
- {Details}
- A61B 5/150343
- {Collection vessels for collecting blood samples from the skin surface, e.g. test tubes, cuvettes (~~test tubes in general B01L 3/14, sampling from within body cavities A61B 5/150015, A61B 5/150045~~ *sampling from within body cavities [A61B 5/150015](#), [A61B 5/150045](#)*)}

Project: RP0122 (A61B)

- U A61B 5/48
- {Other medical applications}
- C A61B 5/4836
- {Diagnosis combined with treatment in closed-loop systems or methods ([A61B 5/0036](#) takes precedence)}
- WARNING
- Group [A61B 5/4836](#) is impacted by reclassification into [A61B 5/0036](#).

Groups [A61B 5/0036](#) and [A61B 5/4836](#) should be considered in order to perform a complete search.

Project: RP0226 (A61B)

U A61B 10/00

Other methods or instruments for diagnosis, e.g. instruments for taking a cell sample, for biopsy, for vaccination diagnosis (vaccination prophylaxis, vaccination therapy [A61B 17/20](#)); Sex determination; Ovulation-period determination (menstruation tables [G06C 3/00](#)); Throat striking implements

NOTE

Attention is drawn to group [A61F 13/15](#) which provides for swabs

A61B 10/0096

- {Casings for storing test samples ([A61B 10/0038](#) and [A61B 10/0045](#) take precedence; preservation of living parts of the human or animal body [A01N 1/02](#); containers for retaining a material to be analysed [B01L 3/50](#); ~~test tubes [B01L 3/14](#)~~; containers for enzymology or microbiology [C12M 1/16](#); swab-sampler being part of enzymology or microbiology container [C12M 1/30](#)}}

Project: N/A (A61C)

A61C

DENTISTRY; APPARATUS OR METHODS FOR ORAL OR DENTAL HYGIENE (non-driven toothbrushes [A46B](#); {tongue scrapers [A61B 17/24](#);} preparations for dentistry [A61K 6/00](#); preparations for cleaning the teeth or mouth [A61K 8/00](#), [A61Q 11/00](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

A61C 7/24	covered by	A61C 7/20
A61C 7/26	covered by	A61C 7/20
A61C 7/32	covered by	A61C 7/28
A61C 8/02	covered by	A61C 8/0004
A61C 11/04	covered by	A61C 11/00
A61C 13/003	covered by	A61C 13/26
A61C 13/007	covered by	A61C 13/01
A61C 13/03	covered by	A61C 13/01
A61C 13/07	covered by	A61C 13/0025
A61C 13/093	covered by	A61C 13/1006
A61C 13/103	covered by	A61C 13/1009
A61C 13/105	covered by	A61C 13/1009
A61C 13/107	covered by	A61C 13/0001
A61C 13/113	covered by	A61C 13/0001
A61C 13/15	covered by	A61C 19/003
A61C 13/23	covered by	A61C 13/0025
A61C 13/263	covered by	A61C 13/225
A61C 13/271	covered by	A61C 13/26
A61C 13/32	covered by	A61C 13/225
A61C 13/36	covered by	A61C 13/1016
A61C 13/38	covered by	A61C 13/12
A61C 17/024	covered by	A61C 17/02
A61C 17/032	covered by	A61C 17/02
A61C 17/06	covered by	A61C 17/00
A61C 17/08	covered by	A61C 17/00
A61C 17/10	covered by	A61C 17/00

A61C 17/12 covered by [A61C 17/00](#)
A61C 17/18 covered by [A61C 17/16](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A61D)

A61D

VETERINARY INSTRUMENTS, IMPLEMENTS, TOOLS, OR METHODS

NOTE

This subclass covers only instruments, implements, tools, or methods specially adapted for use with animals

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A61F)

A61F

FILTERS IMPLANTABLE INTO BLOOD VESSELS; PROSTHESES; DEVICES PROVIDING PATENCY TO, OR PREVENTING COLLAPSING OF, TUBULAR STRUCTURES OF THE BODY, E.G. STENTS; ORTHOPAEDIC, NURSING OR CONTRACEPTIVE DEVICES; FOMENTATION; TREATMENT OR PROTECTION OF EYES OR EARS; BANDAGES, DRESSINGS OR ABSORBENT PADS; FIRST-AID KITS (dental prosthetics [A61C](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

A61F 2/48	covered by	A61F 2/02
A61F 2/56	covered by	A61F 2/54
A61F 2/62	covered by	A61F 2/60
A61F 2/70	covered by	A61F 2/68 , A61F 2/72
A61F 2/74	covered by	A61F 2/68
A61F 5/045	covered by	A61G 13/12
A61F 5/052	covered by	A61F 5/05
A61F 5/447	covered by	A61F 5/445
A61F 5/452	covered by	A61F 5/451
A61F 5/457	covered by	A61F 5/451
A61F 5/458	covered by	A61F 5/451
A61F 6/10	covered by	A61F 6/08
A61F 9/01	covered by	A61F 9/00802 - A61F 9/00825
A61F 9/011	covered by	A61F 9/00802 - A61F 9/00825
A61F 13/22	covered by	A61F 13/206
A61F 13/24	covered by	A61F 13/2037
A61F 13/30	covered by	A61F 13/26
A61F 13/32	covered by	A61F 13/26
A61F 13/40	covered by	A61M 35/006

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A61G)

A61G

TRANSPORT OR ACCOMODATION FOR PATIENTS; OPERATING TABLES OR CHAIRS; CHAIRS FOR DENTISTRY; FUNERAL DEVICES (embalming corpses [A01N 1/00](#); {chairs or beds in general [A47C](#); walking aids [A61H 3/00](#)})

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

A61G 3/04	covered by	A61G 3/02
A61G 7/043	covered by	A61G 7/05
A61G 7/12	covered by	A61G 7/10
A61G 7/14	covered by	A61G 7/10
A61G 15/04	covered by	A61G 15/02
A61G 15/06	covered by	A61G 15/02
A61G 17/013	covered by	A61G 17/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A61H)

A61H

PHYSICAL THERAPY APPARATUS, e.g. DEVICES FOR LOCATING OR STIMULATING REFLEX POINTS IN THE BODY; ARTIFICIAL RESPIRATION; MASSAGE; BATHING DEVICES FOR SPECIAL THERAPEUTIC OR HYGIENIC PURPOSES OR SPECIFIC PARTS OF THE BODY (electrotherapy, magnetotherapy, radiation therapy, ultrasound therapy [A61N](#))

NOTE

In this subclass, the following expression is used with the meaning indicated:

- "physical therapy" covers the treatment of disease or disability by means, e.g. mechanical means, as opposed to drugs or surgery. It includes, by way of example, massage, whirlpool baths or devices for exercising a passive body member.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A61J)

A61J

CONTAINERS SPECIALLY ADAPTED FOR MEDICAL OR PHARMACEUTICAL PURPOSES; DEVICES OR METHODS SPECIALLY ADAPTED FOR BRINGING PHARMACEUTICAL PRODUCTS INTO PARTICULAR PHYSICAL OR ADMINISTERING FORMS; DEVICES FOR ADMINISTERING FOOD OR MEDICINES ORALLY; BABY COMFORTERS; DEVICES FOR RECEIVING SPITTLE

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A61K)

A61K

PREPARATIONS FOR MEDICAL, DENTAL, OR TOILET PURPOSES (devices or methods specially adapted for bringing pharmaceutical products into particular physical or administering forms [A61J 3/00](#); chemical aspects of, or use of materials for deodorisation of air, for disinfection or sterilisation, or for bandages, dressings, absorbent pads or surgical articles [A61L](#) {; compounds *per se* [C01](#), [C07](#), [C08](#), [C12N](#);} soap compositions [C11D](#) {; microorganisms *per se* [C12N](#)})

NOTES

1. This subclass covers the following subject matter, whether set forth as a composition (mixture), process of preparing the composition or process of treating using the composition:
 - a. Drug or other biological compositions which are capable of:
 - preventing, alleviating, treating or curing abnormal or pathological conditions of the living body by such means as destroying a parasitic organism, or limiting the effect of the disease or abnormality by chemically altering the physiology of the host or parasite (biocides [A01N 25/00](#) - [A01N 65/00](#));
 - maintaining, increasing, decreasing, limiting, or destroying a physiological body function, e.g. vitamin compositions, sex sterilants, fertility inhibitors, growth promoters, or the like (sex sterilants for invertebrates, e.g. insects, [A01N](#); plant growth regulators [A01N 25/00](#) - [A01N 65/00](#));
 - diagnosing a physiological condition or state by an *in vivo* test, e.g. X-ray contrast or skin patch test compositions (measuring or testing processes involving enzymes or microorganisms [C12Q](#); *in vitro* testing of biological material, e.g. blood, urine, [G01N](#), e.g. [G01N 33/48](#))
 - b. Body treating compositions generally intended for deodorising, protecting, adorning or grooming the body, e.g. cosmetics, dentifrices, tooth filling materials.
2. Attention is drawn to the definitions of groups of chemical elements following the title of section [C](#).
3. Attention is drawn to the notes in class [C07](#), for example the notes following the title of the subclass [C07D](#), setting forth the rules for classifying organic compounds in that class, which rules are also applicable, if not otherwise indicated, to the classification of organic compounds in [A61K](#).
4. In this subclass, with the exception of group [A61K 8/00](#), the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place.

WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

A61K 9/133	covered by	A61K 9/127
A61K 9/18	covered by	A61K 9/14
A61K 9/22	covered by	A61K 9/20
A61K 9/24	covered by	A61K 9/209
A61K 9/26	covered by	A61K 9/2077 , A61K 9/2081
A61K 9/30	covered by	A61K 9/28
A61K 9/32	covered by	A61K 9/28
A61K 9/34	covered by	A61K 9/28
A61K 9/36	covered by	A61K 9/28
A61K 9/38	covered by	A61K 9/28
A61K 9/40	covered by	A61K 9/28

A61K 9/42	covered by	A61K 9/28
A61K 9/44	covered by	A61K 9/2072
A61K 9/46	covered by	A61K 9/0007
A61K 9/52	covered by	A61K 9/50
A61K 9/54	covered by	A61K 9/5073 , A61K 9/5078 , A61K 9/5084
A61K 9/56	covered by	A61K 9/50
A61K 9/58	covered by	A61K 9/50
A61K 9/60	covered by	A61K 9/50
A61K 9/62	covered by	A61K 9/50
A61K 9/64	covered by	A61K 9/50
A61K 9/66	covered by	A61K 9/48
A61K 9/68	covered by	A61K 9/0058
A61K 9/72	covered by	A61K 9/0073
A61K 39/108	covered by	
A61K 39/112	covered by	
A61K 45/08	covered by	A61K 31/00 , A61K 47/00
A61K 47/04	covered by	A61K 47/02
A61K 50/00	covered by	A61K 9/0009 , C09J 9/02

The following IPC indexing codes are not used in the CPC scheme:

[A61K 101/00](#) - [A61K 135/00](#)

2. Subgroups of [A61K 48/00](#) are incomplete (Jan. 2003). Documents are being reclassified from [A61K 48/00](#) to its subgroups

3. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0075 (A61K)

U A61K 38/00

Medicinal preparations containing peptides (peptides containing beta-lactam rings [A61K 31/00](#); cyclic dipeptides not having in their molecule any other peptide link than those which form their ring, e.g. piperazine-2,5-diones, [A61K 31/00](#); ergot alkaloids of the cyclic peptide type [A61K 31/48](#); containing macromolecular compounds having statistically distributed amino acid units [A61K 31/74](#); medicinal preparations containing antigens or antibodies [A61K 39/00](#); medicinal preparations characterised by the non-active ingredients, e.g. peptides as drug carriers, [A61K 47/00](#))

NOTES

1. The terms or expressions used in this group follow exactly the definitions given in Note (1) following the title of subclass [C07K](#).
2. Preparations containing fragments of peptides or peptides modified by removal or addition of amino acids, by substitution of amino acids by others, or by combination of these modifications are classified as the preparations containing parent peptides. However, preparations containing fragments of peptides having only four or less amino acids are also classified in groups [A61K 38/05](#) - [A61K 38/07](#).
3. Preparations containing peptides prepared by recombinant DNA technology are not classified according to the host, but according to the original peptide expressed, e.g. preparations containing HIV peptide expressed in E. coli are classified with the preparations containing HIV peptides.
4. This group covers also medicinal preparation containing DNA or RNA encoding for peptides as active ingredient.
5. Documents relating to new peptides, e.g. enzymes, or new DNA or RNA encoding for peptides and their use in medicinal preparations are classified

in subclass [C07K](#) or in group [C12N 9/00](#) according to the peptides, with the appropriate indexing codes relating to their medical uses.

- U A61K 38/16
 - Peptides having more than 20 amino acids; Gastrins; Somatostatins; Melanotropins; Derivatives thereof {(enzyme inhibitors [A61K 38/005](#))}
- U A61K 38/17
 - · from animals; from humans {(enzyme inhibitors [A61K 38/005](#))}
- U A61K 38/1703
 - · · {from vertebrates ([A61K 38/1767](#) takes precedence)}
- U A61K 38/1709
 - · · · {from mammals}
- U A61K 38/1712
 - · · · · {Not used, see subgroup}
- F A61K 38/1764
(Frozen)
 - · · · · {Tumor specific antigens; Tumor rejection antigen precursors [TRAP], e.g. MAGE}

WARNING

Group A61K 38/1764 is no longer used for the classification of documents as of August 1, 2018. The content of this group is being reclassified into groups [A61K 39/0011](#), [A61K 39/001102](#), [A61K 39/001103](#), [A61K 39/001104](#), [A61K 39/001106](#), [A61K 39/001107](#), [A61K 39/001108](#), [A61K 39/001109](#), [A61K 39/00111](#), [A61K 39/001111](#), [A61K 39/001112](#), [A61K 39/001113](#), [A61K 39/001114](#), [A61K 39/001116](#), [A61K 39/001117](#), [A61K 39/001118](#), [A61K 39/001119](#), [A61K 39/00112](#), [A61K 39/001121](#), [A61K 39/001122](#), [A61K 39/001124](#), [A61K 39/001126](#), [A61K 39/001128](#), [A61K 39/001129](#), [A61K 39/00113](#), [A61K 39/001131](#), [A61K 39/001132](#), [A61K 39/001133](#), [A61K 39/001134](#), [A61K 39/001135](#), [A61K 39/001136](#), [A61K 39/001138](#), [A61K 39/001139](#), [A61K 39/00114](#), [A61K 39/001141](#), [A61K 39/001142](#), [A61K 39/001144](#), [A61K 39/001148](#), [A61K 39/001149](#), [A61K 39/00115](#), [A61K 39/001151](#), [A61K 39/001152](#), [A61K 39/001153](#), [A61K 39/001154](#), [A61K 39/001156](#), [A61K 39/001157](#), [A61K 39/001158](#), [A61K 39/001159](#), [A61K 39/00116](#), [A61K 39/001161](#), [A61K 39/001162](#), [A61K 39/001163](#), [A61K 39/001164](#), [A61K 39/001166](#), [A61K 39/001168](#), [A61K 39/001169](#), [A61K 39/00117](#), [A61K 39/001171](#), [A61K 39/001172](#), [A61K 39/001173](#), [A61K 39/001174](#), [A61K 39/001176](#), [A61K 39/001178](#), [A61K 39/00118](#), [A61K 39/001181](#), [A61K 39/001182](#), [A61K 39/001184](#), [A61K 39/001186](#), [A61K 39/001188](#), [A61K 39/001189](#), [A61K 39/00119](#), [A61K 39/001191](#), [A61K 39/001192](#), [A61K 39/001193](#), [A61K 39/001194](#), [A61K 39/001195](#), [A61K 39/001196](#), [A61K 39/001197](#), [A61K 39/001198](#), [A61K 2039/80](#), [A61K 2039/804](#), [A61K 2039/812](#), [A61K 2039/82](#), [A61K 2039/828](#), [A61K 2039/836](#), [A61K 2039/844](#), [A61K 2039/852](#), [A61K 2039/86](#), [A61K 2039/868](#), [A61K 2039/876](#), [A61K 2039/884](#), and [A61K 2039/892](#). All groups listed in this Warning should be considered in order to perform a complete search.

U A61K 39/00

Medicinal preparations containing antigens or antibodies (materials for immunoassay [G01N 33/53](#))**NOTES**

1. Groups [A61K 39/002](#) - [A61K 39/295](#) cover preparations containing protozoa, bacteria, viruses, or subunits thereof, e.g. membrane parts.
2. Preparation of antigen or antibody compositions is also classified in subclass [C12N](#), if the step of cultivating the microorganism is of interest.
3. Documents relating to new peptides, e.g. enzymes, or new DNA or RNA encoding for peptides and their use in medicinal preparations are classified in subclass [C07K](#) or in group [C12N 9/00](#) according to the peptides, with the appropriate indexing codes relating to their medical uses.
4. Documents relating to antibodies or DNA or RNA encoding for antibodies and their use in medicinal preparations are classified in group [C07K 16/00](#) or in group [C12N 9/0002](#) according to the antibodies, with the appropriate indexing codes relating to their medical uses.
5. Documents relating to new therapeutical uses of antibodies or DNA or RNA encoding for antibodies are classified in group [C07K 16/00](#) or in group [C12N 9/0002](#) according to the antibodies, with the appropriate indexing codes relating to their medical uses.
6. Documents relating to medicinal preparations containing different antibodies as active ingredients are classified in group [C07K 16/00](#) according to the different active antibodies, with the appropriate indexing codes relating to their medical uses. However, documents relating to medicinal preparations containing antibodies and other compounds as active ingredients are classified in groups [A61K 39/395](#) - [A61K 39/42](#), in association with symbol [A61K 2300/00](#) in Combination Sets.

U A61K 39/0005

• {Vertebrate antigens (from snakes [A61K 39/38](#))}

C A61K 39/0011

• • {Cancer antigens}

WARNING

Group [A61K 39/0011](#) is incomplete pending reclassification of documents from group [A61K 38/1764](#). Group [A61K 39/0011](#) is also impacted by reclassification into groups [A61K 39/001102](#), [A61K 39/001103](#), [A61K 39/001104](#), [A61K 39/001106](#), [A61K 39/001107](#), [A61K 39/001108](#), [A61K 39/001109](#), [A61K 39/00111](#), [A61K 39/001111](#), [A61K 39/001112](#), [A61K 39/001113](#), [A61K 39/001114](#), [A61K 39/001116](#), [A61K 39/001117](#), [A61K 39/001118](#), [A61K 39/001119](#), [A61K 39/00112](#), [A61K 39/001121](#), [A61K 39/001122](#), [A61K 39/001124](#), [A61K 39/001126](#), [A61K 39/001128](#), [A61K 39/001129](#), [A61K 39/00113](#), [A61K 39/001131](#), [A61K 39/001132](#), [A61K 39/001133](#), [A61K 39/001134](#), [A61K 39/001135](#), [A61K 39/001136](#), [A61K 39/001138](#), [A61K 39/001139](#), [A61K 39/00114](#), [A61K 39/001141](#), [A61K 39/001142](#), [A61K 39/001144](#), [A61K 39/001148](#), [A61K 39/001149](#), [A61K 39/00115](#), [A61K 39/001151](#), [A61K 39/001152](#), [A61K 39/001153](#), [A61K 39/001154](#), [A61K 39/001156](#), [A61K 39/001157](#), [A61K 39/001158](#), [A61K 39/001159](#), [A61K 39/00116](#), [A61K 39/001161](#), [A61K 39/001162](#), [A61K 39/001163](#), [A61K 39/001164](#), [A61K 39/001166](#), [A61K 39/001168](#), [A61K 39/001169](#), [A61K 39/00117](#), [A61K 39/001171](#), [A61K 39/001172](#), [A61K 39/001173](#), [A61K 39/001174](#), [A61K 39/001176](#), [A61K 39/001178](#), [A61K 39/00118](#), [A61K 39/001181](#), [A61K 39/001182](#), [A61K 39/001184](#), [A61K 39/001186](#), [A61K 39/001188](#), [A61K 39/001189](#), [A61K 39/00119](#), [A61K 39/001191](#), [A61K 39/001192](#), [A61K 39/001193](#), [A61K 39/001194](#), [A61K 39/001195](#), [A61K 39/001196](#), [A61K 39/001197](#), [A61K 39/001198](#), [A61K 2039/80](#), [A61K 2039/804](#), [A61K 2039/812](#), [A61K 2039/82](#), [A61K 2039/828](#), [A61K 2039/836](#), [A61K 2039/844](#), [A61K 2039/852](#), [A61K 2039/86](#), [A61K 2039/868](#), [A61K 2039/876](#), [A61K 2039/884](#), and [A61K 2039/892](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N A61K 39/001102 . . . {Receptors, cell surface antigens or cell surface determinants}
- WARNING
Groups [A61K 39/001102](#) -[A61K 39/001198](#) are incomplete pending reclassification of documents from group [A61K 39/0011](#).
Groups [A61K 38/1764](#), [A61K 39/0011](#), and [A61K 39/001102-A61K 39/001198](#) and [A61K 39/001102](#) should be considered in order to perform a complete search.
- N A61K 39/001103 {Receptors for growth factors}
- N A61K 39/001104 {Epidermal growth factor receptors [EGFR]}
- N A61K 39/001106 {Her-2/neu/ErbB2, Her-3/ErbB3, Her 4/ErbB4}
- N A61K 39/001107 {Fibroblast growth factor receptors [FGFR]}
- N A61K 39/001108 {Platelet-derived growth factor receptors [PDGFR]}
- N A61K 39/001109 {[Vascular endothelial growth factor receptors [VEGFR]}
- N A61K 39/00111 {Hepatocyte growth factor receptor [HGFR or c-met]}
- N A61K 39/001111 {Immunoglobulin superfamily}
- N A61K 39/001112 {CD19, B4}
- N A61K 39/001113 {CD22, BL-CAM, siglec-2, sialic acid- binding Ig-related lectin 2 }
- N A61K 39/001114 {CD74, Ii, MHC class II invariant chain, MHC class II gamma chain}
- N A61K 39/001116 {Receptors for cytokines }
- N A61K 39/001117 {Receptors for tumor necrosis factors [TNF], e.g. lymphotoxin receptor [LTR], CD30}
- N A61K 39/001118 {Receptors for colony stimulating factors [CSF]}
- N A61K 39/001119 {Receptors for interleukins [IL]}
- N A61K 39/00112 {Receptors for interferons [IFN]}
- N A61K 39/001121 {Receptors for chemokines }
- N A61K 39/001122 {Ephrin Receptors [Eph]}
- N A61K 39/001124 {CD20}
- N A61K 39/001126 {CD38} not IgG
- N A61K 39/001128 {CD44} not IgG
- N A61K 39/001129 {Molecules with a "CD" designation not provided for elsewhere}
- N A61K 39/00113 . . . {Growth factors}
- N A61K 39/001131 {Epidermal growth factor [EGF]}
- N A61K 39/001132 {Fibroblast growth factors [FGF]}
- N A61K 39/001133 {Platelet-derived growth factor [PDGF]}
- N A61K 39/001134 {Transforming growth factor [TGF]}
- N A61K 39/001135 {Vascular endothelial growth factor [VEGF]}
- N A61K 39/001136 . . . {Cytokines}
- N A61K 39/001138 {Tumor necrosis factors [TNF], CD70}
- N A61K 39/001139 {Colony stimulating factors [CSF]}
- N A61K 39/00114 {Interleukins [IL]}
- N A61K 39/001141 {Interferons [IFN]}
- N A61K 39/001142 {Chemokines}
- N A61K 39/001144 . . . {Hormones, e.g. calcitonin}

N	A61K 39/001148	. . . {Regulators of development}
N	A61K 39/001149	. . . . {Cell cycle regulated proteins, e.g. cyclin, CDC, CDK, INK-CCR}
N	A61K 39/00115	. . . . {Apoptosis related proteins, e.g. survivin, livin}
N	A61K 39/001151	. . . . . {p53}
N	A61K 39/001152	. . . {Transcription factors, e.g. SOX, c-MYC}
N	A61K 39/001153	. . . . {Wilms tumor 1 [WT1]}
N	A61K 39/001154	. . . {Enzymes}
N	A61K 39/001156	. . . . {Tyrosinase and tyrosinase related proteinases [TRP-1, TRP-2]}
N	A61K 39/001157	. . . . {Telomerase, TERT [telomerase reverse transcriptase]}
N	A61K 39/001158	. . . . {Proteinases}
N	A61K 39/001159	. . . . . {Matrix metalloproteinases [MMP]}
N	A61K 39/00116	. . . . . {Serine proteases, e.g. kallikrein}
N	A61K 39/001161	. . . . . {Caspases}
N	A61K 39/001162	. . . . {Kinases, e.g. Raf, Src}
N	A61K 39/001163	. . . . {Phosphatases }
N	A61K 39/001164	. . . . {GTPases, e.g. Ras, Rho }
N	A61K 39/001166	. . . {Adhesion molecules, e.g. NRCAM, EpCAM, cadherins}
N	A61K 39/001168	. . . . {Mesothelin [MSLN]}
N	A61K 39/001169	. . . {Tumor associated carbohydrates}
N	A61K 39/00117	. . . . {Mucins, e.g. MUC-1}
N	A61K 39/001171	. . . . {Gangliosides, e.g. GM2, GD2, GD3}
N	A61K 39/001172	. . . . {sialyl Thomson-nouvelle antigen [sTN]}
N	A61K 39/001173	. . . . {Globo-H}
N	A61K 39/001174	. . . {Proteoglycans, e.g. glypican, brevican, CSPG4}
N	A61K 39/001176	. . . {Heat shock proteins}
N	A61K 39/001178	. . . {Tumor rejection antigen precursor [TRAP]}
N	A61K 39/00118	. . . {from embryonic or fetal origin}
N	A61K 39/001181	. . . . {Alpha-feto protein}
N	A61K 39/001182	. . . . {Carcinoembryonic antigen [CEA]}
N	A61K 39/001184	. . . {Cancer testis antigens, e.g. SSX, BAGE, GAGE, SAGE}
N	A61K 39/001186	. . . . {MAGE}
N	A61K 39/001188	. . . . {NY-ESO}
N	A61K 39/001189	. . . . {PRAME}
N	A61K 39/00119	. . . {Melanoma antigens }
N	A61K 39/001191	. . . . {Melan-A/MART}
N	A61K 39/001192	. . . . {Glycoprotein 100 [Gp100]}
N	A61K 39/001193	. . . {Prostate associated antigens e.g. Prostate stem cell antigen [PSCA]; Prostate carcinoma tumor antigen [PCTA]; PAP, PSGR}
N	A61K 39/001194	. . . . {Prostate specific antigen [PSA]}
N	A61K 39/001195	. . . . {Prostate specific membrane antigen [PSMA]}
N	A61K 39/001196	. . . {Fusion proteins originating from gene translocation in cancer cells}
N	A61K 39/001197	. . . . {Breakpoint cluster region-abelson tyrosine kinase [BCR-ABL]}
N	A61K 39/001198	. . . . {Pml-RARalpha}
U	A61K 2039/70	. {Multivalent vaccine}

- N A61K 2039/80 · {Vaccine for a specifically defined cancer}
- WARNING
Groups [A61K 2039/80](#) - [A61K 2039/892](#) are incomplete pending reclassification of documents from group [A61K 39/0011](#).
Groups [A61K 38/1764](#), [A61K 39/0011](#) and [A61K 2039/80](#) - [A61K 2039/892](#) should be considered in order to perform a complete search.
- N A61K 2039/804 · · {Blood cells [leukemia, lymphoma]}
- N A61K 2039/812 · · {Breast}
- N A61K 2039/82 · · {Colon}
- N A61K 2039/828 · · {Stomach}
- N A61K 2039/836 · · {Intestine}
- N A61K 2039/844 · · {Liver}
- N A61K 2039/852 · · {Pancreas}
- N A61K 2039/86 · · {Lung}
- N A61K 2039/868 · · {kidney}
- N A61K 2039/876 · · {Skin, melanoma}
- N A61K 2039/884 · · {prostate}
- N A61K 2039/892 · · {Reproductive system [uterus, ovaries, cervix, testes]}

Project: N/A (A61L)**A61L**

METHODS OR APPARATUS FOR STERILISING MATERIALS OR OBJECTS IN GENERAL; DISINFECTION, STERILISATION, OR DEODORISATION OF AIR; CHEMICAL ASPECTS OF BANDAGES, DRESSINGS, ABSORBENT PADS, OR SURGICAL ARTICLES; MATERIALS FOR BANDAGES, DRESSINGS, ABSORBENT PADS, OR SURGICAL ARTICLES (preservation of bodies or disinfecting characterised by the agent employed [A01N](#); preserving, e.g. sterilising, food or foodstuffs [A23](#); preparations for medical, dental or toilet purposes [A61K](#); preparation of ozone [C01B 13/10](#))

WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

A61L 33/10	covered by	A61L 33/0011
A61L 33/14	covered by	A61L 33/0011
A61L 33/16	covered by	A61L 33/0047
A61L 101/00-A61L 101/56	covered by	

2. IPC7 groups [A61L 2/07](#) and subgroups, and [A61L 9/012](#) - [A61L 9/014](#) might be incomplete as relevant documents might still be classified in the hierarchical higher groups

3. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (A61L)**M A61L 15/00**

Chemical aspects of, or use of materials for, bandages, dressings or absorbent pads (for liquid bandages [A61L 26/00](#); radioactive dressings {[A61N 5/1029](#)})

NOTES

1. In **each set of** groups [A61L 15/08](#) - [A61L 15/12](#) **and**, **the [A61L 15/18](#) - last place [A61L 15/40](#)**, **priority rule is applied, i.e. at each hierarchical level**, in

the absence of an indication to the contrary, classification is made in the last appropriate place.

2. When classifying in groups [A61L 15/08](#) - [A61L 15/12](#), classification is also made in group [A61L 15/14](#) if the use of materials characterised by their function or physical properties is of interest.

3. In groups [A61L 15/18](#) - [A61L 15/40](#), the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place. {This Note corresponds to IPC Note (1) relating to [A61L 15/18](#) - [A61L 15/40](#).}

~~3-4.~~ When classifying in groups [A61L 15/18](#) - [A61L 15/40](#), classification is also made in ~~groups~~ group [A61L 15/42](#) - ~~A61L 15/64~~ if the use of materials characterised by their function or physical properties is of interest.

M A61L 17/00

Materials for surgical sutures or for ligaturing blood vessels (surgical adhesives [A61L 24/00](#); surgical instruments, devices or methods for suturing or ligaturing [A61B 17/04](#), [A61B 17/12](#); supports or packages for suture materials [A61B 17/04](#)); {Materials for prostheses or catheters (bone cements or surgical adhesives for soft body tissues [A61L 24/00](#); shape or structure of prostheses [A61F 2/00](#); shape or structure of catheters [A61M 5/00](#))}

NOTES

1. In groups [A61L 17/04](#) - [A61L 17/145](#), *the last place priority rule is applied, i.e. at each hierarchical level*, in the absence of an indication to the contrary, classification is made in the last appropriate place.

2. When classifying in group [A61L 17/00](#), classification is also made in [A61L 33/00](#) if the materials used are antithrombogenic.

M A61L 24/00

Surgical adhesives or cements; Adhesives for colostomy devices

NOTES

1. In groups [A61L 24/00](#) - [A61L 24/12](#), the use of specific polymers is indicated using the relevant combination set symbol, adding, after the symbol in [A61L](#), the correspondent symbol of the polymer in subclass [C08L](#), e.g. surgical adhesives based on polymethylmethacrylate: [A61L 24/06](#), [C08L 33/12](#)

2. In groups ~~A61L 24/02~~ [A61L 24/00](#) - [A61L 24/12](#), *the last place priority rule is applied, i.e. at each hierarchical level*, in the absence of an indication to the contrary, classification is made in the last appropriate place.

3. When classifying in group [A61L 24/00](#), classification is also made in [A61L 33/00](#) if the materials used are antithrombogenic.

M A61L 27/00

Materials for {grafts or} prostheses or for coating {grafts or} prostheses (dental prostheses [A61C 13/00](#); shape or structure of prostheses [A61F 2/00](#); use of preparations for artificial teeth [A61K 6/02](#); artificial kidneys [A61M 1/14](#))

NOTES

1. In groups [A61L 27/02](#) - [A61L 27/48](#), *the last place priority rule is applied, i.e. at each hierarchical level*, in the absence of an indication to the contrary, classification is made in the last appropriate place.

2. When classifying in groups [A61L 27/02](#) - [A61L 27/48](#), classification is also made in groups [A61L 27/50](#) - [A61L 27/60](#) if the use of materials characterised by their function or physical properties is of interest.

3. When classifying in group [A61L 27/00](#), classification is also made in [A61L 33/00](#) if the materials used are antithrombogenic

4. In group [A61L 27/00](#), the use of specific polymers is indicated using the relevant classification symbols of subclass [C08L](#) in the second position of

the combination set, e.g. prosthesis based on polyvinylchloride [A61L 27/16](#), [C08L 27/06](#)

M A61L 29/00

Materials for catheters, {medical tubing, cannulae, or endoscopes} or for coating catheters (shape or structure of catheters [A61M 25/00](#))

NOTES

1. In groups [A61L 29/02](#) - {[A61L 29/126](#)}-, *the last place priority rule is applied, i.e. at each hierarchical level*, in the absence of an indication to the contrary, classification is made in the last appropriate place-.
2. When classifying in groups [A61L 29/02](#) - {[A61L 29/126](#)} , classification is also made in groups [A61L 29/14](#) - [A61L 29/18](#) if the use of materials characterised by their function or physical properties is of interest-.
3. When classifying in group [A61L 29/00](#), classification is also made in [A61L 33/00](#) if the materials used are antithrombogenic
4. In group [A61L 29/00](#), the use of specific polymers is indicated using the relevant classification symbols of subclass [C08L](#) in the combination set, e.g. a catheter based on polyvinylchloride [A61L 29/041](#), [C08L 27/06](#)

M A61L 31/00

Materials for other surgical articles {, e.g. stents, stent-grafts, shunts, surgical drapes, guide wires, materials for adhesion prevention, occluding devices, surgical gloves, tissue fixation devices (shape or structure of stent-grafts [A61F 2/07](#), of stents [A61F 2/82](#), of surgical gloves [A61B 42/00](#), of surgical drapes [A61B 46/00](#), of occluding devices [A61B 17/12022](#))}

NOTES

1. In groups [A61L 31/02](#) - {[A61L 31/129](#)}-, *the last place priority rule is applied, i.e. at each hierarchical level*, in the absence of an indication to the contrary, classification is made in the last appropriate place.
2. When classifying in groups [A61L 31/02](#) - {[A61L 31/129](#)} , classification is also made in groups [A61L 31/14](#) - [A61L 31/18](#) if the use of materials characterised by their function or physical properties is of interest-.
3. When classifying in group [A61L 31/00](#), classification is also made in [A61L 33/00](#) if the materials used are antithrombogenic
4. In group [A61L 31/00](#), the use of specific polymers is indicated using the relevant classification symbols of subclass [C08L](#) in the second position of the combination set, e.g. surgical clamp based on polyvinylchloride [A61L 31/048](#), [C08L 27/06](#)

M A61L 33/00

Antithrombogenic treatment of surgical articles, e.g. sutures, catheters, prostheses, or of articles for the manipulation or conditioning of blood; Materials for such treatment

NOTES

1. -In groups [A61L 33/0076](#) - [A61L 33/0094](#) and [A61L 33/02](#) - [A61L 33/122](#), *the last place priority rule is applied, i.e. at each hierarchical level*, in the absence of an indication to the contrary, classification is made in the last appropriate place-.
2. When classifying in groups [A61L 33/02](#) - [A61L 33/122](#), classification is also made in group [A61L 33/0005](#) if of interest
3. In group [A61L 33/00](#), the use of specific polymers is indicated using the relevant classification symbols of subclass [C08L](#) in the second position of the combination set, e.g. antithrombogenic treatment with the help of polyvinylchloride [A61L 33/064](#), [C08L 27/06](#)

Project: MP0250 (A61M)

M A61M

DEVICES FOR INTRODUCING MEDIA INTO, OR ONTO, THE BODY (introducing media into or onto the bodies of animals [A61D 7/00](#); means for inserting tampons [A61F 13/26](#); devices for administering food or medicines orally [A61J](#); containers for collecting, storing or administering blood or medical fluids [A61J 1/05](#)); **DEVICES FOR TRANSDUCING BODY MEDIA OR FOR TAKING MEDIA FROM THE BODY** (surgery [A61B](#); chemical aspects of surgical articles [A61L](#)); **DEVICES FOR PRODUCING OR ENDING SLEEP OR STUPOR**

NOTES

1. This subclass covers suction, pumping or atomising devices for medical use (e.g. cups, breast relievers, irrigators, sprays, powder insufflators, atomisers, inhalers), apparatus for general or local anaesthetics, devices or methods for causing a change in the state of consciousness, catheters, dilators, apparatus for introducing medicines into the body other than orally
2. Void
3. When classifying in this group, classification is also made in group [B01D 15/08](#) insofar as subject matter of general interest relating to chromatography is concerned

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

A61M 1/18	covered by	B01D 63/02 , B01D 63/04
A61M 1/20	covered by	B01D 63/06
A61M 1/22	covered by	B01D 63/08
A61M 1/24	covered by	B01D 63/10
A61M 3/04	covered by	A61M 3/02
A61M 5/175	covered by	A61M 5/168
A61M 5/303	covered by	A61M 5/30
A61M 5/307	covered by	A61M 5/30
A61M23/00	covered by	A61M-25/01, A61M-29/00
A61M 25/08	covered by	A61M 25/0105
A61M 25/082	covered by	A61M 25/0116
A61M 25/085	covered by	A61M 25/0122
A61M 25/088	covered by	A61M 25/01
A61M 25/092	covered by	A61M 25/0133
A61M 25/095	covered by	A61M 25/01 , A61B 5/00 , A61N 1/056
A61M 25/098	covered by	A61M 25/0108
A61M 25/12	covered by	A61M 25/10 , A61M 29/02
A61M 25/14	covered by	A61M 25/0021
A61M 25/16	covered by	A61M 25/0009
A61M 25/18	covered by	A61M 25/0014
A61M 29/04	covered by	A61M 29/02
A61M 36/00	covered by	A61M 37/0069 , A61N 5/10
A61M 36/02	covered by	A61M 37/0069 , A61N 5/10
A61M 36/04 A61M 36/06	covered by	A61M 37/0069 , A61N 5/10 , A61M 15/02
A61M 36/06	covered by	A61M 37/0069, A61N 5/10; A61M-15/02
A61M 36/08	covered by	A61M 5/1785
A61M 36/10	covered by	A61M 37/0069 , A61N 5/10

A61M 36/12 covered by [A61M 37/0069](#), [A61N 5/10](#)
A61M 36/14 covered by [A61M 37/0069](#), [A61N 5/10](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A61N)

A61N

ELECTROTHERAPY; MAGNETOTHERAPY; RADIATION THERAPY; ULTRASOUND THERAPY (measurement of bioelectric currents [A61B](#); surgical instruments, devices or methods for transferring non-mechanical forms of energy to or from the body [A61B 18/00](#); anaesthetic apparatus in general [A61M](#); incandescent lamps [H01K](#); infra-red radiators for heating [H05B](#))

NOTE

In this subclass, the following term is used with the meaning indicated: In this subclass, the following term is used with the meaning indicated:

- "therapy" implies that the treatment, when it aims at destroying sick or abnormal cells, is performed within the limits of healthy cell life, the destruction thereof being undesired, contrary to that which takes place with instruments, devices or methods covered by group [A61B 18/00](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[A61N 1/34](#) covered by [A61N 1/36021](#),
[A61N 1/36071](#)
[A61N 2/04](#) covered by [A61N 2/02](#)
[A61N 5/067](#) covered by [A61N 5/06](#)
[A61N 5/08](#) covered by [A61N 5/06](#)
[A61N 2/08](#) covered by [A61N 2/06](#)
[A61N 2/10](#) covered by [A61N 2/06](#)
[A61N 5/073](#) covered by [A61N 5/06](#), [A61N 2005/073](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0184 (A61N)

- U A61N 5/00** Radiation therapy (ultrasound therapy [A61N 7/00](#); devices or apparatus applicable to both therapy and diagnosis [A61B 6/00](#))
- U A61N 5/02 · using microwaves
- U A61N 5/022 · · {Apparatus adapted for a specific treatment}
- M A61N 5/025 · · · {Warming the body, e.g. hyperthermia treatment (~~heating by RF [A61N 1/403](#); heating by infrared radiation [A61N 5/0625](#); heating by other appliances [A61F 7/00](#); hot air bath [A61H 33/06](#))}~~
- U A61N 5/04 · · Radiators for near-field treatment
- M A61N 5/045 · · · {specially adapted for treatment inside the body (~~[A61B 18/1815](#) takes precedence)}~~}
- U A61N 5/06 · using light
- M A61N 5/0601 · · {Apparatus for use inside the body (~~illuminating body cavities [A61B 1/06](#); diagnosis by radiation applied to body cavities [A61B 6/4057](#), [A61B 6/145](#); devices for heating or cooling body cavities [A61F 7/12](#); X-ray tubes having a small cross-section to facilitate introduction into small cavities [H01J 35/32](#))}~~}
- U A61N 5/0613 · · {Apparatus adapted for a specific treatment}

- M A61N 5/0618 . . . {Psychological treatment (~~A61M 21/00 takes precedence~~)}
- M A61N 5/0619 . . . {Acupuncture (~~acupuncture in general A61H 39/00~~)}
- M A61N 5/0624 . . . {for eliminating microbes, germs, bacteria on or in the body (~~sterilization by radiation A61L 2/08, A61L 2/10~~)}
- M A61N 5/0625 . . . {Warming the body, e.g. hyperthermia treatment (~~heating by RF A61N 1/403; heating by microwave A61N 5/025; heating by other appliances A61F 7/00; hot air bath A61H 33/06~~)}
- M A61N 5/10 . . . X-ray therapy; Gamma-ray therapy; Particle-irradiation therapy ([A61N 5/01](#) takes precedence ~~}; radiation diagnosis, e.g. combined with radiation therapy A61B 6/00; irradiation devices in general G21K 1/00; X-ray tubes, Lenard tubes H01J 35/00; X-ray techniques, in particular circuits for feeding or controlling X-ray tubes, H05G~~)}
- U A61N 5/1001 . . . {using radiation sources introduced into or applied onto the body; brachytherapy}
- M A61N 5/1002 . . . {Intraluminal radiation therapy (~~intraluminal catheters in general A61M 25/00~~)}
- M A61N 5/1007 . . . {Arrangements or means for the introduction of sources into the body (~~needle guides in general A61B 17/3403; apparatus for implanting surgical devices A61B 17/3468; devices for implanting seeds or pellets in general A61M 37/0069~~)}
- U A61N 5/1028 . . . {using radiation sources applied onto the body}
- M A61N 5/1029 {Radioactive dressings (~~dressings in general A61F, A61L 15/00~~)}

Project: N/A (A61Q)**A61Q****SPECIFIC USE OF COSMETICS OR SIMILAR TOILET PREPARATIONS****NOTES**

1. This subclass covers the use of cosmetics or similar toilet preparations already classified as such in main group [A61K 8/00](#) or in addition thereto in subclasses [C11D](#) and [C12N](#) or in classes [C01](#), [C07](#) and [C08](#).
2. When classifying this subclass, subclass [A61P](#) {is for secondary classification and} covers therapeutic activity of chemical compounds or medicinal preparations.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A62B)**A62B**

DEVICES, APPARATUS OR METHODS FOR LIFE-SAVING (valves specially adapted for medical use [A61M 39/00](#); life-saving devices, apparatus or methods specially adapted for use in water [B63C 9/00](#); divers' equipment [B63C 11/00](#); specially adopted for use with aircraft, e.g. parachutes, ejector seats, {[B64D 17/00](#), [B64D 25/10](#)}; rescue devices peculiar to mining [E21F 11/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A62C)

A62C

FIRE-FIGHTING (fire-extinguishing compositions, use of chemical substances in extinguishing fires [A62D 1/00](#); spraying, applying liquids or other fluent materials to surfaces in general [B05](#); alarm arrangements [G08B](#), e.g. fire alarms actuated by smoke or gases [G08B 17/10](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0161 (A62C)

U A62C 35/00

Permanently-installed equipment ([A62C 31/00](#), [A62C 33/00](#), [A62C 37/00](#) take precedence; for forming water curtains [A62C 2/08](#))

U A62C 35/02

- with containers for delivering the extinguishing substance

E A62C 35/08

- Containers destroyed or opened by bursting charge

WARNING

Group [A62C 35/08](#) is incomplete pending reclassification of documents from group [A62C 37/28](#).

Groups [A62C 37/28](#) and [A62C 35/08](#) should be considered in order to perform a complete search.

U A62C 37/00

Control of fire-fighting equipment (heat-sensitive devices [G01K](#))

E A62C 37/08

- comprising an outlet device containing a sensor, or itself being the sensor, i.e. self-contained sprinklers

WARNING

Group [A62C 37/08](#) is incomplete pending reclassification of documents from group [A62C 37/28](#).

Groups [A62C 37/28](#) and [A62C 37/08](#) should be considered in order to perform a complete search.

F A62C 37/28
(Frozen)

- {with an explosive charge}

WARNING

Group [A62C 37/28](#) is no longer used for the classification of documents as of August 1, 2018. The content of this group is being reclassified into groups [A62C 35/08](#), [A62C 37/08](#), and [A62C 37/36](#).

All groups listed in this Warning should be considered in order to perform a complete search.

E A62C 37/36

- an actuating signal being generated by a sensor separate from an outlet device

WARNING

Group [A62C 37/36](#) is incomplete pending reclassification of documents from group [A62C 37/28](#).

Groups [A62C 37/28](#) and [A62C 37/36](#) should be considered in order to perform a complete search.

Project: N/A (A62D)

A62D

CHEMICAL MEANS FOR EXTINGUISHING FIRES OR FOR COMBATING OR PROTECTING AGAINST HARMFUL CHEMICAL AGENTS; CHEMICAL MATERIALS FOR USE IN BREATHING APPARATUS

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

A62D 1/02	covered by	A62D 1/0007 , A62D 1/0071
A62D 1/04	covered by	A62D 1/0071
A62D 1/08	covered by	A62D 1/0007-A62D 1/0028 , A62D 1/0057 , A62D 1/0092

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0148 (A62D)

M A62D 3/00

Processes for making harmful chemical substances harmless or less harmful, by effecting a chemical change in the substances (consuming noxious gases by combustion [F23G 7/06](#))

NOTES

1. This group does not cover:

- chemical or physico-chemical type processes where eradicating or diminishing the dangerousness of harmful chemical substances produces useful products (, e.g. cement). These types of processes are covered by the appropriate subclass for making the specific product. However, in situations where processes for making products include a subset of process steps with eradicating or diminishing the dangerousness of a ~~harmfull~~harmful chemical substance as its fundamental goal, and this subset is in itself novel and unobvious, this subset is covered by group [A62D 3/00](#).

{

- *This group does not cover:*
- *Chemical or biological purification of smoke or fumes, covered by [B01D 53/34](#)*
- *Disposal of solid waste, destroying solid waste or transforming solid waste into something useful or harmless, covered by [B09B](#)*
- *Chemical reclamation of contaminated soil, covered by [B09C 1/08](#)*
- *Treatment of waste water, sewage or sludge, covered by [C02F](#)*
- *Incorporating waste or residues in a glass or vitreous matrix covered by [C03C 1/00](#)*
- *Incorporating waste or residues in cement or cementitious compositions, covered by [C04B 7/24](#)*
- *Use of waste materials as filler for mortars, concrete or the like covered by [C04B 18/04](#)*
- *Destructive distillation, covered by [C10B 53/00](#)*
- *Obtaining metals from residues or scrap, covered by [C22B](#)*
- *Consuming waste by combustion, covered by [F23G](#)*
- *Treatment of radioactively-contaminated waste, covered by [G21F 9/00](#)*

}

2. In this group the following term is used with the meaning indicated: "*harmful chemical substances*" are chemical waste substances which are too hazardous or toxic to be discarded in an ordinary municipal landfill.

- ~~harmful chemical substances are chemical waste substances which are too hazardous or toxic to be discarded in an ordinary municipal landfill.~~

3. In this group, *the first place priority rule is applied, i.e.* at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place.

4. In this group, it is desirable to add the indexing code(s) of group [A62D 2101/00](#) relating to the nature of the harmful chemical substance.

5. {This group covers

- Processes for combatting harmful chemical substances or agents or materials containing harmful chemical agents. These processes can be chemical or physico-chemical, e.g. use of special chemical reagents for

chemical fixing, and result in the decomposition or transformation of the agents in harmless or less harmful substances, because of the change in its chemical constitution. These processes can comprise the step of dissolving or dispersing the hazardous substances in water for the purpose of treating them or the step of producing a gaseous product from a non-gaseous hazardous substance.

- Treatment of specific hazardous substances in sludge, e.g. residue from industrial processes, with the exception of sludge from (municipal) sewage treatment.

}

6. This group does not cover:

- Chemical or biological purification of smoke or fumes, covered by [B01D 53/34](#)
- Disposal of solid waste, destroying solid waste or transforming solid waste into something useful or harmless, covered by [B09B](#)
- Chemical reclamation of contaminated soil, covered by [B09C 1/08](#)
- Treatment of waste water, sewage or sludge, covered by [C02F](#)
- Incorporating waste or residues in a glass or vitreous matrix covered by [C03C 1/00](#)
- Incorporating waste or residues in cement or cementitious compositions, covered by [C04B 7/24](#)
- Use of waste materials as filler for mortars, concrete or the like covered by [C04B 18/04](#)
- Destructive distillation, covered by [C10B 53/00](#)
- Obtaining metals from residues or scrap, covered by [C22B](#)
- Consuming waste by combustion, covered by [F23G](#)
- Treatment of radioactively-contaminated waste, covered by [G21F 9/00](#)

Project: N/A (A63B)

A63B

APPARATUS FOR PHYSICAL TRAINING, GYMNASTICS, SWIMMING, CLIMBING, OR FENCING; BALL GAMES; TRAINING EQUIPMENT (apparatus for passive exercising, massage [A61H](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

A63B 7/06	covered by	A63G 1/00
A63B 21/075	covered by	A63B 21/072
A63B 22/10	covered by	A63B 22/0605 in combination with A63B 22/0002
A63B 22/12	covered by	A63B 22/0605 in combination with A63B 22/001
A63B 22/08	covered by	
A63B 29/04	covered by	A63B 29/00
A63B 31/16	covered by	A63B 31/14 - A63B 31/18
A63B 63/02	covered by	A63B 63/00
A63B 63/04	covered by	A63B 63/00
A63B 69/22	covered by	A63B 69/20
A63B 69/28	covered by	A63B 69/20
A63B 69/30	covered by	A63B 69/20
A63B 71/16	covered by	A63B 71/14 - A63B 71/148

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0359 (A63B)

M A63B 21/00 Exercising apparatus for developing or strengthening the muscles or joints of the body by working against a counterforce, with or without measuring devices (electric or electronic controls therefor [A63B 24/00](#); **measuring muscular strength A61B 5/22**)

NOTE

In this subclass, the following terms or expressions are used with the meaning indicated:

- "resistance" and "resistance force" are often used in the art as synonyms for "counterforce";
- "interface with the user" covers the part of the apparatus, on which the user directly applies his force

M A63B 29/00 Apparatus for mountaineering (helmets [A42B 3/00](#); non-skid devices or attachments for footwear, e.g. **mountain climbing irons** **crampons**, [A43C 15/00](#); breathing masks or helmets for use at high altitudes [A62B 18/00](#); ~~{safety belts or body harnesses A62B 35/00}~~; picks [B25D 7/00](#))

M A63B 29/02 • Mountain guy-ropes or accessories, e.g. avalanche ropes ~~{(hooks, e.g. snaphooks, therefor F16B 45/00)}~~; Means for indicating the location of accidentally buried, e.g. snow-buried, persons ~~{(detecting hidden masses in general G01V)}~~

NOTE

Contrary to the wording of group [A63B 29/02](#), devices for lowering persons are classified in [A62B 1/06](#)

M A63B 41/00 Hollow inflatable balls ~~{(connecting valves to inflatable elastic bodies B60C 29/00; valves, e.g. self-closing valves F16K)}~~

M A63B 41/12 • Tools or devices for blowing up or closing balls ~~{(for pricking-balls A63B 39/04; air pumps F04)}~~

Project: RP0440 (A63B)

M A63B 49/00 Stringed rackets, e.g. for tennis (strings therefor [A63B 51/00](#))

NOTES

1. When classifying in groups [A63B 49/00](#) - [A63B 60/00](#), it is desirable to add the indexing codes of group [A63B 2102/00](#).
2. When classifying in ~~group~~ **groups** [A63B 49/00](#) ~~and~~, [A63B 53/00](#) ~~subgroups~~, ~~or~~ [A63B 59/00](#), subject matter related to details or accessories of golf clubs, bats, rackets or the like are further classified in group [A63B 60/00](#).

WARNING

Group [A63B 49/00](#) is impacted by reclassification into groups [A63B 51/00](#), [A63B 60/00](#), [A63B 60/46](#), [A63B 2102/00](#), [A63B 2102/10](#), [A63B 2102/12](#), [A63B 2102/26](#), [A63B 2102/28](#), [A63B 2102/30](#), and [A63B 2102/38](#).

All groups listed in this Warning should be considered in order to perform a complete search.

Project: MP0359 (A63B)

M A63B 65/00 Implements for throwing (throwing toys [A63H 33/18](#) ; **throwing weapons F41B**); ~~{Mechanical projectors, e.g. using spring force}~~

U A63B 69/00 Training appliances or apparatus for special sports (training of parachutists [B64D 23/00](#))

- M A63B 69/40
- Stationarily-arranged devices for projecting balls (or other bodies) (~~ball-dispensing devices A63B 47/002~~; {golf cups with ball ejector means [A63B 57/405](#); ~~targets with means for returning balls by gravity or mechanically A63B 63/00~~; ~~sling weapons F41B 3/00~~;} traps for clay-pigeon targets [F41J 9/18](#))
- U A63B 71/00 **Games or sports accessories not covered in groups [A63B 1/00](#) - [A63B 69/00](#) (starting appliances [A63K 3/02](#))**
- U A63B 71/06
- Indicating or scoring devices for games or players {, or for other sports activities}

Project: N/A (A63C)

A63C

SKATES; SKIS; ROLLER SKATES; DESIGN OR LAYOUT OF COURTS, RINKS OR THE LIKE (devices for underwater sports [A63B 31/00](#), [A63B 33/00](#), [B63C 11/00](#); devices for gliding on water, e.g. water skis, [B63B 35/79](#), [B63B 35/81](#), [B63B 35/83](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

A63C 5/025	covered by	A63C 5/00
A63C 5/14	covered by	A63C 5/12

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A63F)

A63F

CARD, BOARD, OR ROULETTE GAMES; INDOOR GAMES USING SMALL MOVING PLAYING BODIES; VIDEO GAMES; GAMES NOT OTHERWISE PROVIDED FOR

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A63G)

A63G

MERRY-GO-ROUNDS; SWINGS; ROCKING-HORSES; CHUTES; SWITCHBACKS; SIMILAR DEVICES FOR PUBLIC AMUSEMENT

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A63H)

A63H

TOYS, e.g. TOPS, DOLLS, HOOPS, BUILDING BLOCKS

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

A63H 3/33	covered by	A63H 3/28
A63H 17/267	covered by	A63H 17/262
A63H 17/273	covered by	A63H 17/26
A63H 17/385	covered by	A63H 17/36
A63H 17/39	covered by	A63H 17/36
A63H 17/41	covered by	A63H 17/40

A63H 25/00	covered by	A63H 29/16 , A63H 31/00
A63H 25/02	covered by	A63H 29/16 , A63H 31/00
A63H 27/01	covered by	A63H 27/007
A63H 27/127	covered by	A63H 27/12
A63H 27/133	covered by	A63H 27/12
A63H 27/16	covered by	A63H 27/001 , A63H 33/16
A63H 27/18	covered by	A63H 27/00 , A63H 27/02
A63H 27/20	covered by	A63H 27/00
A63H 27/22	covered by	A63H 27/00 , A63H 29/18
A63H 27/24	covered by	A63H 27/02 , A63H 29/00 , A63H 29/22
A63H 27/26	covered by	A63H 27/06
A63H 27/28	covered by	A63H 27/008
A63H 27/30	covered by	A63H 27/02
A63H 27/32	covered by	A63H 27/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (A63K)

A63K

RACING; RIDING SPORTS; EQUIPMENT OR ACCESSORIES THEREFOR (stop watches [G04F 7/06](#); timing [G07C 1/22](#); indicating arrangements for variable information by selection or combination of individual elements [G09F 9/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0218 (B01B)

M B01B

BOILING; BOILING APPARATUS {; {EVAPORATION; EVAPORATION APPARATUS}

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

U B01B 1/00

Boiling; Boiling apparatus for physical or chemical purposes (preparation of starch [C08B 30/00](#); sugar industry [C13](#); steam generation [F22](#); domestic boilers [F24](#));{; Evaporation in general}

M B01B 1/005

· ~~{Evaporation for physical or chemical purposes; {Evaporation or evaporation apparatus for physical or chemical purposes}therefor~~, e.g. evaporation of liquids for gas phase reactions ~~(separation by evaporation B01D; evaporation in chemical vapor deposition or similar processes C23C; cooling by evaporation F01P 9/02; evaporation of fuels to be feeded to combustion apparatus, e.g. burners F23D; refrigeration involving evaporation F25B; drying involving evaporation F26B; evaporation for preparing samples for analysis G01N)}~~

Project: MP0163 (B01D)

M B01D

SEPARATION (separating solids from solids by wet methods [B03B](#), [B03D](#); by pneumatic jigs or tables [B03B](#); by other dry methods [B07](#); magnetic or electrostatic separation of solid materials from solid materials or fluids, separation by high-voltage electric fields [B03C](#); centrifuges, vortex apparatus [B04](#); presses *per se* for squeezing-out liquid from liquid-containing material [B30B 9/02](#); treatment of water [C02F](#), e.g. softening by ion-exchange [C02F 1/42](#); {arrangements of air intake cleaners in gas turbine plants [F02C 7/05](#)}; arrangements or mounting of filters in air-conditioning, air-humidification or ventilation [F24F 13/28](#))

NOTES

1. This subclass covers:
 - evaporation, distillation, crystallisation, filtration, dust precipitation, gas cleaning, absorption, adsorption;
 - similar processes which are not concerned with, or limited to, separation (except in the case of absorption or adsorption).
2. In this subclass the terms or expressions are used with the meaning indicated:
 - "filtration" and analogous terms include straining solids from fluids;
 - "filter medium" is a porous material or porous arrangement of material used to filter solids from fluids;
 - "filtering element" is a section of filter medium in addition to parts to which the medium is demountably or permanently fixed, including other sections of medium, end caps, peripheral frames or edge strips, but excluding housings;
 - "filter housing" is the fluid-constraining impervious vessel, whether open or closed, which contains, or is adapted to contain, one or more filtering elements or filter media;
 - "filter chamber" is the space within a housing, where filtering elements or filter media are located. Partitions may divide a single housing into a plurality of chambers;
 - "filtering apparatus" consists of filtering elements combined with housings, cleaning arrangements, motor or the like parts, which are characteristic of the particular type of apparatus. Ancillary devices such as pumps or valves are considered part of a filtering apparatus when inside the apparatus. Ancillary devices performing similar or different unit operation such as comminutors, mixers or non-filtering separators, whether or not inside the apparatus, are not considered part of a filtering apparatus. The term does not extend to apparatus, e.g. washing machines, of which the filter forms only a part.
3. For apparatus used in drying or evaporation, [F26](#) takes precedence over [B01D](#).
4. Group [B01D 59/00](#) takes precedence over the other groups of this subclass and over other subclasses in class [B01](#)

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

B01D19/0454	covered by	B01D 9/00
B01D 15/04	covered by	B01J 39/00 - B01J 49/90
B01D 17/022	covered by	B01D 17/0202
B01D 17/025	covered by	B01D 17/0208
B01D 17/028	covered by	B01D 17/0211
B01D 17/032	covered by	B01D 17/0214
B01D 17/035	covered by	B01D 17/0205
B01D 17/038	covered by	B01D 17/0217

B01D 17/05	covered by	B01D 17/047
B01D 17/09	covered by	B01D 17/005
B01D 17/12	covered by	B01D 17/00
B01D 25/133	covered by	B01D 25/285
B01D 25/168	covered by	B01D 25/285
B01D 25/21	covered by	B01D 25/164
B01D 29/075	covered by	B01D 29/62 B01D 29/01 , B01D 29/76 B01D 29/64
B01D 29/37	covered by	B01D 29/336 , B01D 29/356
B01D 33/052	covered by	B01D 33/64 B01D 33/042 , B01D 33/048
B01D 35/01	covered by	B01D 36/001
B01D 61/26	covered by	A61M 1/1656
B01D 61/34	covered by	A61M 1/16

~~2. 5. The group B01D 24/00 was introduced in March 1989. This group includes subject matter of B01D 23/00, B01D 25/06, B01D 25/10, B01D 29/0027, B01D 33/0032 and B01D 33/0054.~~

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

~~3. 6. Documents from the backlog of the group B01D 23/00, and the subgroups B01D 25/06, B01D 25/10, B01D 29/0027, B01D 33/0032 and B01D 33/0054 are in the process of being revised and also systematically transferred to B01D 24/00.~~

~~4. 7. The groups B01D 29/01 – B01D 29/43 and B01D 29/50 – B01D 29/965 were introduced in March 1989; these subgroups include the subject matter of the subgroups of groups B01D 29/0002, which are from this date no longer use for the classification of new documents.~~

~~5. 8. The documents from the backlog of the subgroups of group B01D 29/0002 are in the process of being systematically transferred to the other subgroups of group B01D 29/00.~~

~~6. 11. The documents from the backlog of the subgroups of group B01D 33/0003 are in the process of being systematically transferred to the other subgroups of group B01D 33/00.~~

~~7. 9. Groups B01D 25/16, B01D 25/18 and B01D 25/20 are no longer used for the classification of new. Patent documents are continuously being reclassified to groups B01D 29/44, B01D 29/46 and B01D 29/48.~~

~~8. 10. The groups B01D 25/04, B01D 25/08, B01D 25/121, B01D 25/122, B01D 25/124, B01D 25/125, B01D 25/14, are no longer used for classification of new documents from December 1, 2011 onwards. The backlog of those groups are being continuously reclassified to groups B01D 25/00, B01D 29/00 and subgroups.~~

M B01D 12/00

Displacing liquid, e.g. from wet solids or from dispersions of liquids or from solids in liquids, by means of another liquid

WARNING

Attention is drawn to WARNING (6) following the subclass title

- U B01D 17/00** Separation of liquids, not provided for elsewhere, e.g. by thermal diffusion (devices for separating or removing fatty or oily substances or similar floating material from water, waste water, or sewage [C02F 1/40](#); cleaning or keeping clear the surface of open water from oil or like materials [E02B 15/04](#); arrangements for separating lubricants from refrigerants [F25B 43/02](#))
- NOTE
in this group, documents are classified and arranged according to a combination system limited to the symbols of the group and subgroups of [B01D 17/00](#). In this system each combination is indicated, also of subgroups depending from the same group, e.g. [B01D 17/041](#) + [B01D 17/042](#)
- M B01D 17/12** · Auxiliary equipment particularly adapted for use with liquid-separating apparatus, e.g. control circuits
- WARNING
This group is not complete pending reclassification; see also group [B01D 17/00](#)
- M B01D 21/00** Separation of suspended solid particles from liquids by sedimentation ({separation of ores or the like by sedimentation [B03B 5/48](#) - [B03B 5/60](#)}; differential sedimentation [B03D 3/00](#); {purification of water, waste water, sewage or sludge [C02F](#), e.g.} devices for separating or removing fatty or oily substances or similar floating material from water, waste water or sewage [C02F 1/40](#))
- WARNING
The following groups are not complete: [B01D 21/0006](#), see also [B01D 21/00](#)
[B01D 21/0018](#), see also [B01D 21/00](#)
[B01D 21/0054](#), see also [B01D 21/00](#)
[B01D 21/0057](#), see also [B01D 21/00](#)
[B01D 21/003](#), see also [B01D 21/00](#)
[B01D 21/0036](#), see also [B01D 21/00](#)
[B01D 21/0087](#), see also [B01D 21/00](#)
[B01D 21/2416](#), see also [B01D 21/2405](#)
[B01D 21/2422](#), see also [B01D 21/2405](#)
[B01D 21/2427](#), see also [B01D 21/24](#)
[B01D 21/2433](#), see also [B01D 21/24](#)
[B01D 21/262](#), see also [B01D 21/26](#)
[B01D 21/265](#), see also [B01D 21/26](#)
[B01D 21/267](#), see also [B01D 21/26](#)
[B01D 21/28](#), see also [B01D 21/28](#)
[B01D 21/302](#), see also [B01D 21/30](#)
[B01D21/30B](#), see also [B01D 21/30](#)
- M B01D 21/30** · Control equipment
- WARNING
Groups [B01D 21/302](#) - [B01D 21/34](#) are not complete, see also [B01D 21/30](#)
- M B01D 24/00** Filters comprising loose filtering material, i.e. filtering material without any binder between the individual particles or fibres thereof ([B01D 27/02](#) takes precedence)
- WARNING
See WARNING after subclass title, particularly items (7), (8) and (14)

- M B01D 25/00** **Filters formed by clamping together several filtering elements or parts of such elements (disc filters [B01D 29/39](#))**
- WARNING**
See **WARNING** after subclass title, particularly items (7), (8), (12), (13) and (14)
- M B01D 27/00** **Cartridge filters of the throw-away type**
- WARNING**
See **WARNING** after subclass title, particularly item (14)
- M B01D 29/00** **Other filters with filtering elements stationary during filtration, e.g. pressure or suction filters, or filtering elements therefor {([B01D 24/00](#), [B01D 25/00](#) and [B01D 27/00](#) take precedence)}**
- WARNING**
See **WARNING** after subclass title, particularly items (7), (8), (9), (10), (12) and (14)
- U B01D 29/0002** · {Aspects of other filters with filtering elements stationary during filtration, or of filtering elements thereof}
- U B01D 29/0018** · · {Filters with screens or sheets, e.g. cloth, paper}
- U B01D 29/0022** · · · {Filters with corrugated, folded, or wound sheets}
- M B01D 29/0025** · · · · {allowing a coaxial stream through the filtering element (for cartridge filters [B01D 27/06](#)[B01D 27/07](#))}
- M B01D 29/01** · with flat filtering elements ([B01D 29/39](#) takes precedence)
- NOTE**
{If the construction of the filtering element itself is of minor importance the document is classified in the subgroups [B01D 29/01](#), and [B01D 29/014](#), [B01D 29/016](#) or [B01D 29/018](#); otherwise in the subgroups [B01D 29/03](#) - [B01D 29/07](#)[B01D 29/073](#)}
- M B01D 33/00** **Filters with filtering elements which move during the filtering operation (filters comprising loose filtering material moving or fluidised during filtration [B01D 24/28](#) - [B01D 24/36](#); centrifuges [B04B](#))**
- WARNING**
See **WARNING** after subclass title, particularly items (7), (8), (11) and (14)
- M B01D 35/00** **Other filtering devices; Auxiliary devices for filtration; Filter housing constructions**
- WARNING**
See **WARNING** after subclass title, particularly item (14)
- M B01D 36/00** **Filter circuits or combinations of filters with other separating devices**
- WARNING**
See **WARNING** after subclass title, particularly item (14)
- M B01D 37/00** **Processes of filtration (processes specially adapted for filtering gases [B01D 46/00](#))**
- WARNING**
See **WARNING** after subclass title, particularly item (14)
- U B01D 39/00** **Filtering material for liquid or gaseous fluids**

- U B01D 39/14 • Other self-supporting filtering material {; Other filtering material (non-woven fabrics in general [D04H 3/00](#))}
- U B01D 39/16 • • of organic material, e.g. synthetic fibres
- M B01D 39/1684 • • • {Wound filtering material}
- WARNING**
This group is no longer used for classification of new documents as from December 1, 2011. The backlog of this group is being continuously reclassified to B01D 39/16 and B01D 2239/0695
- U B01D 39/20 • • of inorganic material, e.g. asbestos paper, metallic filtering material of non-woven wires (porous ceramic material {[C04B 38/00](#)} ; sintering metals [C22C 1/04](#); {making porous sintered metal bodies [B22F 3/10](#), honeycomb filters [B01D 46/2418](#), materials used for filtering exhaust gases of an internal combustion engine [F01N 3/022](#), ceramic honeycomb structures [C04B 38/0006](#))}
- M B01D 39/2055 • • • {Carbonaceous material (solid sorbent compositions comprising free carbon [B01J 20/20](#))}
- WARNING**
Groups B01D 39/2058 – B01D 39/2065 are not complete, see also B01D 39/20
- M B01D 39/2096 • • • {Wound materials}
- WARNING**
This group is no longer used for classification of new documents as from December 1, 2011. The backlog of this group is being continuously reclassified to B01D 39/20 and B01D 2239/0695

Project: N/A (B01F)

B01F

MIXING, e.g. DISSOLVING, EMULSIFYING, DISPERSING ({miscellaneous implements for preparing food, e.g. machines for domestic use for mixing, egg-whisks, cream beaters [A47J 43/00](#); mixing paints [B44D 3/06](#); {apparatus specially adapted for mixing radioactively contaminated material [G21F 9/008](#))}

NOTE

In this subclass, the following term or expression is used with the meaning indicated:

- "mixing" covers stirring of a single material.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B01F 17/02-B01F 17/56](#) covered by [B01F 17/00-B01F 17/0092](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (B01J)

U B01J 3/00

Processes of utilising sub-atmospheric or super-atmospheric pressure to effect chemical or physical change of matter; Apparatus therefor (pressure vessels for containing or storing compressed, liquefied or solidified gases [F17C](#))

M B01J 3/06

• Processes using ultra-high pressure, e.g. for the formation of diamonds; Apparatus therefor, e.g. moulds or dies ([B01J 3/04](#) takes precedence)

- M B01J 3/08
- Application of shock waves for chemical reactions or for modifying the crystal structure of substances ~~{, e.g. reactions carried out by explosions or in a combustion engine-type reactor}~~

Project: N/A (B01L)

B01L

CHEMICAL OR PHYSICAL LABORATORY APPARATUS FOR GENERAL USE (apparatus for medical or pharmaceutical purposes [A61](#); apparatus for industrial purposes or laboratory apparatus whose construction and performance are comparable to that of similar industrial apparatus, see the relevant classes for industrial apparatus, particularly subclasses of [B01](#) and [C12](#); separating or distilling apparatus [B01D](#); mixing or stirring devices [B01F](#); atomisers [B05B](#); {vibrating devices, e.g. shaking tables;} sieves [B07B](#); corks, bungs [B65D](#); handling liquids in general [B67](#); vacuum pumps [F04](#); siphons [F04F 10/00](#); taps, stop-cocks [F16K](#); tubes, tube joints [F16L](#); apparatus specially adapted for investigating or analysing materials [G01](#), particularly [G01N](#); electrical or optical apparatus, see the relevant classes in Sections [G](#) and [H](#))

NOTE

This subclass covers only laboratory apparatus which is either applicable solely to laboratory purposes or which, by reason of its simple construction and adaptability, is such as would not be suitable for industrial use.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

- [B01L 3/14](#) covered by [B01L 3/50](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0226 (B01L)

U B01L 3/00

Containers or dishes for laboratory use, e.g. laboratory glassware (bottles [B65D](#); apparatus for enzymology or microbiology {specially adapted for culturing} [C12M 1/00](#)); Droppers (receptacles for volumetric purposes [G01F](#))

F B01L 3/14
(Frozen)

- Test tubes {(devices for taking samples of blood [A61B 5/14](#)[A61B 5/15](#))} ~~{(not used, see [B01L 3/50](#) and subgroups)}~~

WARNING

This Group [B01L 3/14](#) is no longer used for the classification of new documents as from 1 of August 1, 2018-April 2012. The back-file content of this group is being transferred to-reclassified into groups [B01L 3/50](#) and subgroups, [B01L 3/502](#), [B01L 3/5021](#), [B01L 3/50215](#), [B01L 3/5023](#), [B01L 3/5025](#), [B01L 3/50255](#), [B01L 3/5027](#), [B01L 3/502707](#), [B01L 3/502715](#), [B01L 3/502723](#), [B01L 3/50273](#), [B01L 3/502738](#), [B01L 3/502746](#), [B01L 3/502753](#), [B01L 3/502761](#), [B01L 3/502769](#), [B01L 3/502776](#), [B01L 3/502784](#), [B01L 3/502792](#), [B01L 3/5029](#), [B01L 3/505](#), [B01L 3/5055](#), [B01L 3/508](#), [B01L 3/5082](#), [B01L 3/50825](#), [B01L 3/5085](#), [B01L 3/50851](#), [B01L 3/50853](#), [B01L 3/50855](#), [B01L 3/50857](#), and [B01L 3/5088](#).

All groups listed in this Warning should be considered in order to perform a complete search.

E B01L 3/50

- {Containers for the purpose of retaining a material to be analysed, e.g. test tubes (devices for taking samples of blood [A61B 5/14](#)[A61B 5/15](#))}

WARNING

Groups [B01L 3/50](#) - [B01L 3/5088](#) are incomplete pending reclassification of documents from group [B01L 3/14](#).

Group B01L 3/14 should also be considered in order to perform a complete search.

Project: N/A (B02B)

B02B

PREPARING GRAIN FOR MILLING; REFINING GRANULAR FRUIT TO COMMERCIAL PRODUCTS BY WORKING THE SURFACE (making dough from cereals directly [A21C](#); preservation or sterilisation of cereals [A23B](#); cleaning fruit [A23N](#); preparation of malt [C12C](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B02C)

B02C

CRUSHING, PULVERISING, OR DISINTEGRATING IN GENERAL; MILLING GRAIN (household tools and machines for pulverising foodstuffs, e.g. coffee and spice mills [A47J 42/00](#); pharmaceutical mortars [A61J 3/02](#); mechanical processing of refuse and garbage [B03B 9/06](#); dressing mould materials by grinding [B22C 5/04](#); obtaining metallic powder by crushing, grinding or milling [B22F 9/04](#); {recovery of plastics by disintegrating [B29B 17/00](#); crushing raw materials in starch making [C08B 30/02](#); beaters for papermaking [D21D 1/02](#); crushing devices specially for transport in mines [E21F 13/002](#); slag crushing devices [F23J 1/00](#); fuel milling devices in combustion apparatus [F23K 1/00](#); household devices for crushing coal [F24B 15/02](#); ice disintegrating devices [F25C 5/02](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B03B)

B03B

SEPARATING SOLID MATERIALS USING LIQUIDS OR USING PNEUMATIC TABLES OR JIGS (removing fluids from solids [B01D](#); magnetic or electrostatic separation of solid materials from solid materials or fluids, separation by high voltage electric fields [B03C](#); flotation differential sedimentation [B03D](#); separating by dry methods [B07](#); screening or sifting [B07B](#); by picking [B07C](#); separating peculiar to particular materials and provided for in other single classes, see the relevant classes)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B03C)

B03C

MAGNETIC OR ELECTROSTATIC SEPARATION OF SOLID MATERIALS FROM SOLID MATERIALS OR FLUIDS; SEPARATION BY HIGH-VOLTAGE ELECTRIC FIELDS (filters making use of electricity or magnetism [B01D 35/06](#); separating isotopes [B01D 59/00](#); combinations of magnetic or electrostatic separation with separation of solids by other means [B03B](#), [B07B](#); separating sheets from piles [B65H 3/00](#); magnets or magnet coils per se [H01F](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B03D)**B03D**

FLOTATION; DIFFERENTIAL SEDIMENTATION (sedimentation in general [B01D 21/00](#); in combination with other separation of solids [B03B](#); sink-float separation [B03B 5/28](#); detergents, soaps [C11D](#))

WARNINGS

1. The following groups are not complete:

[B03D 1/023](#), see also [B03D 1/02](#)
[B03D 1/025](#), see also [B03D 1/02](#)
[B03D 1/026](#), see also [B03D 1/02](#)
[B03D 1/028](#), see also [B03D 1/02](#)
[B03D 1/082](#), see also [B03D 1/08](#)
[B03D 1/085](#), see also [B03D 1/08](#)
[B03D 1/087](#), see also [B03D 1/08](#)
[B03D 1/1406](#), see also [B03D 1/14](#)
[B03D 1/1443](#), see also [B03D 1/14](#)
[B03D 1/145](#), see also [B03D 1/14](#)
[B03D 1/1456](#), see also [B03D 1/14](#)
[B03D 1/1462](#), see also [B03D 1/14](#)
[B03D 1/1468](#), see also [B03D 1/14](#)
[B03D 1/1475](#), see also [B03D 1/14](#)
[B03D 1/1487](#), see also [B03D 1/14](#)
[B03D 1/1493](#), see also [B03D 1/14](#)
[B03D 1/242](#), see also [B03D 1/24](#)
[B03D 1/247](#), see also [B03D 1/24](#)

2. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B03D 101/00-B03D 103/10](#) covered by

3. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B04B)**B04B**

CENTRIFUGES (high-speed drum mills [B02C 19/11](#); domestic spin driers [D06F](#); analysing, measuring or monitoring physical or chemical properties of samples during centrifuging, see the relevant subclasses for these procedures, e.g. [G01N](#))

NOTE

This subclass covers machines or apparatus for separating, mixing, drying, extracting, purifying, or like treating in which centrifugal effects are generated by rotary bowls or other rotors. Where such machines or apparatus involve pumping effects, such effects must be incidental or subsidiary to the treating.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B04C)**B04C**

APPARATUS USING FREE VORTEX FLOW, e.g. CYCLONES ({centrifugal separation of water from steam [B01D 45/12](#);} jet mills [B02C 19/06](#); {wind sifters [B07B 7/00](#);} cyclonic type combustion apparatus [F23](#); {vortex burners for cyclone-type combustion apparatus [F23D 1/02](#); cyclonic type combustion apparatus for gas turbines [F23R 3/00](#)})

NOTE

This subclass covers apparatus for separating, mixing or like treating in which centrifugal effects are generated by free vortex flow, otherwise than by rotary bowls, rotors or curved passages.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B05B)**B05B**

SPRAYING APPARATUS; ATOMISING APPARATUS; NOZZLES ({sprayers or atomisers specially adapted for therapeutic purposes [A61M 11/00](#)}; spray-mixers with nozzles [B01F 5/20](#); processes for applying liquids or other fluent materials to surfaces by spraying [B05D](#); {nozzles specially adapted for injection moulding of plastics or substances in a plastic state [B29C 45/1603](#), [B29C 45/20](#); nozzles specially adapted for windscreen washers [B60S 1/52](#)}; means for pumping fluids [F04](#); valves, e.g. water-taps, [F16K](#))

NOTES

1. This subclass covers particularly apparatus for the release or projection of drops or droplets into the atmosphere or into a chamber to form a mist or the like. For this purpose, the materials to be projected may be suspended in a stream of gas or vapour.
2. Attention is drawn to the Note following the title of class [B05](#).
3. In this subclass, "means for controlling volume of flow" is used in the most general meaning and includes also means allowing only starting and stopping the flow
4. In this subclass, the meaning of the expression "apparatus carried on or by a person" includes all apparatus comprising at least one container for the material to be sprayed carried on or by a person during use
5. In this subclass, the word "container" is to be understood as the innermost enclosure containing the material to be sprayed

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0166 (B05B)

- C B05B 1/00 Nozzles, spray heads or other outlets, with or without auxiliary devices such as valves, heating means ([B05B 3/00](#), [B05B 5/00](#), [B05B 7/00](#) take precedence; {nozzles for baths with water or gas jets [A61H 33/00](#), e.g. [A61H 33/6063](#), [A61H 33/6021](#), [A61H 33/026](#) or [A61H 33/027](#); ~~nozzles~~**Nozzles** specially adapted for fire-extinguishing [A62C 31/02](#); ~~nozzles~~**Nozzles** for generating high velocity abrasive fluid jets [B24C 5/04](#)}; ~~nozzles for jet-ink printing mechanisms~~ [B41J 2/135](#)}; ~~nozzles for jet-ink printing mechanisms~~ [B41J 2/135](#); {~~Nozzles~~**nozzles** for filling containers [B65B 39/00](#)}; nozzles for liquid-dispensing, e.g. in vehicle service stations [B67D 7/42](#))
- WARNING**
Group [B05B 1/00](#) is impacted by reclassification into group [B05B 1/002](#). Groups [B05B 1/00](#) and [B05B 1/002](#) should be considered to perform a complete search.
- N B05B 1/002
- {designed to reduce the generation or the transmission of noise or to produce a particular sound; associated with noise monitoring means}
- WARNING**
Group [B05B 1/002](#) is incomplete pending reclassification of documents from group [B05B 1/00](#). Groups [B05B 1/00](#) and [B05B 1/002](#) should be considered to perform a complete search.
- C B05B 1/30
- designed to control volume of flow, e.g. with adjustable passages
{([B05B 11/0094](#) takes precedence)}
- WARNING**
Group [B05B 1/30](#) is impacted by reclassification into group [B05B 11/0094](#). Groups [B05B 1/30](#) and [B05B 11/0094](#) should be considered to perform a complete search.
- C B05B 1/34
- designed to influence the nature of flow of the liquid or other fluent material, e.g. to produce swirl ([B05B 1/30](#) takes precedence)
- WARNING**
Group [B05B 1/34](#) is impacted by reclassification into group [B05B 1/3402](#). Groups [B05B 1/34](#) and [B05B 1/3402](#) should be considered to perform a complete search.
- N B05B 1/3402
- {to avoid or to reduce turbulencies, e.g. comprising fluid flow straightening means}
- WARNING**
Group [B05B 1/3402](#) is incomplete pending reclassification of documents from group [B05B 1/34](#). Groups [B05B 1/34](#) and [B05B 1/3402](#) should be considered to perform a complete search.
- M B05B 7/00 Spraying apparatus for discharge of liquids or other fluent materials from two or more sources, e.g. of liquid and air, of powder and gas ([B05B 3/00](#), [B05B 5/00](#) {, [B05B 11/06](#)} take precedence; ~~outlets not specially modified for two media~~ [B05B 1/00](#))
- U B05B 7/24
- with means, e.g. a container, for supplying liquid or other fluent material to a discharge device ([B05B 7/14](#), [B05B 7/16](#), [B05B 11/00](#) take precedence)
- U B05B 7/2402
- {Apparatus to be carried on or by a person, e.g. by hand; Apparatus comprising containers fixed to the discharge device ([B05B 7/0012](#) takes precedence)}

- C B05B 7/247
- • {a liquid being fed by gravity only from the container to the nozzle
([B05B 7/2478](#) takes precedence)}
- WARNING**
Group [B05B 7/247](#) is impacted by reclassification into group [B05B 7/2478](#). Groups [B05B 7/247](#) and [B05B 7/2478](#) should be considered to perform a complete search.
- E B05B 7/2478
- • {Gun with a container which, in normal use, is located above the gun}
- WARNING**
Group [B05B 7/2478](#) is incomplete pending reclassification of documents from [B05B 7/247](#). Groups [B05B 7/247](#) and [B05B 7/2478](#) should be considered in order to perform a complete search.
- U B05B 11/00**
- Single-unit, i.e. unitary, hand-held apparatus {comprising a container and a discharge nozzle attached thereto}, in which flow of liquid or other fluent material is produced by {the muscular energy of} the operator at the moment of use {or by an equivalent manipulator independent from the apparatus (apparatus with an external source or the possibility of permanent accumulation of pressure for discharging the liquid or fluid material [B05B 7/00](#), [B05B 9/00](#))}**
- U B05B 11/0005
- {Components or details (of single units wherein the flow is effected by a pump [B05B 11/3042](#))}
- D B05B 11/0016
- {Venting means (for deformable containers [B05B 11/047](#))}
 - <administratively transferred to [B05B 11/0044](#)>
- D B05B 11/0018
- • {actuated by the pressure difference between the ambient pressure and the pressure in the inner space of the container for liquid or other fluent material}
 - <administratively transferred to [B05B 11/0039](#)>
- D B05B 11/0021
- • {comprising means for filtering or cleaning the air flow drawn into the container}
 - <administratively transferred to [B05B 11/00444](#)>
- D B05B 11/0024
- • {located in the bottom wall of the container or of an enclosure surrounding the container}
 - <administratively transferred to [B05B 11/00446](#)>
- C B05B 11/0037
- {Containers (for several components [B05B 11/0078](#); ~~containers in general [B65D](#)~~)}
- WARNING**
Group [B05B 11/0037](#) is impacted by reclassification into group [B05B 11/0038](#). Groups [B05B 11/0037](#) and [B05B 11/0038](#) should be considered to perform a complete search.
- N B05B 11/0038
- • {Inner container disposed in an outer shell or outer casing}
- WARNING**
Group [B05B 11/0038](#) is incomplete pending reclassification of documents from group [B05B 11/0037](#). Groups [B05B 11/0037](#) and [B05B 11/0038](#) should be considered to perform a complete search.

- Q B05B 11/0039 . . . {associated with means for compensating the pressure difference between the ambient pressure and the pressure inside the container, e.g. pressure relief means}
- WARNING
Group [B05B 11/0039](#) is impacted by reclassification into group [B05B 11/00442](#).
Groups [B05B 11/0039](#) and [B05B 11/00442](#) should be considered to perform a complete search.
- D B05B 11/004 . . . {with means for compensating for the underpressure created by evacuating the container (venting means B05B 11/0016)}
<administratively transferred to [B05B 11/0041](#)>
- Q B05B 11/0041 . . . {compensating underpressure without contact of the fluid remaining in the container with the atmospheric air}
- WARNING
Group [B05B 11/0041](#) is impacted by reclassification into group [B05B 11/00411](#).
Groups [B05B 11/0041](#) and [B05B 11/00411](#) should be considered to perform a complete search.
- N B05B 11/00411 {the means being an inert gas}
- WARNING
Group [B05B 11/00411](#) is incomplete pending reclassification of documents from group [B05B 11/0041](#).
Groups [B05B 11/0041](#) and [B05B 11/00411](#) should be considered to perform a complete search.
- N B05B 11/00412 {the means being a collapsible or foldable bag or membrane}
- N B05B 11/00414 {the bag or membrane being inverted during the outflow of the liquid or other fluent material}
- N B05B 11/00416 {the means being a following piston}
- N B05B 11/00418 {located on top of the remaining liquid or other fluent material}
- D B05B 11/0043 . . . {the container being a collapsible or foldable bag}
<administratively transferred to [B05B 11/00412](#)>
- N B05B 11/0044 {compensating underpressure by ingress of atmospheric air into the container, i.e. with venting means (venting means for deformable containers [B05B 11/047](#))}
- N B05B 11/00442 {the means being actuated by the difference between the atmospheric pressure and the pressure inside the container}
- WARNING
Group [B05B 11/00442](#) is incomplete pending reclassification of documents from group [B05B 11/0039](#).
Groups [B05B 11/0039](#) and [B05B 11/00442](#) should be considered to perform a complete search.
- N B05B 11/00444 {with provision for filtering or cleaning the air flow drawn into the container}
- N B05B 11/00446 {the means being located at the bottom of the container or of an enclosure surrounding the container}
- D B05B 11/0045 {the bag or membrane being inverted during emptying of the container}
<administratively transferred to [B05B 11/00414](#)>
- D B05B 11/0048 {the container comprising a movable piston or the like}
<administratively transferred to [B05B 11/00416](#)>

- D B05B 11/0051 {located above the liquid or other fluent material}
<administratively transferred to [B05B 11/00418](#)>
- M B05B 11/0059 . . {~~Arrangements allowing operation in any orientation, e.g. for use discharge in other positions than upright~~*inverted position*}
- U B05B 11/0062 . . {Outlet valves actuated by the pressure of the fluid to be sprayed (fluid-actuated pump outlet valve arrangements [B05B 11/3016](#), [B05B 11/3022](#), [B05B 11/3097](#), [B05B 11/3033](#), [B05B 11/3036](#), [B05B 11/304](#), [B05B 11/3064](#))}
- U B05B 11/0064 . . . {Lift valves ([B05B 11/007](#) takes precedence)}
- C B05B 11/0067 {having a valve seat located downstream the valve element
([B05B 11/3016](#), [B05B 11/3036](#) take precedence)}
- WARNING**
*Group [B05B 11/0067](#) is impacted by reclassification into groups [B05B 11/3016](#) and [B05B 11/3036](#).
All groups listed in this Warning should be considered to perform a complete search.*
- U B05B 11/0089 . . {Dispensing tubes}
- U B05B 11/0091 . . . {movable, e.g. articulated on the sprayer}
- E B05B 11/0094 {movement of the dispensing tube controlling a valve}
- WARNING**
*Group [B05B 11/0094](#) is incomplete pending reclassification of documents from [B05B 1/30](#).
Groups [B05B 1/30](#) and [B05B 11/0094](#) should be considered to perform a complete search.*
- U B05B 11/04 . . the flow being effected by deformation of container for liquid or other fluent material
- M B05B 11/047 . . {characterised by the outlet or venting means ([B05B 11/041](#) and [B05B 11/042](#) take precedence; ~~venting means for single-units in general [B05B 11/0016](#)~~)}
- U B05B 11/30 . . {the flow being effected by a pump}
- U B05B 11/3001 . . {Piston pumps ([B05B 11/3087](#), [B05B 11/3088](#), [B05B 11/309](#) take precedence)}
- E B05B 11/3016 {the outlet valve having a valve seat located downstream a movable valve element controlled by a pressure actuated controlling element ([B05B 11/3022](#), [B05B 11/3023](#) take precedence)}
- WARNING**
*Group [B05B 11/3016](#) is incomplete pending reclassification of documents from [B05B 11/0067](#).
Groups [B05B 11/0067](#) and [B05B 11/3016](#) should be considered to perform a complete search.*
- U B05B 11/3028 . . {Pumps having a pumping chamber with a deformable wall ([B05B 11/3087](#) take precedence)}
- E B05B 11/3036 . . . {the outlet valve being opened in the direction opposite to the fluid flow downstream the outlet valve by the pressure acting on a valve controlling element}
- WARNING**
*Group [B05B 11/3036](#) is incomplete pending reclassification of documents from [B05B 11/0067](#).
Groups [B05B 11/0067](#) and [B05B 11/3036](#) should be considered to perform a complete search.*

U B05B 12/00 Arrangements for controlling delivery; Arrangements for controlling the spray area

WARNING

Group [B05B 12/00](#) is impacted by reclassification into groups [B05B 12/16](#), [B05B 12/18](#), [B05B 12/20](#), [B05B 12/22](#), [B05B 12/24](#), [B05B 12/26](#), [B05B 12/28](#), [B05B 12/30](#), [B05B 12/32](#), [B05B 12/34](#), [B05B 12/36](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- C B05B 12/002
- {Manually-actuated controlling means, e.g. push buttons, levers, ~~or~~ triggers (~~B05B 11/00 takes precedence; manually-actuated control mechanisms in general G05G 7/00 -- G05G 13/00~~for single units [B05B 11/00](#))}

WARNING

Group [B05B 12/002](#) is impacted by reclassification into groups [B05B 12/0022](#), [B05B 12/0024](#), [B05B 12/0026](#).

All groups listed in this Warning should be considered to perform a complete search.

- N B05B 12/0022
- • {associated with means for restricting their movement}

WARNING

Groups [B05B 12/0022](#), [B05B 12/0024](#), [B05B 12/0026](#) are incomplete pending reclassification of documents from group [B05B 12/002](#).

All groups listed in this Warning should be considered to perform a complete search.

- N B05B 12/0024
- • • {to a single position}

- N B05B 12/0026
- • • • {to inhibit delivery}

Project: N/A (B05C)

B05C

APPARATUS FOR APPLYING LIQUIDS OR OTHER FLUENT MATERIALS TO SURFACES, IN GENERAL (spraying apparatus, atomising apparatus, nozzles [B05B](#); plant for applying liquids or other fluent materials to objects by electrostatic spraying [B05B 5/08](#); processes for applying liquids or other fluent materials to surfaces [B05D](#); {coating of foodstuffs [A23P 20/15](#), [A23P 20/17](#), [A23P 20/18](#), of shaped or preshaped ceramic articles [B28B 11/04](#)})

NOTES

1. This subclass covers apparatus or hand tools, in general, for applying liquids or other fluent materials to a surface or a part thereof, by any mechanical or physical method, in particular apparatus for obtaining a uniform distribution of liquids or other fluent materials on a surface.

2. Attention is drawn to the Note following the title of class [B05](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B05C 5/04](#) covered by [B05C 5/001](#), [B05C 11/1042](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B05D)**B05D**

PROCESSES FOR APPLYING LIQUIDS OR OTHER FLUENT MATERIALS TO SURFACES, IN GENERAL (apparatus for applying liquids or other fluent materials to surfaces [B05B](#), [B05C](#); {coating of foodstuffs [A23P 20/17](#), [A23P 20/15](#), [A23P 20/18](#)})

NOTES

1. This subclass covers:
 - processes for applying liquids or other fluent materials to a surface or part of a surface, in general, by any mechanical or physical method and particularly processes producing a uniform distribution of liquids or other fluent materials on a surface;
 - pretreatment of surfaces to which liquids or other fluent materials are to be applied;
 - after-treatment of applied coatings.
2. Attention is drawn to the Note following the title of class [B05](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B06B)**B06B**

METHODS OR APPARATUS FOR GENERATING OR TRANSMITTING MECHANICAL VIBRATIONS OF INFRASONIC, SONIC, OR ULTRASONIC FREQUENCY, {e.g.} FOR PERFORMING MECHANICAL WORK IN GENERAL (for particular applications, see the relevant subclasses, e.g. [B07B 1/40](#), [B23Q 17/12](#), [B24B 31/06](#); measurement of mechanical vibrations [G01H](#); in direction finding, locating, distance or velocity measuring [G01S](#); {generating seismic energy [G01V 1/02](#)}; control of mechanical vibrations in general [G05D](#); sound-producing devices, e.g. bells, sirens, whistles [G10K](#), {e.g. methods or devices for transmitting, conducting, or directing sound in general [G10K 11/00](#)}; generation of electrical oscillations [H03B](#); electromechanical resonators in general [H03H](#); electromechanical transducers {for communication techniques, e.g. microphones, speakers} [H04R](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B07B)**B07B**

SEPERATING SOLIDS FROM SOLIDS BY SIEVING, SCREENING, OR SIFTING OR BY USING GAS CURRENTS; OTHER SEPARATING BY DRY METHODS APPLICABLE TO BULK MATERIAL, e.g. LOOSE ARTICLES FIT TO BE HANDLED LIKE BULK MATERIAL (combinations of dry separating apparatus with wet separating apparatus [B03B](#); hand sorting, postal sorting, sorting by switching or other devices actuated in response to detection or measurement of some feature of articles or samples of material [B07C](#))

NOTE

In this subclass any sorting or grading of bulk material or loose articles fit to be handled like bulk material results automatically from the construction of the apparatus and properties of the material, e.g. by a trap opening under an object of a certain minimum weight, by an aperture of graduated size. Sorting of articles is included in so far as the same conditions apply, e.g. sorting of timber

by passing it over successively longer openings; the articles may or may not be orientated for the purpose of sorting.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B07B 1/32](#) covered by

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B07C)

B07C

POSTAL SORTING; SORTING INDIVIDUAL ARTICLES, OR BULK MATERIAL FIT TO BE SORTED PIECE-MEAL, e.g. BY PICKING (specially adapted for a specific purpose covered by another class, see the relevant place, e.g. [A43D 33/06](#), [B23Q 7/12](#))

NOTE

This subclass covers sorting of materials or articles by hand or by devices actuated, manually or automatically, as a result of inspection or of detection or measurement of some feature of the material or articles

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B08B)

B08B

CLEANING IN GENERAL; PREVENTION OF FOULING IN GENERAL (brushes [A46](#); devices for domestic or like cleaning [A47L](#); {cleaning golf-clubs or golf accessories [A63B 57/60](#); cleaning grips of bats on rackets [A63B 60/36](#)}; separation of particles from liquids or gases [B01D](#); separation of solids [B03](#), [B07](#); spraying or applying liquids or other fluent materials to surfaces in general [B05](#); cleaning devices for conveyors [B65G 45/10](#); concurrent cleaning, filling and closing of bottles [B67C 7/00](#); inhibiting corrosion or incrustation in general [C23](#); cleaning streets, permanent ways, beaches or land [E01H](#); parts, details or accessories of swimming or splash baths or pools, specially adapted for cleaning [E04H 4/16](#); preventing or removing electrostatic charges [H05F](#))

NOTE

This subclass covers only inventions relating to cleaning which are usually classified according to one (or more) of the aspects mentioned below if they are not fully classifiable in a subclass a subclass providing for any of the following aspects:

- the articles cleaned, e.g. bed-pans, urinal or other sanitary devices for bed-ridden persons [A61G 9/02](#), filters, semi-permeable membranes [B01D](#), castings and moulds [B22D 29/00](#), vehicles [B60S](#), coke ovens [C10B 43/00](#), building forms [E04G](#), boilers [F22](#), combustion apparatus [F23](#), furnaces [F27](#); the general nature of the cleaning, e.g. preparing for sugar manufacture [A23N](#), domestic cleaning [A47L](#), treatment of textiles [D06](#), laundry [D06F](#), air-conditioning [F24F](#);
- the particular operation performed, e.g. filtering [B01D](#), separating of solids [B03](#), [B07](#), sand-blasting [B24C](#);
- the particular apparatus or device, e.g. brushes [A46B](#), mops [A47L](#), centrifuges [B04](#), hand tools [B25](#) { devices for cleaning paint-applying hand tools after use [B44D 3/006](#) };
- the substance cleaned, e.g. metals [B21C](#), [C23](#), water [C02](#), glass [C03B](#), leather [C14B](#), textile fibres [D01](#);

- the substance removed (or prevented from depositing or forming) e.g. { removing paint [B44D 3/00](#), e.g. } implements or apparatus for removing dry paint from surfaces [B44D 3/16](#);
- chemical paint-removers [C09D 9/00](#);
- preventing rust [C23F](#);
- the substance used, e.g. macromolecular compounds or compositions [C08](#), anti-icing materials [C09K](#), detergents [C11D](#);
- the operation in connection with which cleaning is done, e.g. metal rolling [B21B](#), metal boring [B23B](#), soldering [B23K](#), textile fabrication [D01G](#), [D01H](#), [D03J](#), [D04B](#);
- the surroundings of a surface to be cleaned or kept clean, e.g. water in a boiler [C02F](#), air in a room [F24F](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B09B)

B09B

DISPOSAL OF SOLID WASTE

NOTES

1. This subclass covers only single or combined, e.g. multistage, operations not fully classifiable in a single other subclass
2. In this subclass the following terms or expressions are added with the meanings indicated :
 - "disposal" means the discarding, e.g. dumping, or destroying of waste or its transformation into something useful or harmless;
 - "solid waste" includes waste which, although it has liquid content, is for practical purposes handled as solid
3. Attention is drawn to the following places:

A23J 1/16	Obtaining proteins from waste water of starch manufacturing plants of like wastes
A23K 10/38	Animal feeding-stuffs from distillers' or brewers' waste
A23K 10/28	Animal feeding-stuffs from waste products of dairy
A23K 10/20	Animal feeding-stuffs from kitchen waste
A43B 1/12	Footwear made of rubber waste
A61L 11/00	Disinfection or sterilisation methods specially adapted for refuse
A62D 3/00	Chemical means for combatting harmful chemical agents; processes for making harmful chemical agents harmless
B01D 53/34	Chemical purification of smoke or fumes, e.g. flue gas
B02C 18/0084	Disintegrating by knives or other cutting or tearing members, which chop material into fragments, specially adapted for disintegrating garbage, waste or sewage
B03B 7/00	Combinations of wet processes or apparatus with other processes or apparatus, e.g. for dressing ores or garbage
B03B 9/06	General arrangement of separating plant, e.g. flow sheets, specially adapted for refuse
B05B 12/16 , B05B 12/32	Control of spray area of spraying plant, e.g. masking, side shields; Means for collection or re-use of excess material
B08B 15/00	Prevent escape of dirt or fumes from the area where they are produced; Collecting or removing dirt or fumes from that area

B23D 25/14	Machines or arrangements for shearing stock while the latter is travelling otherwise than in the direction of the cut without regard to the exact dimensions of the resulting material, e.g. for cutting up scrap
B27B 33/20	Edge trimming saw blades or tools combined with means to disintegrate waste
B29B 17/00	Recovery of plastics or other constituents of waste material containing plastics
B30B 9/32	Presses for consolidating scrap metal or for compacting used cars
B63B 17/06	Refuse discharge from vessels, e.g. for ash { B63J 4/006 } Arrangements of installation for treating waste water or sewage on vessels
B65F 1/00	Refuse receptacles
B65F 3/00	Vehicles particularly adapted for collecting refuse
B65F 5/00	Gathering or removal of refuse otherwise than by receptacles or vehicles
B65F 7/00	Cleaning or disinfecting devices combined with refuse receptacles or refuse vehicles
C03C 1/00	Ingredients generally applicable to manufacture of glasses, glazes or vitreous enamels
C04B 7/24	Hydraulic cements from oil shales, residues or waste other than slag
C04B 11/26	Calcium sulfate cements from phosphogypsum or from waste, e.g. purification products of smoke
C04B 18/04	Waste materials or refuse used as fillers for mortars, concrete, artificial stone or the like
C04B 22/0006	Waste inorganic materials used as active ingredients for mortars, concrete, artificial stone or the like
C04B 24/001	Waste organic materials used as active ingredients for mortars, concrete, artificial stone or the like
C05F 9/00	Fertilisers made from household or town refuse
C08J 11/00	Recovery of waste materials of macromolecular substances
C08L 17/00	Compositions of reclaimed rubber
C10B 53/00	Destructive distillation, specially adapted for particular solid raw materials or solid raw materials in special form
C10B 57/00	Other processes not covered before; Features of destructive distillation processes in general
C10G 1/10	Production of liquid hydrocarbon mixtures from rubber or rubber waste
C10L 5/46	Solid fuels essentially based on sewage, house or town refuse
C10L 5/48	Solid fuels essentially based on industrial residues and waste materials
C10M 175/02	Working-up used lubricants based on mineral oils
C11B 13/00	Recovery of fats, fatty oils, or fatty acids from waste materials
C11D 19/00	Recovery of glycerol from a saponification liquor
C12F 3/00	Recovery of by-products
C12F 3/08	Recovery of alcohol from press residues or other waste material
C12P 7/08	Biochemical production of ethanol from waste
C22B 7/00	Working-up raw materials other than ores, e.g. scrap, to produce non-ferrous metals or compounds thereof

C22B 19/28	Obtaining zinc or zinc oxide from muffle furnace residues
C22B 19/30	Obtaining zinc or zinc oxide from metallic residues or scrap
C22B 25/06	Obtaining tin from scrap
D01B	Mechanical treatment of natural fibrous or filamentary material to obtain fibres or filaments, e.g. for spinning
D01C 5/00	Carbonising rags to recover animal fibres
D01F 13/00	Recovery of starting material, waste material or solvents during the manufacture of artificial filaments or the like
D01G 11/00	Disintegrating fibre-containing articles to obtain fibres for re-use
D01H 11/00	Arrangements for confining or removing dust, fly, or the like
D06L 1/10	Regeneration of used chemical baths used for dry-cleaning or washing fibres, fabrics or the like
D21B 1/08	Dry treatment of waste paper or rags for making paper or for the production of cellulose
D21B 1/32	Defibrating waste paper
D21C 5/02	Processes for obtaining cellulose by working-up waste paper
D21C 11/14	Regeneration of pulp liquors by wet combustion
D21F 1/66	Re-use of pulp-water in wet end machines for making continuous webs of paper
D21H 17/01	Waste products added to the pulp or used in paper-impregnating material
E03F	Sewers, Cesspools
E04F 17/10	Arrangements in building for the disposal of refuse
F23B 5/00	Combustion apparatus arrangements for burning uncombusted material from primary combustion
F23G	Consuming waste products by combustion
F23J	Removal or treatment of combustion products or combustion residues
G03C 11/24	Removing emulsion from waste photographic material
H01B 15/00	Apparatus or processes for salvaging material from electric cables
H01M 6/52	Reclaiming serviceable parts of waste cells or batteries
H01M 10/54	Reclaiming serviceable parts of waste accumulators

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B09C)

B09C

RECLAMATION OF CONTAMINATED SOIL (gatherers for removing stone or the like from the soil [A01B 43/00](#); sterilising soil by steam [A01G 11/00](#); processes for making harmful chemical substances harmless or less harmful by effecting chemical change in the substance [A62D 3/00](#); separation in general [B01D](#); cleaning beaches [E01H 12/00](#); removing undesirable matter, e.g. rubbish, from the land [E01H 15/00](#))

NOTE

In this subclass, the following term is used with the meaning indicated:

- "reclamation" means the partial or total elimination or the fixing of contaminants in soil.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B09C 1/04](#) covered by [B09C 1/02](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B21B)

B21B

ROLLING OF METAL (auxiliary operations used in connection with metal-working operations covered in [B21](#), see [B21C](#); bending by rolling [B21D](#); manufacture of particular objects, e.g. screws, wheels, rings, barrels, balls, by rolling [B21H](#); pressure welding by means of a rolling mill [B23K 20/04](#))

NOTE

In this subclass, the following terms or expressions are used with the meanings indicated:

- "rolling" means rolling operations in which plastic deformations occur;
- "continuous process" means a process employing a mill train designed to have the workpiece enter one pair of rolls before leaving the preceding pair.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B21C)

B21C

MANUFACTURE OF METAL SHEETS, WIRE, RODS, TUBES OR PROFILES, OTHERWISE THAN BY ROLLING; AUXILIARY OPERATIONS USED IN CONNECTION WITH METAL-WORKING WITHOUT ESSENTIALLY REMOVING MATERIAL

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B21D)

B21D

WORKING OR PROCESSING OF SHEET METAL OR METAL TUBES, RODS OR PROFILES WITHOUT ESSENTIALLY REMOVING MATERIAL; PUNCHING METAL (working or processing of wire [B21F](#))

NOTES

1. This subclass covers cutting or perforating of sheet metal or other stock material
2. This subclass does not cover the working of metal foils in a manner analogous to the working of paper, which is covered by classes [B26](#), [B31](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B21F)**B21F**

WORKING OR PROCESSING OF METAL WIRE ({reducing diameter by} rolling of metal [B21B](#); by drawing, auxiliary operations used in connection with metal-working without essentially removing material [B21C](#); bundling articles [B65B 13/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B21G)**B21G**

MAKING NEEDLES, PINS OR NAILS OF METAL

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B21H)**B21H**

MAKING PARTICULAR METAL OBJECTS BY ROLLING, e.g. SCREWS, WHEELS, RINGS, BARRELS, BALLS (essentially from sheet metal [B21D](#))

NOTE

This subclass covers rolling operations which are specially adapted for use in the manufacture of particular objects and which are not essentially combined with any different metal-working operation unless the latter is a subsidiary operation performed in the same machine.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B21J)**B21J**

FORGING; HAMMERING; PRESSING METAL; RIVETING; FORGE FURNACES (rolling of metal [B21B](#); making particular products by forging or pressing [B21K](#); cladding or plating [B23K](#); finishing surfaces by hammering [B23P 9/04](#); compacting surfaces by blasting with particulate material [B24C 1/10](#); general features of presses, presses for consolidating scrap [B30B](#); furnaces in general [F27](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B21K)**B21K**

MAKING FORGED OR PRESSED METAL PRODUCTS, e.g. HORSE-SHOES, RIVETS, BOLTS OR WHEELS (making particular articles by working sheet metal without essentially removing material [B21D](#); processing wire [B21F](#); making pins, needles or nails [B21G](#); making particular articles by rolling [B21H](#); forging machines, pressing machines, hammering machines, in general [B21J](#); making chains [B21L](#); plating [B23K](#))

NOTE

This subclass includes only forging, pressing, or hammering operations which are specially adapted for use in the manufacture of particular objects and which, so far as the invention is concerned, are not combined with any different metal-

working operation unless the latter is a subsidiary operation performed in the same machine.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B21L)

B21L

MAKING METAL CHAINS (making chains or chain links by casting [B22D 25/02](#); chains in general [F16G](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B22C)

B22C

FOUNDRY MOULDING (moulding refractory materials in general [B28B](#))

NOTE

This subclass covers:

- the making of moulds for casting metals or of other refractory moulds;
- selection or preparation of materials therefor;
- the necessary patterns, processes, machines, accessory devices or tools.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

B22C 3/02	covered by	B22C 3/00
B22C 5/13	covered by	B22C 5/12
B22C 7/05	covered by	B22C 7/04
B22C 9/11	covered by	B22C 9/10
B22C 9/14	covered by	B22C 9/12
B22C 9/16	covered by	B22C 9/12
B22C 15/264 - B22C 15/276	covered by	B22C 15/23
B22C 19/01	covered by	B22C 19/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B22D)

B22D

CASTING OF METALS; CASTING OF OTHER SUBSTANCES BY THE SAME PROCESSES OR DEVICES (shaping of plastics or substances in a plastic state [B29C](#); metallurgical processing, selection of substances to be added to metal [C21](#), [C22](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B23B)

B23B

TURNING; BORING (arrangements for copying or controlling [B23Q](#))

WARNING

1.

The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

B23B 3/18	covered by	B23B 3/16
B23B 3/20	covered by	B23B 3/16
B23B 3/28	covered by	B23B 3/00
B23B 5/22	covered by	B23B 31/00
B23B 5/24	covered by	B23Q 27/00 ; B23B 35/00
B23B 5/30	covered by	B23Q 35/00
B23B 5/34	covered by	B23B 31/00 ; B23B 33/00
B23B 5/42	covered by	B23Q 35/00
B23B 5/44	covered by	B23Q 27/00
B23B 7/08	covered by	B23B 7/04
B23B 7/14	covered by	B23B 7/12
B23B 7/16	covered by	B23B 7/12
B23B 9/04	covered by	B23B 9/02
B23B 9/06	covered by	B23B 9/02
B23B 9/10	covered by	B23B 9/08
B23B 9/12	covered by	B23B 9/08
B23B 15/00	covered by	B23Q 7/00
B23B 17/00	covered by	B23Q 1/01 ; B23Q 1/03 ; B23Q 1/25
B23B 19/00	covered by	B23Q 1/70
B23B 19/02	covered by	B23Q 1/70
B23B 21/00	covered by	B23Q 1/00
B23B 29/30	covered by	B23B 29/28
B23B 31/163	covered by	B23B 31/16004
B23B 31/165	covered by	B23B 31/16045
B23B 31/167	covered by	B23B 31/16045
B23B 31/169	covered by	B23B 31/16083
B23B 31/171	covered by	B23B 31/1612
B23B 31/173	covered by	B23B 31/16158
B23B 31/175	covered by	B23B 31/16195
B23B 31/177	covered by	B23B 31/16233
B23B 41/08	covered by	F16L 41/04
B23B 45/14	covered by	B25H 1/0021
B23B 45/16	covered by	B25D 16/00
B23B 47/02	covered by	B23Q 5/00
B23B 47/04	covered by	B23Q 5/00
B23B 47/06	covered by	B23Q 5/00
B23B 47/08	covered by	B23Q 5/00
B23B 47/10	covered by	B23Q 5/00
B23B 47/12	covered by	B23Q 5/00
B23B 47/14	covered by	B23Q 5/00
B23B 47/16	covered by	B23Q 5/00
B23B 47/18	covered by	B23Q 5/00
B23B 47/20	covered by	B23Q 5/00
B23B 47/22	covered by	B23Q 5/00
B23B 47/24	covered by	B23Q 16/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B23C)

B23C

MILLING (broaching [B23D](#); broach-milling in making gears [B23F](#); arrangement for copying or controlling [B23Q](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B23D)

B23D

PLANING; SLOTTING; SHEARING; BROACHING; SAWING; FILING; SCRAPING; LIKE OPERATIONS FOR WORKING METAL BY REMOVING MATERIAL, NOT OTHERWISE PROVIDED FOR (making toothed gears or the like [B23F](#); cutting metal by applying heat locally [B23K](#); arrangements for copying or controlling [B23Q](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B23F)

B23F

MAKING GEARS OR TOOTHED RACKS (by stamping [B21D](#); by rolling [B21H](#); by forging or pressing [B21K](#); by casting [B22](#); arrangements for copying or controlling [B23Q](#); machines or devices for grinding or polishing, in general [B24B](#))

NOTES

1. This subclass covers:

- the use of methods or apparatus specially designed to produce accurately the shapes of gear teeth which are essential for proper intermeshing of toothed gearing elements to ensure the required relative motions;
- the use of similar methods or apparatus in the production of other articles of toothed or like form, e.g. dog clutches, splined shafts, milling cutters.

2. This subclass does not cover the production of such other articles of toothed or like form using methods or apparatus other than those mentioned under Note (1) above.

3. In this subclass, the following terms or expressions are used with the meanings indicated:

- "gear teeth" covers the teeth or lobes of other accurately-intermeshing members having relative movement of a similar kind, such as rotors of rotary pumps and blowers;
- "profile" may include the outline of both faces or only one face of a tooth, or the opposing faces of adjacent teeth;
- "straight" means that a tooth as a whole (ignoring any curvature of the tooth-face alone, e.g. crowning) is straight in the direction of its length, for example as seen in the direction of a radius of a spur wheel. It accordingly includes the teeth of helical gears and of the normal type of bevel gear;
- "broach-milling" means milling with a rotary cutter having a number of teeth of progressively increasing depth or width.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B23G)**B23G**

THREAD CUTTING; WORKING OF SCREWS, BOLT HEADS, OR NUTS, IN CONJUNCTION THEREWITH (making helical grooves by turning [B23B 5/48](#), by milling [B23C 3/32](#), by forging, pressing, or hammering [B21K 1/56](#), by grinding [B24B 19/02](#); arrangements for copying or controlling [B23Q](#); thread-forming by corrugating tubes [B21D 15/04](#), by rolling [B21H 3/02](#))

NOTE

The term "thread cutting" is to be understood as including the use of tools similar both in form and in manner of use to thread-cutting tools, but without removing any material

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B23H)**B23H**

WORKING OF METAL BY THE ACTION OF A HIGH CONCENTRATION OF ELECTRIC CURRENT ON A WORKPIECE USING AN ELECTRODE WHICH TAKES THE PLACE OF A TOOL; SUCH WORKING COMBINED WITH OTHER FORMS OF WORKING OF METAL (processes for the electrolytic or electrophoretic production of coatings, electroforming, or apparatus therefor [C25D](#); processes for the electrolytic removal of material from objects [C25F](#); manufacturing printed circuits using precipitation techniques to apply the conductive material to form the desired conductive pattern [H05K 3/18](#))

NOTE

This subclass covers the working of metal described as "electroerosion"

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B23K)**B23K**

SOLDERING OR UNSOLDERING; WELDING; CLADDING OR PLATING BY SOLDERING OR WELDING; CUTTING BY APPLYING HEAT LOCALLY, e.g. FLAME CUTTING; WORKING BY LASER BEAM (making metal-coated products by extruding metal [B21C 23/22](#); building up linings or coverings by casting [B22D 19/08](#); casting by dipping [B22D 23/04](#); manufacture of composite layers by sintering metal powder [B22F 7/00](#); arrangements on machine tools for copying or controlling [B23Q](#); covering metals or covering materials with metals, not otherwise provided for [C23C](#); burners [F23D](#))

NOTES

1. This subclass covers also electric circuits specially adapted for the purposes covered by the title of the subclass.
2. In this subclass, the following term is used with the meaning indicated:
 - "soldering" means uniting metals using solder and applying heat without melting either of the parts to be united

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B23K 35/04](#) - [B23K 35/20](#) covered by [B23K 35/0205](#) - [B23K 35/0294](#)

B23K 35/363 covered by [B23K 35/3601](#) -
[B23K 35/3618](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

B23K 15/00
- B23K 37/00
B23K 2103/00

Other welding or cutting; Working by laser beam

Project: RP0343 (B23K)

U B23K 26/00 Working by laser beam, e.g. welding, cutting or boring

NOTES

1. This subclass covers:

- laser working for making a weakened layer, with or without removing material;
- laser shock processing;
- apparatus for laser surface treatment;
- laser ablation.

2. This subclass does not cover:

- laser assisted deposition which is covered by subclass [C23C](#);
- laser sintering which is covered by group [B22F 3/105](#) for metallic powder, by group [B29C 67/04](#) for plastics, by group [C03B 19/06](#) for glass or by group [C04B 35/64](#) for ceramics;
- laser assisted chemical etching which is covered by group [C23F 1/00](#).

- D B23K 26/0054 • {Working by transmitting the laser beam within the workpiece}
<administratively transferred to [B23K 26/50](#)>
- D B23K 26/0057 • • {by modifying or reforming the material inside the workpiece, e.g. for producing break initiation cracks}
<administratively transferred to [B23K 26/53](#)>
- D B23K 26/006 • • {by creating voids inside the workpiece, e.g. for forming flow passages or flow patterns}
<administratively transferred to [B23K 26/55](#)>
- D B23K 26/0063 • • {the laser beam entering a face of the workpiece from which it is transmitted through the workpiece material to work on a face remote from the face where the laser beam entered the workpiece, e.g. for effecting removal, fusion splicing, modifying or reforming}
<administratively transferred to [B23K 26/57](#)>
- D B23K 26/0066 • • {for surface treatment (for changing the physical structure of ferrous metals or alloys C21D, of non-ferrous metals or alloys C22F; for alloying C23C; annealing crystalline material C30B 33/02; laser treatment of semiconductors H01L)}
<administratively transferred to [B23K 26/352](#)>
- D B23K 26/0069 • • {Laser shock processing (modifying the physical properties of ferrous metals by laser shock processing C21D 10/005)}
<administratively transferred to [B23K 26/356](#)>
- D B23K 26/0072 • • {Modifying rugosity}
<administratively transferred to [B23K 26/3568](#)>
- D B23K 26/0075 • • • {Diminishing rugosity, e.g. grinding; Polishing; Smoothing}
<administratively transferred to [B23K 26/3576](#)>
- D B23K 26/0078 • • • {Increasing rugosity, e.g. roughening}
<administratively transferred to [B23K 26/3584](#)>
- D B23K 26/0081 • • {by melting (laser re-melting of metals by wave energy C22B 9/22; laser melting of glass C03C; laser melting for crystal growth C30B)}
<administratively transferred to [B23K 26/354](#)>

- D B23K 26/0084
 - • {Texturing}
 - <administratively transferred to [B23K 26/355](#)>
- D B23K 26/0087
 - • {by providing a line or line pattern, e.g. a dotted break initiation line}
 - <administratively transferred to [B23K 26/359](#)>
- U B23K 26/14
 - using a fluid stream, e.g. a jet of gas, in conjunction with the laser beam; Nozzles therefor ([B23K 26/12](#) takes precedence)
- U B23K 26/1423
 - • {the flow carrying an electric current}
- D B23K 26/1429
 - • • {the flow carrying an electric arc, e.g. laser arc hybrid welding}
 - <administratively transferred to [B23K 26/348](#)>
- U B23K 26/346
 - in combination with welding or cutting covered by groups [B23K 5/00](#) - [B23K 25/00](#), e.g. in combination with resistance welding
- E B23K 26/348
 - • in combination with arc heating, e.g. TIG [tungsten inert gas], MIG [metal inert gas] or plasma welding (laser beam for starting a welding or cutting arc [B23K 9/067](#))
- E B23K 26/352
 - for surface treatment
- E B23K 26/354
 - • by melting
- N B23K 26/355
 - • {Texturing}
- E B23K 26/356
 - • by shock processing
- N B23K 26/3568
 - • {Modifying rugosity}
- N B23K 26/3576
 - • • {Diminishing rugosity, e.g. grinding; Polishing; Smoothing}
- N B23K 26/3584
 - • • {Increasing rugosity, e.g. roughening}
- E B23K 26/359
 - • by providing a line or line pattern, e.g. a dotted break initiation line
- E B23K 26/50
 - Working by transmitting the laser beam through or within the workpiece
- E B23K 26/53
 - • for modifying or reforming the material inside the workpiece, e.g. for producing break initiation cracks
- E B23K 26/55
 - • for creating voids inside the workpiece, e.g. for forming flow passages or flow patterns
- E B23K 26/57
 - • the laser beam entering a face of the workpiece from which it is transmitted through the workpiece material to work on a different workpiece face, e.g. for effecting removal, fusion splicing, modifying or reforming
- U B23K 37/00**

Auxiliary devices or processes, not specially adapted to a procedure covered by only one of the preceding main groups (eye-shields for welders worn on the operator's body or carried in the hand [A61F 9/00](#) {, i.e. [A61F 9/02](#)}; applicable to metal-working machines other than soldering, welding, or flame-cutting machines [B23Q](#); {laser protective screens [B23K 26/706](#); } protective shields for other welding methods [F16P 1/06](#))
- U B23K 37/08
 - for flash removal
- N B23K 2101/00**

Articles made by soldering, welding or cutting
- N B23K 2101/001
 - {Turbines}
- N B23K 2101/002
 - {Drill-bits}
- N B23K 2101/003
 - {Pistons}
- N B23K 2101/005
 - {Camshafts}
- N B23K 2101/006
 - {Vehicles}
- N B23K 2101/007
 - {Marks, e.g. trade marks}
- N B23K 2101/008
 - {Gears}
- N B23K 2101/02
 - Honeycomb structures
- N B23K 2101/04
 - Tubular or hollow articles
- N B23K 2101/045
 - • {Hollow panels}

- N B23K 2101/06 • • Tubes
- N B23K 2101/08 • • • *finned or ribbed*
- N B23K 2101/10 • • Pipe-lines
- N B23K 2101/12 • • Vessels
- N B23K 2101/125 • • • {Cans}
- N B23K 2101/14 • • Heat exchangers
- N B23K 2101/16 • Bands or sheets of indefinite length
- N B23K 2101/18 • Sheet panels
- N B23K 2101/185 • • {Tailored blanks}
- N B23K 2101/20 • Tools
- N B23K 2101/22 • Nets, wire fabrics or the like
- N B23K 2101/24 • Frameworks
- N B23K 2101/26 • Railway- or like rails
- N B23K 2101/28 • Beams
- N B23K 2101/30 • Chains, hoops or rings
- N B23K 2101/32 • Wires
- N B23K 2101/34 • Coated articles {, e.g. plated or painted; Surface treated articles}
- N B23K 2101/35 • • {Surface treated articles}
- N B23K 2101/36 • Electric or electronic devices
- N B23K 2101/38 • • Conductors
- N B23K 2101/40 • • Semiconductor devices
- N B23K 2101/42 • • Printed circuits

- N B23K 2103/00 **Materials to be soldered, welded or cut****
- N B23K 2103/02 • Iron or ferrous alloys
- N B23K 2103/04 • • Steel or steel alloys
- N B23K 2103/05 • • • {Stainless steel}
- N B23K 2103/06 • • Cast-iron alloys
- N B23K 2103/08 • Non-ferrous metals or alloys
- N B23K 2103/10 • • Aluminium or alloys thereof
- N B23K 2103/12 • • Copper or alloys thereof
- N B23K 2103/14 • • Titanium or alloys thereof
- N B23K 2103/15 • • {Magnesium or alloys thereof}
- N B23K 2103/16 • Composite materials {, e.g. fibre reinforced}
- N B23K 2103/166 • • {Multilayered materials}
- N B23K 2103/172 • • • {wherein at least one of the layers is non-metallic}
- N B23K 2103/18 • Dissimilar materials
- N B23K 2103/20 • • Ferrous alloys and aluminium or alloys thereof
- N B23K 2103/22 • • Ferrous alloys and copper or alloys thereof
- N B23K 2103/24 • • Ferrous alloys and titanium or alloys thereof
- N B23K 2103/26 • • {Alloys of Nickel and Cobalt and Chromium}
- N B23K 2103/30 • {Organic material}
- N B23K 2103/32 • • {Material from living organisms, e.g. skins}
- N B23K 2103/34 • • • {Leather}
- N B23K 2103/36 • • {Wood or similar materials}

- N B23K 2103/38 • • {Fabrics, fibrous materials}
- N B23K 2103/40 • • {Paper}
- N B23K 2103/42 • • {Plastics ([B23K 2103/16](#) takes precedence)}
- N B23K 2103/50 • {Inorganic material, e.g. metals, not provided for in [B23K 2103/02](#) – [B23K 2103/26](#)}
- N B23K 2103/52 • • {Ceramics}
- N B23K 2103/54 • • {Glass}
- N B23K 2103/56 • • {semiconducting (semiconducting devices [B23K 2101/40](#))}
- D B23K 2201/00 Articles made by soldering, welding or cutting by applying heat locally**
<administratively transferred to [B23K 2101/00](#)>
- D B23K 2201/001 • Turbines
 <administratively transferred to [B23K 2101/001](#)>
- D B23K 2201/002 • Drill-bits
 <administratively transferred to [B23K 2101/002](#)>
- D B23K 2201/003 • Pistons
 <administratively transferred to [B23K 2101/003](#)>
- D B23K 2201/005 • Camshafts
 <administratively transferred to [B23K 2101/005](#)>
- D B23K 2201/006 • Vehicles
 <administratively transferred to [B23K 2101/006](#)>
- D B23K 2201/007 • Marks, e.g. trade marks
 <administratively transferred to [B23K 2101/007](#)>
- D B23K 2201/008 • Gears
 <administratively transferred to [B23K 2101/008](#)>
- D B23K 2201/02 • Honeycomb structures
 <administratively transferred to [B23K 2101/02](#)>
- D B23K 2201/04 • Tubular or hollow articles
 <administratively transferred to [B23K 2101/04](#)>
- D B23K 2201/045 • • Hollow panels
 <administratively transferred to [B23K 2101/045](#)>
- D B23K 2201/06 • • Tubes
 <administratively transferred to [B23K 2101/06](#)>
- D B23K 2201/08 • • • finned or ribbed
 <administratively transferred to [B23K 2101/08](#)>
- D B23K 2201/10 • • Pipe-lines
 <administratively transferred to [B23K 2101/10](#)>
- D B23K 2201/12 • • Vessels
 <administratively transferred to [B23K 2101/12](#)>
- D B23K 2201/125 • • • Cans
 <administratively transferred to [B23K 2101/125](#)>
- D B23K 2201/14 • • Heat exchangers
 <administratively transferred to [B23K 2101/14](#)>
- D B23K 2201/16 • Bands or sheets of indefinite length
 <administratively transferred to [B23K 2101/16](#)>
- D B23K 2201/18 • Sheet panels
 <administratively transferred to [B23K 2101/18](#)>
- D B23K 2201/185 • Tailored blanks
 <administratively transferred to [B23K 2101/185](#)>

- D B23K 2201/20 • Tools
 <administratively transferred to [B23K 2101/20](#)>
- D B23K 2201/22 • Nets, wire fabrics or the like
 <administratively transferred to [B23K 2101/22](#)>
- D B23K 2201/24 • Frameworks
 <administratively transferred to [B23K 2101/24](#)>
- D B23K 2201/26 • Railway or like rails
 <administratively transferred to [B23K 2101/26](#)>
- D B23K 2201/28 • Beams
 <administratively transferred to [B23K 2101/28](#)>
- D B23K 2201/30 • Chains, hoops or rings
 <administratively transferred to [B23K 2101/30](#)>
- D B23K 2201/32 • Wires
 <administratively transferred to [B23K 2101/32](#)>
- D B23K 2201/34 • Coated articles, e.g. plated or painted; Surface treated articles
 <administratively transferred to [B23K 2101/34](#)>
- D B23K 2201/35 • • Surface treated articles
 <administratively transferred to [B23K 2101/35](#)>
- D B23K 2201/36 • Electric or electronic devices
 <administratively transferred to [B23K 2101/36](#)>
- D B23K 2201/38 • • Conductors
 <administratively transferred to [B23K 2101/38](#)>
- D B23K 2201/40 • • Semiconductor devices
 <administratively transferred to [B23K 2101/40](#)>
- D B23K 2201/42 • • Printed circuits
 <administratively transferred to [B23K 2101/42](#)>
- D B23K 2203/00 **Materials to be soldered, welded or cut****
<administratively transferred to [B23K 2103/00](#)>
- D B23K 2203/02 • Iron or ferrous alloys
 <administratively transferred to [B23K 2103/02](#)>
- D B23K 2203/04 • • Steel or steel alloys
 <administratively transferred to [B23K 2103/04](#)>
- D B23K 2203/05 • • • Stainless steel
 <administratively transferred to [B23K 2103/05](#)>
- D B23K 2203/06 • • Cast-iron alloys
 <administratively transferred to [B23K 2103/06](#)>
- D B23K 2203/08 • Non-ferrous metals or alloys
 <administratively transferred to [B23K 2103/08](#)>
- D B23K 2203/10 • • Aluminium or alloys thereof
 <administratively transferred to [B23K 2103/10](#)>
- D B23K 2203/12 • • Copper or alloys thereof
 <administratively transferred to [B23K 2103/12](#)>
- D B23K 2203/14 • • Titanium or alloys thereof
 <administratively transferred to [B23K 2103/14](#)>
- D B23K 2203/15 • • Magnesium or alloys thereof
 <administratively transferred to [B23K 2103/15](#)>
- D B23K 2203/16 • Composite materials, e.g. fibre reinforced
 <administratively transferred to [B23K 2103/16](#)>
- D B23K 2203/166 • • Multilayered materials
 <administratively transferred to [B23K 2103/166](#)>

- D B23K 2203/172 . . . wherein at least one of the layers is non-metallic
<administratively transferred to [B23K 2103/172](#)>
- D B23K 2203/18 . Dissimilar materials
<administratively transferred to [B23K 2103/18](#)>
- D B23K 2203/20 . . Ferrous alloys and aluminium or alloys thereof
<administratively transferred to [B23K 2103/20](#)>
- D B23K 2203/22 . . Ferrous alloys and copper or alloys thereof
<administratively transferred to [B23K 2103/22](#)>
- D B23K 2203/24 . . Ferrous alloys and titanium or alloys thereof
<administratively transferred to [B23K 2103/24](#)>
- D B23K 2203/26 . . Alloys of Nickel and Cobalt and Chromium
<administratively transferred to [B23K 2103/26](#)>
- D B23K 2203/30 . Organic material
<administratively transferred to [B23K 2103/30](#)>
- D B23K 2203/32 . . Material from living organisms, e.g. skins
<administratively transferred to [B23K 2103/32](#)>
- D B23K 2203/34 . . . Leather
<administratively transferred to [B23K 2103/34](#)>
- D B23K 2203/36 . . Wood or similar materials
<administratively transferred to [B23K 2103/36](#)>
- D B23K 2203/38 . . Fabrics, fibrous materials
<administratively transferred to [B23K 2103/38](#)>
- D B23K 2203/40 . . Paper
<administratively transferred to [B23K 2103/40](#)>
- D B23K 2203/42 . . Plastics (B23K 2203/16 takes precedence)
<administratively transferred to [B23K 2103/42](#)>
- D B23K 2203/50 . Inorganic material, e.g. metals, not provided for in B23K 2203/02—
B23K 2203/26
<administratively transferred to [B23K 2103/50](#)>
- D B23K 2203/52 . . Ceramics
<administratively transferred to [B23K 2103/52](#)>
- D B23K 2203/54 . . Glass
<administratively transferred to [B23K 2103/54](#)>
- D B23K 2203/56 . . semiconducting (semiconducting devices B23K 2201/40)
<administratively transferred to [B23K 2103/56](#)>

Project: N/A (B23P)**B23P****OTHER WORKING OF METAL; COMBINED OPERATIONS; UNIVERSAL MACHINE TOOLS (arrangements for copying or controlling [B23Q](#))**NOTES

1. This subclass covers:
 - combinations of work-modifying operations covered by different subclasses of classes [B21](#) - [B24](#);
 - combinations of metal-working operations with non-mechanical treatments of metal not provided for elsewhere, for example in [C21D](#), [C22C](#), [C22F](#) or [C23](#).
2. This subclass does not cover
 - non-mechanical operations on non-metallic materials unless such operations are specially mentioned in this subclass;
 - subsidiary operations performed in conjunction with main operations covered by a single subclass, e.g. assembling of parts as an essential

feature of a following metal-working operation, since they are not regarded as operations per se.

3. Attention is drawn to the Notes following the title of class [B23](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B23Q)

B23Q

DETAILS, COMPONENTS, OR ACCESSORIES FOR MACHINE TOOLS, e.g. ARRANGEMENTS FOR COPYING OR CONTROLLING (tools of the kind used in lathes or boring machines [B23B 27/00](#)); MACHINE TOOLS IN GENERAL CHARACTERISED BY THE CONSTRUCTION OF PARTICULAR DETAILS OR COMPONENTS; COMBINATIONS OR ASSOCIATIONS OF METAL-WORKING MACHINES, NOT DIRECTED TO A PARTICULAR RESULT

NOTES

1. In this subclass, groups designating parts of machine tools cover machine tools characterised by constructional features of such parts.

2. In this subclass, the following terms or expressions are used with the meanings indicated:

- "controlling" means influencing a variable in any way, e.g. changing its direction or its value (including changing it to or from zero), maintaining it constant, limiting its range of variation;
- "regulation" means maintaining a variable automatically at a desired value or within a desired range of values. The desired value or range may be fixed, or manually varied, or may vary with time according to a predetermined "programme" or according to variation of another variable. Regulation is a form of control;
- "automatic control" is often used in the art as a synonym for regulation.
- "Machine tool" means a mechanical working machine that removes material from a workpiece with a mechanical cutting edge to perform a shaping operation, essentially through drilling, milling, turning or cutting, e.g. sawing. The workpiece is generally made of metal, wood or plastic and is not a human body, food or clothes.

3. Attention is drawn to the Notes following the title of class [B23](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B24B)

B24B

MACHINES, DEVICES, OR PROCESSES FOR GRINDING OR POLISHING (grinding of gear teeth [B23F](#), of screw-threads [B23G 1/36](#); by electro-erosion [B23H](#); abrasive or related blasting [B24C](#); tools for grinding, buffing or sharpening [B24D](#); polishing compositions [C09G 1/00](#); abrasives [C09K 3/14](#); electrolytic etching or polishing [C25F 3/00](#); grinding arrangements for use on assembled railway tracks [E01B 31/17](#)); DRESSING OR CONDITIONING OF ABRADING SURFACES; FEEDING OF GRINDING, POLISHING, OR LAPPING AGENTS

NOTES

1. In this subclass, the following term is used with the meaning indicated:

"polishing" means the smoothing of a surface, i.e. a surface improvement but no improvement of the dimensional accuracy as would occur in a "grinding" operation.

2. Attention is drawn to Notes (1) and (2) following the title of subclass [B23F](#).
3. In groups [B24B 1/00](#) - [B24B 27/00](#), in connection with glass the terms "grinding" and "polishing" are treated as being equivalent.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B24C)

B24C

ABRASIVE OR RELATED BLASTING WITH PARTICULATE MATERIAL

NOTES

1. This subclass covers:
 - the use of a blast of any particles or pellets dispersed in air, gas, or liquid for the treatment of surfaces or cutting of materials, the particles usually being of abrasive material;
 - the equivalent use of a jet of particles or pellets projected or energised by means other than a stream of air
 - {the equivalent use of material without particles or pellets for deburring, removal of extended surface areas or jet milling of local recessions, e.g. grooves}
2. In this subclass, the following terms are used with the meanings indicated:
 - "abrasive" covers any material used in the manner mentioned in Note (1) above;
 - "blast" covers any equivalent jet of material mentioned in Note (1) above

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B24D)

B24D

TOOLS FOR GRINDING, BUFFING, OR SHARPENING (tools for grinding or polishing optical surfaces on lenses or surfaces of similar shape [B24B 13/01](#); grinding heads [B24B 41/00](#); manufacture of abrasive or friction articles or shaped materials containing macromolecular substances [C08J5/14](#); polishing compositions [C09G 1/00](#); abrasives [C09K 3/14](#))

NOTES

1. This subclass covers grinding tools for working on any material
2. Tools for grinding, buffing or sharpening, specially designed for a particular purpose, which purpose is provided for in a single other place, are classified in that place, e.g. [B23F 21/02](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B25B)**B25B****TOOLS OR BENCH DEVICES NOT OTHERWISE PROVIDED FOR, FOR FASTENING, CONNECTING, DISENGAGING OR HOLDING**NOTE

This subclass is to be understood as covering those hand tools for fastening, connecting, disengaging, or holding which are not provided for in another subclass such as [B25C](#) (nailing or stapling tools) or in an application class such as [B65B](#) (packaging) or [B21F](#) (working of wire)

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

B25B 23/143	covered by	B25B 23/1422
B25B 23/144	covered by	B25B 23/1425
B25B 23/151	covered by	B25B 23/14 , B25B 23/147
B25B 23/153	covered by	B25B 23/1415
B25B 23/155	covered by	B25B 23/141
B25B 23/157	covered by	B25B 23/14
B25B 23/159	covered by	B25B 23/14
B25B 27/067	covered by	B25B 27/06
B25B 27/073	covered by	B25B 27/062

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B25C)**B25C****HAND-HELD NAILING OR STAPLING TOOLS; MANUALLY OPERATED PORTABLE STAPLING TOOLS (for shoemaking [A43D](#))**NOTE

For the purposes of this subclass, the term "nail" is to be understood as including pin, bolt, and plug

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B25G)**B25G****HANDLES FOR HAND IMPLEMENTS (attaching the blades or the like to handles of hand tools for soil working [A01B 1/22](#); handles of hand implements for harvesting [A01D 1/14](#); handles integral with brushware [A46B](#))**NOTES

- This subclass covers:
 - handles for hand implements, in general;
 - handles for hand implements for particular purposes, subject to Note (2) below.
- This subclass does not cover handles provided for elsewhere, e.g. it does not cover those provided for in [A45B 9/02](#), [A45C 13/22](#), [A45C 13/26](#), [A47B 95/02](#),

[A47J 45/00](#), [B23D 51/01](#), [B25J 13/02](#), [B26B](#), [B60N 3/02](#), [B62B 5/06](#), [B62B 9/20](#), [B62K 21/26](#), [B62M 3/14](#), [B65D 25/28](#), [E05B](#), [G05G](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B25H)

B25H

WORKSHOP EQUIPMENT, e.g. FOR MARKING-OUT WORK; STORAGE MEANS FOR WORKSHOPS (storing or packaging [B65](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B25J)

B25J

MANIPULATORS; CHAMBERS PROVIDED WITH MANIPULATION DEVICES ({manipulators specially adapted for use in surgery [A61B 34/70](#); manipulators used in cleaning hollow articles [B08B 9/04](#)}; manipulators associated with rolling mills [B21B 39/20](#); manipulators associated with forging machines [B21J 13/10](#); {manipulators associated with picking-up and placing mechanisms [B23P 19/007](#)}; means for holding wheels or parts thereof [B60B 30/00](#); {vehicles with ground-engaging propulsion means, e.g. walking members [B62D 57/02](#), [B62D 57/032](#); devices for picking-up and depositing articles or materials between conveyors [B65G 47/90](#), [B65G 47/91](#); manipulators with gripping or holding means for transferring packages [B65H 67/065](#)}; cranes [B66C](#); {manipulators used in the protection or supervision of pipe-line installations [F17D 5/00](#); walking equipment adapted for nuclear steam-generators [F22B 37/006](#)}; manipulators specially adapted for, or associated with, nuclear reactors [G21C](#); {apparatus used for handling wafers during manufacture or treatment of semiconductor [H01L 21/68](#)})

NOTE

In this subclass, the following term is used with the meaning indicated :

- "manipulator" covers handling tools, devices, or machines having a gripping or work head capable of bodily movement in space and of change of orientation, such bodily movement and change of orientation being controlled, at will, by means remote from the head.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B25J 9/18](#)

covered by

[B25J 9/16](#)

[B25J 9/22](#)

covered by

[B25J 9/1656](#), [G05B 19/42](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B26B)

B26B

HAND-HELD CUTTING TOOLS NOT OTHERWISE PROVIDED FOR (for harvesting [A01D](#); for horticulture, for forestry [A01G](#); for butchering or meat treatment [A22](#); for manufacturing or repairing footwear [A43D](#); nail clippers or cutters [A45D 29/02](#); kitchen equipment [A47J](#); {vegetable slicers, julienne cutters and similar devices and holders therefor, [B26D 3/28](#)}; for surgical purposes [A61B](#); for metal [B23D](#); cutting by abrasive fluid jets [B24C 5/02](#); plier-like tools with cutting edges [B25B 7/22](#); pincers [B25C 11/02](#); handles for hand implements, in general [B25G](#); guillotine-type cutters [B26D](#); {perforating by non-mechanical means, e.g. by fluid jet, [B26F 1/26](#)}; for erasing [B43L 19/00](#); for textile materials [D06H](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B26D)

B26D

CUTTING; DETAILS COMMON TO MACHINES FOR PERFORATING, PUNCHING, CUTTING-OUT, STAMPING-OUT OR SEVERING (soil-working [A01B](#); for growing crops or plants [A01D](#), [A01G](#); for fodder or straw [A01F](#); for bulk butter [A01J](#); for dough [A21C](#); slaughtering [A22B](#); for tobacco, cigars or cigarettes [A24](#); marking-out, perforating or making buttonholes [A41H 25/00](#); manufacturing footwear [A43D](#); brushmaking [A46D](#); surgery [A61B](#); disintegrating, mincing or shredding in general [B02C](#); cutting wire, making pins or nails [B21F](#), [B21G](#); of the kind used for metal [B23](#); cutting by abrasive fluid jets [B24C 5/02](#); hand-held cutting tools [B26B](#); perforating, cutting-out, stamping-out or punching, or severing by means other than cutting [B26F](#); for wood [B27](#); for stone [B28D](#); working of plastics or substances in a plastic state [B29](#); making boxes, cartons, envelopes or bags, of paper or similarly worked materials, e.g. metal foil, [B31B](#); article or web delivery apparatus incorporating cutting or line-perforating devices [B65H 35/00](#); for leather or upholstery [B68](#); [C14B](#); for glass [C03B](#); making matches [C06F](#); for peat [C10F](#); for sugar [C13B 45/00](#); for textile materials [D06H](#); civil engineering, building, mining, *see* Section [E](#); for light guides [G02B 6/25](#); cutting processed photographic material [G03D 15/04](#))

NOTES

1. This subclass covers:

- cutting non-metallic sheet material and metal foil in general;
- cutting other forms of non-metallic material not otherwise provided for;
- features specific to machines for cutting, perforating, punching, cutting-out, stamping-out and severing by means other than cutting, which relate to a requirement or problem of a nature which is not peculiar to a machine for these purposes, that is, details of or arrangements for operating or controlling such machines, although the realisation of such features may differ according to the kind of machine concerned. This subclass covers such features in general even if the feature in any particular case is to some extent peculiar to, or is claimed only for, a machine designed for perforating, punching, cutting-out, stamping-out, or for severing other than by cutting.

2. If the details or arrangements have no essential features specific to cutting, perforating, punching, cutting-out, stamping-out or severing machines, the more general classes, e.g. [F16](#), take precedence.

3. In this subclass, in groups [B26D 5/00](#) and [B26D 7/00](#), the following term is used with the meaning indicated:

- "cutting" includes cutting-out, stamping-out, punching, perforating, and severing by means other than cutting.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B26F)

B26F

PERFORATING; PUNCHING; CUTTING-OUT; STAMPING-OUT; SEVERING BY MEANS OTHER THAN CUTTING (marking-out, perforating or making buttonholes [A41H 25/00](#); shoemaking [A43D](#); surgery [A61B](#); punching metal [B21D](#); drilling metal [B23B](#); cutting of metal by applying heat locally, e.g. flame cutting, [B23K](#); cutting by abrasive fluid jets [B24C 5/02](#); details common to machines for severing [B26D](#); drilling wood [B27C](#); drilling stone [B28D](#); working of plastics or substances in a plastic state [B29](#); making boxes, cartons, envelopes or bags, of paper or similarly worked materials, e.g. metal foil, [B31B](#); of glass [C03B](#); of leather [C14B](#); of textile materials [D06H](#); for light guides [G02B 6/25](#); of tickets [G07B](#))

NOTES

1. This subclass covers:

- perforating, punching, cutting-out, stamping-out;
- severing, by means other than cutting, non-metallic sheet materials or metal foil in general;
- severing, by means other than cutting, other forms of non-metallic material not otherwise provided for.

2. Attention is drawn to Notes (1) and (2) following the title of subclass [B26D](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B27B)

B27B

SAWS FOR WOOD OR SIMILAR MATERIAL; COMPONENTS OR ACCESSORIES THEREFOR (saws specially adapted for pruning or debranching [A01G 3/08](#); sawing apparatus specially adapted for felling trees [A01G 23/091](#); features not restricted to a particular type of wood saw [B23D](#), e.g. attaching saw blades [B23D 51/00](#); machine tool frames, beds, pillars or like members, in general [B23Q 1/01](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B27B 33/18](#) covered by

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B27C)

B27C

PLANING, DRILLING, MILLING, TURNING OR UNIVERSAL MACHINES FOR WOOD OR SIMILAR MATERIAL (machine tools in general [B23](#); working wood using abrasive, e.g. sanding, devices [B24](#); tools for these purposes [B27G](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B27D)

B27D

WORKING VENEER OR PLYWOOD (applying liquids or other fluent materials to surface in general [B05](#); grinding, sanding, or polishing of wood [B24](#); applying adhesives or glue to surfaces of wood [B27G 11/00](#); manufacture of veneer [B27L 5/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B27F)

B27F

DOVETAILED WORK; TENONS; SLOTTING MACHINES FOR WOOD OR SIMILAR MATERIAL; NAILING OR STAPLING MACHINES (hand-held nailing or stapling tools [B25C](#); manufacture of cases, trunks or boxes from wood [B27M 3/34](#); connections for building structures in general, e.g. dowels for use in building constructions [E04B 1/38](#); jointing elements in general, e.g. dowels in general, [F16B](#) {; manufacture of long strips or planks by bonding together pieces of wood, e.g. by glueing, [B27M 3/0013](#))

NOTE

This subclass covers also the assembling of the elements to be jointed, e.g. using adhesives, but the application of adhesives or glue to surfaces of wood to be jointed per se is dealt with in group [B27G 11/00](#){manufacture of specific semi-finished or finished articles [B27M 3/00](#)}

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (B27G)

M B27G

ACCESSORY MACHINES OR APPARATUS *FOR WORKING WOOD OR SIMILAR MATERIALS*; TOOLS *FOR WORKING WOOD OR SIMILAR MATERIALS* (tools for grinding [B24D](#); sawing tools [B27B 33/00](#); tools for slotting or mortising machines [B27F 5/02](#); tools for the manufacture of wood shavings, chips, powder or the like [B27L 11/00](#)); SAFETY DEVICES, e.g. ~~THOSE FOR SAWS WOOD WORKING MACHINES OR TOOLS~~(clamping devices for mitre joints, presses for producing frames, press frames, or cages equipped with clamping devices [B25B](#); woodworkers' benches [B25H](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B27G 17/08](#) covered by [B25D 3/00](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

M B27G 5/00

Machines or devices for working mitre joints with even abutting ends ~~(with tenon or like connections [B27F](#) {making mitre joints with uneven abutting ends [B27F 1/005](#)})~~

M B27G 11/00

Applying adhesives or glue to surfaces of wood to be joined ~~(applying liquids, e.g. liquid adhesives, to surfaces in general [B05C](#), [B05D](#); adhesive processes [C09J 5/00](#); associated with particular wood-working, see the relevant subclasses)~~

U B27G 17/00

Manually-operated tools

- M B27G 17/02 · Hand planes ~~(equipped with power-driven cutter blocks B27C 1/10)~~
- M B27G 19/00 **Safety guards or devices specially **designed** adapted for wood saws ~~(in general F16P)~~; Auxiliary devices facilitating proper operation of wood saws**
- M B27G 19/08 · Accessories for keeping open the saw kerf, e.g. riving knives, ~~or~~ wedge plates

Project: N/A (B27H)

B27H

BENDING WOOD OR SIMILAR MATERIAL; COOPERAGE; MAKING WHEELS FROM WOOD OR SIMILAR MATERIAL**WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: N/A (B27J)**

B27J

MECHANICAL WORKING OF CANE, CORK, OR SIMILAR MATERIALS**NOTE***In this subclass, the working of cane embraces the working of other materials, e.g. of strips of wood or plastics, in the same manner***WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: N/A (B27K)**

B27K

PROCESSES, APPARATUS OR SELECTION OF SUBSTANCES FOR IMPREGNATING, STAINING, DYEING, BLEACHING OF WOOD OR SIMILAR MATERIALS, OR TREATING OF WOOD OR SIMILAR MATERIALS WITH PERMEANT LIQUIDS, NOT OTHERWISE PROVIDED FOR (applying liquids or other fluent materials to surfaces in general B05; coating wood or similar material B44D); CHEMICAL OR PHYSICAL TREATMENT OF CORK, CANE, REED, STRAW OR SIMILAR MATERIALS**WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: RP0440 (B27K)**

M B27K 3/00

Impregnating wood, {e.g. impregnation pretreatment, for example puncturing; Wood impregnation aids not directly involved in the impregnation process} (dyeing, staining B27K 5/00)**NOTE***In groups B27K 3/16 - B27K 3/50, the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, impregnating agents are classified in the last appropriate place. {This Note corresponds to IPC Note (1) relating to B27K 3/16 - B27K 3/34.}*

U B27K 3/02

· Processes; Apparatus

M B27K 3/15

- Impregnating involving polymerisation {including use of polymer-containing impregnating agents (macromolecular compounds derived from lignocellulosic materials [C08H](#); compositions of lignin-containing materials [C08L 97/02](#))}

NOTE

1. When classifying in group [B27K 3/15](#), classification is additionally made in the groups of subclass [C08L](#) for defining the chemical polymeric structure

2. ~~In groups B27K 3/16 – B27K 3/50, in the absence of an indication to the contrary, impregnating agents are classified in the last appropriate place~~

Project: N/A (B27L)

B27L

REMOVING BARK OR VESTIGES OF BRANCHES (forestry [A01G](#)); SPLITTING WOOD; MANUFACTURE OF VENEER, WOODEN STICKS, WOOD SHAVINGS, WOOD FIBRES OR WOOD POWDER

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B27M)

B27M

WORKING OF WOOD NOT PROVIDED FOR IN SUBCLASSES [B27B](#) - [B27L](#); MANUFACTURE OF SPECIFIC WOODEN ARTICLES

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B27N)

B27N

MANUFACTURE BY DRY PROCESSES OF ARTICLES, WITH OR WITHOUT ORGANIC BINDING AGENTS, MADE FROM PARTICLES OR FIBRES CONSISTING OF WOOD OR OTHER LIGNOCELLULOSIC OR LIKE ORGANIC MATERIAL (containing cementitious material [B28B](#); shaping of substances in a plastic state [B29C](#); fibreboards made from fibrous suspensions [D21J](#); drying [F26B 17/00](#))

NOTE

This subclass does not cover treatment of compositions which are in a plastic state, or worked by the same type of process or apparatus as plastics, which is covered by subclass [B29B](#) or [B29C](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B28B)

B28B

SHAPING CLAY OR OTHER CERAMIC COMPOSITIONS, SLAG, OR MIXTURES CONTAINING CEMENTITIOUS MATERIAL, e.g. PLASTER (foundry moulding [B22C](#); working stone or stone-like material [B28D](#); shaping of substances in a plastic state, in general [B29C](#); making layered products not composed wholly of these substances [B32B](#); shaping in situ, see the relevant classes of section [E](#))

NOTE

In this subclass, the following term is used with the meaning indicated:

- "the material" means:

- a. clay or other ceramic compositions;
- b. slag;
- c. mixtures with water-setting properties given by clay, cementitious material, or slag.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B28B 23/08](#) covered by [B28B 21/60](#), [B28B 23/06](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B28C)

B28C

PREPARING CLAY; PRODUCING MIXTURES CONTAINING CLAY OR CEMENTITIOUS MATERIAL, e.g. PLASTER (preparing material for foundry moulds [B22C 5/00](#))

NOTE

In this subclass, the following terms or expressions are used with the meanings indicated:

- "cement" or "mixtures of cement with other substance" includes plaster;
- "clay" includes like ceramic compositions.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B28D)

B28D

WORKING STONE OR STONE-LIKE MATERIALS

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B29B)

B29B

PREPARATION OR PRETREATMENT OF THE MATERIAL TO BE SHAPED; MAKING GRANULES OR PREFORMS; RECOVERY OF PLASTICS OR OTHER CONSTITUENTS OF WASTE MATERIAL CONTAINING PLASTICS

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B29C)

B29C

SHAPING OR JOINING OF PLASTICS; SHAPING OF MATERIAL IN A PLASTIC STATE, NOT OTHERWISE PROVIDED FOR; AFTER-TREATMENT OF THE SHAPED PRODUCTS, e.g. REPAIRING (making preforms [B29B 11/00](#); making laminated products by combining previously unconnected layers which become one product whose layers will remain together [B32B 37/00](#) - [B32B 41/00](#))

NOTES

1. This subclass covers:

- shaping or joining of plastics;
- shaping of material in a plastic state when a specific material is not identified;

- shaping of material in a plastic state, not otherwise provided for.
2. This subclass does not cover:
 - working of plastics sheet material in a manner analogous to the working of paper, which is covered by class [B31](#);
 - shaping of materials provided for elsewhere, e.g. of metal, clay or foodstuffs.
 3. Attention is drawn to Note (3) following the title of class [B29](#).
 4. In this subclass:
 - repairing of articles made from plastics or materials in a plastic state, e.g. of articles shaped or produced by using techniques covered by this subclass or subclass [B29D](#), is classified in group [B29C 73/00](#);
 - component parts, details, accessories or auxiliary operations which are applicable to more than one moulding technique are classified in groups [B29C 31/00](#) - [B29C 37/00](#);
 - component parts, details, accessories or auxiliary operations which are only applicable or only of use for one specific shaping technique are classified only in the relevant subgroups of groups [B29C 39/00-B29C 71/00](#).
 5. In this subclass, it is desirable to add the indexing codes of subclasses [B29K](#) and [B29L](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B29D)

B29D

PRODUCING PARTICULAR ARTICLES FROM PLASTICS OR FROM SUBSTANCES IN A PLASTIC STATE (making granules [B29B 9/00](#); making preforms [B29B 11/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B30B)

B30B

PRESSES IN GENERAL (producing ultra-high pressure or ultra-high pressure and high temperature to effect modifications of a substance, e.g. for making artificial diamonds [B01J 3/00](#)){(compressing means for refuse receptacles [B65F 1/1405](#))}

NOTE

This subclass provides for presses in general and also for those presses, for particular purposes, which are not provided for elsewhere.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0250 (B32B)

- M B32B 18/00 **Laminated ~~Layered~~ products composed mainly of essentially comprising ceramics, e.g. refractory materials ~~{products (semi-permeable membranes made of inorganic material B01D 71/02; ceramic coatings on glass G03C 17/00; joining of ceramic layers C04B 37/00; coating of ceramics C04B 41/45; applying ceramic coatings on metallic materials C23; applying ceramic coatings on silicon for semi-conductor purposes H01L)}~~**

NOTE

In group [B32B 18/00](#), from 01-10-2008 onwards, features relating to interlayers, additional compositional information or further processing are indexed with codes chosen from [C04B 2237/00](#) - [C04B 2237/88](#)

Project: MP0248 (B32B)

- M B32B 37/00 **Methods or apparatus for laminating, e.g. by curing or by ultrasonic bonding ~~{(making non-planar products B32B 1/00; making products characterised by particular features of structure or of composition, see the relevant groups for such products, e.g. making layered products containing glass and synthetic resin layers B32B 17/10807; coating of single webs or the like B05)}~~**

- M B32B 37/0038 • {involving application of liquid to the layers prior to lamination, e.g. wet laminating ([B32B 37/12](#) takes precedence; ~~applying liquids in general B05~~)}

- U B32B 37/10 • characterised by the pressing technique, e.g. using action of vacuum or fluid pressure

- M B32B 37/1027 • • {Pressing using at least one press band ~~(pressing means with cooperating endless bands in general B30B 5/06)}~~}

- U B32B 37/14 • characterised by the properties of the layers

- M B32B 37/24 • • with at least one layer not being coherent before laminating, e.g. made up from granular material sprinkled onto a substrate ([B32B 37/15](#) takes precedence)

NOTE

~~When classifying in group B32B 37/24, the technique can be further indexed by using the indexing codes chosen from B32B 37/24 and subgroups~~

- M B32B 37/26 • • with at least one layer which influences the bonding during the lamination process, e.g. release layers or pressure equalising layers

NOTE

~~When classifying in group B32B 37/26, said at least one layer can be further indexed by using the indexing codes chosen from B32B 37/26 and subgroups~~

Project: N/A (B41B)

B41B

MACHINES OR ACCESSORIES FOR MAKING, SETTING, OR DISTRIBUTING TYPE; TYPE; PHOTOGRAPHIC OR PHOTOELECTRIC COMPOSING DEVICES (photographic devices in general [G03](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B41C)**B41C**

PROCESSES FOR THE MANUFACTURE OR REPRODUCTION OF PRINTING SURFACES (photomechanical processes for producing printing surfaces [G03F](#); photoelectrical processes for producing printing surfaces [G03G](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B41D)**B41D**

APPARATUS FOR THE MECHANICAL REPRODUCTION OF PRINTING SURFACES FOR STEREOTYPE PRINTING; SHAPING ELASTIC OR DEFORMABLE MATERIAL TO FORM PRINTING SURFACES ({engraving by spark erosion [B23H](#);} marking or engraving metal by the action of a high concentration of electric current [B23H 9/06](#); type, machines or accessories for making, setting, or distributing type [B41B](#); processes for the manufacture or reproduction of printing surfaces [B41C](#); machines or apparatus for engraving in general, or for embossing [B44B 3/00](#), [B44B 5/00](#); chemical etching of metal [C23F 1/00](#); electrolytic etching [C25F 3/00](#); photomechanical reproduction [G03F](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (B41F)**M B41F**

PRINTING MACHINES OR PRESSES (~~machines for manufacturing footwear incorporating printing or embossing apparatus A43D, e.g. A43D 8/26; A43D 95/14; presses in general B30B; making of printing surfaces B41C, B41D; manifoldng devices, or office printing machines B41L; stencilling B41L, {B44D}; printing processes not dependent on the use of special machines B41M; duplicating or marking by sublimation or volatilisation of design B41M 5/035; thermography B41M 5/26; embossing decorations or marks B44B 5/00; {applying transfers or decalcomanias B44C 1/16}; handling thin or filamentary material B65H; electrography, electrophotography, magnetography G03G~~)

NOTE

Attention is drawn to Notes 1 and 2 following the title of subclass [B41L](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

U B41F 1/00

Platen presses, i.e. presses in which printing is effected by at least one essentially-flat pressure-applying member co-operating with a flat type-bed

U B41F 1/04

- for mono-impression printing, e.g. on sheets

M B41F 1/06

- • with platen maintained parallel to bed during movement (~~preparing stereotype matrices using presses B41D 1/06; {presses B30B}~~)

U B41F 1/26

- Details

M B41F 1/28

- • Sheet-conveying, -aligning or -clamping devices (~~in general B65H~~)

U B41F 3/00

Cylinder presses, i.e. presses essentially comprising at least one cylinder co-operating with at least one flat type-bed

- U B41F 3/46 · Details
- M B41F 3/54 · · Impression cylinders; Supports therefor ~~(blankets or like coverings B41N 10/00)~~
- U B41F 3/82 · Auxiliary devices
- M B41F 3/84 · · Arrangements of counting devices ~~(in printing machines in general B41F 33/02)~~
- U B41F 7/00 Rotary lithographic machines {{such office printing machines B41L 7/00}}**
- U B41F 7/20 · Details
- U B41F 7/24 · · Damping devices
- M B41F 7/37 · · · with supercooling for condensation of air moisture ~~(cooling forme or impression cylinders B41F 13/22; {cooling ink or ink rollers B41F 31/002})~~
- U B41F 13/00 Common details of rotary presses or machines**
- M B41F 13/02 · Conveying or guiding webs through presses or machines ~~(web handling in general B65H, e.g. step-by-step advancement B41F 21/00, turning or reversing B65H 23/32)~~
- M B41F 13/54 · Auxiliary folding, cutting, collecting; or depositing of sheets or webs ~~(in general B26D, B65H)~~
- M B41F 15/00 Screen printers ~~(for selective printing B41J 2/005)~~**
- U B41F 15/14 · Details
- M B41F 15/44 · · Squeegees or doctors ~~(doctors of rotary intaglio printing presses B41F 9/10 {for photographic purposes G03D 15/00})~~
- M B41F 16/00 Transfer printing apparatus ~~(apparatus or machines for applying decalcomanias B65C)~~**
- M B41F 17/00 Printing apparatus or machines of special types or for particular purposes, not otherwise provided for ~~(hand stamps, plier-like tools for printing or punching tickets or the like B41K; addressographs or other office printing equipment B41L; coding or marking of packaging material or of completed packages in packaging machines B65B 61/00; ticket printing and issuing apparatus G07B)~~**
- M B41F 19/00 Apparatus or machines for carrying out printing operations combined with other operations ~~(auxiliary perforating apparatus associated with printing devices B41G 7/00; coding or marking in association with packaging B65B 61/00; label dispensers having printing equipment B65C)~~**
- M B41F 19/02 · with embossing ~~(printing with a printer's forme combined with embossing B41M 1/24)~~
- M B41F 21/00 Devices for conveying sheets through printing apparatus or machines (through platen presses B41F 1/28; ~~feeding sheets to or from printing apparatus or machines B65H; {through manifolding apparatus or the like B41L 21/00})~~**
- M B41F 23/00 Devices for treating the surfaces of sheets, webs, or other articles in connection with printing ~~(cleaning in general B08B; as a final step in the manufacture of such articles, see appropriate subclasses, e.g. B29C 71/00, D21H 23/00 or D21H 25/00; {in manifolding apparatus or the like B41L 23/00} ; surface treatment in general B44D, of metal G23G)~~**
- M B41F 25/00 Devices for pressing sheets or webs against cylinders, e.g. for smoothing purposes ~~(apparatus for taking out curl from webs in general B65H 23/34)~~**

- M B41F 30/00 Devices for attaching coverings or make-ready devices; Guiding devices for coverings (make-ready devices [B41N 6/00](#); ~~blankets or like coverings B41N 10/00~~)
- M B41F 31/00 Inking arrangements or devices (inking units for platen presses [B41F 1/40](#); ~~for cylinder presses B41F 3/81~~; ~~inking units for cylinder presses B41F 3/81~~; ~~{for rotary intaglio printing presses B41F 9/061}~~; ~~applying liquids or other fluent materials to surfaces in general B05~~; ~~inking arrangements or devices for typewriters or selective printing mechanisms B41J~~)
- M B41F 31/02 • Ducts, containers, supply or metering devices (~~level control in general G05D 9/00~~)
- M B41F 33/00 Indicating, counting, warning, control, or safety devices (~~arrangements of counting devices in platen presses B41F 1/00~~ {, ~~B41F 1/58~~; ~~arrangements of counting devices~~ } ~~in cylinder presses B41F 3/84~~; ink supply or metering devices [B41F 31/02](#); ~~such devices in general~~; ~~see the relevant subclasses~~; ~~e.g. counting in general G06M~~)
- M B41F 33/02 • Arrangements of indicating devices, e.g. counters (~~arrangements of counting devices in platen presses B41F 1/00~~, e.g. ~~B41F 1/58~~; ~~in cylinder presses B41F 3/84~~; ~~in typewriters or selective printing mechanisms B41J 29/20~~ {~~in manifolding apparatus or the like B41L 39/00~~})

Project: N/A (B41G)

B41G

APPARATUS FOR BRONZE PRINTING, LINE PRINTING, OR FOR BORDERING OR EDGING SHEETS OR LIKE ARTICLES; AUXILIARY FOR PERFORATING IN CONJUNCTION WITH PRINTING (perforating in general [B26D](#); production of decorations [B44C](#); perforating in conjunction with sheet or web delivery [B65H 35/00](#); folding or unfolding thin material, e.g. sheets, webs, [B65H 45/00](#), [B65H 47/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B41J)

B41J

TYPEWRITERS; SELECTIVE PRINTING MECHANISMS, {e.g. INK-JET PRINTERS, THERMAL PRINTERS}, i.e. MECHANISMS PRINTING OTHERWISE THAN FROM A FORME; CORRECTION OF TYPOGRAPHICAL ERRORS (composing [B41B](#); printing on special surfaces [B41F](#); laundry marking [B41K](#); erasers, rubbers or erasing devices [B43L 19/00](#); fluid media for correction of typographical errors by coating [C09D 10/00](#); recording the results of measuring [G01](#); recognition or presentation of data, marking record carriers in digital fashion, e.g. by punching, [G06K](#); franking or ticket-printing and issuing apparatus [G07B](#); electric keyboard switches, in general [H01H 13/70](#), [H03K 17/94](#); coding in connection with keyboards or like devices, in general [H03M 11/00](#); receivers or transmitters for transmission of digital information [H04L](#); transmission or reproduction of documents, or the like, e.g. facsimile transmission, [H04N 1/00](#); printing mechanisms specially adapted for apparatus, e.g. cash registers, weighing machines, producing records of their own performance, see the relevant subclasses)

NOTES

1. This subclass covers:

- manually controlled power-operated apparatus or apparatus of this type with additional control by input of recorded information, e.g. on punched cards of tapes;

- the "print-out" features of apparatus controlled by record carriers or electric signals in so far as these are of general interest, e.g. impression, inking, line-spacing mechanisms, printing heads.
2. This subclass does not cover:
 - electrical features of apparatus controlled by record carriers or electric signals and of interest apart from the "print-out" features of said apparatus;
 - apparatus controlled by record carriers or electric signals, as a whole.
 3. In this subclass, the following term is used with the meaning indicated:
 - "paper" covers also similar flexible copy material;
 - "printing material" covers both paper and temporary record carriers from which records are transferred to a paper, but does not cover printing masters, e.g. formes.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (B41J)

U B41J 3/00

Typewriters or selective printing or marking mechanisms, {e.g. ink-jet printers, thermal printers} characterised by the purpose for which they are constructed (cryptographic typewriters [G09C 3/00](#))

M B41J 3/01

• for special character, e.g. for Chinese characters or ~~bar-codes~~[barcodes](#)

Project: N/A (B41K)

B41K

STAMPS; STAMPING OR NUMBERING APPARATUS OR DEVICES (marking meat [A22C 17/10](#); embossing combined with printing [B41F 19/00](#); selective printing mechanisms [B41J](#); embossing decorations or marks [B44B 5/00](#); marking or coding completed packages [B65B 61/26](#); ticket printing and issuing, fare registering, nonprinting aspects of franking apparatus [G07B](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B41L)

B41L

APPARATUS OR DEVICES FOR MANIFOLDING, DUPLICATING, OR PRINTING FOR OFFICE OR OTHER COMMERCIAL PURPOSES; ADDRESSING MACHINES OR LIKE SERIES-PRINTING MACHINES (printing presses or machines for industrial purposes [B41F](#); stamps, stamping or numbering devices [B41K](#))

NOTES

1. This subclass does not cover constituent parts common to manifolding by means of pressure-sensitive layers or intermediaries, to apparatus or machines for duplicating or printing for office or other commercial purposes, or to addressing machines or like series-printing machines, which are covered by subclass [B41F](#).
2. In this subclass, as indicated by the references, groups [B41L 15/00](#) and [B41L 17/00](#) are intended to cover letterpress and lithographic printing apparatus only in so far as it is specially adapted for office or other commercial purposes; the general constructions or features of apparatus of these types are classified in subclass [B41F](#). Constructions or features determining classification in these groups are, for example: ease of operation by clerical staff, cleanliness of operation in non-industrial environments, the use of printing surfaces constructed for the production of a limited number of copies.
3. In this subclass, the following terms are used with the meanings indicated:

- "manifolding" means the obtaining of several copies simultaneously by means of pressure-sensitive layers when making an original;
- "duplicating" means the obtaining of successive copies from a master, e.g. a hectographic image;
- "stencilling" involves the use of a printing surface which is perforated to form the image, the ink flowing through the perforations on the copy material.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B41M)

B41M

PRINTING, DUPLICATING, MARKING, OR COPYING PROCESSES; COLOUR PRINTING, (correction of typographical errors [B41J](#); processes for applying transfer pictures or the like [B44C 1/16](#); fluid media for correction of typographical errors by coating [C09D 10/00](#); printing textiles [D06P](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B41N)

B41N

PRINTING PLATES OR FOILS (photosensitive material [G03](#)); MATERIALS FOR SURFACES USED IN PRINTING MACHINES FOR PRINTING, INKING, DAMPING, OR THE LIKE; PREPARING SUCH SURFACES FOR USE AND CONSERVING THEM {In this subclass the COPEs System is used}

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B42B)

B42B

PERMANENTLY ATTACHING TOGETHER SHEETS, QUIRES OR SIGNATURES OR PERMANENTLY ATTACHING OBJECTS THERETO (nailing or stapling in general [B25C](#), [B27F](#); machines for both collating or gathering and permanently attaching together sheets or signatures [B42C 1/12](#); temporarily attaching sheets together [B42F](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B42C)

B42C

BOOKBINDING (cutting or perforating machines, devices or tools [B26](#); folding sheets or webs [B31F](#); ornamenting books [B44](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B42D)**B42D**

BOOKS; BOOK COVERS; LOOSE LEAVES; PRINTED MATTER CHARACTERISED BY IDENTIFICATION OR SECURITY FEATURES; PRINTED MATTER OF SPECIAL FORMAT OR STYLE NOT OTHERWISE PROVIDED FOR; DEVICES FOR USE THEREWITH AND NOT OTHERWISE PROVIDED FOR; MOVABLE-STRIP WRITING OR READING APPARATUS

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B42F)**B42F**

SHEETS TEMPORARILY ATTACHED TOGETHER; FILING APPLIANCES; FILE CARDS; INDEXING (reading desks [A47B 19/00](#); book rests [A47B 23/00](#))

NOTE

The words "filing appliance" in this subclass mean holders for collections of papers, sheets, cards, or units thereof, each paper, sheet, card, or unit being individually insertable and extractable. These words may thus include a calendar, an instruction manual, or a letter file

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B43K)**B43K**

IMPLEMENTS FOR WRITING OR DRAWING (containers, casings or accessories for cosmetic substances, e.g. shaving soap, lipstick, make-up [A45D 34/00](#), [A45D 40/00](#))

NOTE

In this subclass, the following expression is used with the meaning indicated:

- "writing implements" covers pens, pencils, crayons, chalks or like markers for writing or drawing

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B43M)**B43M**

BUREAU ACCESSORIES NOT OTHERWISE PROVIDED FOR (stapling devices [B25C 5/00](#); devices for temporarily attaching sheets together [B42F](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B44B)**B44B**

MACHINES, APPARATUS OR TOOLS FOR ARTISTIC WORK, e.g. FOR SCULPTURING, GUILLOCHING, CARVING, BRANDING, INLAYING (processes for producing decorative effects [B44C](#); embossing leather [C14B](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B44C)**B44C**

PRODUCING DECORATIVE EFFECTS (processes for applying liquids or other fluent materials to surfaces, in general [B05D](#); shaping of plastics or substances in a plastic state [B29C](#); printing processes to produce transfer pictures [B41M 3/12](#); thermographic duplication or marking methods [B41M 5/00](#)); MOSAICS; TARSIA WORK (imitation of mosaic or tarsia work patterns [B44F 11/04](#)); PAPERHANGING {(labels [G09F](#); multi-step processes for making paper labels or tags [B31D 1/02](#))}

NOTE

In this subclass, the following expression is used with the meaning indicated:

- "decorative effects", when used in connection with the expressions "transfer picture" or "decalcomanias", covers also "information"

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B44D)**B44D**

PAINTING OR ARTISTIC DRAWING, NOT OTHERWISE PROVIDED FOR; PRESERVING PAINTINGS; SURFACE TREATMENT TO OBTAIN SPECIAL ARTISTIC SURFACE EFFECTS OR FINISHES (surface treatment in general, see the relevant places, e.g. applying liquids or other fluent materials [B05](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B44F)**B44F**

SPECIAL DESIGNS OR PICTURES

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B60B)**B60B**

VEHICLE WHEELS (making wheels or wheel parts by rolling [B21H 1/00](#), by forging, hammering or pressing [B21K 1/28](#)); CASTORS; AXLES FOR WHEELS OR CASTORS; INCREASING WHEEL ADHESION

NOTE

Attention is drawn to the Explanatory Note following the class title ([B60](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B60C)**B60C**

VEHICLE TYRES (manufacture [B29](#)); TYRE INFLATION; TYRE CHANGING OR REPAIRING; REPAIRING, OR CONNECTING VALVES TO, INFLATABLE ELASTIC BODIES IN GENERAL; DEVICES OR ARRANGEMENTS RELATED TO TYRES (testing of tyres [G01M 17/02](#))

NOTES

1. In this subclass, the term "tyre" is to be understood as a separate ground-engaging, continuous element outside the periphery of the wheel rim and includes the tyre casing, cover, or jacket and any insert, e.g. inner tube. In the groups relating to repair or connection of valves, the term "tyre" is to be understood to include also inflatable elastic bodies other than tyres or inner tubes

2. Attention is drawn to the note following the title of class [B60](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

B60C 11/113	covered by	B60C 11/0311
B60C 11/117	covered by	B60C 11/032

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B60D)**B60D**

VEHICLE CONNECTIONS (components of brake systems [B60T 17/04](#))

NOTE

Attention is drawn to the note following the class [B60](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B60F)**B60F**

VEHICLES FOR USE BOTH ON RAIL AND ON ROAD; AMPHIBIOUS OR LIKE VEHICLES; CONVERTIBLE VEHICLES (air-cushion vehicles [B60V](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B60G)**B60G****VEHICLE SUSPENSION ARRANGEMENTS (air-cushion vehicles [B60V](#); {cycle suspensions [B62K 25/00](#)})****NOTES**

1. Attention is drawn to the explanatory note following the class title [B60](#)
2. Indexing codes [B60G 2200/00](#) - [B60G 2800/00](#) are dedicated to particular aspects of suspension arrangements:
 - [B60G 2200/00](#) refers to the type of suspension arrangement;
 - [B60G 2202/00](#) refers to the suspension elements used (springs, dampers and actuators);
 - [B60G 2204/00](#) refers to mounting features of suspension elements;
 - [B60G 2206/00](#) refers to constructional and manufacturing details of suspension elements;
 - [B60G 2300/00](#) refers to the type of vehicle;
 - [B60G 2400/00](#) - [B60G 2800/00](#) refer to the electronic control of suspension arrangements, whereby:
 - [B60G 2400/00](#) refers to input parameters of the control;
 - [B60G 2401/00](#) refers to types of sensors used;
 - [B60G 2500/00](#) refers to the controlled action or device;
 - [B60G 2600/00](#) refers to particular details of the control system;
 - [B60G 2800/00](#) refers to the result to be achieved by the control action.
3. Groups [B60G 2200/00](#) - [B60G 2800/00](#) are to be used in multi-aspect classification, so that subject matter characterised by aspects covered by more than one of these groups, which is considered to represent information of interest for search, should be classified in a combination of at least one relevant "invention information" symbol in association with indexing codes from each of these groups.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B60G 23/00](#) covered by [B60G 17/0165](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B60H)**B60H****ARRANGEMENTS OR ADAPTATIONS OF HEATING, COOLING, VENTILATING, OR OTHER AIR-TREATING DEVICES SPECIALLY FOR PASSENGER OR GOODS SPACES OF VEHICLES****NOTE**

Attention is drawn to the Note following the title of class [B60](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B60J)**B60J**

WINDOWS, WINDSCREENS, NON-FIXED ROOFS, DOORS, OR SIMILAR DEVICES FOR VEHICLES; REMOVABLE EXTERNAL PROTECTIVE COVERINGS SPECIALLY ADAPTED FOR VEHICLES (fastening, suspending, closing, or opening of such devices [E05](#))

NOTES

1. Windows, windcreens, non-fixed roofs, doors, or similar devices which are of general applicability, irrespective of whether described or claimed only for vehicles, are also classified in subclass [E06B](#).
2. Attention is drawn to the Note following the title of class [B60](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (B60J)**U B60J 7/00**

Non-fixed roofs; Roofs with movable panels {, e.g. rotary sunroofs} ([B60J 10/00](#) takes precedence; window aspects [B60J 1/00](#); fixed roofs [B62D 25/06](#); mechanisms for operating wings [E05F 11/00](#), [E05F 15/00](#))

U B60J 7/08

- of non-sliding type, i.e. movable or removable roofs or panels, e.g. let-down tops or roofs capable of being easily detached or of assuming a collapsed or inoperative position

U B60J 7/12

- • foldable; Tensioning mechanisms therefor, e.g. struts ([B60J 7/10](#), [B60J 7/20](#) take precedence)

U B60J 7/1204

- • • {Control devices, e.g. for compensating tolerances, for defining movement or end position of top, for tensioning the top or for switching to an emergency mode}

D B60J 2007/1208

- • • • {Control devices}
- <administratively transferred to [B60J 7/1204](#)>

D B60J 2007/1213

- • • • {Fastening devices}
- <administratively transferred to [B60J 7/1204](#)>

D B60J 2007/1217

- • • • {Pretensioning devices closing the roof aperture when released}
- <administratively transferred to [B60J 7/1204](#)>

D B60J 2007/1221

- • • • {construction details of the arches}
- <administratively transferred to [B60J 7/1204](#)>

M B60J 11/00

Removable external protective coverings specially adapted for vehicles or parts of vehicles, e.g. parking covers (covering of load on vehicles [B60P 7/00](#); guard strips for body finishing, identifying or decorating [B60R 13/04](#); tents for use as garages [E04H 15/00](#))

NOTE

In groups [B60J 11/02](#) - [B60J 11/10](#), the first place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place. {This Note corresponds to IPC Note (1) relating to [B60J 11/02](#) - [B60J 11/06](#).}

Project: RP0440 (B60K)**M B60K**

ARRANGEMENT OR MOUNTING OF PROPULSION UNITS OR OF TRANSMISSIONS IN VEHICLES; ARRANGEMENT OR MOUNTING OF PLURAL DIVERSE PRIME-MOVERS IN VEHICLES; AUXILIARY DRIVES FOR VEHICLES; INSTRUMENTATION OR DASHBOARDS FOR VEHICLES; ARRANGEMENTS IN CONNECTION WITH COOLING, AIR INTAKE, GAS EXHAUST OR FUEL SUPPLY OF PROPULSION UNITS, IN VEHICLES

NOTES

1. In this subclass, the following terms or expressions are used with the meanings indicated:

- "conjoint control of drive units" includes such control for vehicles or of general applicability;
- "auxiliary drives" means drives of auxiliary or external machines or devices from the propulsion unit, transmission, or other parts of the vehicle, and includes the control of such drives;
- "transmission" means all propulsion parts linking propulsion units, e.g. engines, to ultimate propulsive elements, e.g. wheels;
- "drive unit" means propulsion unit conjoint with transmission, a "drive unit" can additionally include the ultimate driven unit;
- "sub-unit" means, e.g. propulsion unit, clutch, gearing or brake system;
- "hybrid vehicle" means vehicles with plural diverse prime-movers for mutual or common propulsion

2. Attention is drawn to the Note following the title of class [B60](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B60K)

B60K 35/00
- B60K 41/00
B60K 37/00

Arrangement of adaptations of instruments specially for vehicles; Dashboards

Project: RP0480 (B60K)**D B60K 41/00**

{Conjoint control of drive units; Conjoint control of at least two sub-units thereof (arrangement of plural diverse prime-movers for mutual or common propulsion B60K 6/00)}

NOTES

1. The control of a single sub-unit is classified in the relevant class for the sub-unit. Where a single sub-unit is controlled by means of signals or commands from other sub-units the control of this single sub-unit is classified in the relevant class for this sub-unit. For instance, the control of variable-ratio gearing by means of signals from the engine or { from another sub-unit influenced by} the accelerator is classified in subclass F16H

2. Conjoint control of drive units, e.g. propulsion units, and variable-ratio gearing occurring only transiently during ratio shift and being also characterised by the control of the gearing is classified in subclass F16H

WARNING

This group and its subgroups are no longer used for the classification of new documents as from January 1st, 2006. The backlog of these groups is being continuously reclassified to the relevant groups of B60W.

<administratively transferred to [B60W 30/00](#)>

- D B60K 41/002 · {Changing foot controls into hand controls, e.g. for invalid people}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/004 · {using electrical means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/006 · · {with analogue circuits, relays and switches}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/008 · {using hydraulic or pneumatic means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/02 · {of propulsion unit and clutch}
 <administratively transferred to [B60W 10/00](#)>
- D B60K 41/022 · · {using electrical means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/025 · · · {with analogue circuits, relays and switches}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/027 · · {using hydraulic or pneumatic means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/04 · {of propulsion unit and gearing}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/042 · · {using electrical means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/045 · · · {with analogue circuits, relays and switches}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/047 · · {using hydraulic or pneumatic means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/06 · · {the gearing being stepped}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/062 · · · {using electrical means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/065 · · · · {with analogue circuits, relays and switches}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/067 · · · {using hydraulic or pneumatic means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/08 · · · {with interruption of the drive}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/082 · · · · {using electrical means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/085 · · · · · {with analogue circuits, relays and switches}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/087 · · · · {using hydraulic or pneumatic means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/10 · · · {without interruption of the drive}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/102 · · · · {using electrical means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/105 · · · · · {with analogue circuits, relays and switches}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/107 · · · · {using hydraulic or pneumatic means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/12 · · {the gearing being infinitely variable}
 <administratively transferred to [B60W 30/00](#)>

- D B60K 41/14 • • • {of mechanical type}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/142 • • • • {using electrical means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/145 • • • • • {with analogue circuits, relays and switches}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/147 • • • • • {using hydraulic or pneumatic means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/16 • • • {of fluid type}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/162 • • • • {using electrical means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/165 • • • • • {with analogue circuits, relays and switches}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/167 • • • • • {using hydraulic or pneumatic means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/18 • • • {of electric type, e.g. electromagnetic}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/20 • {of propulsion unit and brake system}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/202 • • {using electrical means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/205 • • • {with analogue circuits, relays and switches}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/207 • • {using hydraulic or pneumatic means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/22 • {of clutch and gearing (control of torque converter lock-up clutches
F16H 61/14)}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/222 • • {using electrical means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/225 • • • {with analogue circuits, relays and switches}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/227 • • {using hydraulic or pneumatic means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/24 • {of clutch and brake system}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/242 • • {using electrical means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/245 • • • {with analogue circuits, relays and switches}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/247 • • {using hydraulic or pneumatic means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/26 • {of gearing and brake system}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/262 • • {using electrical means}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/265 • • • {with analogue circuits, relays and switches}
 <administratively transferred to [B60W 30/00](#)>
- D B60K 41/267 • • {using hydraulic or pneumatic means}
 <administratively transferred to [B60W 30/00](#)>

- D B60K 41/28
 - {of three or more sub-units}
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 41/282
 - • {using electrical means}
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 41/284
 - • • {the sub-units being engine, clutch and gearing}
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 41/286
 - • • {with analogue circuits, relays and switches}
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 41/288
 - • {using hydraulic or pneumatic means}
 - <administratively transferred to [B60W 30/00](#)>
- D **B60K 2741/00**

Conjoint control of drive units; Conjoint control of at least two sub-units thereof

NOTE

These groups are created for temporary back-up of former group B60K 41/00 which will be replaced by B60W

<administratively transferred to [B60W 30/00](#)>
- D B60K 2741/003
 - Changing foot controls into hand controls, e.g. for invalid people
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/006
 - using electrical means
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/02
 - of propulsion unit and clutch
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/025
 - • using electrical means
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/04
 - of propulsion unit and gearing
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/045
 - • using electrical means
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/06
 - • the gearing being stepped
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/065
 - • • using electrical means
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/08
 - • • with interruption of the drive
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/085
 - • • • using electrical means
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/10
 - • • without interruption of the drive
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/105
 - • • • using electrical means
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/12
 - • the gearing being infinitely variable
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/14
 - • • of mechanical type
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/145
 - • • • using electrical means
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/16
 - • • of fluid type
 - <administratively transferred to [B60W 30/00](#)>
- D B60K 2741/165
 - • • • using electrical means
 - <administratively transferred to [B60W 30/00](#)>

- electric propulsion of vehicles; control and regulation therefor
2. In this subclass it is desirable to classify any "additional information" which is of interest for search.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B60M)

B60M

POWER SUPPLY LINES, AND DEVICES ALONG RAILS, FOR ELECTRICALLY- PROPELLED VEHICLES (control of points and safety arrangements along railway lines [B61L](#); construction of rails and points in general [E01B](#))

NOTE

This subclass deals with:

- overhead, overground or underground power supply lines; their crossings and points, erection and supervision;
- devices along rails and rail joints, for current conduction and for insulation;
- safety devices along the route against earth currents and inductive interference with nearby communication lines

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B60N)

B60N

SEATS SPECIALLY ADAPTED FOR VEHICLES; VEHICLE PASSENGER ACCOMMODATION NOT OTHERWISE PROVIDED FOR

NOTES

1. Attention is drawn to the Explanatory Note following the class title [B60](#)
2. In this subclass the following term is used with the meaning indicated:
 - "cushion": seating part of a seat distinguished from the back-rest

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0022-F (B60N)

- U B60N 2/00** Seats specially adapted for vehicles (for facilitating access of invalids to, or exit of invalids from, vehicles [A61G 3/02](#); railway seats [B61D 33/00](#); cycle seats [B62J 1/00](#); aircraft seats [B64D 11/06](#), [B64D 25/04](#), [B64D 25/10](#))
- U B60N 2/02** • the seat or part thereof being movable, e.g. adjustable (adjustable arm-rests [B60N 2/75](#); adjustable head-rests [B60N 2/806](#))
- U B60N 2/22** • • the back-rest being adjustable {([B60N 2/2878](#) takes precedence)}
- U B60N 2/235** • • • by gear-pawl type mechanisms
- M B60N 2/2356** • • • • {with internal pawls}

WARNING

~~Group B60N 2/2362 is incomplete pending reclassification of documents from group B60N 2/2356.~~
~~Groups B60N 2/2356 and B60N 2/2362 should be considered in order to perform a complete search.~~

- M B60N 2/236 {linearly movable}
- WARNING
Group B60N 2/236 is incomplete pending reclassification of documents from group B60N 2/2356.
Group B60N 2/2356 and B60N 2/236 should be considered in order to perform a complete search.
- M B60N 2/2362 {rotatably movable}
- WARNING
Group B60N 2/2362 is/are incomplete pending reclassification of documents from group B60N 2/2356.
Group B60N 2/2356 and B60N 2/2362 should be considered in order to perform a complete search.
- U B60N 2/64 . Back-rests {or cushions ([B60N 2/2222](#) takes precedence)}
- U B60N 2/66 . . Lumbar supports
- M B60N 2/663 . . . {portable with attachment to the back-rest}
- WARNING
Group B60N 2/663 is incomplete pending reclassification of documents from group B60N 2/66.
Groups B60N 2/66 and B60N 2/663 should be considered in order to perform a complete search.
- M B60N 2/665 . . . {using inflatable bladders}
- WARNING
Group B60N 2/665 is incomplete pending reclassification of documents from groups B60N 2/66.
Groups B60N 2/66 and B60N 2/665 should be considered in order to perform a complete search.
- M B60N 2/666 . . . {vertically adjustable}
- WARNING
Group B60N 2/666 is incomplete pending reclassification of documents from groups B60N 2/66.
Groups B60N 2/66 and B60N 2/666 should be considered in order to perform a complete search.
- U B60N 2/667 . . . {having flexible support member bowed by applied forces}
- M B60N 2/6671 {with cable actuators}
- WARNING
Group B60N 2/6671 is/are incomplete pending reclassification of documents from group B60N 2/66.
Groups B60N 2/66 and B60N 2/6671 should be considered in order to perform a complete search.
- M B60N 2/6673 {with motor driven adjustments}
- WARNING
Group B60N 2/6673 is incomplete pending reclassification of documents from group B60N 2/66
Groups B60N 2/66 and B60N 2/6673 should be considered in order to perform a complete search.

Project: N/A (B60P)**B60P**

VEHICLES ADAPTED FOR LOAD TRANSPORTATION OR TO TRANSPORT, TO CARRY, OR TO COMPRISE SPECIAL LOADS OR OBJECTS (vehicles with special provisions for transporting patients or disabled persons, or their personal conveyances [A61G 3/00](#))

NOTE

Attention is drawn to the Explanatory Note following the class title ([B60](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

B60P 1/46	covered by	B60P 1/4421
B60P 3/022	covered by	E04G 21/14
B60P 3/325	covered by	B60P 3/32
B60P 3/33	covered by	B60P 3/34
B60P 3/335	covered by	B60P 3/32
B60P 3/345	covered by	B60P 3/34
B60P 3/35	covered by	B60P 3/34
B60P 3/355	covered by	B60P 3/34
B60P 3/363	covered by	B60P 3/36
B60P 3/367	covered by	B60P 3/36
B60P 3/37	covered by	B60P 3/343
B60P 3/373	covered by	B60P 3/32
B60P 3/377	covered by	B60P 3/34
B60P 5/00	covered by	G01G 19/08

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B60R)**B60R**

VEHICLES, VEHICLE FITTINGS, OR VEHICLE PARTS, NOT OTHERWISE PROVIDED FOR

NOTE

Attention is drawn to the Note following the title of class [B60](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B60S)**B60S**

SERVICING, CLEANING, REPAIRING, SUPPORTING, LIFTING, OR MANOEUVRING OF VEHICLES, NOT OTHERWISE PROVIDED FOR

NOTE

Attention is drawn to the Note following the title of class [B60](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B60T)**B60T**

VEHICLE BRAKE CONTROL SYSTEMS OR PARTS THEREOF; BRAKE CONTROL SYSTEMS OR PARTS THEREOF, IN GENERAL (electrodynamic brake systems for vehicle, in general [B60L](#); brakes *per se*, i.e. devices where braking effect occurs, including ultimate brake actuators, [F16D](#)); ARRANGEMENT OF BRAKING ELEMENTS ON VEHICLES IN GENERAL; PORTABLE DEVICES FOR PREVENTING UNWANTED MOVEMENT OF VEHICLES; VEHICLE MODIFICATIONS TO FACILITATE COOLING OF BRAKES

NOTE

In this subclass, the term "brake control systems" includes brake control systems for vehicles or of general applicability

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

B60T 8/20	covered by	B60T 8/18
B60T 8/22	covered by	B60T 8/18
B60T 8/60 - B60T 8/70	covered by	B60T 8/17
B60T 8/78 - B60T 8/84	covered by	B60T 8/17
B60T 13/122	covered by	B60T 13/147 , B60T 13/167
B60T 13/125	covered by	B60T 13/141
B60T 13/128	covered by	B60T 13/145 , B60T 13/165
B60T 13/13	covered by	B60T 13/146 , B60T 13/166
B60T 13/132	covered by	B60T 13/143 , B60T 13/162
B60T 13/135	covered by	B60T 13/144 , B60T 13/163
B60T 13/138	covered by	B60T 13/148 , B60T 13/168
B60T 13/60	covered by	B60T 13/58
B60T 15/06	covered by	B60T 15/04
B60T 15/08	covered by	B60T 15/04

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0480 (B60T)**U B60T 11/00**

Transmitting braking action from initiating means to ultimate brake actuator without power assistance or drive or where such assistance or drive is irrelevant (the power assistance or drive being essential [B60T 13/00](#))

U B60T 11/10

• transmitting by fluid means, e.g. hydraulic

B60T 11/103

• • {in combination with other control devices (~~conjoint control of brake system and at least another sub-unit B60K-41/00~~ *conjoint control of brake system and at least another sub-unit [B60W 10/188](#)*)};

Project: N/A (B60V)**B60V****AIR-CUSHION VEHICLES**NOTE

The term "air-cushion vehicles" in this subclass includes all vehicles which are wholly or partly supported on land or water by air or other gaseous cushions

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0480 (B60W)

- U B60W 30/00** Purposes of road vehicle drive control systems not related to the control of a particular sub-unit, e.g. of systems using conjoint control of vehicle sub-units {, or advanced driver assistance systems for ensuring comfort, stability and safety or drive control systems for propelling or retarding the vehicle (anti-lock brake systems [ABS] [B60T 8/00](#))}
- M B60W 30/18** · Propelling the vehicle
- WARNING**
Subgroups of B60W 30/18 are not complete. Documents from B60K 41/00 and B60W 30/18 are in the process of being reorganised to the new groups
- M B60W 30/18181** · · {Propulsion control with common controlling member for ~~diffent~~*different* functions}
- M B60W 50/00** Details of control systems for road vehicle drive control not related to the control of a particular sub-unit {, e.g. process diagnostic or vehicle driver interfaces}
- WARNING**
New subgroups of IPC8 are not yet complete. Documents from B60K, in particular B60K 41/00 and subgroups, are in the process of being reclassified to the new groups

Project: N/A (B61B)**B61B**

RAILWAY SYSTEMS; EQUIPMENT THEREFOR NOT OTHERWISE PROVIDED FOR (lifts or hoists, elevators, escalators, moving walkways [B66B](#))

NOTE

In this subclass, the following terms are used with the meanings indicated:

- "rope railways" covers railways using cables or chains as traction or suspension means;
- "ropes", "cables", or "chains" are equivalent unless specifically mentioned

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B61C)**B61C**

LOCOMOTIVES; MOTOR RAILCARS (vehicles in general [B60](#); frames or bogies [B61F](#); special railroad equipment for locomotives [B61J](#), [B61K](#))

NOTE

This subclass covers :

- general design features or items of locomotives and motor railcars not otherwise provided for;
- non-electric features of electric locomotives

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B61D)**B61D****BODY DETAILS OR KINDS OF RAILWAY VEHICLES (vehicles in general [B60](#); adaptation of vehicles to special systems [B61B](#); underframes [B61F](#))****WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: N/A (B61F)****B61F****RAIL VEHICLE SUSPENSIONS, e.g. UNDERFRAMES, BOGIES OR ARRANGEMENTS OF WHEEL AXLES; RAIL VEHICLES FOR USE ON TRACKS OF DIFFERENT WIDTH; PREVENTING DERAILING OF RAIL VEHICLES; WHEEL GUARDS, OBSTRUCTION REMOVERS OR THE LIKE FOR RAIL VEHICLES (for vehicles in general [B60](#); axles or wheels [B60B](#); vehicle tyres [B60C](#))****WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: N/A (B61G)****B61G****COUPLINGS; DRAUGHT AND BUFFING APPLIANCES (vehicle connections in general [B60D](#))****WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: N/A (B61H)****B61H****BRAKES OR OTHER RETARDING APPARATUS PECULIAR TO RAIL VEHICLES; ARRANGEMENTS OR DISPOSITIONS OF BRAKES OR OTHER RETARDING APPARATUS IN RAIL VEHICLES (electrodynamic braking of vehicles [B60L](#), in general [H02K](#); arrangements in rail vehicles for adjusting wheel-braking force to meet varying vehicular or permanent-way conditions [B60T 8/00](#); transmitting braking action from initiating means to ultimate brake actuator with power assistance or drive, brake systems incorporating such transmitting means, e.g. air-pressure brake systems, [B60T 13/00](#) - [B60T 17/00](#); brakes per se [F16D](#))****WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: N/A (B61J)****B61J****SHIFTING OR SHUNTING OF RAIL VEHICLES (shifting vehicles in general [B60S](#); marshalling systems [B61B](#))****WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.*

Project: N/A (B61K)

B61K

OTHER AUXILIARY EQUIPMENT FOR RAILWAYS (energy storing brakes [B61H](#); protection of permanent way against weather influences [E01B](#); rail cleaning, snow ploughs [E01H](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B61L)

B61L

GUIDING RAILWAY TRAFFIC; ENSURING THE SAFETY OF RAILWAY TRAFFIC (power supply lines for electrically-propelled vehicles [B60M](#); vehicle signalling in general [B60Q](#); brakes or auxiliary equipment [B61H](#), [B61K](#); point or crossing construction [E01B](#); insulated rail joints [E01B 11/54](#); optical devices in general [G02](#); controlling in general [G05](#); electric communication technique [H04](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B62B)

B62B

HAND-PROPELLED VEHICLES, e.g. HAND CARTS, PERAMBULATORS; SLEDGES

NOTES

1. In this subclass, the term "hand carts" also embraces hand-propelled wheeled devices in so far as the features thereof are generic to hand carts. This term also embraces pedestrian-controlled power-driven vehicles in so far as the features thereof are generic to hand carts
2. Rollers are taken as being equivalent to wheels

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B62B 3/065](#) covered by

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B62C)

B62C

VEHICLES DRAWN BY ANIMALS

NOTES

1. This subclass covers only vehicles or parts thereof in so far as the relevant features are essential for animal-drawn vehicles.
2. This subclass does not cover animal-drawn vehicles which have not the features mentioned in Note (1) above. They are regarded as trailers which are covered by class [B60](#) or subclass [B62D](#), or as sledges which are covered by subclass [B62B](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B62D)**B62D**

MOTOR VEHICLES; TRAILERS (steering, or guiding on a desired track, of agricultural machines or implements [A01B 69/00](#); wheels, castors, axles, increasing wheel adhesion [B60B](#); vehicle tyres, tyre inflation or tyre changing [B60C](#); connections between vehicles of a train or the like [B60D](#); vehicles for use on rail and road, amphibious or convertible vehicles [B60F](#); suspension arrangements [B60G](#); heating, cooling, ventilating or other air treating devices [B60H](#); windows, windscreens, non-fixed roofs, doors or similar devices, protective coverings for vehicles not in use [B60J](#); propulsion plant arrangements, auxiliary drives, transmissions, controls, instrumentation or dashboards [B60K](#); electric equipment or propulsion of electrically-propelled vehicles [B60L](#); power supply for electrically-propelled vehicles [B60M](#); passenger accommodation not otherwise provided for [B60N](#); adaptations for load transportation or to carry special loads or objects [B60P](#); arrangement of signalling or lighting devices, the mounting or supporting thereof or circuits therefor, for vehicles in general [B60Q](#); vehicles, vehicle fittings or vehicle parts not otherwise provided for [B60R](#); servicing, cleaning, repairing, supporting, lifting, or manoeuvring, not otherwise provided for, [B60S](#); brake arrangements, brake control systems or parts thereof [B60T](#); air-cushion vehicles [B60V](#); motor-cycles, accessories therefor [B62J](#), [B62K](#); testing of vehicles [G01M](#))

NOTE

In this subclass, the following terms are used with the meanings indicated:

- "vehicles" include motor vehicles and trailers;
- "trailers" include forecars or sidecars.

WARNING

1.

The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

B62D 25/13	covered by	B60J 1/20 , B60R 13/07
B62D 25/22	covered by	B60R 3/00
B62D 65/08	covered by	B60J 10/45
B62D 101/00-B62D 137/00	covered by	

2. *In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.*

Project: N/A (B62H)**B62H**

CYCLE STANDS; SUPPORTS OR HOLDERS FOR PARKING OR STORING CYCLES; APPLIANCES PREVENTING OR INDICATING UNAUTHORIZED USE OR THEFT OF CYCLES; LOCKS INTEGRAL WITH CYCLES; DEVICES FOR LEARNING TO RIDE CYCLES

NOTE

In this subclass, the term "cycles" also embraces scooters

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

B62H 5/16	covered by	B62H 5/14
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2. *In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.*

Project: N/A (B62J)

B62J

CYCLE SADDLES OR SEATS; ACCESSORIES PECULIAR TO CYCLES AND NOT OTHERWISE PROVIDED FOR, e.g. ARTICLE CARRIERS, CYCLE PROTECTORS

NOTE

In this subclass, the term "cycles" also embraces scooters

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B62K)

B62K

CYCLES; CYCLE FRAMES; CYCLE STEERING DEVICES; RIDER-OPERATED TERMINAL CONTROLS SPECIALLY ADAPTED FOR CYCLES; CYCLE AXLE SUSPENSIONS; CYCLE SIDE-CARS, FORECARS, OR THE LIKE

NOTE

In this subclass, each of the main groups [B62K 7/00](#) - [B62K 15/00](#) takes precedence over all the preceding main groups, e.g. a child's bicycle is classified in [B62K 9/00](#) and not in [B62K 3/00](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B62L)

B62L

BRAKES SPECIALLY ADAPTED FOR CYCLES {(arrangements in cycles for adjusting wheel-braking force to meet varying vehicular or ground-surface conditions [B60T 8/00](#))}

NOTES

1. This subclass covers only adaptations of brakes and their actuating mechanisms peculiar to their use on cycles.
2. This subclass does not cover brakes or actuating mechanisms of wider applicability, which are regarded as of general type, irrespective of whether described or claimed only for cycles, which are covered by subclass [B60T](#) or the relevant subclass of [F16](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B62M)**B62M**

RIDER PROPULSION OF WHEELED VEHICLES OR SLEDGES; POWERED PROPULSION OF SLEDGES OR {SINGLE-TRACK} CYCLES; TRANSMISSIONS SPECIALLY ADAPTED FOR SUCH VEHICLES (arrangements or mounting of transmissions in vehicles in general [B60K](#); transmission elements per se [F16](#))

NOTE

In this subclass, the term "transmission" means all parts between the prime mover or the part to which a rider immediately applies propulsive effort, e.g. pedal cranks, and a driven ground wheel.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (B62M)**M B62M 6/00**

Rider propulsion of wheeled vehicles with additional source of power, e.g. combustion engine or electric motor

NOTE

In this main group, *the first place priority rule is applied, i.e.* at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place.

M B62M 9/00

Transmissions characterised by use of an endless chain, belt, or the like (cycle chain guards [B62J 13/00](#))

NOTE

In this main group, *the first place priority rule is applied, i.e.* at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place.

Project: N/A (B63B)**B63B**

SHIPS OR OTHER WATERBORNE VESSELS; EQUIPMENT FOR SHIPPING ({amphibious vehicles [B60F 3/00](#);} air-cushion vehicles [B60V](#); arrangements of vessel ventilation, heating, cooling or air conditioning [B63J 2/00](#))

NOTE

In this subclass, the indexing codes [B63B 2201/00](#) - [B63B 2241/00](#) are to be used for relevant technical information concerning particular or unusual use, materials, design, methods or means.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B63C)

B63C

LAUNCHING, HAULING-OUT, OR DRY-DOCKING OF VESSELS; LIFE-SAVING IN WATER; EQUIPMENT FOR DWELLING OR WORKING UNDER WATER; MEANS FOR SALVAGING OR SEARCHING FOR UNDERWATER OBJECTS (floating nets, floating slipways, or the like for recovering aircraft from the water [B63B 35/52](#))

NOTE

In this subclass, the indexing codes [B63B 2201/00](#) - [B63B 2241/00](#) are to be used for relevant technical information concerning particular or unusual use, materials, design, methods or means.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0359 (B63C)

U B63C 11/00

Equipment for dwelling or working underwater; Means for searching for underwater objects (composition of chemical substances for use in breathing apparatus [A62D 9/00](#); swimming aids or equipment [A63B 31/00](#) - [A63B 35/00](#); submarines [B63G 8/00](#))

U B63C 11/02

- Divers' equipment

M B63C 11/12

- • Diving masks ~~{{swimming helmets, swimming goggles [A63B 33/00](#)}}~~

Project: N/A (B63G)

B63G

OFFENSIVE OR DEFENSIVE ARRANGEMENTS ON VESSELS; MINE-LAYING; MINE-SWEEPING; SUBMARINES; AIRCRAFT CARRIERS (means of attack or defence in general, e.g. turrets [F41H](#))

NOTE

In this subclass, the indexing codes [B63B 2201/00](#) - [B63B 2241/00](#) are to be used for relevant technical information concerning particular or unusual use, materials, design, methods or means.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B63H)

B63H

MARINE PROPULSION OR STEERING (arrangement of propulsion or steering means on amphibious vehicles [B60F 3/0007](#);) propulsion of air-cushion vehicles [B60V 1/14](#); peculiar to submarines, other than nuclear propulsion, [B63G](#); peculiar to torpedoes [F42B 19/00](#))

NOTE

In this subclass, the indexing codes [B63B 2201/00](#) - [B63B 2241/00](#) are to be used for relevant technical information concerning particular or unusual use, materials, design, methods or means

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B63J)**B63J****AUXILIARIES ON VESSELS**NOTES

- In this subclass, the following term is used with the meaning indicated:
 - "auxiliaries" means only apparatus specially arranged for rendering vessels, in general, habitable or operative, insofar as such apparatus is not specifically provided for in another subclass of class [B63](#)
- In this subclass, the indexing codes [B63B 2201/00](#) - [B63B 2241/00](#) are to be used for relevant technical information concerning particular or unusual use, materials, design, methods or means.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B64B)**B64B****LIGHTER-THAN AIR AIRCRAFT**WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B64C)**B64C****AEROPLANES; HELICOPTERS (air-cushion vehicles [B60V](#))**NOTE

As far as possible, classification is made according to constructional features; classification according to particular kinds of aircraft is normally regarded as being of secondary importance, except in cases where this is considered to be the characteristic feature.

WARNING

- The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B64C 35/02](#) covered by [B64C 35/00](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B64D)**B64D****EQUIPMENT FOR FITTING IN OR TO AIRCRAFT; FLYING SUITS; PARACHUTES; ARRANGEMENTS OR MOUNTING OF POWER PLANTS OR PROPULSION TRANSMISSIONS IN AIRCRAFT**WARNING

- The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B64D 15/18](#) covered by [B64D 15/16](#)

[B64D 25/102](#) covered by [B64D 25/10](#)

[B64D 25/105](#) covered by [B64D 25/10](#)

[B64D 25/108](#) covered by [B64D 25/10](#)

[B64D 25/11](#) covered by [B64D 25/10](#)

[B64D 25/112](#) covered by [B64D 25/10](#)

[B64D 25/115](#) covered by [B64D 25/10](#)

B64D 25/118 covered by B64D 25/10

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0025-F (B64D)

U B64D 11/00 Passenger or crew accommodation; Flight-deck installations not otherwise provided for

M B64D 11/0015 · {Arrangements for entertainment or communications, e.g. radio, television}

WARNING

~~Groups B64D 11/00151 – B64D 11/00155 are incomplete pending reclassification of documents from group B64D 11/0015.~~

~~Until reclassification is complete, groups B64D 11/00151 – B64D 11/00155 and B64D 11/0015 should be considered in order to perform a complete search.~~

M B64D 11/06 · {Arrangements of seats, or adaptations or details specially adapted for aircraft seats (crew seat constructions for emergency purposes B64D 25/04)}

WARNING

~~Groups B64D 11/0601 – B64D 11/0698 are incomplete pending reclassification of documents from group B64D 11/06.~~

~~Until reclassification is complete, groups B64D 11/0601 – B64D 11/0698 and B64D 11/06 should be considered in order to perform a complete search.~~

U B64D 11/0627 · {Seats combined with storage means}

M B64D 11/0629 · · {the storage means being specially adapted for emergency equipment}

WARNING

~~Groups B64D 11/0631 – B64D 11/0633 is/are incomplete pending reclassification of documents from group B64D 11/0629.~~

~~Until reclassification is complete, groups B64D 11/0631 – B64D 11/0633 and B64D 11/0629 should be considered in order to perform a complete search.~~

Project: N/A (B64F)

B64F

GROUND OR AIRCRAFT-CARRIER-DECK INSTALLATIONS SPECIALLY ADAPTED FOR USE IN CONNECTION WITH AIRCRAFT; DESIGNING, MANUFACTURING, ASSEMBLING, CLEANING, MAINTAINING OR REPAIRING AIRCRAFT, NOT OTHERWISE PROVIDED FOR; HANDLING, TRANSPORTING, TESTING OR INSPECTING AIRCRAFT COMPONENTS, NOT OTHERWISE PROVIDED FOR

NOTE

In this subclass, the following terms or expressions are used with the meaning indicated:

- "installations" embraces equipment, including mobile equipment, peculiar to use in connection with aircraft and not fitted thereto;
- "ground installations" embraces waterborne installations.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B64G)**B64G****COSMONAUTICS; VEHICLES OR EQUIPMENT THEREFOR (apparatus for, or methods of, winning materials from extraterrestrial sources [E21C 51/00](#))****NOTES**

1. This subclass covers only vehicles, equipment or the like, which are specially adapted for cosmonautics.
2. This subclass does not cover vehicles and equipment applicable to both cosmonautics and aeronautics, which are covered by the appropriate aeronautical subclasses of class [B64](#).
3. In this subclass, the following term is used with the meaning indicated:
 - "cosmonautics" includes all transport outside the earth's atmosphere, and thus includes artificial earth satellites, and interplanetary and interstellar travel.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (B65B)**M B65B**

MACHINES, APPARATUS OR DEVICES FOR, OR METHODS OF, PACKAGING ARTICLES OR MATERIALS; UNPACKING (bundling and pressing devices for cigars [A24C 1/44](#); ~~paper-bag holders as shop or office accessories [A47F 13/08](#); apparatus for coating, e.g. by dipping, [B05C](#); devices for tensioning and securing binders adapted to be supported by the article or articles to be bound [B25B](#) [B25B 25/00](#), [B65B 13/00](#); ~~nauling or stapling devices per se [B25C](#), [B27F](#); applying closure members to bottles, jars or similar containers [B67B 1/00](#)-[B67B 6/00](#); ~~{cutting or severing in general [B26D](#), [B26F](#); concurrent cleaning, filling and closing of bottles [B67C 7/00](#);} inserting documents in envelopes and closing the latter [B43M 3/00](#), [B43M 5/00](#); emptying bottles, jars, cans, casks, barrels or similar containers [B67C 9/00](#); wrappers, containers or other packaging elements, e.g. binders protective caps [B65D](#); stacking articles in, or removing them from, pallets [B65G](#); devices for handling sheets or webs of interest apart from their application in packaging machines [B65H](#); packaging of matches [C06F](#); wrapping sugar during manufacture [C13B 45/00](#); {filling of grease guns [F16N 37/02](#); packing of shotgun cartridges for immediate use [F42B](#); wrapping of coins [G07D 9/00](#)}; making containers or receptacles per se, see the appropriate subclasses)~~~~~~

NOTE

The term "packaging" should be understood as including mainly the following operations:

filling portable containers or receptacles with materials or small articles to form packages

inserting articles, or groups of articles, into containers or receptacles

closing filled containers or receptacles otherwise than by metal-, glass-, or wood-working operations

enclosing, or partially enclosing, articles or quantities of material, in sheets, strips, blanks, webs, or tubes of thin flexible material, e.g. wrapping

bundling articles, e.g. holding articles together in groups by applying string or wire

attaching articles to cards, sheets, or webs

Operations of these types employed in the manufacture of articles other than packages are classified in other appropriate subclasses, e.g. making confectionery products by casting in moulds formed by wrappers [A23G](#), filling ammunition cartridges [F42B](#) Methods of packaging which are wholly characterised by the form of the package produced, or the form of the container

or packaging-element utilised, are to be classified in [B65D](#) rather than in this subclass In the following elaborations, the term "package" is used to mean the end product of a packaging operation, e.g. a filled and closed container, an article enclosed in a wrapper, a group of articles held together by string or wire, a crate of bottles In the following elaborations, the term "materials" is to be understood as embracing matter, or masses of articles, which are to be packaged, as distinct from separate or individual articles Machines, apparatus or methods of general application for packaging articles or materials

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B65B 51/09](#) covered by [B65B 51/00](#)

2. *In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.*

- M B65B 1/00** Packaging fluent solid material, e.g. powders, granular or loose fibrous material, loose masses of small articles, in individual containers or receptacles, e.g. bags, sacks, boxes, cartons, cans-jars, or jars (under special atmospheric or gaseous conditions B65B 31/00)
- M B65B 1/02
- Machines characterised by the incorporation of means for making the containers or receptacles (from flat, folded, or tubular webs of flexible sheet material [B65B 9/00](#); making containers or receptacles of interest apart from this application, *see see the* appropriate subclasses)
- M B65B 1/28
- Controlling escape of air or dust from containers or receptacles during filling (~~cleaning of, or removing dust from, container wrappers or packages B65B 55/24~~)
- U B65B 1/30
- Devices or methods for controlling or determining the quantity or quality or the material fed or filled
- M B65B 1/32
- • by weighing (check-weighing of filled containers or receptacles [B65B 1/46](#); ~~weighing in general G01G~~)
- M B65B 1/36
- • by volumetric devices or methods (checking volume of filled material [B65B 1/48](#); ~~volumetric measurement in general G01F~~)
- M B65B 1/46
- • Check-weighing of filled containers or receptacles (~~check-weighing in general G01G~~)
- M B65B 3/00** Packaging plastic material, ~~semi-liquids~~ *semiliquids*, liquids, or mixed solids and liquids, in individual containers or receptacles, e.g. bags, sacks, boxes, cartons, cans, jars or jars (packaging under special atmospheric or gaseous conditions, adding propellants to aerosol containers B65B 31/00; filling bottles or other containers with liquids or semi-liquids by bottling machines B67C; filling of gas bottles at high pressure for storing gases F17C)
- U B65B 3/26
- Methods or devices for controlling the quantity of the material fed or filled
- M B65B 3/28
- • by weighing (~~in general G01G~~)
- M B65B 3/30
- • by volumetric measurement (~~in general G01F~~)
- U B65B 5/00** Packaging individual articles in containers or receptacles, e.g. bags, sacks, boxes, cartons, cans, jars
- M B65B 5/02
- Machines characterised by incorporation of means for making the containers or receptacles (~~from flat, folded, or tubular webs of flexible sheet material B65B 9/00~~; making containers or receptacles of interest apart from this application, see *the* appropriate subclasses)

- M B65B 7/00** Closing containers or receptacles after filling (~~combinations of container-closing apparatus with apparatus for filling containers B65B 1/00; B65B 3/00; B65B 5/00; under special atmospheric or gaseous conditions B65B 31/00~~)
- M B65B 7/16
- Closing semi-rigid or rigid containers or receptacles not deformed by, or not taking-up shape of, contents, e.g. boxes, ~~cartons~~ or cartons (closing cans by metal-working operations B21D 51/26; stoppering or capping bottles or jars B67B)
- U B65B 9/00** Enclosing successive articles, or quantities of material, e.g. liquids or semiliquids, in flat, folded, or tubular webs of flexible sheet material; Subdividing filled flexible tubes to form packages
- M B65B 9/10
- Enclosing successive articles, or quantities of material, in preformed tubular webs, or in webs formed into tubes around filling nozzles, e.g. extruded tubular webs (~~sausage-making A22C 11/00~~)
- M B65B 9/12
- • Subdividing filled tubes to form two or more packages by sealing or securing involving displacement of contents (~~sausage-making A22C 11/00~~)
- M B65B 11/00** Wrapping, e.g. partially or wholly enclosing, articles, or quantities of material, in strips, sheets or blanks, of flexible material (bundling articles by applying narrow strips or bands of flexible material [B65B 13/00](#); ~~devices for folding or bending wrappers around contents B65B 49/00; devices for gathering or twisting wrappers B65B 51/00~~)
- M B65B 11/004
- {in blanks, e.g. sheets precut and creased for folding (~~devices for folding or bending wrappers around contents B65B 49/00~~)}
- M B65B 11/02
- Wrapping articles, or quantities of material, without changing their position during the wrapping operation, e.g. in moulds with hinged folders (by doubling a wrapper and securing its opposed free margins to enclose contents [B65B 11/48](#); by disposing contents between two sheets and securing their opposed free margins [B65B 11/50](#); ~~covering or wrapping cores by winding webs, tapes, or filamentary material B65H 81/00~~)
- M B65B 11/04
- the articles being rotated (~~wrapping devices for round bales A01F 15/071~~)
- U B65B 11/50
- Enclosing articles, or quantities of material, by disposing contents between two sheets, e.g. pocketed sheets, and securing their opposed free margins (apparatus or devices for forming pockets in or from sheets, blanks or webs [B65B 47/00](#))
- M B65B 11/52
- • one sheet being rendered plastic, e.g. by heating, and forced by fluid pressure, e.g. vacuum, into engagement with the other sheet and contents, e.g. skin- {, blister-, or bubble-} packaging
- WARNING**
*Group [B65B 11/52](#) is incomplete pending reclassification of documents from group [B65B 33/00](#).
 Groups [B65B 33/00](#) and [B65B 11/52](#) should be considered in order to perform a complete search.*
- M B65B 11/56
- Rolling articles with wrappers along a supporting surface (~~for bottles B65B 21/26~~)
- M B65B 13/00** Bundling articles (~~bundling particular articles presenting special problems using string, wire or narrow tape or band B65B 27/00; {straining wire in general B21F 9/00; connecting wire to wire in general B21F 15/00}~~)
- M B65B 13/02
- Applying and securing binding material around articles or groups of articles, e.g. using strings, wires, strips, bands, ~~tapes~~ or tapes (specially adapted for harvesting A01D 37/00, A01D 39/00, A01D 59/00, A01F 1/00; tying devices in baling presses A01F 15/14, B30B 9/30; applying reinforcing means to non-metal sleepers E01B 31/28)

- U B65B 13/18 · Details of, or auxiliary devices used in, bundling machines {or bundling tools}
- M B65B 13/182 · · {Affixing labels during bundling ~~(labelling machines in general B65C)~~}
- U B65B 15/00** **Attaching articles to cards, sheets, strings, webs, or other carriers**
- M B65B 15/02 · Attaching small articles, e.g. buttons, to cards ~~(cards for buttons, collar-studs, or sleeve-links A44B 7/00)~~
- M B65B 15/04 · Attaching a series of articles, e.g. small electrical components, to a continuous web {(ammunition filling [F42B](#); ~~placing of electric components on belts holding the terminals H05K 13/003~~)}
- M B65B 19/00** **Packaging rod-shaped or tubular articles susceptible to damage by abrasion or pressure, e.g. cigarettes, cigars, macaroni, spaghetti, drinking straws, or welding electrodes (final treatment of cigars or cigarettes after manufacture A24C 1/38, A24C 5/60)**
- M B65B 19/02 · Packaging cigarettes ~~{(auxiliary devices for drying glued or sealed packages B65B 61/002)}~~
- U B65B 19/22 · · Wrapping the cigarettes; Packaging the cigarettes in containers formed by folding wrapping material around formers
- M B65B 19/228 · · · {Preparing and feeding blanks ~~(in general B65B 41/00)~~}
- M B65B 19/28 · Control devices for cigarette or cigar packaging machines ~~(of general application in packaging machines B65B 57/00)~~
- U B65B 21/00** **Packaging or unpacking of bottles (bundling bottles [B65B 27/04](#))**
- U B65B 21/02 · in or from preformed containers, e.g. crates
- U B65B 21/08 · · Introducing or removing single bottles, or groups of bottles, e.g. for progressive filling or emptying of containers
- M B65B 21/12 · · · using grippers engaging bottles, e.g. bottle necks ~~(grippers in general B25J)~~
- U B65B 21/14 · · Introducing or removing groups of bottles, for filling or emptying containers in one operation
- M B65B 21/18 · · · using grippers engaging bottles, e.g. bottle necks ~~(grippers in general B25J)~~
- U B65B 21/24 · Enclosing bottles in wrappers
- M B65B 21/26 · · Applying wrappers to individual bottles by operations involving rotation or rolling of the bottles ~~(to articles in general B65B 11/56; (straw-made wrappers B65B 21/247))~~
- U B65B 23/00** **Packaging fragile or shock-sensitive articles other than bottles; Unpacking eggs (embedding articles in shock-absorbing media [B65B 55/20](#))**
- U B65B 23/02 · Packaging or unpacking eggs
- U B65B 23/06 · · Arranging, feeding, or orientating the eggs to be packed; Removing eggs from trays or cartons
- M B65B 23/08 · · · using grippers ~~(testing, sorting, or cleaning eggs A01K 43/00; egg grippers for cooking purposes A47J 29/06)~~
- U B65B 23/10 · Packaging biscuits
- M B65B 23/12 · · Arranging, feeding, or orientating the biscuits to be packaged ~~(in connection with baking A21C 15/00)~~
- M B65B 23/20 · Packaging plate glass, tiles, or shingles ~~{(measures for preventing damage to stacked glass sheets B65G 49/068)}~~
- U B65B 25/00** **Packaging other articles presenting special problems (bundling [B65B 27/00](#))**
- U B65B 25/02 · Packaging agricultural or horticultural products
- M B65B 25/04 · · Packaging fruit or vegetables ~~(bag or sack-filling devices associated with digging harvesters A01D 33/10)~~

- U B65B 25/16 · Packaging bread or like bakery products, e.g. unsliced loaves
- M B65B 25/18 · · ~~Sliced bread~~ *Wrapping sliced bread* (~~cutting or slicing machines specially adapted for bakeries A21C 15/04; breadslicing machines or apparatus B26D~~)
- M B65B 27/00 **Bundling particular articles presenting special problems using string, wire, or narrow tape or band; Baling fibrous material, e.g. peat, not otherwise provided for (~~bundling articles in general B65B 13/00~~)**
- M B65B 27/12 · Baling or bundling compressible fibrous material, e.g. peat (~~baling presses for straw, hay, or the like A01F 15/00; baling presses in general B30B 9/30~~)
- M B65B 31/00 **Packaging articles or materials under special atmospheric or gaseous conditions; Adding propellants to aerosol containers (~~auxiliary treatments during loading or unloading in a fluid medium other than air B65G 69/20~~)**
- M B65B 31/04 · Evacuating, pressurising, or gasifying filled containers or wrappers, ~~or containers or wrappers to be filled,~~ by means of nozzles through which air or other gas, e.g. an inert gas, is withdrawn or supplied (~~nozzles for introducing articles or materials into containers B65B 39/00~~)
- C B65B 33/00 **Packaging articles by applying removable, e.g. strippable, coatings (~~applying liquids or other fluent materials to surfaces in general B05; wrapping cores by winding B65H 81/00~~ *B65B 11/52 takes precedence*)**
- WARNING*
Group B65B 33/00 is impacted by reclassification into group B65B 11/52. Groups B65B 33/00 and B65B 11/52 should be considered in order to perform a complete search.
- M B65B 35/00 **Supplying, feeding, arranging, or orientating articles to be packaged (~~cigarettes B65B 19/04; bottles B65B 21/04; eggs B65B 23/06; biscuits B65B 23/12; {adjustable conveying means B65B 59/005} if not restricted to packaging machines B07C, B65G, B65H~~)**
- M B65B 35/10 · Feeding, e.g. conveying, single articles (~~orientating B65B 35/56~~)
- M B65B 35/30 · Arranging and feeding articles in groups (~~orientating B65B 35/56~~)
- U B65B 37/00 **Supplying or feeding fluent-solid, plastic, or liquid material, or loose masses of small articles, to be packaged (methods of, or means for, filling individual containers with such materials or articles [B65B 1/04](#), [B65B 3/04](#))**
- U B65B 37/16 · Separating measured quantities from supply (in container-filling machines [B65B 1/30](#), [B65B 3/26](#))
- M B65B 37/18 · · by weighing *{(in general G01G devices or methods for controlling the quantity of material or liquid fed or filled into a container by weighing [B65B 1/32](#), [B65B 3/28](#))}*
- M B65B 37/20 · · by volume measurement (~~in general G01F~~)
- M B65B 39/00 **Nozzles, funnels, or guides for introducing articles or materials into containers or wrappers (~~nozzles in general B05B; funnels in general B67C 11/00~~)**
- M B65B 41/00 **Supplying or feeding container-forming sheets or wrapping material (~~in general B65H~~)**
- U B65B 43/00 **Forming, feeding, opening or setting-up containers or receptacles in association with packaging (forming pockets in sheets, blanks or webs, by pressing the material into forming dies or moving it through folding dies [B65B 47/00](#))**
- U B65B 43/12 · Feeding flexible bags or carton blanks in flat or collapsed state; Feeding flat bags connected to form a series or chain

- M B65B 43/14
- • Feeding individual bags or carton blanks from piles or magazines ~~(({shopping bag dispensing systems A47F 9/042})~~
- U B65B 43/26
- Opening or distending bags; Opening, erecting, or setting-up boxes, cartons, or carton blanks
- M B65B 43/262
- • {opening of valve bags ~~(filling of valve bags B65B 1/18, B65B 3/17)}~~
- M B65B 45/00**
- Apparatus or devices for supporting or holding wrappers during wrapping operation ~~(filling nozzles, funnels, guides B65B 39/00)~~**
- U B65B 51/00**
- Devices for, or methods of, sealing or securing package folds or closures; Devices for gathering or twisting wrappers, or necks of bags**
- M B65B 51/02
- Applying adhesives or sealing liquids ~~(activating adhesives by applying heat or pressure B65B 51/10)~~
- U B65B 51/04
- Applying separate sealing or securing members, e.g. clips, (applying separate lids or covers [B65B 7/28](#))
- M B65B 51/06
- • Applying adhesive tape ~~(({adhesive tape dispensers B65H 35/0006})~~
- U B65B 51/10
- Applying or generating heat or pressure or combinations thereof {(welding of plastics per se [B29C 65/02](#); closing plastic tube ends in general [B29C 57/10](#))}
- U B65B 51/26
- • Devices specially adapted for producing transverse or longitudinal seams in webs or tubes
- M B65B 51/30
- • • Devices, e.g. jaws, for applying pressure and heat, e.g. for subdividing filled tubes ~~(for subdividing filled tubes involving displacement of contents B65B 9/12)~~
- M B65B 55/00**
- Preserving, protecting, or purifying packages or package contents in association with packaging (by packaging under special atmospheric or gaseous conditions [B65B 31/00](#); devices for placing protecting sheets, plugs, or wads over contents [B65B 61/22](#); ~~if not restricted to packaging A23L, A61L~~)**
- M B65B 57/00**
- Automatic control, checking, warning, or safety devices (registering wrapping or container-forming material fed from rolls [B65B 41/18](#); ~~accident prevention measures applicable for general use F16P; {factory control systems G05B 19/418; operation of audible or visible signals besides this application G08G}; photoelectric cells H01J, H01L; such devices in general see the relevant classes)~~**
- U B65B 59/00**
- Arrangements to enable machines to handle articles of different sizes, to produce packages of different sizes, to vary the contents of packages or to give access for cleaning or maintenance purposes**
- M B65B 59/02
- Arrangements to enable adjustments to be made while the machine is running ~~(weight or volumetric adjustment of material to be packaged B65B 1/30, B65B 3/26)~~
- M B65B 61/00**
- ~~Miscellaneous auxiliary devices~~ *Auxiliary devices, not otherwise provided for, for* operating on sheets, blanks, webs, binding material, containers; ~~or packages, and not otherwise provided for (operating on articles or materials to be packaged and not otherwise provided for B65B 63/00)~~**
- M B65B 61/20
- for adding cards, coupons; or other inserts to package contents ~~(, e.g. for adding or applying accessories or inserts to the inside or the outside of a container)~~(adding unpacking elements [B65B 61/18](#); labelling [B65C](#))
- M B65B 63/00**
- ~~Miscellaneous auxiliary devices~~ *Auxiliary devices, not otherwise provided for, for* operating on articles or materials to be packaged ~~and not otherwise provided for (operating on sheets, blanks, webs, binding material, or packages, and not otherwise provided for B65B 61/00)~~**

- M B65B 63/02
- for compressing or compacting articles or materials prior to wrapping or insertion in containers or receptacles (~~tableting or compressing of powders B30B-11/00~~)
- M B65B 63/04
- for folding or winding articles, e.g. gloves, ~~stockings~~ or stockings (~~B65B 63/024 takes precedence;~~ folding or winding webs or filamentary material in general B65H 45/00, B65H 54/00; folding textile articles in connection with laundering preparatory to packaging D06F 89/00)

Project: N/A (B65C)

B65C

LABELLING OR TAGGING MACHINES, APPARATUS, OR PROCESSES (nailing or stapling in general B25C, B27F; applying labels for packaging purposes B65B; labels, name-plates G09F)((series-printing machines B41L; containers for the storage or transport of packages B65D))

NOTE

In this subclass, the following term is used with the meaning indicated:

- "labels" covers also decalcomanias, stamps or the like

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0250 (B65D)

M B65D

CONTAINERS FOR STORAGE OR TRANSPORT OF ARTICLES OR MATERIALS, e.g. BAGS, BARRELS, BOTTLES, BOXES, CANS, CARTONS, CRATES, DRUMS, JARS, TANKS, HOPPERS, FORWARDING CONTAINERS; ACCESSORIES, CLOSURES, OR FITTINGS THEREFOR; PACKAGING ELEMENTS; PACKAGES

NOTES

1. In this subclass, the indexing codes of [B65D 2519/00004](#) - [B65D 2519/00995](#) should be added, if applicable
2. This subclass covers:
 - containers, packaging elements or packages with auxilliary means or provisions for displaying articles or materials;
 - methods of packaging which are wholly characterised by the form of the package produced or the form of the container or packaging element used, as distinct from the operations performed or the apparatus employed, which are covered by subclass [B65B](#)
3. This subclass, which is intended to be as comprehensive as possible, only excludes containers or packages of a nature clearly confined to a single other subclass, which are classified in that subclass
4. In this subclass, groups [B65D 5/00](#), [B65D 27/00](#), [B65D 29/00](#), [B65D 31/00](#) or [B65D 65/00](#) include constructional features of foldable or erectable container or wrapper blanks as well as the containers or wrappers formed by folding or erecting such blanks
5. Containers, packaging elements or packages classified in group [B65D 85/00](#), are also classified according to the constructional or functional features, if such features are of interest
6. In this subclass, the following terms or expressions are used with the meanings indicated:
 - "rigid or semi-rigid containers" includes:
 - a. containers not deformed by, or not taking-up the shape of, their contents;
 - b. containers adapted to be temporarily deformed to expel their contents;

- c. pallets;
- d. trays;
- "flexible containers" includes:
 - a. containers deformed by, or taking-up the shape of, their contents;
 - b. containers adapted to be permanently deformed to expel their contents;
- "packaging elements" includes:
 - a. elements, other than containers, for covering, protecting, stiffening, or holding together articles or materials to be stored or transported;
 - b. packaging materials of special type or form not provided for in other subclasses;
- "packages" includes:
 - a. combination of containers or packaging elements with articles or materials to be stored or transported;
 - b. articles joined together for convenience of storage or transport;
- "paper" includes materials, e.g. cardboard, plastic sheet materials, laminated materials, or metal foils, worked in a manner analogous to paper;
- "large containers", in groups [B65D 88/00](#) or [B65D 90/00](#), means containers having about the size of containers used in container traffic, sometimes referred to as freight, forwarding or "ISO" (International Standardization) containers, or larger containers

7. Tamper-indicating means for containers or closures are classified in the group appropriate to the type of container or closure, e.g. [B65D 5/54](#), [B65D 17/00](#), [B65D 27/30](#), [B65D 27/30](#), [B65D 27/34](#), [B65D 33/34](#), [B65D 41/32](#), [B65D 47/36](#), [B65D 49/12](#), [B65D 51/20](#), [B65D 55/06](#)

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

B65D 5/34	covered by	B65D 5/325
B65D 5/35	covered by	B65D 5/32
B65D 5/355	covered by	B65D 5/0005
B65D 5/43	covered by	B65D 5/42
B65D 5/462	covered by	B65D 5/46008 - B65D 5/46032
B65D 5/465	covered by	B65D 5/46008 - B65D 5/46032
B65D 5/468	covered by	B65D 5/4608
B65D 5/472	covered by	B65D 5/46048
B65D 5/475	covered by	B65D 5/46008
B65D 5/478	covered by	B65D 5/46056
B65D 5/4805 - B65D 5/489	covered by	B65D 5/48002
B65D 5/49 - B65D 5/499	covered by	B65D 5/48024
B65D 5/63	covered by	B65D 5/72
B65D 6/00 - B65D 6/40	covered by	B65D 7/00 , B65D 9/00 , B65D 11/00 , B65D 15/00
B65D 8/00 - B65D 8/22	covered by	B65D 7/00 , B65D 9/00 , B65D 11/00 , B65D 15/00
B65D 19/22	covered by	B65D 19/0004 & subgroups
B65D 19/24	covered by	B65D 19/0004 & subgroups
B65D 19/26	covered by	B65D 19/0004 & subgroups
B65D 19/28	covered by	B65D 19/0004 & subgroups
B65D 19/30	covered by	B65D 19/0004 & subgroups
B65D 19/31	covered by	B65D 19/0004 & subgroups

B65D 19/34	covered by	B65D 19/0004 & subgroups
B65D 19/32	covered by	B65D 19/0002 , B65D 19/0004
B65D 21/024	covered by	B65D 21/0201
B65D 21/028	covered by	B65D 21/0204
B65D 21/032	covered by	B65D 21/0211
B65D 21/036	covered by	B65D 21/0217
B65D 25/26	covered by	B65D 81/02
B65D 30/00 - B65D 30/28	covered by	B65D 29/00 , B65D 31/00
B65D 33/17	covered by	B65D 33/1633
B65D 33/36	covered by	B65D 75/58
B65D 33/38	covered by	B65D 75/5861
B65D 35/48 - B65D 35/54	covered by	B65D 47/2018
B65D 39/18	covered by	B65D 39/00 +s.gr.
B65D 41/01	covered by	B65D 41/00
B65D 43/03	covered by	B65D 43/00 + B65D 2543/00027
B65D 43/04	covered by	
B65D 43/10	covered by	
B65D 47/22	covered by	B65D 47/20
B65D 47/34	covered by	B05B 11/00
B65D 50/06	covered by	B65D 55/02
B65D 50/08	covered by	B65D 55/02
B65D 50/10	covered by	B65D 55/02
B65D 50/12	covered by	B65D 55/02
B65D 50/14	covered by	B65D 55/02
B65D 65/26 - B65D 65/32	covered by	B65D 75/58
B65D 65/34	covered by	B65D 75/66
B65D 65/36	covered by	B65D 75/58
B65D 71/52 - B65D 71/68	covered by	B65D 71/0003 - B65D 71/0077
B65D 75/60 - B65D 75/64	covered by	B65D 75/58
B65D 81/15	covered by	B65D 81/05
B65D 81/17	covered by	B65D 81/02
B65D 83/18 - B65D 83/74	covered by	B65D 83/14 , B65D 83/16
B65D 83/18	covered by	B65D 83/201
B65D 83/58	covered by	B65D 83/44
B65D 83/76	covered by	B65D 83/0005
B65D 85/57	covered by	G11B 23/00
B65D 85/575	covered by	G11B 23/00
B65D 85/86 - B65D 85/90	covered by	H01L 21/00 , H05K 13/00
B65D91/00	covered by	A47G 29/12

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

U B65D 83/00

Containers or packages with special means for dispensing contents (dispensing means incorporated in removable or non-permanently secured container closures [B65D 47/00](#); for shops, stores, offices, bars, or the like [A47F 1/04](#); showcases or show cabinets with dispensing arrangements [A47F 3/02](#); magazines for screws or nuts in combination with spanners, wrenches or screwdrivers [B25B 23/06](#); for use in connection with the handling of sheets, webs, or filamentary material [B65H](#))

- M B65D 83/14
 - for delivery of liquid or semi-liquid contents by internal gaseous pressure, i.e. aerosol containers comprising propellant {for a product delivered by a propellant ~~(spraying devices for the destruction of noxious animals or plants A01M 7/00, for therapeutic purposes A61M 11/00; vessels for containing or storing compressed, liquefied, or solidified gases F17C)~~}
- M B65D 83/16
 - • characterised by the actuating means ~~{{actuation occurring by moving the aerosol container relative to an outer shell B65D 83/386; involved in metering valve assemblies B65D 83/546}}~~
- M B65D 83/22
 - • with *{a mechanical}*; means to disable actuation ([B65D 50/00](#) takes precedence)
- M B65D 83/42
 - • Filling or charging means ~~{{filling liquids into containers B65B 3/12; adding propellants to aerosol containers B65B 31/003}}~~
- U B65D 83/44
 - • Valves specially adapted therefor; Regulating devices (filling or discharging means [B65D 83/42](#); {pressure regulators releasing propellant inside the container [B65D 83/663](#);} pressure relief devices [B65D 83/70](#))
- M B65D 83/48
 - • • Lift valves, e.g. operated by push action ([B65D 83/50](#) takes precedence ~~}; adapted for metering and for continuous delivery B65D 83/543}~~)
- M B65D 83/60
 - • Contents and propellant separated ~~{{portable fire extinguishers wherein extinguishing material and pressure gas are stored in separate containers A62C 13/66}}~~

Project: RP0166 (B65D)

- U B65D 83/64
 - • • by piston
- B65D 83/646
 - • • • {the piston being provided with a dispensing opening through which the contents are dispensed (containers with such a dispensing piston, adapted for hand-held, manually operated spray apparatus ~~B05B 11/0051~~ *B05B 11/00418*, in general [B65D 83/0044](#))}

Project: MP0250 (B65D)

- M B65D 83/66
 - • • first separated, but finally mixed {, e.g. in a dispensing head ~~(mixing in general B01F)~~}

Project: N/A (B65F)

B65F

GATHERING OR REMOVAL OF DOMESTIC OR LIKE REFUSE (disinfecting refuse [A61L](#); refuse disintegrators [B02C](#); sorting refuse [B03B](#); [B07B](#); handcarts for transporting refuse receptacles [B62B](#); sack holders [B65B 67/00](#); converting refuse into fertilisers [C05F](#); converting refuse into solid fuels [C10L](#); sewers, cesspools [E03F](#); arrangements in buildings for the disposal of refuse [E04F 17/10](#); refuse-consuming furnaces [F23G](#); {for surgical articles [A61B 50/36](#)})

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0363 (B65G)

M B65G

~~TRANSPORT OR STORAGE DEVICES, e.g. CONVEYORS FOR LOADING OR TIPPING; SHOP CONVEYOR SYSTEMS; TRANSPORT OR STORAGE DEVICES, e.g. CONVEYORS FOR LOADING OR TIPPING, SHOP CONVEYOR SYSTEMS OR PNEUMATIC TUBE CONVEYORS~~ (~~{preventing fire in special objects or places A62C 3/00}~~); ~~transport or storage devices used in a particular handling or treatment of articles or materials, see the relevant subclass, e.g. in metal-working B21D 43/00, B23Q 7/00, B23Q 41/02; vehicle, railway, sea or aircraft aspects B60 - B64; in packaging B65B; handling thin or filamentary materials, e.g. paper sheets or thread, B65H; hoisting, lifting, hauling, e.g. truck loaders B66; cranes B66C; handling liquids B67; portable mobile or lifting or hauling appliances, e.g. hoists, B66D; {transport or storage containers for preparing or distributing road building materials E01C; devices for lifting or lowering goods for loading or unloading purposes, e.g. fork-lift trucks, B66F 9/00; construction or assembling of bulk storage containers employing civil engineering techniques in site or off the site E04H 7/00}; emptying bottles, jars, casks, barrels or similar containers, not otherwise provided for, B67C 9/00; specially adapted to underground conditions in mines E21F 13/00; delivering or transferring liquids B67D; storing or distributing gases or liquids F17; filling or discharging vessels for liquefied, solidified or compressed gases F17C; in handling radioactive materials G21C 19/00; pipe-line systems for fluids F17D)~~

NOTE

This subclass does not cover road or railway vehicles, waterborne vessels or aircraft per se, or their adaptation for transport purposes. This subject matter is covered by classes B60 - B64, for example in the following places:

- *vehicles adapted for load transportation B60P;*
- *railway wagons adapted for load transportation B61D;*
- *hand carts B62B;*
- *superstructures for load-carrying vehicles B62D 33/00;*
- *loading or load-accommodating arrangements on ships or vessels B63B 25/00, B63B 27/00;*
- *equipment for handling freight in aircraft B64D 9/00*

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

B65G33/28	covered by	B65G 33/265
B65G 47/10	covered by	B65G 1/1373
B65G 47/86	covered by	B65G 47/842 , B65G 47/847
B65G 49/07	covered by	H01L 21/677
B65G 69/32	covered by	B65G 69/28
B65G 69/34	covered by	B65G 69/28

2. *In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.*

M B65G 1/00

Storing articles, individually or in orderly arrangement, in warehouses or magazines (conveyor combinations in warehouses, magazines, or workshops [B65G 37/00](#); stacking of articles [B65G 57/00](#); removing articles from stacks [B65G 59/00](#); loading machines [B65G 65/02](#); ~~arrangements of articles for drying or baking in kilns or ovens F26; F27)~~

NOTE

group [B65G-1/0442](#) takes precedence over the other groups, except over [B65G-1/08](#)

- M B65G 1/02 · Storage devices (furniture, ~~shop fittings, table equipment~~ [A47B](#), [A47F](#), [A47G](#); mechanical garages [E04H](#); *shop fittings* [A47F](#); for data record cards in association with machines for making or sensing data [G06K](#); coin changers or sorters [G07D](#); coin-freed apparatus [G07F](#) (~~pallets~~ [B65D 19/00](#)))
- U B65G 1/04 · · mechanical
- M B65G 1/137 · · · with arrangements or automatic control means for selecting which articles are to be removed (~~devices for feeding articles to conveyors from several groups of articles~~ [B65G 47/04](#))
- M B65G 3/00** Storing bulk material or loose, i.e. disorderly, articles (filling or emptying storage spaces or containers, spreading ~~out~~ or piling ~~up~~ bulk material or loose articles [B65G 65/28](#), [B65G 65/30](#), [B65G 69/04](#) ~~{[B65G 63/00](#); storing agricultural or horticultural produce [A01F 25/00](#)}~~)
- M B65G 5/00** Storing fluids in natural or artificial cavities or chambers in the earth (~~modification of mine passages or chambers for storage purposes, especially for fluids~~ [E21F 17/16](#))
- NOTE**
When the cavity or chamber is lined documents are classified in [F17C 3/005](#)
- M B65G 7/00 Devices for *assisting manual* moving or tilting heavy loads (*roller-ways* [B65G 13/00](#); for tilting and emptying barrels or casks [B65G 65/24](#))
- M B65G 7/02 · Devices adapted to be interposed between loads and the ground or floor, e.g. crowbars with means for assisting conveyance of loads (~~crowbars per se~~ [B66F 15/00](#))
- M B65G 9/00 Apparatus *for assisting manual handling* having suspended load ~~carriers~~ movable by hand or gravity (~~manually-operated endless-rope or chain conveyors~~ [B65G 17/00](#); railway systems [B61B](#))
- M B65G 11/00 Chutes (used as storage devices [B65G 1/02](#), [B65D 88/26](#); for sports, games, or amusements [A63G 21/00](#); for refuse disposal in buildings [E04F 17/12](#))
- M B65G 13/00 Roller-ways (storage devices comprising roller-ways [B65G 1/02](#); endless-chain conveyors comprising load-supporting rollers [B65G 17/00](#); rollers; or arrangements thereof [B65G 39/00](#); ~~feeding or discharging conveyors by devices incorporated in, or operatively associated with, conveyors~~ [B65G 47/00](#), ~~{e.g. by roller-ways as accumulating devices [B65G 47/261](#);} in metal-rolling equipment [B21B 39/00](#), [B21B 41/00](#))~~
- U B65G 15/00 Conveyors having endless load-conveying surfaces, i.e. belts and like continuous members, to which tractive effort is transmitted by means other than endless driving elements of similar configuration (having load-conveying surfaces formed by interconnected longitudinal links [B65G 17/06](#))
- U B65G 15/10 · comprising two or more co-operating endless surfaces with parallel longitudinal axes, or a multiplicity of parallel elements, e.g. ropes defining an endless surface
- U B65G 15/12 · · with two or more endless belts
- M B65G 15/18 · · · the belts being sealed at their edges (~~endless-surface conveyors having a single belt with sealed edges~~ [B65G 15/08](#))
- M B65G 15/20 · · · arranged side ~~by~~ side, e.g. for conveyance of flat articles in vertical position (~~for conveying sheets or like thin flat articles~~ [B65H](#))
- M B65G 15/30 · Belts or like endless load-carriers (co-operating with rails or the like [B65G 21/22](#); with rollers [B65G 39/20](#); *{co-operating} with rollers* [B65G 39/20](#); belts in general [F16G](#) (~~belt fastenings~~ [F16G 3/00](#)))

- M B65G 15/60 · Arrangements for supporting or guiding belts, e.g. by fluid jets ~~(constructions of rollers or supports therefor B65G 39/00 {F16C 13/00})~~
- M B65G 17/00 **Conveyors having an endless traction element, e.g. a chain, transmitting movement to a continuous or substantially continuous load-carrying surface or to a series of individual load-carriers; Endless-chain conveyors in which the chains form the load-carrying surface ~~(railway systems, detachable load-carriers on rails B61B; escalators or paternosters neither combined nor associated with loading or unloading apparatus B66B 9/00)~~**
- U B65G 17/30 · Details; Auxiliary devices (belts [B65G 15/30](#); framework [B65G 21/00](#))
- M B65G 17/32 · Individual load-carriers ~~(control B65G 17/48)~~
- M B65G 17/38 · Chains or like traction elements ([chains in general F16G drive chains F16G 13/00](#)); Connections between traction elements and load-carriers
- M B65G 21/00 **Supporting or protective framework or housings for endless load-carriers or traction elements of belt or chain conveyors ~~(for load-carriers in jiggling conveyors B65G 27/08) ; supporting framework or bases for conveyors as a whole B65G 41/00)~~**
- M B65G 21/20 · Means incorporated in, or attached to, framework or housings for guiding ~~(for retaining)~~ load-carriers, traction elements or loads supported on moving surfaces (arrangements for supporting belts [B65G 15/60](#); ~~{details of chain conveyors B65G 17/30; rollers or roller arrangements B65G 39/00;}~~ rollers or roller arrangements [B65G 39/00](#); [F16G](#))
- M B65G 23/00 **Driving gear for endless conveyors ~~(control devices (for conveyors in general B65G 43/00)); Belt or chain-tensioning arrangements~~**
- M B65G 27/00 **Jiggling conveyors ~~(jigs for wet separation B03B; generating or transmitting mechanical vibrations B06; jiggers for screening, sifting or sorting B07B 1/28)~~**
- M B65G 27/02 · comprising helical or spiral channels or conduits for elevation of materials ~~(helical or spiral chutes in general B65G 11/06; {use of such conveyors for arranging or orientating articles during feeding B65G 47/1421})~~
- M B65G 29/00 **Rotary conveyors, e.g. rotating discs, arms, [starwheels, star-wheels or cones](#) (mechanical projectors [B65G 31/00](#); screw or rotary spiral conveyors [B65G 33/00](#); ~~{turntables as feeding, transfer or discharging devices B65G 47/80; starwheels as feeding, transfer or discharging devices B65G 47/84}~~)**
- M B65G 29/02 · for inclined or vertical transit ~~(B65G 15/00; B65G 17/00 take precedence)~~
- M B65G 31/00 **Mechanical [projectors throwing machines](#) for articles or solid materials ~~(distributors for fertilisers A01C; moulding machines B22C; sandblasting devices B24C; projectors for applying plaster to buildings E04F 21/00)~~**
- M B65G 33/00 **Screw or rotary spiral conveyors ~~(screws for extruding, compressing, kneading, mixing, pumping or other special operations, see the relevant classes)~~**
- U B65G 33/24 · Details
- M B65G 33/26 · Screws ~~(as gearing elements F16H 25/20)~~
- M B65G 35/00 **~~Kinds of mechanical~~ [Mechanical](#) conveyors not otherwise provided for ~~(railway systems B61B)~~**
- M B65G 35/06 · comprising a load-carrier moving along a path, e.g. a closed path, and adapted to be engaged by any one of a series of traction elements spaced along the path ~~(effecting drive at two or more points spaced along the length of an endless conveyor B65G 23/32)~~

- M B65G 37/00** Combinations of mechanical conveyors of the same kind, or of different kinds, of interest apart from their application in particular machines or use in particular manufacturing processes (~~in "live" storage devices B65G 1/04;~~ series of co-operating belt conveyor units [B65G 15/22](#); series of co-operating chain conveyor units [B65G 17/26](#); sequence control of combined conveyors [B65G 43/10](#)); ~~specially adapted for handling radioactive materials G21)~~
- M B65G 39/00** Rollers, e.g. drive rollers, or arrangements thereof incorporated in roller-ways or other types of mechanical conveyors (driving gear for rollers of roller-ways [B65G 13/06](#); ~~drive rollers of endless conveyors B65G 23/04; arrangement of rollers in metal-rolling equipment B21B 39/10; friction members F16H 55/32)~~
- U B65G 39/02 · Adaptations of individual rollers and supports therefor
- M B65G 39/08 · · the rollers being magnetic (~~in magnetic belt separators B03C 1/00)~~
- U B65G 39/10 · Arrangements of rollers (on a single axle [B65G 39/04](#))
- U B65G 39/12 · · mounted on framework
- M B65G 39/16 · · · for aligning belts or chains (~~for aligning tapes or webs B65H)~~
- M B65G 39/20 · · attached to moving belts or chains (~~belts B65G 15/30; chains B65G 17/38)~~
- M B65G 43/00** Control **devices**, e.g. **for safety, warning, or fault-correcting, devices (for elevators, escalators or moving walkways B66B; in general F16P, G08B)**
- NOTE
in this group the following indexing codes are used:
[B65G 2811/0673](#)
[B65G 2812/02099](#) - [B65G 2812/02108](#)
- M B65G 47/00** **Article or material-handling devices associated with conveyors; Methods employing such devices (for sorting, e.g. postal B07C)**
- U B65G 47/02 · Devices for feeding articles or materials to conveyors
- U B65G 47/04 · · for feeding articles
- M B65G 47/06 · · · from a single group of articles arranged in orderly pattern, e.g. workpieces in magazines (de-stacking devices [B65G 59/00](#); ~~picking-up flat workpieces B65H)~~
- M B65G 47/08 · · · spacing or grouping the articles during feeding (during transit by ~~conveyors conveyor B65G 47/26~~ [B65G 47/28](#))
- U B65G 47/16 · · for feeding materials in bulk
- U B65G 47/18 · · · Arrangements or applications of hoppers or chutes
- M B65G 47/19 · · · having means for controlling material flow, e.g. to prevent overloading (~~controlling feed or discharge by weighing a continuous stream of material G01G 11/08)~~
- U B65G 47/22 · Devices influencing the relative position or the attitude of articles during transit by conveyors (during feeding [B65G 47/14](#))
- M B65G 47/26 · · arranging the articles, e.g. varying spacing between individual articles (~~stacking or destacking (during transit B65G 57/32, B65G 59/12)~~)
- M B65G 47/28 · · · during transit by a single conveyor (~~(B65G 47/261 takes precedence)~~)
- M B65G 47/30 · · · during transit by a series of conveyors (~~(B65G 47/261 takes precedence)~~)
- M B65G 47/34 · Devices for discharging articles or materials from ~~conveyors conveyor (B65G 47/256 takes precedence; sorting in general B07)~~

- M B65G 47/46
- ~~and distributing~~ *with distribution*, e.g. automatically, to desired points (~~{pivotal chutes B65G 11/12};~~ in tube mail systems [B65G 51/36](#); ~~postal or like sorting B07C;~~ in railway operations B61L; ~~handling sheets or thin flat articles B65H~~)
- M B65G 47/48
- • according to bodily destination marks on either articles or load ~~carrier~~ *carriers* (~~marking data records G06K~~)
- M B65G 47/51
- • according to unprogrammed signals, e.g. influenced by supply situation at destination (~~volume, flow or liquid level meters G01F; scales or weighing machines G01G; remote controls G05G~~)
- M B65G 47/52
- Devices for transferring articles or materials between conveyors ~~{or sections of one conveyor}~~; i.e. discharging *and/or* feeding devices (loading or unloading by means not incorporated in, or not operatively associated with, conveyors [B65G 65/00](#); transfer of workpieces during metal rolling [B21B 41/00](#))
- M B65G 49/00**
- Conveying systems characterised by their application for specified purposes not otherwise provided for (~~for conveying sheet material B65H~~)**
- U B65G 49/05
- for fragile or damageable materials or articles
- M B65G 49/06
- for fragile sheets, e.g. glass (~~transporting of glass products during their manufacture C03B 35/00~~)
- NOTE**
- In group [B65G 49/06](#) and subgroups it is desirable to add indexing codes for specific aspects of conveying systems. The indexing codes are chosen from groups [B65G 2249/00](#) - [B65G 2249/045](#)
- M B65G 49/08
- for ceramic mouldings (~~charging, discharging, manipulation with charge in kilns F27D 3/00~~)
- M B65G 51/00**
- Conveying articles through pipes or tubes by fluid flow or pressure (~~pneumatic railways B61B~~); Conveying articles over a flat surface, e.g. the base of a trough, by jets located in the surface (~~pumps F04; fluid dynamics F15D; valves, taps, cocks F16K; pipes, pipe joints, or associated devices F16L~~)**
- U B65G 51/04
- Conveying the articles in carriers having a cross-section approximating that of the pipe or tube; Tube mail systems
- M B65G 51/08
- Controlling or conditioning the operating medium (~~in compressors F04B; air-conditioning, e.g. de-watering, in pneumatic systems F16L 55/10~~)
- M B65G 53/00**
- Conveying materials in bulk through troughs, pipes, or tubes by floating the materials, or by *flows/flow* of gas, liquid, or foam (~~fluidising in connection with loading or unloading B65G 69/06; loaders for hay or cereals A01D 87/00; {discharging means for mixtures containing clay or cementitious material B28C 7/16;} fluidising devices facilitating filling or emptying of large containers B65D 88/72; {combined washing or cutting and conveyance of materials in sugar manufacture A23N; C13B;} dredging E02F; winning materials out of alluvial deposits E21C 45/00; hydraulic or pneumatic mine-filling-up machines E21F 15/00; fluid dynamics F15D {pumping fluid by direct action of another fluid F04F}~~)**
- M B65G 53/02
- Floating material troughs (~~air slides B65G 53/04~~)
- U B65G 53/34
- Details
- U B65G 53/40
- Feeding or discharging devices
- M B65G 53/42
- • Nozzles (~~in general B05B~~)
- M B65G 57/00**
- Stacking of articles ([B65G 60/00](#) takes precedence; ~~stacking of jumbo rolls B41F; stackable containers B65D; feeding, piling, or stacking sheets B65H; stacked delivery of machined products, see the relevant classes for the machines~~)**

- U B65G 57/02 · by adding to the top of the stack
- U B65G 57/11 · · the articles being stacked by direct action of the feeding conveyor
- M B65G 57/14 · · · the articles being transferred from carriers moving in an endless path adjacent to the stacks ~~(conveyor constructions B65G 15/00 - B65G 35/00; combinations of conveyors B65G 37/00)~~
- M B65G 61/00 Use of pick-up or transfer devices or of manipulators for stacking or de-stacking articles not otherwise provided for ~~(manipulators B25J)~~**
- M B65G 63/00 Transferring or trans-shipping at storage areas, railway yards, ~~or~~ harbours, {or in opening mining cuts}; Marshalling yard installations ~~(transferring refuse between vehicles or containers B65F 9/00; dredging, soil shifting E02F; conveyors used in co-operation with coal or like winning apparatus E21C 47/00)~~**
- M B65G 63/04 · with essentially ~~-~~horizontal transit by bridges equipped with conveyors ~~{(cranes B66C)}~~
- M B65G 63/06 · with essentially ~~-~~vertical transit ~~(hoppers B65D 88/26)~~
- U B65G 65/00 Loading or unloading (of vehicles B65G 67/00)**
- U B65G 65/30 · Methods or devices for filling or emptying bunkers, hoppers, tanks, or like containers, of interest apart from their use in particular chemical or physical processes or their application in particular machines, e.g. not covered by a single other subclass (devices for tilting and emptying containers [B65G 65/23](#); such containers having means facilitating filling or emptying [B65D 88/54](#))
- NOTE**
- Methods or devices for filling bunkers, hoppers, or containers are only classified in group [B65G 65/30](#) if they are of general application apart from their use in particular processes or their application in particular machines or if they are not covered by a single other subclass
- M B65G 65/32 · · Filling devices ~~(pneumatic conveyors B65G 51/00, B65G 53/00)~~
- M B65G 65/34 · · Emptying devices (conveyor ~~constructions~~[construction B65G 15/00](#) - [B65G 35/00](#); devices similar to vehicle tipplers [B65G 67/48](#))
- M B65G 67/00 Loading or unloading vehicles (by means incorporated in the vehicles [B60 - B64](#), e.g., [B60P 1/00](#), [B61D 9/00](#), [B63B 27/00](#), [B64D 9/00](#); ground or aircraft-carrier-deck installations [B64F for aircraft B64F 1/32](#); ~~transferring refuse between vehicles or containers B65F 9/00~~)**
- U B65G 67/02 · Loading or unloading land vehicles
- U B65G 67/04 · · Loading land vehicles {(loading or unloading boats to or from land vehicles [B60P 3/10](#))}
- M B65G 67/18 · · · Refuelling locomotives with solid fuels ~~(servicing locomotives B61K 11/02)~~
- U B65G 67/24 · · Unloading land vehicles
- U B65G 67/32 · · · using fixed tipping installations
- M B65G 67/34 · · · · Apparatus for tipping wagons or mine cars (inverting wagons [B65G 67/48](#); ~~platform-lifts with tiltable platforms B66F 7/22~~)
- M B65G 67/48 · · · · Vehicle tipplers ~~(devices for washing or cleaning railroad vehicles B60S)~~
- M B65G 67/60 · Loading or unloading ships (~~B65G 67/02 takes precedence~~; arrangement of ship-based loading or unloading equipment for cargo or passengers [B63B 27/00](#))
- M B65G 67/62 · · using devices influenced by the tide or by the movements of the ship, e.g. devices on pontoons ~~(horizontal loading or unloading platforms B65G 69/22; loading ramps B65G 69/28)~~

- M B65G 69/00 Auxiliary measures taken, or devices used, in connection with loading or unloading (~~in vehicles, see the relevant subclasses; by means incorporated in, or operatively associated with, conveyors B65G 47/00; preventing, minimising, or fighting fire A62CA62C 3/00; in vehicles, see the relevant subclasses, e.g., B60P 1/58, B61D 7/32, B62D 33/00, B63B 25/00, B64D 9/00~~)
- M B65G 69/08 · Devices for emptying storage spaces as completely as possible (devices preventing the formation of bridges *in large containers* B65D 88/64)
- M B65G 69/10 · Obtaining an average product from stored bulk material (~~for measuring or testing G01~~)
- M B65G 69/22 · Horizontal loading or unloading platforms (~~pile tables B65H; as road or railway equipment E01F 1/00 as road or railway equipment B61B 1/00, E01F 1/00~~)
- M B65G 69/28 · *Loading ramps*; Loading ~~ramps docks (as road or railway equipment E01F 1/00 as road or railway equipment B61B 1/00, E01F 1/00)~~

Project: N/A (B65H)

B65H

HANDLING THIN OR FILAMENTARY MATERIAL, e.g. SHEETS, WEBS, CABLES

NOTES

1. This subclass does not cover methods or devices intimately associated with other operations on thin or filamentary material, e.g. sheets, webs, cables or means for performing such operations, which are classified in the relevant subclasses for these operations, e.g.:

[B07C](#)

Postal sorting, similar sorting of documents, e.g. cheques

[B08B 1/02](#)

Cleaning travelling work, e.g. webs, by methods involving the use of tools, brushes or like members

[B21B 41/00](#)

Metal rolling involving guiding, conveying or accumulating easily-flexible work, e.g. wire, sheet metal bands, in loops or curves

[B21C 47/00](#)

, Winding-up, coiling, winding-off or temporarily

[B21C 49/00](#)

accumulating metal wire, metal band or other flexible metal material, characterised by features relevant to metal processing only, other than by rolling

[B21D 43/00](#)

Feeding, positioning or storing devices, combined with, or arranged in, or specially adapted for use in connection with, apparatus for working or processing sheet metal without essentially removing material

[B23K 9/12](#)

Means for automatic feeding of electrodes for spot or seam welding or cutting

[B29C 31/00](#)

Handling for shaping or joining of plastics, for shaping of substances in a plastic state in general or for after-treatment of shaped products, e.g. feeding the material to be shaped

[B41B 15/32](#)

, Film-handling mechanisms in photographic

[B41B 21/32](#)

composing machines

[B41F 13/02](#)

Conveying or guiding webs through rotary printing presses or machines

[B41J 11/00](#)

to Handling of copy- or impression-transfer material

[B41J 17/00](#)

in typewriters or selective printing mechanisms

[B41K 3/44](#)

Means for handling copy matter in stamping or numbering apparatus or devices

B41L	Handling sheets or webs in apparatus or devices for manifolding, duplicating or printing for office or other commercial purposes, or on addressing machines or like series-printing machines
B42B	Handling relating to permanently attaching together sheets, quires, or signatures
B42C	Handling sheets in book-binding
B65B	Handling of sheets or webs in apparatus for, or methods of, packaging articles, not of interest apart from their application in packaging machines
B65C	Handling of labels in labelling or tagging apparatus
C14B 1/62	Winding or stacking hides or leather in machines or devices for manufacturing leather
D01- D07	Spinning, weaving, braiding, lace-making, knitting, sewing, making ropes or cables
D21F 2/00	Transferring webs from wet ends to press sections in paper-making
F26B 13/00	Handling fabrics, fibres, yarns or other material in long lengths in drying apparatus
G03B	Film-strip handling or handling of pictures in apparatus for taking photographs or for projecting or viewing them
G06K 13/00	Conveying record carriers from one station to another
G06M 7/00	Counting of flat articles, e.g. sheets, carried by a conveyor
G11B 15/00	to Information storage based on relative movement
G11B 19/00	, between record carrier and transducer,
G11B 23/00	, involving handling record carriers for
G11B 25/00	recording or reproducing
H01F 41/06	Manufacturing coils for magnets, inductances, transformers, by winding
H01G 13/02	Machines for winding capacitors
H04N 1/00	Sheet handling not of interest apart from its use in systems for transmission or reproduction of pictures or patterns not varying in time, e.g. facsimile transmission

2. In this subclass:

- the groups relating to thin material, as defined under (i) of Note (3) below, are primarily intended to cover the handling of articles made of paper or cardboard, but also include the handling of articles made of other materials which have similar characteristics or present similar handling problems, e.g. articles made of sheet- plastics or leather;
- the groups relating to filamentary material (groups [B65H 49/00](#) onwards,) as defined in Note (3) below, cover only methods or devices of general application or interest.

3. In this subclass, the following terms or expressions are used with the meanings indicated:

- "handling" includes feeding, folding (other than in the manufacture of products), guiding, orientating, storing, unwinding, and winding;
- "thin material" includes:
 - i. sheets, signatures, envelopes, blanks, and thin and thin piles thereof (hereinafter referred to as "articles"), and
 - ii. webs, tapes, and films, e.g. of paper, fabric, metal foil, or plastics;
- "filamentary material" includes thread, wires, ropes, cables, and hoses;
- "package" means a mass of filamentary material, formed by coiling, depositing, or winding, with or without a supporting core or former or an enclosing container or receptacle.

- {"yarn" also covers similar filamentary materials.}

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

B65H 19/16	covered by	
B65H 35/07	covered by	B65H 35/0006
B65H 77/00	covered by	B65H 23/00 , B65H 59/00
B65H 83/00 , B65H 83/02	covered by	B07C 1/025 , G07D 11/00 and s.gr
B65H 85/00	covered by	G03B 27/62 , G03B 27/6264 , G03B 27/6257

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B66B)

B66B

ELEVATORS; ESCALATORS OR MOVING WALKWAYS ({apparatus for raising or lowering persons on theatrical stages or the like [A63J 5/12](#)}; funicular railbound systems with rigid ground-supported tracks and cable traction, e.g. cliff railways, [B61B 9/00](#); arrangements of ammunition handlers in vessels [B63G 3/00](#); hoists, lifts, or conveyors for loading or unloading in general [B65G](#); braking or detent devices controlling normal movements of winding drums or barrels [B66D](#); ship-lifting devices [E02C](#); garages for many vehicles with mechanical means for lifting vehicles [E04H 6/12](#); hoists for feeding ammunition or projectiles to launching apparatus or to loading mechanisms [F41A 9/00](#))

NOTE

In this subclass, the following term is used with the meaning indicated:

- "elevator" covers the term "lift", and the two terms are interchangeable

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0141 (B66B)

U	B66B 1/00	Control systems of elevators in general (safety devices B66B 5/00; controlling door or gate operation B66B 13/00; systems of general application G05)
U	B66B 1/24	• Control systems with regulation, i.e. with retroactive action, for influencing travelling speed, acceleration, or deceleration
U	B66B 1/2408	• {where the allocation of a call to an elevator car is of importance, i.e. by means of a supervisory or group controller}
U	B66B 1/2416	• • {For single car elevator systems}
D	B66B 2001/2425	• • • {Zone definition for two cars in the same hatchway} <administratively transferred to B66B 1/2416 >
U	B66B 1/2433	• • • {For elevator systems with a single shaft and multiple cars}
D	B66B 2001/2441	• • • • {with the use of a speed pattern generator} <administratively transferred to B66B 1/2433 >
D	B66B 2001/245	• • • • {for high-speed elevators which do not attain the maximum speed during shorts runs} <administratively transferred to B66B 1/2433 >
U	B66B 1/2466	• • • {For elevator systems with multiple shafts and multiple cars per shaft}

- D B66B 2001/2475 {by using cost function computing}
<administratively transferred to [B66B 1/2466](#)>
- D B66B 2001/2483 {by predicting the traffic, e.g. with statistical or learning procedures}
<administratively transferred to [B66B 1/2466](#)>
- U B66B 5/00 Applications of checking, fault-correcting, or safety devices in elevators**
- U B66B 5/02 . responsive to abnormal operating conditions
- U B66B 5/04 . . for detecting excessive speed
- M B66B 5/042 . . . {~~with characteristic location~~ *characterised by specific locations* of the governor cable}
- M B66B 5/044 . . . {~~Overspeed~~ *Mechanical overspeed* governors}
- U B66B 9/00 Kinds or types of lifts in, or associated with, buildings or other structures (characterised by control systems [B66B 1/00](#); apparatus for raising or lowering persons on stages of theatres [A63J 5/12](#))**
- U B66B 9/06 . inclined, e.g. serving blast furnaces
- U B66B 9/08 . . associated with stairways, e.g. for transporting disabled persons {(facilitating access of invalids to vehicles [A61G 3/02](#))}
- D B66B 2009/0876 . . . {~~Details~~}
<administratively transferred to [B66B 9/08](#)>
- D B66B 2009/0884 {~~Control systems~~}
<administratively transferred to [B66B 9/08](#)>
- D B66B 2009/0892 {~~Seats' constructional features~~}
<administratively transferred to [B66B 9/08](#)>
- U B66B 2201/00 Aspects of control systems of elevators**
- D B66B 2201/34 . details
<administratively transferred to [B66B 2201/00](#)>

Project: N/A (B66C)**B66C**

CRANES; LOAD-ENGAGING ELEMENTS OR DEVICES FOR CRANES, CAPSTANS, WINCHES, OR TACKLES ({specially adapted for lifting invalids [A61G 7/10](#);} rope, cable, or chain winding mechanisms, braking or detent devices therefor [B66D](#); specially adapted for nuclear reactors [G21](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

B66C 23/61	covered by	B66C 23/60
B66C 23/683	covered by	B66C 23/68
B66C 23/687	covered by	B66C 23/701
B66C 23/69	covered by	B66C 23/701
B66C 23/693	covered by	B66C 23/705
B66C 23/697	covered by	B66C 23/707

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B66D)**B66D**

CAPSTANS; WINCHES; TACKLES, e.g. PULLEY BLOCKS; HOISTS (winding or unwinding ropes or cables for feeding or storage purposes [B65H](#); rope or cable winding or unwinding mechanisms for lifts [B66B](#))

NOTE

This subclass covers:

- rope, cable or chain winding or unwinding mechanisms for moving all loads except lift cages, e.g. winches for dredges;
- braking or detent devices characterised by their application for retarding or preventing rotary movement of a winding drum or barrel

WARNING

1.

The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B66D 1/395](#) covered by [B66D 1/36](#), [B66D 1/50](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B66F)

B66F

HOISTING, LIFTING, HAULING OR PUSHING, NOT OTHERWISE PROVIDED FOR, e.g. DEVICES WHICH APPLY A LIFTING OR PUSHING FORCE DIRECTLY TO THE SURFACE OF A LOAD ({invalid lifting devices [A61G 7/10](#);} mounting artificial islands on piles or like supports [E02B 17/00](#) : scaffolding combined with lifting devices [E04G 1/22](#); lifting devices for sliding forms [E04G 11/24](#); lifting of buildings [E04G 23/06](#); shores or struts [E04G 25/00](#); lifts or other hoisting devices on ladders [E06C 7/12](#); props for mining [E21D 15/00](#))

WARNING

1.

The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B66F 19/02](#) covered by [B66F 19/00](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B67B)

B67B

APPLYING CLOSURE MEMBERS TO BOTTLES JARS, OR SIMILAR CONTAINERS; OPENING CLOSED CONTAINERS (opening or closing devices attached to, or incorporated in, containers or container closures [B65D](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[B67B 7/46](#) covered by [B67B 7/30-B67B 7/385](#)

[B67B 7/48-B67B 7/52](#) covered by [B67B 7/24](#), [B67B 7/26](#), [B67B 7/28](#)

[B67B 7/54-B67B 7/90](#) covered by [B67B 7/30-B67B 7/385](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (B67C)**B67C****CLEANING, FILLING WITH LIQUIDS OR SEMILIQUIDS, OR EMPTYING, OF BOTTLES, JARS, CANS, CASKS, BARRELS, OR SIMILAR CONTAINERS, NOT OTHERWISE PROVIDED FOR; FUNNELS****WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: RP0440 (B67C)****M B67C 3/00****Bottling liquids or semiliquids; Filling jars or cans with liquids or semiliquids using bottling or like apparatus; Filling casks or barrels with liquids or semiliquids ~~(filling containers with liquids or semiliquids using apparatus other than bottling or like apparatus B65B 3/00)~~****Project: N/A (B67D)****B67D****DISPENSING, DELIVERING OR TRANSFERRING LIQUIDS, NOT OTHERWISE PROVIDED FOR (cleaning pipes or tubes or systems of pipes or tubes [B08B 9/02](#); emptying or filling of bottles, jars, cans, casks, barrels, or similar containers, not otherwise provided for [B67C](#); water supply [E03](#); pipe systems [F17D](#); domestic hot-water supply systems [F24D](#); measuring volume, volume flow, mass flow or liquid level, metering by volume [G01F](#); coin-freed or like apparatus [G07F](#))****WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: N/A (B68B)****B68B****HARNESS; DEVICES USED IN CONNECTION THEREWITH; WHIPS OR THE LIKE****WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: N/A (B68C)****B68C****SADDLES; STIRRUPS****WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.***Project: N/A (B68F)****B68F****MAKING ARTICLES FROM LEATHER, CANVAS, OR THE LIKE****WARNING***In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.*

Project: N/A (B68G)

B68G

**METHODS, EQUIPMENT, OR MACHINES FOR USE IN UPHOLSTERING;
UPHOLSTERY NOT OTHERWISE PROVIDED FOR**

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C01B)

C01B

**NON-METALLIC ELEMENTS; COMPOUNDS THEREOF; {METALLOIDS OR
COMPOUNDS THEREOF NOT COVERED BY SUBCLASS [C01C](#)}**

NOTES

1. In this subclass, tradenames that are often found in scientific and patent literature have been used in order to define precisely the scope of the groups.
2. Attention is drawn to the definitions of groups of chemical elements following the title of section [C](#).

WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C01B31/16 covered by [B01J 39/24](#), [B01J 41/18](#)

[C01B 35/16](#), [C01B 35/18](#) covered by [C01B 35/00](#) + s.gr.

2. General concordance IPC4 or IPC5 to IPC6 groups is as follows:

[C01B 25/37](#) (partly) : [C01B 37/002](#)

[C01B 25/453](#) : [C01B 37/00](#), [C01B 39/54](#)

[C01B 33/185](#) : [C01B 37/02](#)

[C01B 33/28](#) and subgroups : [C01B 37/00](#), [C01B 39/00](#)

[C01B 35/1009](#) : [C01B 37/06](#), [C01B 39/12](#), [C01B 39/54](#)

3. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0265 (C01G)

U C01G 23/00

**Compounds of titanium {(preparation of Ti-compounds from ores or scraps
[C22B 34/12](#))}**

C C01G 23/002

- {Compounds containing, besides titanium, two or more other elements, with the exception of oxygen or hydrogen ([C01G 23/001](#) takes, [C01G 23/003](#) take precedence)}

WARNING

Group [C01G 23/002](#) is impacted by reclassification into group [C01G 23/003](#).

Groups [C01G 23/002](#) and [C01G 23/003](#) should be considered in order to perform a complete search .

E C01G 23/003

- {Titanates, e.g. titanates of two or more metals other than titanium ([C01G 23/001](#) takes precedence)}

WARNING

Group [C01G 23/003](#) is incomplete pending reclassification from group [C01G 23/002](#).

Groups [C01G 23/002](#) and [C01G 23/003](#) should be considered in order to perform a complete search .

U C01G 49/00

Compounds of iron

M C01G 49/0018

- {Mixed oxides or hydroxides, e.g. ferrites ([C01G 49/0009](#) takes precedence)}

M C01G 49/0081

- {containing iron in unusual valence state (~~/IV, V, VI~~); e.g. ferrates}}

Project: N/A (C02F)

C02F

TREATMENT OF WATER, WASTE WATER, SEWAGE, OR SLUDGE
(separation in general [B01D](#); special arrangements on waterborne vessels of installations for treating water, waste water or sewage, e.g. for producing fresh water, [B63J](#); adding materials to water to prevent corrosion [C23F](#); treating radioactively-contaminated liquids [G21F 9/04](#); regeneration of reactants for recirculation into processes, see the relevant places for the processes)

NOTE

When classifying in this subclass, classification is also made in group [B01D 15/08](#) insofar as subject matter of general interest relating to chromatography is concerned.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[C02F 9/02-C02F 9/14](#) covered by [C02F 9/00](#) and subgroup

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (C02F)

M C02F 9/00

Multistage treatment of water, waste water, or sewageNOTES

1. This group covers only those combined treating operations where the interest is directed to the relationship between the steps.

2. This group does not cover, for example, chemical treatment followed by settlement or biological treatment involving normal mechanical treatment.

3. In this group, the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place.

Project: N/A (C03B)

C03B

MANUFACTURE, SHAPING, OR SUPPLEMENTARY PROCESSESWARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[C03B 8/00](#) covered by [C03B 19/00](#), [C03B 37/00](#)

[C03B 8/02](#) covered by [C03B 19/1065](#), [C03B 19/12](#),
[C03B 37/011](#), [C03B 37/016](#)

[C03B 8/04](#) covered by [C03B 19/106](#), [C03B 19/14](#),
[C03B 37/014](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C03C)

C03C

CHEMICAL COMPOSITION OF GLASSES, GLAZES, OR VITREOUS ENAMELS; SURFACE TREATMENT OF GLASS; SURFACE TREATMENT OF FIBRES OR FILAMENTS MADE FROM GLASS, MINERALS OR SLAGS; JOINING GLASS TO GLASS OR OTHER MATERIALSNOTES

1. This subclass covers compositions of polycrystalline fibres
2. This subclass does not cover the preparation of single-crystal fibres, which is covered by subclass [C30B](#)

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C03C 6/00	covered by	C03C 1/00
C03C 6/02-C03C 6/10	covered by	
C03C 10/02 - C03C 10/14	covered by	C03C 10/00
C03C 13/02	covered by	C03C 13/00
C03C 27/12	covered by	B32B 17/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (C03C)M C03C 1/00 -
C03C 14/00**Chemical composition of glasses, glazes, or vitreous enamels**NOTE

In groups [C03C 1/00 - C03C 14/00](#), *the last place priority rule is applied, i.e.* in the absence of an indication to the contrary, classification is made in the last appropriate place.

Project: N/A (C04B)

C04B

LIME, MAGNESIA; SLAG; CEMENTS; COMPOSITIONS THEREOF, e.g. MORTARS, CONCRETE OR LIKE BUILDING MATERIALS; ARTIFICIAL STONE {(roofing granules [E04D 7/005](#))}; CERAMICS (devitrified glass-ceramics [C03C 10/00](#)); REFRACTORIES; TREATMENT OF NATURAL STONENOTES

1. In this subclass, the following terms or expressions are used with the meanings indicated:
 - "fillers" includes pigments, aggregates and fibrous reinforcing materials;
 - "active ingredients" includes processing aids or property improvers, e.g. grinding aids used after the burning process or used in the absence of a burning process;
 - "mortars", "concrete" and "artificial stone" are to be considered as a single group of materials, and therefore, in the absence of an indication to the contrary, they include mortar, concrete and other cementitious compositions.
2. In groups [C04B 7/00 - C04B 32/00](#), in the absence of an indication to the contrary, classification is made in the last appropriate place.
3. A composition classified in groups [C04B 26/00](#) or [C04B 28/00](#) is also classified in groups [C04B 14/00 - C04B 24/00](#) if a filler or active ingredient is of interest.
4. In groups [C04B 2/00 - C04B 32/00](#) and [C04B 38/00 - C04B 41/00](#) it is desirable to classify the individual constituents of the mixtures, or other aspects

relating to the mixtures or constituents, using Combination Sets with symbols chosen from groups [C04B 2/00](#) - [C04B 41/00](#).

5. In groups [C04B 2/00](#) - [C04B 32/00](#) and [C04B 38/00](#) - [C04B 41/00](#) it is desirable to classify the function of the individual constituents of the mixtures, or other aspects relating to the properties or uses of the mixtures or products obtained, using Combination Sets with symbols chosen from groups [C04B 2103/00](#) - [C04B 2111/00](#).

6. Groups [C04B 20/123](#) and [C04B 20/126](#) are used for indexing purposes only of documents classified in [C04B 20/12](#)

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C04B 5/02	covered by	B01J 2/00 , C21B 3/06
C04B 28/20 , C04B 28/22	covered by	C04B 28/18 , C04B 28/182 , C04B 28/184 , C04B 28/186 , C04B 28/188
C04B 35/035	covered by	C04B 35/26 , C04B 35/2608 , C04B 35/2616 , C04B 35/2625 , C04B 35/2633 , C04B 35/2641 , C04B 35/265 , C04B 35/2658 , C04B 35/2666 , C04B 35/2675 , C04B 35/2683 , C04B 35/2691
C04B 35/28 - C04B 35/40	covered by	
C04B 35/567 , C04B 35/569 , C04B 35/576 , C04B 35/577	covered by	C04B 35/565 , C04B 35/571 , C04B 35/573 , C04B 35/575 , C04B 35/5755 , C04B 35/806
C04B 35/582	covered by	C04B 35/581 , C04B 35/806
C04B 35/5833 , C04B 35/5835	covered by	C04B 35/583 , C04B 35/806
C04B 35/586 , C04B 35/587 , C04B 35/594 , C04B 35/596	covered by	C04B 35/584 , C04B 35/589 , C04B 35/591 , C04B 35/593 , C04B 35/5935 , C04B 35/806
C04B 35/599	covered by	C04B 35/597
C04B 35/81	covered by	C04B 35/78
C04B 35/84	covered by	C04B 35/628 , C04B 35/78

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C05B)

C05B

PHOSPHATIC FERTILISERS

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[C05B 21/00](#) covered by [C05B 1/00](#) - [C05B 19/00](#)
(see internal note after the title of class [C05](#))

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C06F)

C06F

MATCHES; MANUFACTURE OF MATCHES**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C07C)

C07C

ACYCLIC OR CARBOCYCLIC COMPOUNDS**NOTES**

1. In this subclass, the following terms or expressions are used with meanings indicated:

- "bridged" means the presence of at least one fusion other than ortho, peri or spiro;
- two rings are "condensed" if they share at least one ring member, i.e. "spiro" and "bridged" are considered as condensed;
- "condensed ring system" is a ring system in which all rings are condensed among themselves;
- "number of rings" in a condensed ring system equals the number of scissions necessary to convert the ring system into one acyclic chain;
- "quinones" are compounds derived from compounds containing a six-membered aromatic ring or a system comprising six-membered aromatic rings (which system may be condensed or not condensed) by replacing two or four CH groups of the six-membered aromatic rings by C=O groups, and by removing one or two carbon-to-carbon double bonds, respectively, and rearranging the remaining carbon-to-carbon double bonds to give a ring or ring system with alternating double bonds, including the carbon-to-oxygen bonds; this means that acenaphthenequinone or camphorquinone are not considered as quinones.

2. In this subclass, in the absence of an indication to the contrary, a process is classified in the last appropriate place.

3. In this subclass, in the absence of an indication to the contrary, "quaternary ammonium compounds" are classified with the corresponding "non-quaternised nitrogen compounds".

4. For the classification of compounds in groups [C07C 1/00](#) - [C07C 71/00](#) and [C07C 401/00](#) - [C07C 409/00](#) :

- a compound is classified considering the molecule as a whole (rule of the "whole molecule approach");
- a compound is considered to be saturated if it does not contain carbon atoms bound to each other by multiple bonds;
- a compound is considered to be unsaturated if it contains carbon atoms bound to each other by multiple bonds, which includes six-membered aromatic ring, unless otherwise specified or implicitly derivable from the subdivision.

5. For the classification of compounds in groups [C07C 201/00](#) - [C07C 395/00](#), i.e. after the functional group has been determined according to the "last place rule", a compound is classified according to the following principles:

- compounds are classified in accordance with the nature of the carbon atom to which the functional group is attached;
- a carbon skeleton is a carbon atom, other than a carbon atom of a carboxyl group, or a chain of carbon atoms bound to each other, a carbon skeleton is considered to be terminated by every bond to an element other than carbon or to a carbon atom of a carboxyl group;
- when the molecule contains several functional groups, only functional groups linked to the same carbon skeleton as the one first determined are considered;

- a carbon skeleton is considered to be saturated if it does not contain carbon atoms bound to each other by multiple bonds;
- a carbon skeleton is considered to be unsaturated if it contains carbon atoms bound to each other by multiple bonds, which includes a six-membered aromatic ring.

6. When classifying in this subclass, classification is also made in group [B01D 15/08](#) insofar as subject matter of general interest relating to chromatography is concerned.

7. When a process is classified in a process group, combination sets are used to indicate the product of the process. A combination set consists of a process group, followed by and linked to the group of the product. The products are selected from the corresponding product groups.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C07C 27/02	covered by	C07C 29/00 , C07C 51/00
C07C 47/042 , C07C 47/045 , C07C 47/048 , C07C 47/052 , C07C 47/055 , C07C 47/058	covered by	C07C 47/04
C07C 47/07 , C07C 47/09	covered by	C07C 47/06
C07C 53/04	covered by	C07C 53/02
C07C 57/045 , C07C 57/05 , C07C 57/055 , C07C 57/065 , C07C 57/07 , C07C 57/075	covered by	C07C 57/04
C07C 69/025 , C07C 69/03 , C07C 69/035	covered by	C07C 69/003 - C07C 69/017 and C07C 69/02
C07C 69/347 , C07C 69/353	covered by	C07C 69/003 - C07C 69/017 and C07C 69/34
C07C 69/527	covered by	C07C 69/003 - C07C 69/017 and C07C 69/52
C07C 69/767 , C07C 69/773	covered by	C07C 69/003 - C07C 69/017 and C07C 69/76
C07C 69/83	covered by	C07C 69/003 - C07C 69/017 and C07C 69/82

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

- U C07C 45/00** Preparation of compounds having >C = O groups bound only to carbon or hydrogen atoms; Preparation of chelates of such compounds
- U C07C 45/27 · by oxidation (with ozone [C07C 45/40](#))
- U C07C 45/30 · · with halogen containing compounds, e.g. hypohalogenation
- C07C 45/305 · · · {with halogenochromate reagents, e.g. pyridinium
~~chlorochromate~~[chlorochromate](#)}

Project: N/A (C07D)

C07D

HETEROCYCLIC COMPOUNDS

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C07F)

C07F

ACYCLIC, CARBOCYCLIC OR HETEROCYCLIC COMPOUNDS CONTAINING ELEMENTS OTHER THAN CARBON, HYDROGEN, HALOGEN, OXYGEN, NITROGEN, SULFUR, SELENIUM OR TELLURIUM (metal-containing porphyrins [C07D 487/22](#))

NOTES

1. Attention is drawn to Note (3) [C07](#), which defines the last place priority rule applied in the range of subclasses [C07C-C07K](#) and within these subclasses.
2. Attention is drawn to Note (6) following the title of class [C07](#).
3. Attention is drawn to Note (3) after the title of section [C](#), which Note indicates to which version of the periodic table of chemical elements the IPC refers.
4. In this subclass, organic acid salts, alcoholates, phenates, chelates or mercaptides are classified as the parent compounds.
5. Compounds containing Se or Te are classified with their sulfur homologues
6. A hydrocarbon chain is considered to be terminated by a heteroatom or by a carbon atom having three bonds to heteroatoms with at the most one to halogen
7. When groups, e.g. aromatic or aliphatic groups, are mentioned without further indications, it means that the group concerned can be further substituted. Otherwise it will be indicated, e.g. [C07F 9/11](#) with hydroxyalkyl compounds without further substituents on alkyl.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[C07F 9/6593](#) covered by [C07F 9/65815](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0154 (C07F)

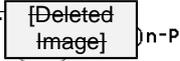
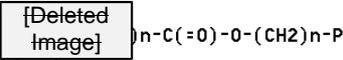
U	C07F 3/00	Compounds containing elements of Groups 2 or 12 of the Periodic System
E	C07F 3/10	· Mercury compounds
D	C07F 3/106	· {Aliphatic substances containing mercury} <administratively transferred to C07F 3/10 >
E	C07F 5/00	Compounds containing elements of Groups 3 or 13 of the Periodic System
D	C07F 5/006	· {Addition and condensation products with amines or phosphines} <administratively transferred to C07F 5/00 >
U	C07F 5/06	· Aluminium compounds
U	C07F 5/061	· {with C-aluminium linkage}
E	C07F 5/062	· · {Al linked exclusively to C}
D	C07F 5/063	· · · {compounds containing only Al, C, H and Al is not a ring element} <administratively transferred to C07F 5/062 >
U	C07F 7/00	Compounds containing elements of Groups 4 or 14 of the Periodic System
E	C07F 7/003	· {without C-Metal linkages}
D	C07F 7/006	· {of Group 4 of the Periodic System} <administratively transferred to C07F 7/003 >
U	C07F 7/02	· Silicon compounds

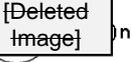
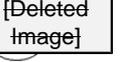
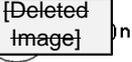
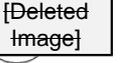
- C C07F 7/04
- • Esters of silicic acids
- WARNING**
*Group C07F 7/04 is incomplete pending reclassification of documents from group C07F 7/045.
 Group C07F 7/04 is impacted by reclassification into groups C07F 7/06 and C07F 7/07.
 Groups C07F 7/04, C07F 7/045, C07F 7/06 and C07F 7/07 should be considered in order to perform a complete search.*
- F C07F 7/045
 (Frozen)
- • • {Esters of monosilicic acid}
- WARNING**
*Group C07F 7/045 is no longer used for the classification of documents as of August 1, 2018. The content of this group is being reclassified into groups C07F 7/04, C07F 7/06 and C07F 7/07.
 Groups C07F 7/04, C07F 7/045, C07F 7/06 and C07F 7/07 should be considered in order to perform a complete search.*
- E C07F 7/06
- • • with hydroxyaryl compounds
- WARNING**
*Groups C07F 7/06 and C07F 7/07 are incomplete pending reclassification of documents from groups C07F 7/04 and C07F 7/045.
 Groups C07F 7/04, C07F 7/045, C07F 7/06 and C07F 7/07 should be considered in order to perform a complete search.*
- E C07F 7/07
- • • Cyclic esters
- U C07F 7/08
- • Compounds having one or more C—Si linkages
- E C07F 7/0803
- • • {Compounds with Si-C or Si-Si linkages}
- E C07F 7/0805
- • • • {comprising only Si, C or H atoms}
- D C07F 7/0809
- • • • • {comprising no Si as a ring atom}
 - <administratively transferred to [C07F 7/0805](#)>
- E C07F 7/081
- • • • {comprising at least one atom selected from the elements N, O, halogen, S, Se or Te}
- D C07F 7/0818
- • • • • {comprising no heterocyclic ring}
 - <administratively transferred to [C07F 7/081](#)>
- D C07F 7/082
- • • • {comprising at least one atom selected from elements other than Si, C, H, N, O, halogen, S, Se or Te}
 - <administratively transferred to [C07F 7/0803](#)>
- D C07F 7/0821
- • • • • {comprising at least one Si-Si linkage}
 - <administratively transferred to [C07F 7/0803](#)>
- D C07F 7/0823
- • • • • {comprising at least one Si-cyano linkage}
 - <administratively transferred to [C07F 7/0803](#)>
- U C07F 7/0834
- • • {Compounds having one or more O-Si linkage (for compounds with C-O-Si linkages see [C07F 7/18](#))}
- E C07F 7/0838
- • • • {Compounds with one or more Si-O-Si sequences (*compounds with a ring containing only alternating Si and O atoms, i.e. cyclosilanes C07F 7/21*)}
- D C07F 7/084
- • • • • {containing a ring comprising a Si-O-Si sequence (compounds with a ring containing only alternating Si and O atoms, i.e. cyclosiloxanes C07F 7/21)}
 - <administratively transferred to [C07F 7/0838](#)>
- D C07F 7/0841
- • • • • • {also comprising a C atom}
 - <administratively transferred to [C07F 7/0838](#)>
- D C07F 7/0843
- • • • • • • {also comprising an atom different from Si, O and C}
 - <administratively transferred to [C07F 7/0838](#)>

- D C07F 7/0845 {not containing a ring comprising a Si-O-Si sequence}
<administratively transferred to [C07F 7/0838](#)>
- D C07F 7/0847 {a Si atom of a Si-O-Si sequence being attached only to -O-Si or to a C atom}
<administratively transferred to [C07F 7/0838](#)>
- D C07F 7/0849 {this C atom being part of a group which contains only C and H}
<administratively transferred to [C07F 7/0838](#)>
- D C07F 7/085 {this C atom being part of a group which contains halogen}
<administratively transferred to [C07F 7/0838](#)>
- D C07F 7/0852 {this C atom being part of a group which contains O}
<administratively transferred to [C07F 7/0838](#)>
- D C07F 7/0854 {this C atom being part of a group which contains N}
<administratively transferred to [C07F 7/0838](#)>
- D C07F 7/0856 {this C atom being part of a group which contains an element other than C, H, O, N and halogen}
<administratively transferred to [C07F 7/0838](#)>
- D C07F 7/0858 {a Si atom of a Si-O-Si sequence having linkages other than Si-O-Si or bonds other than Si-C}
<administratively transferred to [C07F 7/0838](#)>
- D C07F 7/0859 {Si-OX bond, X = H or C}
<administratively transferred to [C07F 7/0838](#)>
- D C07F 7/0861 {Si-Halogen bond}
<administratively transferred to [C07F 7/0838](#)>
- D C07F 7/0863 {Si-N bond}
<administratively transferred to [C07F 7/0838](#)>
- D C07F 7/0865 {Si-O-N bond}
<administratively transferred to [C07F 7/0838](#)>
- D C07F 7/0867 {Si-H bond}
<administratively transferred to [C07F 7/0838](#)>
- D C07F 7/0869 {Si-Q bond, Q different from O, N, H and halogen}
<administratively transferred to [C07F 7/0838](#)>
- U C07F 7/0872 {Preparation and treatment thereof}
- E C07F 7/0876 {Reactions involving the formation of bonds to a Si atom of a Si-O-Si sequence other than a bond of the Si-O-Si linkage}
- E C07F 7/0878 {Si-C bond}
- D C07F 7/0881 {Other reactions}
<administratively transferred to [C07F 7/0878](#)>
- D C07F 7/0883 {Si-halogen bond}
<administratively transferred to [C07F 7/0876](#)>
- D C07F 7/0885 {Si-OX bond (X = C or H)}
<administratively transferred to [C07F 7/0876](#)>
- D C07F 7/0887 {Si-Q bond (Q different from O, C or halogen)}
<administratively transferred to [C07F 7/0876](#)>
- U C07F 7/18 Compounds having one or more C—Si linkages as well as one or more C—O—Si linkages
- E C07F 7/1804 {Compounds having Si-O-C linkages (Si-O-acyl linkages [C07F 7/1896](#))}
- D C07F 7/1808 {the Si-C and Si-O-C linkages being at different Si atoms}
<administratively transferred to [C07F 7/1804](#)>
- D C07F 7/1812 {having (C1)_a-Si-(OC2)_b linkages, a and b each being ≥ 1 and $a+b = 4$, C1 and C2 being hydrocarbon or substituted hydrocarbon radicals}
<administratively transferred to [C07F 7/1804](#)>

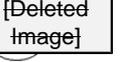
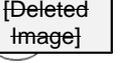
- D C07F 7/1816 {a and b being alternatively specified}
<administratively transferred to [C07F 7/1804](#)>
- D C07F 7/182 {C1 containing aliphatic or cycloaliphatic unsaturated bonds or heteroatoms}
<administratively transferred to [C07F 7/1804](#)>
- D C07F 7/1824 {C2 containing aliphatic or cycloaliphatic unsaturated bonds or heteroatoms}
<administratively transferred to [C07F 7/1804](#)>
- D C07F 7/1828 {C1 and C2 containing aliphatic or cycloaliphatic unsaturated bonds or heteroatoms}
<administratively transferred to [C07F 7/1804](#)>
- D C07F 7/1832 {compounds not provided for in C07F 7/182 – C07F 7/1824}
<administratively transferred to [C07F 7/1804](#)>
- D C07F 7/1836 {a being 1, b being 3}
<administratively transferred to [C07F 7/1804](#)>
- D C07F 7/184 {a being 2, b being 2}
<administratively transferred to [C07F 7/1804](#)>
- D C07F 7/1844 {a being 3, b being 1}
<administratively transferred to [C07F 7/1804](#)>
- D C07F 7/1848 {C1 being an unsubstituted acyclic saturated hydrocarbon radical containing less than six carbon atoms, a benzyl radical, a phenyl radical, or a methyl substituted phenyl radical}
<administratively transferred to [C07F 7/1804](#)>
- D C07F 7/1852 {C2 being an acyclic, arylaliphatic or a non-condensed aromatic radical containing only carbon, hydrogen, halogen, oxygen, nitrogen or sulfur}
<administratively transferred to [C07F 7/1804](#)>
- D C07F 7/1856 {C2 containing cycloaliphatic, heterocyclic or condensed aromatic rings}
<administratively transferred to [C07F 7/1804](#)>
- D C07F 7/186 {C2 containing an azetidine radical or condensed azetidine radical}
<administratively transferred to [C07F 7/1804](#)>
- D C07F 7/1864 {C2 containing elements other than carbon, hydrogen, halogen, oxygen, nitrogen or sulfur}
<administratively transferred to [C07F 7/1804](#)>
- D C07F 7/1868 {having (C1)a-Si-(OC2)b linkages, a and b each being ≥ 1 and $a+b \neq 4$ (C1 and C2 being hydrocarbon or substituted hydrocarbon radicals)}
<administratively transferred to [C07F 7/1804](#)>
- U C07F 7/22 . . . Tin compounds
- E C07F 7/2208 . . {Compounds having tin linked only to carbon, hydrogen and/or halogen}
- D C07F 7/2212 . . . {Compounds having only tin-carbon linkages}
<administratively transferred to [C07F 7/2208](#)>
- D C07F 7/2216 . . . {Compounds having one or more tin-halogen linkages}
<administratively transferred to [C07F 7/2208](#)>
- D C07F 7/222 . . . {Compounds having one or more tin-hydrogen linkages}
<administratively transferred to [C07F 7/2208](#)>
- E C07F 7/2224 . . {Compounds having one or more tin-oxygen linkages}
- D C07F 7/2228 . . . {Compounds not belonging to the groups C07F 7/2232 – C07F 7/2252}
<administratively transferred to [C07F 7/2224](#)>

- D C07F 7/2232 . . . {Compounds having one or more Sn-O-R linkages (R=H or C, except if C belongs to a carboxyl group)}
<administratively transferred to [C07F 7/2224](#)>
- D C07F 7/2236 . . . {Compounds with a Sn=O linkage}
<administratively transferred to [C07F 7/2224](#)>
- D C07F 7/224 {Stannic acids and their esters}
<administratively transferred to [C07F 7/2224](#)>
- D C07F 7/2244 . . . {Tin esters of organic acids}
<administratively transferred to [C07F 7/2224](#)>
- D C07F 7/2248 . . . {Tin esters of inorganic acids}
<administratively transferred to [C07F 7/2224](#)>
- D C07F 7/2252 . . . {Compounds with a Sn-O-metal linkage}
<administratively transferred to [C07F 7/2224](#)>
- D C07F 7/2256 {Compounds containing a Sn-O-Sn linkage}
<administratively transferred to [C07F 7/2224](#)>
- E C07F 7/226 . . {Compounds with one or more Sn-S linkages}
- D C07F 7/2264 . . . {Compounds not belonging to group C07F 7/2268 – C07F 7/2276}
<administratively transferred to [C07F 7/226](#)>
- D C07F 7/2268 . . . {Compounds having one or more Sn-S-R linkages (R=H or C, except if C belongs to a carboxyl group)}
<administratively transferred to [C07F 7/226](#)>
- D C07F 7/2272 . . . {Esters of thiocarboxylic acids and their derivatives}
<administratively transferred to [C07F 7/226](#)>
- D C07F 7/2276 . . . {Compounds with one or more Sn-S-metal linkages}
<administratively transferred to [C07F 7/226](#)>
- D C07F 7/228 {Compounds with one or more Sn-S-Sn linkages}
<administratively transferred to [C07F 7/226](#)>
- E C07F 7/2288 . . {Compounds with one or more Sn-metal linkages}
- D C07F 7/2292 . . . {Compounds with one or more Sn-Sn linkages}
<administratively transferred to [C07F 7/2288](#)>
- U C07F 9/00 Compounds containing elements of Groups 5 or 15 of the Periodic System**
- U C07F 9/02 . Phosphorus compounds (sugar phosphates [C07H 11/04](#); nucleotides [C07H 19/00](#), [C07H 21/00](#); nucleic acids [C07H 21/00](#))
- U C07F 9/28 . . with one or more P—C bonds
- U C07F 9/38 . . . Phosphonic acids $RP(=O)(OH)_2$; Thiophosphonic acids {, i.e. $RP(=X)(XH)_2$ (X = S, Se)}
- U C07F 9/40 Esters thereof
- U C07F 9/4003 {the acid moiety containing a substituent or a structure which is considered as characteristic}
- U C07F 9/4056 {Esters of arylalkanephosphonic acids ([C07F 9/4025](#) takes precedence)}
- M C07F 9/4059 {**Compounds containing the structure $(RY)2P(=X)-(CH_2)_n-C(=O)-(CH_2CH_2)_m-Ar$, (X, Y = O, S, Se; $n \geq 1$, $m \geq 0$)**}
- U C07F 9/535 . . . Organo-phosphoranes
- U C07F 9/5355 {Phosphoranes containing the structure $P=N-$ }
- M C07F 9/5357 {Polyphosphazenes containing the structure $[P=N-n]-n$ (cyclic **compounds-phosphazenes** [C07F 9/65812](#))}
- U C07F 9/547 . . Heterocyclic compounds, e.g. containing phosphorus as a ring hetero atom
- U C07F 9/553 . . . having one nitrogen atom as the only ring hetero atom

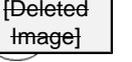
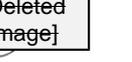
- E C07F 9/568 Four-membered rings
- D C07F 9/5683 {the phosphorus atom is bonded to a cyclic nitrogen atom, directly, through one or more heteroatoms or through a hydrocarbon chain which may be broken by one or more heteroatoms}
<administratively transferred to [C07F 9/568](#)>
- E C07F 9/572 Five-membered rings
- D C07F 9/5721 {the phosphorus atom is bonded to a cyclic nitrogen atom, directly, through one or more heteroatoms or through a hydrocarbon chain which may be broken by one or more heteroatoms}
<administratively transferred to [C07F 9/572](#)>
- D C07F 9/5722 {the phosphorus atom is bonded to a cyclic carbon atom, other than directly, through a heteroatom, or through a hydrocarbon chain which may be broken by at least one nitrogen atom,
e.g.  }
or  }
<administratively transferred to [C07F 9/572](#)>
- D C07F 9/5723 {the phosphorus atom is bonded to a cyclic carbon atom, directly or through a heteroatom other than nitrogen,
e.g.  }
or  }
<administratively transferred to [C07F 9/572](#)>
- D C07F 9/5725 {bonded through a heteroatom}
<administratively transferred to [C07F 9/572](#)>
- D C07F 9/5726 {directly bonded}
<administratively transferred to [C07F 9/572](#)>
- D C07F 9/5727 {the phosphorus atom is bonded to a cyclic carbon atom, through a nitrogen atom or through a hydrocarbon chain which is broken by at least one nitrogen atom,
e.g.  }
or  }
<administratively transferred to [C07F 9/572](#)>
- U C07F 9/576 Six-membered rings
- E C07F 9/58 Pyridine rings
- D C07F 9/581 {the phosphorus atom is bonded to a cyclic nitrogen atom, directly, through one or more heteroatoms or through a hydrocarbon chain which may be broken by one or more heteroatoms}
<administratively transferred to [C07F 9/58](#)>

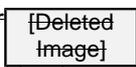
- D C07F 9/582 {the phosphorus atom is bonded to a cyclic carbon atom, other than directly, through a heteroatom, or through a hydrocarbon chain which may be broken by at least one nitrogen atom;
 e.g. )n-P
 Or )n-C(=O)-O-(CH2)n-P }
 <administratively transferred to [C07F 9/58](#)>
- D C07F 9/584 {the phosphorus atom is bonded to a cyclic carbon atom, directly or through a heteroatom other than nitrogen;
 e.g.  }
 Or  }
 <administratively transferred to [C07F 9/58](#)>
- D C07F 9/585 {bonded through a heteroatom}
 <administratively transferred to [C07F 9/58](#)>
- D C07F 9/587 {directly bonded}
 <administratively transferred to [C07F 9/58](#)>
- D C07F 9/588 {the phosphorus atom is bonded to a cyclic carbon atom, through a nitrogen atom or through a hydrocarbon chain which is broken by at least one nitrogen atom;
 e.g.  }
 Or )n-N-(CH2)n-P }
 <administratively transferred to [C07F 9/58](#)>
- E C07F 9/59 Hydrogenated pyridine rings
- D C07F 9/591 {the phosphorus atom is bonded to a cyclic nitrogen atom, directly, through one or more heteroatoms or through a hydrocarbon chain which may be broken by one or more heteroatoms}
 <administratively transferred to [C07F 9/59](#)>
- D C07F 9/592 {the phosphorus atom is bonded to a cyclic carbon atom, other than directly, through a heteroatom, or through a hydrocarbon chain which may be broken by at least one nitrogen atom;
 e.g. )n-P
 Or )n-C(=O)-O-(CH2)n-P }
 <administratively transferred to [C07F 9/59](#)>
- D C07F 9/594 {the phosphorus atom is bonded to a cyclic carbon atom, directly or through a heteroatom other than nitrogen;
 e.g.  }
 Or  }
 <administratively transferred to [C07F 9/59](#)>
- D C07F 9/595 {bonded through a heteroatom}
 <administratively transferred to [C07F 9/59](#)>

- D C07F 9/597 {directly bonded}
<administratively transferred to [C07F 9/59](#)>
- D C07F 9/598 {the phosphorus atom is bonded to a cyclic carbon atom, through a nitrogen atom or through a hydrocarbon chain which is broken by at least one nitrogen atom;
e.g. 
or )n-N-(CH2)n-P }
<administratively transferred to [C07F 9/59](#)>
- U C07F 9/645 . . . having two nitrogen atoms as the only ring hetero atoms
- U C07F 9/6503 Five-membered rings
- E C07F 9/65031 {having the nitrogen atoms in the positions 1 and 2}
- D C07F 9/65032 {the phosphorus atom is bonded to a cyclic nitrogen atom, directly, through one or more heteroatoms or through a hydrocarbon chain which may be broken by one or more heteroatoms}
<administratively transferred to [C07F 9/65031](#)>
- D C07F 9/65033 {the phosphorus atom is bonded to a cyclic carbon atom, other than directly, through a heteroatom, or through a hydrocarbon chain which may be broken by at least one nitrogen atom;
e.g. )n-P
or )n-C(=O)-O-(CH2)n-P }
<administratively transferred to [C07F 9/65031](#)>
- D C07F 9/65034 {the phosphorus atom is bonded to a cyclic carbon atom, directly or through a heteroatom other than nitrogen;
e.g. 
or  }
<administratively transferred to [C07F 9/65031](#)>
- D C07F 9/65035 {bonded through a heteroatom}
<administratively transferred to [C07F 9/65031](#)>
- D C07F 9/65036 {directly bonded}
<administratively transferred to [C07F 9/65031](#)>
- D C07F 9/65037 {the phosphorus atom is bonded to a cyclic carbon atom, through a nitrogen atom or through a hydrocarbon chain which is broken by at least one nitrogen atom;
e.g. 
or )n-N-(CH2)n-P }
<administratively transferred to [C07F 9/65031](#)>
- E C07F 9/6506 having the nitrogen atoms in positions 1 and 3
- D C07F 9/65061 {the phosphorus atom is bonded to a cyclic nitrogen atom, directly, through one or more heteroatoms or through a hydrocarbon chain which may be broken by one or more heteroatoms}
<administratively transferred to [C07F 9/6506](#)>

- D C07F 9/65062 {the phosphorus atom is bonded to a cyclic carbon atom, other than directly, through a heteroatom, or through a hydrocarbon chain which may be broken by at least one nitrogen atom,
e.g. )n-P
or )n-C(=O)-O-(CH2)n-P }
<administratively transferred to [C07F 9/6506](#)>
- D C07F 9/65063 {the phosphorus atom is bonded to a cyclic carbon atom, directly or through a heteroatom other than nitrogen,
e.g.  }
or  }
<administratively transferred to [C07F 9/6506](#)>
- D C07F 9/65065 {bonded through a heteroatom}
<administratively transferred to [C07F 9/6506](#)>
- D C07F 9/65066 {directly bonded}
<administratively transferred to [C07F 9/6506](#)>
- D C07F 9/65067 {the phosphorus atom is bonded to a cyclic carbon atom, through a nitrogen atom or through a hydrocarbon chain which is broken by at least one nitrogen atom,
e.g.  }
or )n-N-(CH2)n-P }
<administratively transferred to [C07F 9/6506](#)>
- U C07F 9/6509 Six-membered rings
- E C07F 9/650905 {having the nitrogen atoms in the positions 1 and 2}
- D C07F 9/650911 {the phosphorus atom is bonded to a cyclic nitrogen atom, directly, through one or more heteroatoms or through a hydrocarbon chain which may be broken by one or more heteroatoms}
<administratively transferred to [C07F 9/650905](#)>
- D C07F 9/650917 {the phosphorus atom is bonded to a cyclic carbon atom, other than directly, through a heteroatom, or through a hydrocarbon chain which may be broken by at least one nitrogen atom,
e.g. )n-P
or )n-C(=O)-O-(CH2)n-P }
<administratively transferred to [C07F 9/650905](#)>
- D C07F 9/650923 {the phosphorus atom is bonded to a cyclic carbon atom, directly or through a heteroatom other than nitrogen,
e.g.  }
or  }
<administratively transferred to [C07F 9/650905](#)>
- D C07F 9/650929 {bonded through a heteroatom}
<administratively transferred to [C07F 9/650905](#)>

- D C07F 9/650935 {directly bonded}
<administratively transferred to [C07F 9/650905](#)>
- D C07F 9/650941 {the phosphorus atom is bonded to a cyclic carbon atom, through a nitrogen atom or through a hydrocarbon chain which is broken by at least one nitrogen atom;
e.g. 
or )n-N-(CH2)n-P }
<administratively transferred to [C07F 9/650905](#)>
- E C07F 9/650952 {having the nitrogen atoms in the **position positions** 1 and 4}
- D C07F 9/650958 {the phosphorus atom is bonded to a cyclic nitrogen atom, directly, through one or more heteroatoms or through a hydrocarbon chain which may be broken by one or more heteroatoms}
<administratively transferred to [C07F 9/650952](#)>
- D C07F 9/650964 {the phosphorus atom is bonded to a cyclic carbon atom, other than directly, through a heteroatom, or through a hydrocarbon chain which may be broken by at least one nitrogen atom;
e.g. 
or )n-C(=O)-O-(CH2)n-P }
<administratively transferred to [C07F 9/650952](#)>
- D C07F 9/65097 {the phosphorus atom is bonded to a cyclic carbon atom, directly or through a heteroatom other than nitrogen;
e.g. 
or  }
<administratively transferred to [C07F 9/650952](#)>
- D C07F 9/650976 {bonded through a heteroatom}
<administratively transferred to [C07F 9/650952](#)>
- D C07F 9/650982 {directly bonded}
<administratively transferred to [C07F 9/650952](#)>
- D C07F 9/650988 {the phosphorus atom is bonded to a cyclic carbon atom, through a nitrogen atom or through a hydrocarbon chain which is broken by at least one nitrogen atom;
e.g. 
or )n-N-(CH2)n-P }
<administratively transferred to [C07F 9/650952](#)>
- E C07F 9/6512 having the nitrogen atoms in positions 1 and 3
- D C07F 9/65121 {the phosphorus atom is bonded to a cyclic nitrogen atom, directly, through one or more heteroatoms or through a hydrocarbon chain which may be broken by one or more heteroatoms}
<administratively transferred to [C07F 9/6512](#)>

- D C07F 9/65122 {the phosphorus atom is bonded to a cyclic carbon atom, other than directly, through a heteroatom, or through a hydrocarbon chain which may be broken by at least one nitrogen atom,
e.g. )n-P
Or )n-C(=O)-O-(CH2)n-P }
<administratively transferred to [C07F 9/6512](#)>
- D C07F 9/65123 {the phosphorus atom is bonded to a cyclic carbon atom, directly or through a heteroatom other than nitrogen,
e.g.  }
Or  }
<administratively transferred to [C07F 9/6512](#)>
- D C07F 9/65125 {bonded through a heteroatom}
<administratively transferred to [C07F 9/6512](#)>
- D C07F 9/65126 {directly bonded}
<administratively transferred to [C07F 9/6512](#)>
- D C07F 9/65127 {the phosphorus atom is bonded to a cyclic carbon atom, through a nitrogen atom or through a hydrocarbon chain which is broken by at least one nitrogen atom,
e.g.  }
Or )n-N-(CH2)n-P }
<administratively transferred to [C07F 9/6512](#)>
- U C07F 9/6515 . . . having three nitrogen atoms as the only ring hetero atoms
- E C07F 9/6518 Five-membered rings
- D C07F 9/65181 {the phosphorus atom is bonded to a cyclic nitrogen atom, directly, through one or more heteroatoms or through a hydrocarbon chain which may be broken by one or more heteroatoms}
<administratively transferred to [C07F 9/6518](#)>
- D C07F 9/65182 {the phosphorus atom is bonded to a cyclic carbon atom, other than directly, through a heteroatom, or through a hydrocarbon chain which may be broken by at least one nitrogen atom,
e.g. )n-P
Or )n-C(=O)-O-(CH2)n-P }
<administratively transferred to [C07F 9/6518](#)>
- D C07F 9/65183 {the phosphorus atom is bonded to a cyclic carbon atom, directly or through a heteroatom other than nitrogen,
e.g.  }
Or  }
<administratively transferred to [C07F 9/6518](#)>
- D C07F 9/65185 {bonded through a heteroatom}
<administratively transferred to [C07F 9/6518](#)>

- D C07F 9/65186 {directly bonded}
<administratively transferred to [C07F 9/6518](#)>
- D C07F 9/65187 {the phosphorus atom is bonded to a cyclic carbon atom, through a nitrogen atom or through a hydrocarbon chain which is broken by at least one nitrogen atom,
e.g. 
or  $n\text{-N}-(\text{CH}_2)_{n\text{-P}}$ }
<administratively transferred to [C07F 9/6518](#)>
- E C07F 9/6521 Six-membered rings
- D C07F 9/65211 {the phosphorus atom is bonded to a cyclic nitrogen atom, directly, through one or more heteroatoms or through a hydrocarbon chain which may be broken by one or more heteroatoms}
<administratively transferred to [C07F 9/6521](#)>
- D C07F 9/65212 {the phosphorus atom is bonded to a cyclic carbon atom, other than directly, through a heteroatom, or through a hydrocarbon chain which may be broken by at least one nitrogen atom,
e.g.  $n\text{-P}$
or  $n\text{-C}(=\text{O})\text{-O}-(\text{CH}_2)_{n\text{-P}}$ }
<administratively transferred to [C07F 9/6521](#)>
- D C07F 9/65213 {the phosphorus atom is bonded to a cyclic carbon atom, directly or through a heteroatom other than nitrogen,
e.g. 
or  }
<administratively transferred to [C07F 9/6521](#)>
- D C07F 9/65215 {bonded through a heteroatom}
<administratively transferred to [C07F 9/6521](#)>
- D C07F 9/65216 {directly bonded}
<administratively transferred to [C07F 9/6521](#)>
- D C07F 9/65217 {the phosphorus atom is bonded to a cyclic carbon atom, through a nitrogen atom or through a hydrocarbon chain which is broken by at least one nitrogen atom,
e.g. 
or  $n\text{-N}-(\text{CH}_2)_{n\text{-P}}$ }
<administratively transferred to [C07F 9/6521](#)>
- U C07F 9/6564 having phosphorus atoms, with or without nitrogen, oxygen, sulfur, selenium or tellurium atoms, as ring hetero atoms
- U C07F 9/6581 having phosphorus and nitrogen atoms with or without oxygen or sulfur atoms, as ring hetero atoms
- M C07F 9/65812 {Cyclic phosphazenes $[\text{P}=\text{N-}]_n$, $n \geq 3$ }
- U C07F 9/66 Arsenic compounds
- E C07F 9/70 Organo-arsenic compounds

- D C07F 9/703 . . . {Complex metallic compounds}
<administratively transferred to [C07F 9/70](#)>
- D C07F 9/706 . . . {Heterocyclic compounds containing As in the ring}
<administratively transferred to [C07F 9/70](#)>
- E C07F 9/72 . . . Aliphatic compounds
- D C07F 9/723 {As bound only to carbon, hydrogen and/or oxygen}
<administratively transferred to [C07F 9/72](#)>
- D C07F 9/726 {Compounds with chains of As}
<administratively transferred to [C07F 9/72](#)>
- E C07F 9/74 . . . Aromatic compounds
- D C07F 9/743 {As bound only to carbon, hydrogen and/or oxygen}
<administratively transferred to [C07F 9/74](#)>
- D C07F 9/746 {Compounds with chains of As}
<administratively transferred to [C07F 9/74](#)>
- E C07F 9/80 . . . Heterocyclic compounds
- D C07F 9/803 {As bound only to carbon, hydrogen and/or oxygen}
<administratively transferred to [C07F 9/80](#)>
- D C07F 9/806 {Compounds with chains of As}
<administratively transferred to [C07F 9/80](#)>
- E C07F 9/90 . . . Antimony compounds
- D C07F 9/904 . . {Aliphatic compounds}
<administratively transferred to [C07F 9/90](#)>
- D C07F 9/906 . . {Heterocyclic compounds}
<administratively transferred to [C07F 9/90](#)>
- D C07F 9/908 . . {Complex compounds}
<administratively transferred to [C07F 9/90](#)>

Project: N/A (C07G)**C07G****COMPOUNDS OF UNKNOWN CONSTITUTION**NOTE

This subclass does not cover peptides or proteins of unknown constitution, which are covered by subclass [C07K](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C07J)**C07J****STEROIDS (seco-steroids [C07C](#))**NOTE

This subclass covers compounds containing a cyclopenta[a]hydrophenanthrene skeleton or a ring structure derived therefrom:

- by contraction or expansion of one ring by one or two atoms;
- by contraction or expansion of two rings each by one atom;
- by contraction of one ring by one atom and expansion of one ring by one atom;
- by substitution of one or two carbon atoms of the cyclopenta[a]hydrophenanthrene skeleton, which are not shared by rings, by hetero atoms, in combination with the above defined contraction or expansion or not, or;

- by condensation with carbocyclic or heterocyclic rings in combination with one or more of the foregoing alterations or not.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C07K)

C07K

PEPTIDES (peptides in foodstuffs [A23](#); obtaining protein compositions for foodstuffs, working-up proteins for foodstuffs [A23J](#); preparations for medicinal purposes [A61K](#); peptides containing beta-lactam rings [C07D](#); cyclic dipeptides not having in their molecule any other peptide link than those which form their ring, e.g. piperazine-2,5-diones, [C07D](#); ergot alkaloids of the cyclic peptide type [C07D 519/02](#); macromolecular compounds having statistically distributed amino acid units in their molecules, i.e. when the preparation does not provide for a specific; but for a random sequence of the amino acid units, homopolyamides and block copolyamides derived from amino acids [C08G 69/00](#); macromolecular products derived from proteins [C08H 1/00](#); preparation of glue or gelatine [C09H](#); single cell proteins, enzymes [C12N](#); genetic engineering processes for obtaining peptides [C12N 15/00](#); compositions for measuring or testing processes involving enzymes [C12Q](#); investigation or analysis of biological material [G01N 33/00](#))

NOTES

1. In this subclass, the following terms or expressions are used with the meanings indicated:

- "amino acids" are compounds in which at least one amino group and at least one carboxyl group are bound to the same carbon skeleton and the nitrogen atom of the amino group may form part of a ring;
- "normal peptide link" is one between an alpha-amino group of an amino acid and the carboxyl group - in position 1 - of another alpha-amino acid;
- "abnormal peptide link" is a link where at least one of the linked amino acids is not an alpha-amino acid or a link formed by at least one carboxyl or amino group being part of the side chain of a alpha-amino acid;
- "peptides" are compounds containing at least two amino acid units, which are bound through at least one normal peptide link, including oligopeptides, polypeptides and proteins, where:
 - i. "linear peptides" may comprise rings formed through S-S bridges, or through a hydroxy or a mercapto group of an hydroxy- or mercapto-amino acid and the carboxyl group of another amino acid, (e.g. peptide lactones) but do not comprise rings which are formed only through peptide links;
 - ii. "cyclic peptides" are peptides comprising at least one ring formed only through peptide links; the cyclisation may occur only through normal peptide links or through abnormal peptide links, e.g. through the 4-amino group of 2,4-diamino-butanoic acid. Thus, cyclic compounds in which at least one link in the ring is a non-peptide link are considered as "linear peptides";
 - iii. "depsipeptides" are compounds containing a sequence of at least two alpha-amino acids and at least one alpha-hydroxy carboxylic acid, which are bound through at least one normal peptide link and ester links, derived from the hydroxy carboxylic acids, where:
 - a. "linear depsipeptides" may comprise rings formed through S-S bridges, or through an hydroxy or a mercapto group of an hydroxy- or mercapto-amino acid and the carboxyl group of another amino- of hydroxy-acid but do not comprise rings formed only through peptide or ester links derived from

hydroxy carboxylic acids, e.g. Gly-Ala-Gly-OCH₂CO₂H and Gly-OCH₂CO-Ala-Gly are considered as "linear depsipeptides", but HOCH₂CO-Gly-Ala-Gly does not contain an ester link, and is thus a derivative of Gly-Ala-Gly which is covered by [C07K 5/08](#);

- b. "cyclic depsipeptides" are peptides containing at least one ring formed only through peptide or ester links - derived from hydroxy carboxylic acids -, e.g. Gly-Ala-Gly-OCH₂CO.

2. Fragments of peptides or peptides modified by removal or addition of amino acids, by substitution of amino acids by others, or by combination of these modifications, are classified as the parent peptides. However, fragments of peptides having only four or less amino acids are also classified in group [C07K 5/00](#).

3. Peptides prepared by chemical processes and having an amino acid sequence derived from naturally occurring peptides are classified with the natural one.

4. Peptides prepared by recombinant DNA technology are not classified according to the host, but according to the original peptide expressed, e.g. HIV peptide expressed in E. coli is classified with HIV peptides.

5. When classifying in this subclass, classification is also made in group [B01D 15/08](#) insofar as subject matter of general interest relating to chromatography is concerned.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C07K 5/023	covered by	C07K 5/0202
C07K 5/027	covered by	C07K 5/0205
C07K 5/03	covered by	C07K 5/0207
C07K 5/033	covered by	C07K 5/021
C07K 5/037	covered by	C07K 5/0215
C07K 5/062	covered by	C07K 5/06017
C07K 5/065	covered by	C07K 5/06078
C07K 5/068	covered by	C07K 5/06086
C07K 5/072	covered by	C07K 5/06104
C07K 5/075	covered by	C07K 5/0613
C07K 5/078	covered by	C07K 5/06139
C07K 5/083	covered by	C07K 5/0804
C07K 5/087	covered by	C07K 5/0812
C07K 5/09	covered by	C07K 5/0815
C07K 5/093	covered by	C07K 5/0819
C07K 5/097	covered by	C07K 5/0821
C07K 5/103	covered by	C07K 5/1005
C07K 5/107	covered by	C07K 5/1016
C07K 5/11	covered by	C07K 5/1019
C07K 5/113	covered by	C07K 5/1021
C07K 5/117	covered by	C07K 5/1024
C07K 14/185	covered by	C07K 14/1816
C07K 14/725	covered by	C07K 14/705
C07K 14/73	covered by	C07K 14/70514
C07K 14/735	covered by	C07K 14/70535
C07K 14/74	covered by	C07K 14/70539

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C08B)

C08B

POLYSACCHARIDES; DERIVATIVES THEREOF (polysaccharides containing less than six saccharide radicals attached to each other by glycosidic linkages [C07H](#); fermentation or enzyme-using processes [C12P 19/00](#); sugar industry [C13](#); production of cellulose [D21](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C08B 37/02	covered by	
C08B 37/04	covered by	
C08B 37/06	covered by	C08B 37/0045
C08B 37/08	covered by	
C08B 37/10	covered by	C08B 37/0075
C08B 37/12	covered by	C08B 37/0039
C08B 37/16	covered by	

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C08F)

C08F

MACROMOLECULAR COMPOUNDS OBTAINED BY REACTIONS ONLY INVOLVING CARBON-TO-CARBON UNSATURATED BONDS

NOTES

- In this subclass, boron or silicon are considered as metals.
- In this subclass, the following expression is used with the meaning indicated:
 - aliphatic radical" means an acyclic or a non-aromatic carbocyclic carbon skeleton which is considered to be terminated by every bond to:
 - an element other than carbon
 - a carbon atom having a double bond to one atom other than carbon
 - an aromatic carbocyclic ring or a heterocyclic ring.
 Examples: Polymers of
 - $\text{CH}_2=\text{CH}-\text{O}-\text{CH}_2-\text{CH}_2-\text{NH}-\text{C}(=\text{O})\text{O}-\text{CH}_2-\text{CH}_2-\text{OH}$ are classified in group [C08F 16/28](#)
 - $\text{CH}_2=\text{CH}-\text{C}(=\text{O})-\text{CH}=\text{CH}_2$ are classified in group [C08F 16/36](#)
 - para- $\text{C}_6\text{H}_4\text{Cl}(\text{CH}=\text{CH}_2)$ are classified in group [C08F 12/18](#).
- In this subclass:
 - in the absence of an indication to the contrary, a catalyst or a polymer is classified in the last appropriate place .
 - {From April 2012 onwards, in a copolymer, the monomer in majority is given an Indexing Code and the monomer(s) in minority are given Indexing Code(s) in the form of a C-Set. The Indexing Codes are linked. The monomer in majority is always indicated first in the C-set. Example: a copolymer having ethylene in majority and styrene in minority is classified in ([C08F 210/02](#), [C08F 212/08](#)).}
- In this subclass:
 - macromolecular compounds and their preparation are classified in the groups for the type of compound prepared. General processes for the preparation of macromolecular compounds according to more than one main group are classified in the groups for the processes employed ([C08F 2/00](#) - [C08F 8/00](#)). Processes for the preparation of macromolecular compounds are also classified in the groups for the types of reactions employed, if of interest;
 - subject matter relating to both homopolymers and copolymers is classified in groups [C08F 10/00](#) - [C08F 38/00](#);

- c. subject matter limited to homopolymers is classified only in groups [C08F 110/00](#) - [C08F 138/00](#);
 - d. subject matter limited to copolymers is classified only in groups [C08F 210/00](#) - [C08F 246/00](#);
 - e. in groups [C08F 210/00](#) - [C08F 238/00](#), in the absence of an indication to the contrary, a copolymer is classified according to the major monomeric component.
5. This subclass covers also compositions based on monomers which form macromolecular compounds classifiable in this subclass (paints [C09D 4/00](#); adhesives [C09J 4/00](#)). In this subclass:
- a. if the monomers are defined, classification is made according to the polymer to be formed:
 - in groups [C08F 10/00](#) - [C08F 246/00](#) if no preformed polymer is present;
 - in groups [C08F 251/00](#) - [C08F 291/00](#) if a preformed polymer is present, considering the reaction to take place as a graft or cross-linking reaction;
 - b. if the presence of compounding ingredients is of interest, classification is made in group [C08F 2/44](#) (sensitising agents [C08F 2/50](#); catalysts [C08F 4/00](#));
 - c. if the compounding ingredients are of interest per se, classification is also made in subclass [C08K](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C08G)

C08G

MACROMOLECULAR COMPOUNDS OBTAINED OTHERWISE THAN BY REACTIONS ONLY INVOLVING UNSATURATED CARBON-TO-CARBON BONDS

NOTES

1. In this subclass, group [C08G 18/00](#) takes precedence over the other groups. A further classification is given if the polymers are obtained by reactions forming specific linkages for which an appropriate group is provided.
2. Within each main group of this subclass, in the absence of an indication to the contrary, classification is made in the last appropriate place.
3. In groups [C08G 61/00](#) - [C08G 79/00](#), in the absence of an indication to the contrary, macromolecular compounds obtained by reactions forming two different linkages in the main chain are classified only according to the linkage present in excess.
4. This subclass covers also compositions based on monomers which from macromolecular compounds classifiable in this subclass. In this subclass:
 - a. if the monomers are defined, classification is made in groups [C08G 2/00](#) - [C08G 79/00](#), [C08G 83/00](#) according to the polymer to be formed;
 - b. if the monomers are defined in a way that a composition cannot be classified within one main group of this subclass, the composition is classified in group [C08G 85/00](#);
 - c. if the compounding ingredients are of interest per se, classification is also made in subclass [C08K](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
[C08G 14/067](#), [C08G 14/073](#), covered by [C08G 14/06](#)
[C08G 14/09](#)

C08G 59/16 , C08G 59/17	covered by	C08G 59/14
C08G 63/49	covered by	C08G 63/48
C08G 65/28	covered by	C08G 65/26
C08G 73/04	covered by	C08G 73/02

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C08J)

C08J

WORKING-UP; GENERAL PROCESSES OF COMPOUNDING; AFTER-TREATMENT NOT COVERED BY SUBCLASSES [C08B](#), [C08C](#), [C08F](#), [C08G](#) (mechanical aspects [B29](#); layered products, manufacture thereof [B32B](#); treatment of macromolecular material specially adapted to enhance its filling properties in mortars, concrete or artificial stone [C04B 16/04](#), [C04B 18/20](#), [C04B 20/00](#); treatment of textiles [D06](#))

NOTES

1. This subclass covers processes, not covered by subclasses [C08B](#) - [C08H](#), for treating polymers.

In this subclass, in the absence of an indication to the contrary, classification is made in the last appropriate place

2. When classifying in subclass [C08J](#), the treatment of specific polymers is indicated using indexing codes chosen from [C08J 2300/00](#) or subgroups thereof.

Example:

- Preparation of particles of polystyrene by impregnation of the particles with the blowing agent: [C08J 9/18](#) and [C08J 2325/06](#).

The use of a polymeric component in minority, e.g. masterbatch, coating, impregnating agent or thin binder is indicated using indexing codes chosen from [C08J 2400/00](#) or subgroups thereof. Examples:

- Use of PMMA as masterbatch in a polystyrene composition: [C08J 3/226](#) and [C08J 2325/06](#) and [C08J 2433/10](#)
- Bonding of polystyrene by heating: [C08J 5/121](#) and [C08J 2325/06](#)
- Coating of a polyethylene substrate with a polyurethane coating: [C08J 7/047](#) and [C08J 2323/06](#) and [C08J 2475/04](#)
- Use of ABS as an additive for foamed polyacrylamide : [C08J 9/0061](#) and [C08J 2333/26](#) and [C08J 2455/02](#)

In the following subgroups, the codes of [C08J 2300/00](#) - [C08J 2399/00](#) are used to specify:

- [C08J 3/226](#) : the polymeric material to which the masterbatch carrier is added.
- [C08J 7/047](#) : the polymeric substrate to be coated.
- [C08J 9/0061](#) : the polymeric component in majority in a multicomponents foamable blend.

3. Group [C08J 2400/00](#) was introduced on January 1st, 2012. Patent documents are continuously being reclassified. As a consequence, documents published before 01/01/2012, and to which [C08J 2400/00](#) indexing codes were allocated, are indexed in the corresponding head group. Example:

- Use of PMMA as masterbatch in a polystyrene composition: [C08J 3/226](#) and [C08J 2325/06](#) and [C08J 2433/00](#), instead of [C08J 2433/10](#).

In the following subgroups, the codes of [C08J 2400/00](#) - [C08J 2499/00](#) are used to specify:

- [C08J 3/226](#) : the polymeric carrier in a masterbatch.
- [C08J 5/12](#) : the chemical nature of the adhesive
- [C08J 7/047](#) : the chemical nature of the coating(s).
- [C08J 9/0061](#) : the polymeric component in minority in a multicomponents foamable blend.

- [C08J 9/224](#), [C08J 9/236](#), [C08J 9/36](#), [C08J 9/40](#) and [C08J 9/42](#) : the polymer used for coating, binding, or impregnating the foam. [C08J 9/26](#) : the polymer to be leached out.
- [C08J 9/33](#) and [C08J 9/35](#) : the foam fragments included in the (foamable) polymer matrix.
- in all other subgroups, when the presence of a polymeric component in minority is of relevance.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[C08J 5/14](#) covered by [B24D 3/20](#), [F16D 69/02](#)
[C08J 5/16](#) covered by [C10M](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C08L)

C08L

COMPOSITIONS OF MACROMOLECULAR COMPOUNDS (pesticides, herbicides [A01N](#); pharmaceuticals, cosmetics [A61K](#); explosives [C06B](#); compositions based on polymerisable monomers [C08F](#), [C08G](#); paints, inks, varnishes, dyes, polishes, adhesives [C09](#); lubricants [C10M](#); detergents [C11D](#); artificial filaments or fibres [D01F](#); textile treating compositions [D06](#))

NOTES

1. Compositions classified in [C08K](#) according to note 3 of [C08K](#), are not classified in [C08L](#).
2. Documents classified before 09.2003: Classification is given in the form of C-Sets. The polymer in majority is given a [C08L](#) symbol, and the minor components are characterised by Indexing Codes taken from the list below. The Indexing Codes are linked. The polymer in majority is always first in the C-set. List of [C08L](#) codes: [C08L 23/00](#), [C08L 23/26](#), [C08L 25/00](#), [C08L 27/00](#), [C08L 27/04](#), [C08L 27/12](#), [C08L 29/00](#), [C08L 31/00](#), [C08L 33/00](#), [C08L 35/00](#), [C08L 37/00](#), [C08L 51/00](#), [C08L 53/00](#), [C08L 55/02](#), [C08L 61/04](#), [C08L 61/20](#), [C08L 63/00](#), [C08L 67/00](#), [C08L 67/02](#), [C08L 67/025](#), [C08L 67/03](#), [C08L 67/04](#), [C08L 67/06](#), [C08L 67/07](#), [C08L 69/00](#), [C08L 69/005](#), [C08L 71/00](#), [C08L 75/04](#), [C08L 77/00](#), [C08L 77/08](#), [C08L 77/12](#), [C08L 79/08](#), [C08L 79/085](#), [C08L 81/00](#), [C08L 83/00](#), [C08L 85/00](#), [C08L 91/06](#), [C08L 95/00](#) or [C08L 2666/00](#) - [C08L 2666/86](#). Documents from group [C08L 23/00](#) - [C08L 23/36](#), [C08L 45/00](#) - [C08L 45/02](#) and [C08L 49/00](#) have all been reclassified following Note 3 below. An additive is classified in the last appropriate place in the list as selected for each [C08L](#) group. Examples:
 - a. A composition based on a polyamide and a graft polymer is classified in ([C08L 77/00](#), [C08L 2666/24](#)).
 - b. A composition based on polyvinylchloride and containing CaCO₃ is classified according to note 4 of [C08K](#), i.e. in ([C08K 3/26](#), [C08L 27/06](#)). If this composition contains also a polyamide, then the classification will be ([C08L 27/06](#), [C08L 77/00](#), [C08K 3/26](#)).
 - c. A composition based on a polysiloxane ([C08L 83/04](#)) and containing a second polysiloxane, a phenol and silica is classified in ([C08L 83/04](#), [C08L 83/04](#), [C08L 2666/34](#), [C08L 2666/58](#)).
3. From 01.09.2003 until April 2012: Classification is given in the form of C-Sets. The polymer in majority is given a [C08L](#) class, and the minor components are characterised by Indexing Codes taken from [C08L](#) or [C08K](#) and they are linked or unlinked. The polymer in majority is always first in the C-Set. List of [C08L](#) codes in the C-Set: [C08L 1/00](#), [C08L 81/00](#), [C08L 83/00](#), [C08L 91/06](#),

[C08L 95/00](#) or [C08L 2666/02](#) - [C08L 2666/08](#), [C08L 2666/14](#) - [C08L 2666/26](#).

Examples:

- a. A blend of 60 parts polyvinylchloride ([C08L 27/06](#)) and 40 parts polyamide is classified in ([C08L 27/06](#), [C08L 2666/20](#)) and [C08L 77/00](#).
 - b. A blend of 50 parts polyvinylchloride ([C08L 27/06](#)) and 50 parts polyamide ([C08L 77/00](#)) is classified in ([C08L 27/06](#), [C08L 2666/20](#)) and [C08L 77/00](#), as well as in ([C08L 77/00](#), [C08L 2666/04](#)) and [C08L 27/06](#).
 - c. A composition based on polyvinylchloride and containing CaCO₃ is classified according to [N: Note 4 of [C08K](#), i.e. in ([C08K 3/26](#), [C08L 27/06](#))]. If this composition contains also a polyamide, then the classification will be ([C08L 27/06](#), [C08L 2666/20](#)) and [C08K 3/26](#).
 - d. A composition based on a first polysiloxane ([C08L 83/04](#)) and containing a second polysiloxane, a phenol and silica is classified in ([C08L 83/04](#), [C08L 83/04](#), [C08K 5/13](#), [C08K 3/36](#)) and [C08L 2205/02](#).
4. From April 2012 onwards, after the notation [C08L](#), notations concerning the other constituents of the composition may be added, in the form of C-Sets. The further constituent is added with an indexing code. The indexing codes are chosen from [C08L 1/00](#) -[C08L 2555/86](#) or [C08K](#) and they may be linked or unlinked: - [C08L 1/00](#) - [C08L 101/10](#) are linked. - [C08L 2201/00](#) - [C08L 2555/86](#) are unlinked. The polymer in majority is always first in the C-Set. Examples:
- a. A blend of 60 parts polyvinylchloride ([C08L 27/06](#)) and 40 parts polyamide ([C08L 77/00](#)) is classified in ([C08L 27/06](#), [C08L 77/00](#)).
 - b. A blend of 50 parts polyvinylchloride ([C08L 27/06](#)) and 50 parts polyamide ([C08L 77/00](#)) is classified in ([C08L 27/06](#), [C08L 77/00](#)) and ([C08L 77/00](#), [C08L 27/06](#)).
 - c. A composition based on polyvinylchloride and containing CaCO₃ is classified according to [N: Note 4 of [C08K](#), i.e. in ([C08K 3/26](#), [C08L 27/06](#))]. If this composition contains also a polyamide, then the classification will be ([C08L 27/06](#), [C08L 77/00](#), [C08K 3/26](#)).
 - d. A composition based on a first polysiloxane ([C08L 83/04](#)) and containing a second polysiloxane, a phenol and silica is classified in ([C08L 83/04](#), [C08L 83/00](#), [C08K 5/13](#), [C08K 3/36](#)) and [C08L 2205/02](#).
 - e. A composition containing a polyamide in majority, a polyester and a polyethylene is classified in ([C08L 77/00](#), [C08L 67/00](#), [C08L 23/06](#)) and [C08L 2205/03](#).
5. "Rubber" includes:
- natural or conjugated diene rubbers;
 - rubber in general (for a specific rubber, other than a natural rubber or a conjugated diene rubber, see the group provided for compositions of such macromolecular compounds).
6. In this subclass:
- a. compositions are classified according to the mutual proportions by weight of only the macromolecular constituents;
 - b. compositions are classified according to the macromolecular constituent or constituents present in the highest proportion: if all these constituents are present in equal proportions the composition is classified according to each of these constituents.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C08L 61/08 - C08L 61/10	covered by
C08L 63/02	covered by
C08L 83/05	covered by
C08L 83/07	covered by

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C09C)

C09C

TREATMENT OF INORGANIC MATERIALS, OTHER THAN FIBROUS FILLERS, TO ENHANCE THEIR PIGMENTING OR FILLING PROPERTIES (preparation of inorganic compounds or non-metallic elements [C01](#); treatment of materials specially adapted to enhance their filling properties in mortars, concrete or artificial stone [C04B 14/00](#), [C04B 18/00](#), [C04B 20/00](#)); PREPARATION OF CARBON BLACK; {PREPARATION OF INORGANIC MATERIALS WHICH ARE NO SINGLE CHEMICAL COMPOUNDS AND WHICH ARE MAINLY USED AS PIGMENTS OR FILLERS}

NOTES

1. In this subclass, in the absence of an indication to the contrary, a compound is classified in the last appropriate place
2. Treatment by polymerisation onto particle is classified in [C08F 292/00](#). Only treatment by already polymerised agents is classified in [C09C](#)
3. Whenever in groups [C09C 1/00](#) - [C09C 1/66](#) the materials consist of a particulate core bearing a coating or any other deposit, classification is done only according to the composition of the core, unless otherwise stated, e.g. [C09C 1/0015](#), [C09C 1/0078](#)
4. Preparations of those materials which are no single chemical compounds comprise those of many ceramic pigments ([C09C 1/0009](#)), consisting of solid solutions or polycrystalline structures, and those defined as composite materials ([C09C 1/0081](#))
5. Preparation and treatment steps are not always easy to distinguish from each other, e.g. preparation in the presence of treating agents (by precipitation or calcination), precise reacting conditions, affecting pigmentary effects. It is common practice to include these complex topics in [C09C 1/00](#) while avoiding redundancy
6. When classifying in this subclass, the indexing codes of subclass [C01P](#) are used to identify structural or physical aspects of solid inorganic compounds

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
[C09C 1/68](#) covered by [C09K 3/14](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C09D)

C09D

COATING COMPOSITIONS, e.g. PAINTS, VARNISHES OR LACQUERS; FILLING PASTES; CHEMICAL PAINT OR INK REMOVERS; INKS; CORRECTING FLUIDS; WOODSTAINS; PASTES OR SOLIDS FOR COLOURING OR PRINTING; USE OF MATERIALS THEREFOR (cosmetics [A61K](#); processes for applying liquids or other fluent materials to surfaces, in general, [B05D](#); staining wood [B27K 5/02](#); glazes or vitreous enamels [C03C](#); organic macromolecular compounds [C08](#); organic dyes or closely-related compounds for producing dyes, mordants or lakes, *per se*, [C09B](#); treatment of inorganic materials other than fibrous fillers used as pigments or fillers [C09C](#); natural resins, French polish, drying-oils, driers, turpentine, *per se*, [C09F](#); polishing compositions other than French polish, ski waxes [C09G](#); preparation of glue or gelatine [C09H](#), {[C08H 1/06](#)} ; adhesives or use of materials as adhesives [C09J](#); materials for sealing or packing joints or covers [C09K 3/10](#); materials for stopping leaks [C09K 3/12](#); processes for the electrolytic or electrophoretic production of coatings [C25D](#); textile-treating compositions [D06](#); paper-making [D21](#); conductors, insulators [H01B](#))

NOTES

- In this subclass, the following terms or expressions are used with the meanings indicated:
 - "use of materials for coating compositions" means the use of known or new polymers or products;
 - "rubber" includes:
 - natural or conjugated diene rubbers;
 - rubber in general (for a specific rubber, other than a natural rubber or a conjugated diene rubber, see the group provided for coating compositions based on such macromolecular compounds);
 - "based on" is defined by means of Note 3, below;
 - "filling pastes" means materials used to fill up the holes or cavities of a substrate in order to smooth its surface prior to coating.
- In this subclass, coating compositions containing specific macromolecular substances are classified only according to the macromolecular substance, non-macromolecular substances not being taken into account.

Example: a coating composition containing polyethene and amino-propyltrimethoxysilane is classified in group [C09D 123/06](#).

However, coating compositions containing combinations of organic non-macromolecular compounds having at least one polymerisable carbon-to-carbon unsaturated bond with prepolymers or polymers other than unsaturated polymers of groups [C09D 159/00](#) - [C09D 187/00](#) are classified according to the unsaturated non-macromolecular component in group [C09D 4/00](#).

Example: a coating composition containing polyethene and styrene monomer is classified in group [C09D 4/06](#).

Aspects relating to the physical nature of the coating compositions or to the effects produced, as defined in group [C09D 5/00](#), if clearly and explicitly stated, are also classified in this subclass.

Coating compositions characterised by other features, e.g. additives, are classified in group [C09D 7/00](#), unless the macromolecular constituent is specified.
- In this subclass, coating compositions comprising two or more macromolecular constituents are classified according to the macromolecular constituent or constituents present in the highest proportion, i.e. the constituent on which the composition is based. If the composition is based on two or more constituents, present in equal proportions, the composition is classified according to each of these constituents.

Examples:

A coating composition containing 80 parts of polyethene and 20 parts of polyvinylchloride is classified in group [C09D 123/06](#);

A coating composition containing 40 parts of polyethene and 40 parts of polyvinylchloride is classified in groups [C09D 123/06](#) and [C09D 127/06](#).

4. Documents classified up until 04.2012: after the notation of group [C09D 4/06](#), and separated therefrom by a + sign, notations concerning the macromolecular compound may be added. The notations are selected from the main groups [C08F 251/00](#) - [C08F 291/00](#) and from the subgroups of [C08F 290/00](#) - [C08F 290/048](#) and [C08F 290/08](#) - [C08F 290/128](#).

Example: a paint based on a mixture of methylmethacrylate monomer and a polymer of vinylchloride is classified in [C09D 4/06](#) + [C08F 259/04](#).

5. From April 2012 onwards, after the notation [C09D 4/00](#), classification concerning the monomer may be added, in the form of C-sets. The notation is selected from [C08F 210/00](#) - [C08F 246/00](#), [C08G 77/00](#) - [C08G 77/04](#) or [C08G 77/20](#) - [C08G 77/30](#). Ex.: A paint based on a mixture of methylmethacrylate monomer and a polymer of vinylchloride is classified ([C09D 4/06](#), [C08F 259/04](#)).

6. Documents classified up until 09-2003: Classification is given in the form of C-Sets. The polymer in majority is given a [C09D 101/00](#) - [C09D 201/10](#) symbol, and the minor components are characterised by Indexing Codes taken from the list below. The Indexing Codes are linked. The polymer in majority is always first in the C-set. List of [C08L](#) codes: [C08L 23/00](#), [C08L 23/26](#), [C08L 25/00](#), [C08L 27/00](#), [C08L 27/04](#), [C08L 27/12](#), [C08L 29/00](#), [C08L 31/00](#), [C08L 33/00](#), [C08L 35/00](#), [C08L 37/00](#), [C08L 51/00](#), [C08L 53/00](#), [C08L 55/02](#), [C08L 61/04](#), [C08L 61/20](#), [C08L 63/00](#), [C08L 67/00](#), [C08L 67/02](#), [C08L 67/025](#), [C08L 67/03](#), [C08L 67/04](#), [C08L 67/06](#), [C08L 67/07](#), [C08L 69/00](#), [C08L 69/005](#), [C08L 71/00](#), [C08L 75/04](#), [C08L 77/00](#), [C08L 77/08](#), [C08L 77/12](#), [C08L 79/08](#), [C08L 79/085](#), [C08L 81/00](#), [C08L 83/00](#), [C08L 85/00](#), [C08L 91/06](#), [C08L 95/00](#) or [C08L 2666/00](#) - [C08L 2666/86](#). Documents from group [C09D 123/00](#) - [C09D 123/36](#), [C09D 145/00](#) - [C09D 145/02](#) and [C09D 149/00](#) have all been reclassified following Note 3 below. An additive is classified in the last appropriate place in the list as selected for each [C09D](#) group.

Examples:

- a. A coating composition based on a polyamide and a graft polymer is classified in ([C09D 177/00](#), [C08L 2666/24](#)).
- b. A coating composition based on polyvinylchloride and containing CaCO₃ is classified according to note 4 of [C08K](#), i.e. in [C08K 3/26](#) and [C09D 127/06](#). If this coating composition contains also a polyamide, then the classification will be ([C09D 127/06](#), [C08L 77/00](#), [C08K 3/26](#)).
- c. A coating composition based on a polysiloxane ([C09D 183/04](#)) and containing a second polysiloxane, a phenol and silica is classified in ([C09D 183/04](#), [C08L 83/04](#), [C08L 2666/34](#), [C08L 2666/54](#)).

7. From 01.09.2003 until April 2012: Classification is given in the form of C-Sets. The polymer in majority is given a [C09D](#) symbol, and the minor components are characterised by Indexing Codes taken from [C08L](#) or [C08K](#) and they are linked or unlinked. The polymer in majority is always first in the C-set. List of indexing codes in the C-Sets: [C08L 1/00](#), [C08L 81/00](#), [C08L 83/00](#), [C08L 91/06](#), [C08L 95/00](#) or [C08L 2666/02](#) - [C08L 2666/08](#), [C08L 2666/14](#) - [C08L 2666/26](#).

Examples:

- a. A coating of 60 parts polyvinylchloride ([C09D 127/06](#)) and 40 parts polyamide is classified in ([C09D 127/06](#), [C08L 2666/20](#)), [C08L 77/00](#).
- b. A coating of 50 parts polyvinylchloride ([C09D 127/06](#)) and 50 parts polyamide ([C09D 177/00](#)) is classified in ([C09D 127/06](#), [C08L 2666/20](#)), and [C08L 77/00](#), as well as ([C09D 177/00](#), [C08L 2666/04](#)) and [C08L 27/06](#).
- c. A coating composition based on polyvinylchloride and containing CaCO₃ is classified according to [N: Note 4 of [C08K](#), i.e. in [C08K 3/26](#), [C09D 127/06](#). If this composition contains also a polyamide, then the classification will be ([C09D 127/06](#), [C08L 2666/20](#)) and [C08K 3/26](#).

- d. A composition based on a first polysiloxane ([C09D 183/04](#)) and containing a second polysiloxane, a phenol and silica is classified in ([C09D 183/04](#), [C08L 83/00](#), [C08K 5/13](#), [C08K 3/36](#)) and [C08L 2205/02](#).
8. From April 2012 onwards, after the notation of groups [C09D 101/00](#) - [C09D 201/00](#), notations concerning the other constituents of the coating composition may be added, in the form of C-Sets. The further constituent is added with an indexing code. The indexing codes are chosen from [C08L 1/00](#) - [C08L 2555/86](#) or [C08K](#) and they may be linked or unlinked: - [C08L 1/00](#) - [C08L 101/10](#) are linked. - [C08L 2201/00](#) - [C08L 2555/86](#) are unlinked. The polymer in majority is always first in the C-set. Examples:
- a. A coating composition containing polyethylene and amino-propyltrimethoxysilane is classified in groups [C09D 123/06](#) and [C08K 5/544](#) (unlinked).
- b. A coating composition containing 80 parts of polyethene and 20 parts of polyvinylchloride is classified in ([C09D 123/06](#), [C08L 27/06](#)).
- c. A coating composition containing 40 parts of polyethene and 40 parts of polyvinylchloride is classified in ([C09D 123/06](#), [C08L 27/06](#)) and ([C09D 127/06](#), [C08L 23/06](#)).
- d. A coating composition containing 90% of polysiloxane ([C09D 183/04](#)) further containing 10% of polyester ([C08L 67/00](#)) and an alcohol is classified in ([C09D 183/04](#), [C08L 67/00](#), [C08K 5/05](#)).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C09D 4/02	covered by	C09D 4/00 , C08F 220/00
C09D 4/04	covered by	C09D 4/00 , C08F 222/00
C09D 5/23	covered by	H01F 41/16
C09D 5/25	covered by	H01B 3/308
C09D 5/33	covered by	C09D 5/004
C09D 5/46	covered by	C09D 5/03
C09D 161/08 , C09D 161/10	covered by	C09D 161/06
C09D 163/02	covered by	C09D 163/00
C09D 171/08	covered by	C09D 171/02
C09D 171/10	covered by	C09D 171/12
C09D 183/05	covered by	C09D 183/04
C09D 183/07	covered by	C09D 183/04 , C09D 183/06

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C09F)

C09F

NATURAL RESINS; FRENCH POLISH; DRYING-OILS; DRIERS (SICCATIVES); TURPENTINE

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C09H)

C09H

PREPARATION OF GLUE OR GELATINE

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C09J)

C09J

ADHESIVES; NON-MECHANICAL ASPECTS OF ADHESIVE PROCESSES IN GENERAL; ADHESIVE PROCESSES NOT PROVIDED FOR ELSEWHERE; USE OF MATERIALS AS ADHESIVES (surgical adhesives [A61L 24/00](#); processes for applying liquids or other fluent materials to surfaces in general [B05D](#); adhesives on the basis of non specified organic macromolecular compounds used as bonding agents in layered products [B32B](#); organic labelling fabrics or comparable materials or articles with deformable surface using adhesives and thermo-activatable adhesives respectively [B65C 5/02](#), [B65C 5/04](#); organic macromolecular compounds [C08](#); production of multi-layer textile fabrics [D06M 17/00](#); preparation of glue or gelatine [C09H](#); adhesive labels, tag tickets or similar identification of indication means [G09F 3/10](#))

NOTES

- In this subclass, the following terms or expressions are used with the meanings indicated:
 - "use of materials as adhesives" means the use of known or new polymers or products;
 - "rubber" includes:
 - natural or conjugated diene rubbers;
 - rubber in general (for a specific rubber, other than a natural rubber or a conjugated diene rubber, see the group provided for adhesives based on such macromolecular compounds);
 - "based on" is defined by means of Note 3, below.
- In this subclass, adhesives containing specific macromolecular substances are classified only according to the macromolecular substance, non-macromolecular substances not being taken into account.

Example: an adhesive containing polyethene and amino-propyltrimethoxysilane is classified in group [C09J 123/06](#). However, adhesives containing combinations of organic non-macromolecular compounds having at least one polymerisable carbon-to-carbon unsaturated bond with prepolymers or polymers other than unsaturated polymers of groups [C09J 159/00](#) - [C09J 187/00](#) are classified according to the unsaturated non-macromolecular component in group [C09J 4/00](#).

Example: an adhesive containing polyethene and styrene monomer is classified in group [C09J 4/06](#).

Aspects relating to the physical nature of the adhesives or to the effects produced, as defined in group [C09J 9/00](#), if clearly and explicitly stated, are also classified in this subclass. Adhesives characterised by other features, e.g. additives, are classified in group [C09J 11/00](#), unless the macromolecular constituent is specified.
- In this subclass, adhesives comprising two or more macromolecular constituents are classified according to the macromolecular constituent or constituents present in the highest proportion, i.e. the constituent on which the adhesive is based. If the adhesive is based on two or more constituents, present in equal proportions, the adhesive is classified according to each of these constituents.

Examples: An adhesive containing 80 parts of polyethene and 20 parts of polyvinylchloride is classified in group [C09J 123/06](#); An adhesive containing 40 parts of polyethene and 40 parts of polyvinylchloride is classified in groups [C09J 123/06](#) and [C09J 127/06](#).
- An adhesive composition containing polyethylene and amino-propyltrimethoxysilane is classified in groups [C09J 123/06](#) and [C08K 5/544](#)
- Documents classified up until 09-2003: Classification is given in the form of C-Sets. The polymer in majority is given a [C09J 101/00](#) - [C09J 201/10](#) symbol, and the minor components are characterised by Indexing Codes taken from the

list below. The Indexing Codes are linked. The polymer in majority is always first in the C-set.

List of [C08L](#) codes: [C08L 23/00](#), [C08L 23/26](#), [C08L 25/00](#), [C08L 27/00](#), [C08L 27/04](#), [C08L 27/12](#), [C08L 29/00](#), [C08L 31/00](#), [C08L 33/00](#), [C08L 35/00](#), [C08L 37/00](#), [C08L 51/00](#), [C08L 53/00](#), [C08L 55/02](#), [C08L 61/04](#), [C08L 61/20](#), [C08L 63/00](#), [C08L 67/00](#), [C08L 67/02](#), [C08L 67/025](#), [C08L 67/03](#), [C08L 67/04](#), [C08L 67/06](#), [C08L 67/07](#), [C08L 69/00](#), [C08L 69/005](#), [C08L 71/00](#), [C08L 75/04](#), [C08L 77/00](#), [C08L 77/08](#), [C08L 77/12](#), [C08L 79/08](#), [C08L 79/085](#), [C08L 81/00](#), [C08L 83/00](#), [C08L 85/00](#), [C08L 91/06](#), [C08L 95/00](#) or [C08L 2666/00](#) - [C08L 2666/86](#). An additive is classified in the last appropriate place in the list as selected for each [C09J](#) group. Examples:

- a. An adhesive composition based on a polyamide and a graft polymer is classified in ([C09J 177/00](#), [C08L 2666/24](#)).
- b. An adhesive composition based on polyvinylchloride and containing CaCO₃ is classified according to note 4 of [C08K](#), i.e. in [C08K 3/26](#) and [C09J 127/06](#). If this adhesive composition contains also a polyamide, then the classification will be ([C09J 127/06](#), [C08L 77/00](#), [C08K 3/26](#)).
- c. An adhesive composition based on a polysiloxane ([C09J 183/04](#)) and containing a second polysiloxane, a phenol and silica is classified in ([C09J 183/04](#), [C08L 83/04](#), [C08L 2666/34](#), [C08L 2666/54](#)

6. From April 2012, after the notation [C09J 4/00](#), classification concerning the monomer may be added, in the form of C-sets. The notation is selected from [C08F 210/00](#) - [C08F 246/00](#), [C08G 77/00](#) - [C08G 77/04](#) or [C08G 77/20](#) - [C08G 77/30](#).

Ex. 1: An adhesive based on methylmethacrylate monomer is classified in ([C09J 4/00](#), [C08F 220/00](#)).

Ex. 2: An adhesive based on a dialkoxysilane monomer compound is classified in ([C09J 4/00](#), [C08G 77/04](#)).

7. From 01.09.2003 until April 2012: Classification is given in the form of C-Sets. The polymer in majority is given a [C08L](#) class, and the minor components are characterised by Indexing Codes taken from [C08L](#) or [C08K](#) and they are linked or unlinked. The polymer in majority is always first in the C-set. List of indexing codes in the C-Sets: [C08L 1/00](#), [C08L 81/00](#), [C08L 83/00](#), [C08L 91/06](#), [C08L 95/00](#) or [C08L 2666/02](#) - [C08L 2666/08](#), [C08L 2666/14](#) - [C08L 2666/26](#).

Examples:

- a. An adhesive blend of 60 parts polyvinylchloride ([C09J 127/06](#)) and 40 parts polyamide is classified in ([C09J 127/06](#), [C08L 2666/20](#)), [C08L 77/00](#).
- b. An adhesive blend of 50 parts polyvinylchloride ([C09J 127/06](#)) and 50 parts polyamide ([C09J 177/00](#)) is classified in ([C09J 127/06](#), [C08L 2666/20](#)), ([C09J 177/00](#), [C08L 2666/04](#)), [C08L 77/00](#) and [C08L 27/06](#).
- c. An adhesive composition based on polyvinylchloride and containing CaCO₃ is classified according to [N: Note 4 of [C08K](#), i.e. in [C08K 3/26](#), [C09J 127/06](#). If this composition contains also a polyamide, then the classification will be ([C09J 127/06](#), [C08L 2666/20](#)) and [C08K 3/26](#).
- d. A composition based on a first polysiloxane ([C09J 183/04](#)) and containing a second polysiloxane, a phenol and silica is classified in ([C09J 183/04](#), [C08L 83/00](#), [C08K 5/13](#), [C08K 3/36](#)) and [C08L 2205/02](#).

8. From April 2012 onwards, after the notation of groups [C09J 101/00](#) - [C09J 201/00](#), notations concerning the other constituents of the adhesive composition may be added, in the form of C-sets. The further constituent is added with an indexing code. The indexing codes are chosen from [C08L 1/00](#) - [C08L 2555/86](#) or [C08K](#) and they may be linked or unlinked: - [C08L 1/00](#) - [C08L 101/16](#) are linked. - [C08L 2201/00](#) - [C08L 2555/86](#) are unlinked. The polymer in majority is always first in the C-set.

Examples:

- a. An adhesive composition containing polyethylene and amino-propyltrimethoxysilane is classified in groups [C09J 123/06](#) and [C08K 5/544](#) (unlinked).

- b. An adhesive containing 80 parts of polyethene and 20 parts of polyvinylchloride is classified in group ([C09J 123/06](#), [C08L 27/06](#)).
- c. An adhesive containing 40 parts of polyethene and 40 parts of polyvinylchloride is classified in groups ([C09J 123/06](#), [C08L 27/06](#)) and ([C09J 127/06](#), [C08L 23/06](#)).
- d. An adhesive containing 90% of polysiloxane ([C09J 183/04](#)) further containing of polyester ([C08L 67/00](#)) and an alcohol is classified in ([C09J 183/04](#), [C08L 67/00](#), [C08K 5/05](#)).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C09J 4/02	covered by	
C09J 4/04	covered by	
C09J 161/08	covered by	
C09J 163/02	covered by	C09J 163/00
C09J 183/05	covered by	
C09J 183/07	covered by	

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C09K)

C09K

MATERIALS FOR MISCELLANEOUS APPLICATIONS, NOT PROVIDED FOR ELSEWHERE

NOTES

- 1. This subclass covers also the use of specified materials in general or their use for the applications not specially provided for elsewhere.
- 2. In this subclass, the following term is used with the meaning indicated:
 - "materials" includes compositions.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C09K 11/78-C09K 11/86	covered by	
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2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C10B)

C10B

DESTRUCTIVE DISTILLATION OF CARBONAGEOUS MATERIALS FOR PRODUCTION OF GAS, COKE, TAR, OR SIMILAR MATERIALS (cracking oils [C10G](#); underground gasification of minerals [E21B 43/295](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C10F)

C10F

DRYING OR WORKING-UP OF PEAT

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C10G)**C10G**

CRACKING HYDROCARBON OILS; PRODUCTION OF LIQUID HYDROCARBON MIXTURES, e.g. BY DESTRUCTIVE HYDROGENATION, OLIGOMERISATION, POLYMERISATION (cracking to hydrogen or synthesis gas [C01B](#); cracking or pyrolysis of hydrocarbon gases to individual hydrocarbons or mixtures thereof of definite or specific constitution [C07C](#); cracking to cokes [C10B](#)); RECOVERY OF HYDROCARBON OILS FROM OIL-SHALE, OIL-SAND, OR GASES; REFINING MIXTURES MAINLY CONSISTING OF HYDROCARBONS; REFORMING OF NAPHTHA; MINERAL WAXES (inhibiting corrosion or incrustation in general [C23F](#))

NOTES

1. In this subclass,
 - groups [C10G 9/00](#) - [C10G 49/00](#) are limited to one-step processes;
 - combined or multi-step processes are covered by groups [C10G 51/00](#) - [C10G 69/00](#);
 - refining or recovery of mineral waxes is covered by group [C10G 73/00](#)
2. In this subclass, the following terms or expressions are used with the meanings indicated:
 - "in the presence of hydrogen" or "in the absence of hydrogen" mean treatments in which hydrogen, in free form or as hydrogen generating compounds, is added, or not added, respectively;
 - "hydrotreatment" is used for conversion processes as defined in group [C10G 45/00](#) or group [C10G 47/00](#);
 - "hydrocarbon oils" covers mixtures of hydrocarbons such as tar oils or mineral oils.
3. In this subclass, in the absence of an indication to the contrary, classification is made in the last appropriate place.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
[C10G 73/23](#) covered by [C10G 73/06](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C10H)**C10H**

PRODUCTION OF ACETYLENE BY WET METHODS {(purification of acetylene [C07C 7/00](#))}

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C10J)**C10J**

PRODUCTION OF PRODUCER GAS, WATER-GAS, SYNTHESIS GAS FROM SOLID CARBONACEOUS MATERIAL, OR MIXTURES CONTAINING THESE GASES (synthesis gas from liquid or gaseous hydrocarbons [C01B](#); underground gasification of minerals [E21B 43/295](#)); CARBURETTING AIR OR OTHER GASES

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C10K)

C10K

PURIFYING OR MODIFYING THE CHEMICAL COMPOSITION OF COMBUSTIBLE GASES CONTAINING CARBON MONOXIDE

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C10L)

C10L

FUELS NOT OTHERWISE PROVIDED FOR (fuels for generating pressure gas, e.g. for rockets [C06D 5/00](#); candles [C11C](#); nuclear fuel [G21C 3/00](#)); NATURAL GAS; SYNTHETIC NATURAL GAS OBTAINED BY PROCESSES NOT COVERED BY SUBCLASSES [C10G](#), [C10K](#); LIQUEFIED PETROLEUM GAS; ADDING MATERIALS TO FUELS OR FIRES TO REDUCE SMOKE OR UNDESIRABLE DEPOSITS OR TO FACILITATE SOOT REMOVAL; FIRELIGHTERS

NOTE

In subclass [C10L](#) it is desirable to give indexing codes for information about components of solid, liquid and gaseous fuels or firelighters, their additives and constituents and their preparation and use. The indexing codes are taken from [C10L 2200/00](#) - [C10L 2290/60](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C11B)

C11B

PRODUCING (PRESSING, EXTRACTION), REFINING AND PRESERVING FATS, FATTY SUBSTANCES (e.g. LANOLIN), FATTY OILS AND WAXES, INCLUDING EXTRACTION FROM WASTE MATERIALS; ESSENTIAL OILS; PERFUMES (drying-oils [C09F](#))

NOTE

In this subclass, boron and silicon are considered as metals

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C11D)

C11D

DETERGENT COMPOSITIONS (preparations specially adapted for washing the hair [A61Q 5/02](#), [A61K 8/00](#); methods or apparatus for disinfection or sterilisation [A61L](#); special washing compositions for cleaning semi-permeable membranes [B01D 65/06](#)); USE OF SINGLE SUBSTANCES AS DETERGENTS; SOAP OR SOAP-MAKING; RESIN SOAPS; RECOVERY OF GLYCEROL

NOTE

Documents classified in groups [C11D 1/37](#), [C11D 1/645](#) - [C11D 1/655](#), [C11D 1/825](#) - [C11D 1/86](#), [C11D 1/94](#) - [C11D 1/945](#) and [C11D 10/00](#) - [C11D 10/047](#), are indexed using codes chosen from [C11D 1/00](#) - [C11D 1/92](#) to provide information on the individual ingredients on the compositions

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C11D 1/68	covered by	C11D 3/2003
C11D 1/70	covered by	C11D 3/2003
C11D 3/44	covered by	C11D 3/43
C11D 3/46	covered by	C11D 3/2079 , C11D 9/48
C11D 3/60	covered by	C11D 3/00
C11D 7/18	covered by	C11D 3/39
C11D 7/38	covered by	C11D 3/39
C11D 7/42	covered by	C11D 3/386
C11D 7/52	covered by	C11D 7/50
C11D 7/54	covered by	C11D 3/395
C11D 7/56	covered by	C11D 3/395
C11D 7/60	covered by	C11D 7/00
C11D 9/20	covered by partly	C11D 9/444
	covered by	
C11D 9/50	covered by	C11D 3/48
C11D 9/60	covered by	C11D 9/00
C11D 10/02	covered by	C11D 3/00
C11D 10/06	covered by	C11D 9/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C12J)

C12J

VINEGAR; ITS PREPARATION

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C12M)

C12M

APPARATUS FOR ENZYMOLOGY OR MICROBIOLOGY; {APPARATUS FOR CULTURING MICROORGANISMS FOR PRODUCING BIOMASS, FOR GROWING CELLS OR FOR OBTAINING FERMENTATION OR METABOLIC PRODUCTS, i.e. BIOREACTORS OR FERMENTERS}

NOTES

1. In this subclass the term microorganism includes prokaryotic and eukaryotic cells. Viruses, human, animal or plant cells, protozoa, tissues and unicellular algae are considered microorganisms.
2. When classifying an apparatus according to its use in group [C12M 21/00](#), classification should also be given in at least one of the groups [C12M 23/00-C12M 99/00](#).
3. This subclass covers apparatus or devices for the fermentation or for growing microorganisms or animal tissues of both laboratory and industrial scale, i.e. bioreactors.
4. This subclass covers also apparatus or devices for the pre-treatment or after-treatment of the biomass or microorganisms to be cultured or that have been cultured.
5. This subclass does not cover the methods or processes taking place in the bioreactors that are not based on the use of the parts of the apparatus.
6. This subclass does not cover:
 - apparatus for culturing plant tissue, which are covered by [A01H 4/001](#);
 - apparatus for preservation of living parts of bodies of humans or animals, which are covered by [A01N 1/0242](#);

- apparatus or devices for testing sterility conditions not linked to a bioreactor or fermenter growing biomass, which are covered by [A61L 2/00](#), [G01N 31/226](#);
- apparatus for biological treatment of water, waste water, sewage or sludge, which are covered by [C02F 3/00](#), [C02F 11/00](#);
- apparatus for brewing of beer, which are covered by [C12C](#);
- apparatus for production of wine or vinegar, which are covered by [C12G](#), [C12J 1/10](#);
- apparatus or devices for DNA and RNA technology, which are covered by [B01L 7/52](#), [B01J 19/0046](#), [C12N 15/1003](#);
- fermentation processes, which are covered by [C12P](#);
- apparatus for bioleaching of ores, which are covered by [C22B 3/18](#);
- removing cellulose from cellulosic substances, which is covered by [D21C](#);
- apparatus or devices for sampling, detection, investigation or analysis of microorganisms or biosensors, which are covered by [G01N 33/48](#);
- apparatus for automatic analysis not linked to a bioreactor or fermenter growing biomass, which are covered by [G01N 35/00](#);
- testing or evaluating the effect of a chemical or biological compound involving human or animal cells, which are covered by [G01N 33/5005](#);
- apparatus for immunological test processes, which are covered by [G01N 33/5302](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C12N)

C12N

MICROORGANISMS OR ENZYMES; COMPOSITIONS THEREOF (biocides, pest repellants or attractants, or plant growth regulators, containing microorganisms, viruses, microbial fungi, enzymes, fermentates or substances produced by or extracted from microorganisms or animal material [A01N 63/00](#); food compositions [A21](#), [A23](#); medicinal preparations [A61K](#); chemical aspects of, or use of materials for, bandages, dressings, absorbent pads or surgical articles [A61L](#); fertilisers [C05](#)); PROPAGATING, PRESERVING OR MAINTAINING MICROORGANISMS (preservation of living parts of humans or animals [A01N 1/02](#)); MUTATION OR GENETIC ENGINEERING; CULTURE MEDIA (microbiological testing media [C12Q](#))

NOTES

1. Documents relating to the use of vectors or hosts for the preparation of specific peptides, e.g. enzymes, are classified in subclass [C07K](#) or in group [C12N 9/00](#) according to the peptides, with the appropriate indexing codes.
2. Attention is drawn to Notes (1) to (3) following the title of Class [C12](#).
3. When classifying in this group, classification is also made in group [B01D 15/08](#) insofar as subject matter of general interest relating to chromatography is concerned.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C12N 1/11	covered by	C12N 15/79
C12N 1/13	covered by	C12N 15/79
C12N 1/15	covered by	C12N 15/80
C12N 1/19	covered by	C12N 15/81
C12N 1/21	covered by	C12N 15/74
C12N 5/02	covered by	C12N 5/00 , C12N 5/04 - C12N 5/166

C12N 5/07 - C12N 5/095	covered by	C12N 5/06 and subgroups
C12N 5/18 - C12N 5/28	covered by	C12N 5/16 and subgroups
C12N 5/18	covered by	C12N 5/16
C12N 5/20	covered by	C12N 5/163
C12N 5/22	covered by	C12N 5/16
C12N 5/24	covered by	C12N 5/163
C12N 5/26	covered by	C12N 5/166
C12N 5/28	covered by	C12N 5/166
C12N 7/01	covered by	C12N 7/00
C12N 9/02-C12N 9/08	covered by	
C12N 9/26	covered by	C12N 9/2408
C12N 9/28-C12N 9/30	covered by	
C12N 9/32	covered by	
C12N 9/34	covered by	
C12N 9/36	covered by	
C12N 9/38	covered by	C12N 9/2468
C12N 9/40	covered by	
C12N 9/42	covered by	C12N 9/2434
C12N 9/44	covered by	C12N 9/2451
C12N 9/46	covered by	
C12N 9/56	covered by	
C12N 9/66	covered by	
C12N 9/68	covered by	
C12N 9/70	covered by	C07K 14/3153
C12N 9/72	covered by	
C12N 9/74	covered by	
C12N 9/76	covered by	
C12N 15/05	covered by	C12N 5/14
C12N 15/06	covered by	C12N 5/16
C12N 15/07	covered by	C12N 5/16
C12N 15/08	covered by	C12N 5/166
C12N 15/12	covered by	C07K 14/435
C12N 15/13	covered by	C07K 16/00
C12N 15/14	covered by	C07K 14/765
C12N 15/15	covered by	C07K 14/81
C12N 15/16	covered by	C07K 14/575
C12N 15/17	covered by	C07K 14/62
C12N 15/18	covered by	C07K 14/61
C12N 15/19	covered by	C07K 14/52
C12N 15/20	covered by	C07K 14/555
C12N 15/21	covered by	C07K 14/56
C12N 15/22	covered by	C07K 14/565
C12N 15/23	covered by	C07K 14/57
C12N 15/24	covered by	C07K 14/54
C12N 15/25	covered by	C07K 14/545
C12N 15/26	covered by	C07K 14/55
C12N 15/27	covered by	C07K 14/53
C12N 15/28	covered by	C07K 14/525
C12N 15/29	covered by	C07K 14/415
C12N 15/30	covered by	C07K 14/44
C12N 15/31	covered by	C07K 14/195 , C07K 14/005

C12N 15/32	covered by	C07K 14/325
C12N 15/33	covered by	C07K 14/005
C12N 15/34	covered by	C07K 14/01
C12N 15/35	covered by	C07K 14/015
C12N 15/36	covered by	C07K 14/02
C12N 15/37	covered by	C07K 14/025
C12N 15/38	covered by	C07K 14/03
C12N 15/39	covered by	C07K 14/065
C12N 15/40	covered by	C07K 14/08
C12N 15/41	covered by	C07K 14/085
C12N 15/42	covered by	C07K 14/09
C12N 15/43	covered by	C07K 14/105
C12N 15/44	covered by	C07K 14/11
C12N 15/45	covered by	C07K 14/115
C12N 15/46	covered by	C07K 14/14
C12N 15/47	covered by	C07K 14/145
C12N 15/48	covered by	C07K 14/15
C12N 15/49	covered by	C07K 14/155
C12N 15/50	covered by	C07K 14/165
C12N 15/51	covered by	C07K 14/02 , C07K 14/10 , C07K 14/18
C12N 15/53	covered by	C12N9/02
C12N 15/54	covered by	C12N 9/10
C12N 15/55	covered by	C12N 9/14
C12N 15/56	covered by	C12N 9/24
C12N 15/57	covered by	C12N 9/48
C12N 15/58	covered by	C12N 9/6456
C12N 15/59	covered by	C12N 9/6483
C12N 15/60	covered by	C12N 9/88
C12N 15/61	covered by	C12N 9/90
C12N 15/83	covered by	C12N 15/82
C12N 15/84	covered by	C12N 15/82

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C12P)

C12P

FERMENTATION OR ENZYME-USING PROCESSES TO SYNTHESISE A DESIRED CHEMICAL COMPOUND OR COMPOSITION OR TO SEPARATE OPTICAL ISOMERS FROM A RACEMIC MIXTURE {(brewing of beer [C12C](#); producing vinegar [C12J](#); producing specific peptides or proteins [C07K](#); producing enzymes [C12N 9/00](#); DNA or RNA concerning genetic engineering, vectors, e.g. plasmids, or their isolation, preparation or purification [C12N 15/00](#); measuring or testing processes involving enzymes or microorganisms [C12Q](#); measuring or testing processes involving nucleic acid amplification reactions [C12Q 1/6844](#); fermentation processes to form a food composition, [A21](#) or [A23](#); compounds in general, **see the relevant compound class, e.g. [C01](#), [C07](#)**)}

NOTES

1. This subclass covers the production of compounds or compositions by biochemical transformation of matter performed by using enzymes or microorganisms, wherein microorganisms are defined as any single-celled

organisms, including bacteria, fungi, yeast or microalgae, or plant or mammalian cells in the form of cell cultures.

2. In this subclass, documents are primarily classified according to the compounds produced. In addition, if appropriate, classification according to the method or biocatalyst used to produce the compound is made.

3. Classification in groups [C12P 19/14](#) - [C12P 19/24](#), [C12P 39/00](#), [C12P 41/00](#) - [C12P 41/009](#) should only be made together with the corresponding product groups

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

- [C12P 21/04](#) covered by [C07K 7/50](#)
- [C12P 21/08](#) covered by [C07K 16/00](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C12R)

C12R

PROCESSES USING MICROORGANISMS

NOTE

The basis for the bacteria terminology is "Bergey's Manual of Determinative Bacteriology", Eighth Edition, 1975.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

- [C12R 1/92-C12R 1/94](#) covered by

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C14B)

C14B

MECHANICAL TREATMENT OR PROCESSING OF SKINS, HIDES OR LEATHER IN GENERAL; PELT-SHEARING MACHINES; INTESTINE-SPLITTING MACHINES (making leather substitutes [B29](#), [D06N](#); making articles from leather [B68F](#); mechanical cleaning of hides or the like [D06G](#); artificial leather [D06N](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C14C)

C14C

CHEMICAL TREATMENT OF HIDES, SKINS OR LEATHER, e.g. TANNING, IMPREGNATING, FINISHING; APPARATUS THEREFOR; COMPOSITIONS FOR TANNING (bleaching of leather or furs [D06L](#); dyeing of leather or furs [D06P](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C21B)**C21B****MANUFACTURE OF IRON OR STEEL (preliminary treatment of ferrous ores or scrap [C22B 1/00](#); electric heating [H05B](#))****NOTE**

This subclass covers the production of iron or steel from source materials, e.g. the production of pig-iron, and apparatus specially adapted therefor, e.g. blast furnaces, air heaters (furnaces in general [F27](#)).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0220 (C21B)**U C21B 3/00****General features in the manufacture of pig-iron (mixers for pig-iron [C21C 1/06](#))**

C C21B 3/04

· Recovery of by-products, e.g. slag

C C21B 3/06

· · Treatment of liquid slag (slag wool [C03B](#); slag stones [C04B](#))

C C21B 3/08

· · · Cooling slag

C C21B 3/10

· · · Slag pots; Slag cars

U C21B 7/00**Blast furnaces (lifts associated with blast furnaces [B66B 9/06](#))**

U C21B 7/18

· Bell-and-hopper arrangements

C C21B 7/20

· · with appliances for distributing the burden

WARNING

Group [C21B 7/20](#) is impacted by reclassification into group [C21B 7/205](#). Groups [C21B 7/20](#) and [C21B 7/205](#) should be considered in order to perform a complete search.

N C21B 7/205

· · · {Details concerning the gear-box driving the charge distribution system}

WARNING

Group [C21B 7/205](#) is incomplete pending reclassification of documents from group [C21B 7/20](#).

Groups [C21B 7/205](#) and [C21B 7/20](#) should be considered in order to perform a complete search.

U C21B 2300/00**Process aspects**

U C21B 2300/04

· Modeling of the process, e.g. for control purposes; CII

N C21B 2400/00**Treatment of slags originating from iron or steel processes****WARNING**

Groups [C21B 2400/00](#) - [C21B 2400/08](#) are incomplete pending reclassification of documents from groups [C21B 3/04](#), [C21B 3/06](#), [C21B 3/08](#), and [C21B 3/10](#).

Groups [C21B 2400/00](#) - [C21B 2400/08](#), and groups [C21B 3/04](#), [C21B 3/06](#), [C21B 3/08](#) and [C21B 3/10](#) should be considered in order to perform a complete search.

N C21B 2400/02

· Physical or chemical treatment of slags

N C21B 2400/022

· · Methods of cooling or quenching molten slag

N C21B 2400/024

· · · with the direct use of steam or liquid coolants, e.g. water

N C21B 2400/026

· · · using air, inert gases or removable conductive bodies

N C21B 2400/028

· · · with the permanent addition of cooled slag or other solids

- N C21B 2400/03 • • Removing sulfur
- N C21B 2400/032 • • Separating slag from liquid, e.g. from water, after quenching
- N C21B 2400/034 • • Stirring or agitating by pressurised fluids or by moving apparatus
- N C21B 2400/04 • Specific shape of slag after cooling
- N C21B 2400/042 • • Sheets
- N C21B 2400/044 • • Briquettes or moulded bodies other than sheets
- N C21B 2400/05 • Apparatus features
- N C21B 2400/052 • • including rotating parts
- N C21B 2400/054 • • • Disc-shaped or conical parts for cooling, dispersing or atomising of molten slag rotating along vertical axis
- N C21B 2400/056 • • • Drums whereby slag is poured on or in between
- N C21B 2400/058 • • • Rotating beds on which slag is cooled
- N C21B 2400/06 • • Conveyors on which slag is cooled
- N C21B 2400/062 • • Jet nozzles or pressurised fluids for cooling, fragmenting or atomising slag
- N C21B 2400/064 • • Thermally-conductive removable bodies, e.g. balls
- N C21B 2400/066 • • Receptacle features where the slag is treated
- N C21B 2400/068 • • • with a sealed or controlled environment
- N C21B 2400/07 • • • open to atmosphere
- N C21B 2400/072 • • • Tanks to collect the slag, e.g. water tank
- N C21B 2400/074 • • • Tower structures for cooling, being confined but not sealed
- N C21B 2400/076 • • • Fluidised bed for cooling
- N C21B 2400/08 • with energy recovery

Project: N/A (C22B)**C22B****PRODUCTION AND REFINING OF METALS (electrolytic [C25](#));
PRETREATMENT OF RAW MATERIALS**NOTE

In this subclass, groups for obtaining metals include obtaining the metals by non-metallurgical processes, and obtaining metal compounds by metallurgical processes, {as far as specifically indicated in the relevant groups} . Thus, for example, group [C22B 11/00](#) covers the production of silver by reduction of ammoniacal silver oxide in solution, and group [C22B 17/00](#) includes the production of cadmium oxide by a metallurgical process. Furthermore, although compounds of arsenic and antimony are classified in [C01G](#), production of the elements themselves is included in [C22B](#), as well as the production of their compounds by metallurgical processes.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C22B 3/26 - C22B 3/40	covered by	C22B 3/0005
C22B 9/187	covered by	
C22B 9/193	covered by	
C22B 9/21	covered by	
C22B 15/02-C22B 15/14	covered by	

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C22C)**C22C****ALLOYS (flints [C06C 15/00](#); treatment of alloys [C21D](#), [C22F](#))****NOTES**

1. In this subclass, the following terms or expressions are used with the meanings indicated:

- "alloys" includes also:
 - a. metallic composite materials containing a substantial proportion of fibres or other somewhat larger particles;
 - b. ceramic compositions containing free metal bonded to carbides, diamond, oxides, borides, nitrides or silicides, e.g. cermets, or other metal compounds, e.g. oxynitrides or sulfides, other than as macroscopic reinforcing agents;
- "based on" requires at least 50% by weight of the specified constituent or of the specified group of constituents.

2. In the absence of an indication to the contrary, in groups [C22C 5/00](#) - [C22C 32/00](#) an alloy is classified in the last appropriate place.

3. In this subclass it is desirable to classify the individual aspects of combinations of processes or materials for powder metallurgy using Combination Sets with symbols chosen from groups [C22C 1/00](#) - [C22C 43/00](#) or from groups [B22F 1/00](#) - [B22F 9/00](#).

4. In this subclass the special database "ALLOYS" is used. This system includes patent documents classified in groups [C22C 1/04](#) and [C22C 5/00](#) - [C22C 49/14](#) and provides information on the composition of the alloys, their uses and characteristics.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[C22C 101/00](#)-[C22C 101/22](#) covered by

[C22C 111/00](#)-[C22C 111/02](#) covered by

[C22C 121/00](#)-[C22C 121/02](#) covered by

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C22F)**C22F**

CHANGING THE PHYSICAL STRUCTURE OF NON-FERROUS METALS AND NON-FERROUS ALLOYS (surface treatment of metallic material involving at least one process provided for in class [C23](#) and at least one process covered by this subclass, [C23F 17/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C23D)**C23D**

ENAMELLING OF, OR APPLYING A VITREOUS LAYER TO, METALS (chemical composition of the enamels [C03C](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C23F)**C23F**

NON-MECHANICAL REMOVAL OF METALLIC MATERIAL FROM SURFACE (working metal by laser beams [B23K 26/00](#); desurfacing by applying flames [B23K 7/00](#); working of metal by electro-erosion [B23H](#); producing decorative effects by removing surface material, e.g. by engraving, by etching, [B44C 1/22](#); electrolytic etching or polishing [C25F](#)); INHIBITING CORROSION OF METALLIC MATERIAL OR INCRUSTATION IN GENERAL; MULTI-STEP PROCESSES FOR SURFACE TREATMENT OF METALLIC MATERIAL INVOLVING AT LEAST ONE PROCESS PROVIDED FOR IN CLASS [C23](#) AND AT LEAST ONE PROCESS COVERED BY SUBCLASS [C21D](#) OR [C22F](#) OR CLASS [C25](#)

NOTES

1. protective layers or coating compositions or methods of applying them; these are classified in the appropriate places, e.g. [B05](#), [B44](#), [C09D](#), [C23C](#).
2. mechanical devices or constructional features of particular articles for inhibiting incrustation; these are classified in the appropriate places, e.g. in pipes or pipe fittings [F16L 58/00](#).
3. articles characterised by being made of materials selected for their properties of resistance to corrosion or incrustation; these are classified in the appropriate places, e.g. turbine blades [F01D 5/28](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[C23F 1/24](#) covered by

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C23G)**C23G**

CLEANING OR DEGREASING OF METALLIC MATERIAL BY CHEMICAL METHODS OTHER THAN ELECTROLYSIS (polishing compositions [C09G](#); detergents in general [C11D](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C25B)**C25B**

ELECTROLYTIC OR ELECTROPHORETIC PROCESSES FOR THE PRODUCTION OF COMPOUNDS OR NON-METALS; APPARATUS THEREFOR (anodic or cathodic protection [C23F 13/00](#); single-crystal growth [C30B](#))

NOTES

1. In this subclass, in the absence of an indication to the contrary, classification is made in the last appropriate place.
2. Compounds of particular interest are also classified in the relevant classes, e.g. [C01](#), [C07](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[C25B 11/06](#) covered by [B01J](#), [C25B 11/0442](#)

[C25B 11/08](#) covered by [B01J](#), [C25B 11/0442](#)

C25B 11/10 covered by [C25B 11/0442](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C25D)

C25D

PROCESSES FOR THE ELECTROLYTIC OR ELECTROPHORETIC PRODUCTION OF COATINGS; ELECTROFORMING (decorating textiles by metallising [D06Q 1/04](#); manufacturing printed circuits by metal deposition [H05K 3/18](#)); APPARATUS THEREFOR

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

C25D 2/00	covered by	
C25D 5/24	covered by	C25D 5/34
C25D 5/26	covered by	C25D 5/36
C25D 5/28	covered by	C25D 5/38
C25D 5/30	covered by	C25D 5/42 , C25D 5/44
C25D 5/32	covered by	C25D 5/46
C25D 13/06	covered by	C09D 5/44
C25D 13/08	covered by	C09D 5/4476
C25D 13/10	covered by	C09D 5/448
C25D 19/00	covered by	C25D 17/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (C30B)

C30B

SINGLE-CRYSTAL-GROWTH (by using ultra-high pressure, e.g. for the formation of diamonds [B01J 3/06](#)); UNIDIRECTIONAL SOLIDIFICATION OF EUTECTIC MATERIAL OR UNIDIRECTIONAL DEMIXING OF EUTECTOID MATERIAL; REFINING BY ZONE-MELTING OF MATERIAL (zone-refining of metals or alloys [C22B](#)); PRODUCTION OF A HOMOGENEOUS POLYCRYSTALLINE MATERIAL WITH DEFINED STRUCTURE (casting of metals, casting of other substances by the same processes or devices [B22D](#); working of plastics [B29](#); modifying the physical structure of metals or alloys [C21D](#), [C22F](#)); SINGLE CRYSTALS OR HOMOGENEOUS POLYCRYSTALLINE MATERIAL WITH DEFINED STRUCTURE; AFTER-TREATMENT OF SINGLE CRYSTALS OR A HOMOGENEOUS POLYCRYSTALLINE MATERIAL WITH DEFINED STRUCTURE (for producing semiconductor devices or parts thereof [H01L](#)); APPARATUS THEREFOR

NOTES

1. In this subclass, the following expressions are used with the meaning indicated:

- "single-crystal" includes also twin crystals and a predominantly single crystal product;
- "homogeneous polycrystalline material" means a material with crystal particles, all of which have the same chemical composition;
- "defined structure" means the structure of a material with grains which are oriented in a preferential way or have larger dimensions than normally obtained.

2. In this subclass:

- the preparation of single crystals or a homogeneous polycrystalline material with defined structure of particular materials or shapes is classified in the group for the process as well as in group [C30B 29/00](#);
- an apparatus specially adapted for a specific process is classified in the appropriate group for the process. Apparatus to be used in more than one kind of process is classified in group [C30B 35/00](#).

3. After the notation of [C30B](#) and separated therefrom by a + sign, notations concerning the particular composition or shape of the material may be added. These notations are selected from [C30B 29/00](#).

Example: A crystal-growth process by zone-melting directly related to Al_2O_3 crystal material is classified in [C30B 13/00](#) + [C30B 29/20](#)

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[C30B 29/64](#), [C30B 29/66](#) covered by [C30B 29/60](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D01B)

D01B

MECHANICAL TREATMENT OF NATURAL FIBROUS OR FILAMENTARY MATERIAL TO OBTAIN FIBRES OF FILAMENTS, e.g. FOR SPINNING (crude extraction of asbestos fibres from ores [B03B](#); apparatus for retting [D01C](#))

NOTE

Attention is drawn to the note following the title of Class [D01](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D01C)

D01C

CHEMICAL TREATMENT OF NATURAL FILAMENTARY OR FIBROUS MATERIAL TO OBTAIN FILAMENTS OR FIBRES FOR SPINNING; CARBONISING RAGS TO RECOVER ANIMAL FIBRES

NOTE

Attention is drawn to the note following the title of Class [D01](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D01D)

D01D

MECHANICAL METHODS OR APPARATUS IN THE MANUFACTURE OF ARTIFICIAL FILAMENTS, THREADS, FIBRES, BRISTLES OR RIBBONS

NOTES

1. Attention is drawn to the note following the title of Class [D01](#).
2. Apparatus specially adapted for the manufacture of carbon filaments are classified in group [D01F 9/12](#)

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[D01D 5/10](#) covered by [D01D 5/08](#) and subgroups

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D01F)

D01F

CHEMICAL FEATURES IN THE MANUFACTURE OF ARTIFICIAL FILAMENTS, THREADS, FIBRES, BRISTLES OR RIBBONS; APPARATUS SPECIALLY ADAPTED FOR THE MANUFACTURE OF CARBON FILAMENTS

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D01G)

D01G

PRELIMINARY TREATMENT OF FIBRES, e.g. FOR SPINNING (winding or unwinding, conducting or guiding laps, webs, slivers or rovings in general, sliver or roving cans, depositing in sliver or roving cabs [B65H](#); preparation of fibres for paper-making [D21](#))

NOTE

Attention is drawn to the note following the title of Class [D01](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D01H)

D01H

SPINNING OR TWISTING (unwinding, paying-out, forwarding, winding or coiling filamentary material not intimately associated with spinning or twisting [B65H](#); cores, formers, supports or holders for coiled or wound material, e.g. bobbins [B65H](#); twisting oakum [D01G 35/00](#); crimping or curling of fibres, filaments or yarns [D02G 1/00](#); making chenille [D03D](#), [D04D 3/00](#); testing yarns, rovings, slivers, fibres, or fibre webs [G01](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D02G)

D02G

CRIMPING OR CURLING FIBRES, FILAMENTS, THREADS, OR YARNS; YARNS OR THREADS

NOTE

Attention is drawn to the note following the title of class [D02](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D02H)

D02H

WARPING, BEAMING OR LEASINGNOTE

Attention is drawn to the note following the title of Class [D02](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D02J)

D02J

FINISHING OR DRESSING OF FILAMENTS, YARNS, THREADS, CORDS, ROPES OR THE LIKE (curling or crimping [D02G](#); by treatment with liquids, gases or vapours [D06B](#); finishing other than by liquid treatment, of yarns in warp or sheet form [D06C](#); for chemical matters, see [D06L](#), [D06M](#), [D06P](#), [D06Q](#); treatment during rope-making, apparatus for treating ropes auxiliary to rope-making [D07B](#))

NOTE

Attention is drawn to the note following the title of Class [D02](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D03C)

D03C

SHEDDING MECHANISMS; PATTERN CARDS OR CHAINS; PUNCHING OF CARDS; DESIGNING PATTERNSWARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[D03C 9/04](#) covered by [D03C 9/028](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D03D)

D03D

WOVEN FABRICS; METHODS OF WEAVING; LOOMSNOTES

1. Class [D06](#) takes precedence over this subclass in respect of processes involving both weaving and finishing steps and in respect of the finished fabrics.

2. A method of weaving is classified in the group designating the fabric woven unless the method is characterised by the operation of a particular loom rather than by the production of a particular fabric. In this case, the method is classified in the group for the loom.

3. In this subclass, if there is any doubt as to which of the essential features is the most important (this is usually the most restrictive feature), the groups designating woven fabrics should be considered in the order in which they appear at each level of indentation, except that groups designating woven pile

fabrics are to be considered as taking precedence over groups designating other woven fabrics.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D03J)

D03J

AUXILIARY WEAVING APPARATUS; WEAVERS' TOOLS; SHUTTLES

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D04B)

D04B

KNITTING

NOTES

1. In this subclass, the groups designating machines, apparatus, devices, or implements include processes characterised by, or dependent on, their use and the products of such processes
2. Knitted products, i.e. fabrics, articles, are classified in this subclass only if they have constructional features which are of interest from the knitting aspect

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D04C)

D04C

BRAIDING OR MANUFACTURE OF LACE, INCLUDING BOBBIN-NET OR CARBONISED LACE; BRAIDING MACHINES; BRAID; LACE (machines for making soles from strips of material [A43D 29/00](#); cane working [B27J 1/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D04D)

D04D

TRIMMINGS; RIBBONS, TAPES OR BANDS, NOT OTHERWISE PROVIDED FOR (fittings or trimmings for hats, e.g. hat bands [A42C 5/00](#); decorating art [B44](#); yarns or threads [D02G](#); weaving [D03](#); braid or lace [D04C](#); non-woven fabrics [D04H](#))

NOTE

In this subclass, the following term is used with the meaning indicated:

- "trimmings" means decorative or ornamental articles made wholly or partly of textile or analogous material, or strips of textile or analogous material intended to be used for decorative or ornamental purposes, not otherwise provided for

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D04G)

D04G

MAKING NETS BY KNOTTING OF FILAMENTARY MATERIAL; MAKING KNOTTED CARPETS OR TAPESTRIES; KNOTTING NOT OTHERWISE PROVIDED FOR (binding knotters for harvesters [A01D 59/04](#); wire netting [B21F](#); tying articles by knotting [B65B](#); knotting in association with winding or unwinding [B65H 69/00](#); knotting in weaving [D03J](#); making nets, carpets, or tapestries by other techniques, see the relevant subclasses)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D04H)

D04H

MAKING TEXTILE FABRICS, e.g. FROM FIBRES OR FILAMENTARY MATERIAL (weaving [D03](#); knitting [D04B](#); braiding {or lace-making} [D04C](#); net-making {or making knotted carpets} [D04G](#); sewing [D05B](#); tufting [D05C](#), {e.g. [D05C 15/04](#)}; finishing non-woven fabrics [D06](#)); FABRICS MADE BY SUCH PROCESSES OR APPARATUS, e.g. FELTS, NON-WOVEN FABRICS; COTTON-WOOL; WADDING {NON-WOVEN FABRICS FROM STAPLE FIBRES, FILAMENTS OR YARNS, BONDED WITH AT LEAST ONE WEB-LIKE MATERIAL DURING THEIR CONSOLIDATION} (non-woven fabrics having an intermediate or external layer of a different kind, e.g. of woven fabric, [B32B](#); {manufacturing hats [A42C](#); filtering material [B01D 39/00](#); making board or the like from wood fibre [B27N](#); producing shaped articles from mixtures containing fibres [B28B 1/52](#); making layered products from solid layers, at least one of which contains synthetic resin as an essential component [B32B 27/00](#); making or treating glass wool and mineral wool [C03B 37/00](#); compounding ingredients used as fillers for mortars and the like [C04B 14/38](#), [C04B 16/06](#), [C04B 20/0048](#); sintering plastics particles [C08J 9/24](#); manufacturing by extrusion of synthetic filaments and fibres in general [D01D](#); paper [D21C](#) - [D21H](#); making shaped articles from liquid suspensions of cellulose fibres [D21J](#)))

NOTES

1. In this subclass, the following expression is used with the meaning indicated:
 - "non-woven fabrics" means fabrics formed wholly or partly of textile material by processes comprising operations other than the weaving, knitting, braiding, lacing, or knotting of yarns, threads, or filaments for which provision is made in other subclasses of Section [D](#). This expression includes felts, cotton-wool, and wadding.
2. In this subclass:
 - some of the non-woven fabrics can also be regarded as "layered products" within the meaning of subclass [B32B](#), and further classification in that subclass should be considered in accordance with the notes thereto;
 - in cases where the making of non-woven fabrics involves the use of particular chemical compounds or compositions, e.g. for treating or

bonding fibres, filaments, or yarns, further classification in other appropriate subclasses should also be considered.

3. By varying the proportions of fibres or threads, and the chemical compounds or compositions, the final products may be given the appearance of paper, cardboard, leather or the like.

4. In this subclass, a number of groups, e.g. [D04H 1/067](#), correspond to IPC2012.01

WARNING

1. Documents of the complete subclass [D04H](#) including all subgroups are in the process of being reorganised to the new groups corresponding to the IPC 2012.01 classification scheme defined below.

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D05B)

D05B

SEWING (appliances for the tailoring trade [A41H](#); sewing tables [A47B 29/00](#); sewing in bookbinding [B42B 2/00](#); sewing machines modified for knitting [D04B 39/08](#))

NOTE

In this subclass, the groups designating sewing apparatus or machines cover also sewing processes dependent on their use, and the thread seams produced thereby

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D05C)

D05C

EMBROIDERING; TUFTING (making non-woven fabrics [D04H](#); sewing [D05B](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D06B)

D06B

TREATING TEXTILE MATERIALS BY LIQUIDS, GASES OR VAPOURS (applying liquids to surfaces in general [B05](#); conveying in general, handling webs or filaments in general [B65](#); treating leather [C14C](#); mechanical removal of impurities from animal fibres [D01B](#); laundering [D06F](#); chemical matters, see [D06L](#) - [D06Q](#))

NOTE

In this subclass, the following terms or expressions are used with the meaning indicated:

- "fabric" includes yarns in warp or sheet form;
- "textile material" includes fabrics, yarns or other fibrous materials;
- "indefinite length" means an extent of material having the characteristic that the longitudinal dimension is effectively infinite in so far as the procedure for advancing or moving the material is concerned.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D06C)

D06C

FINISHING, DRESSING, TENTERING OR STRETCHING TEXTILE FABRICS (chemical matters, see [D06L](#) - [D06Q](#); drying [F26B](#))

NOTE

In this subclass, the following term is used with the meaning indicated:

- "fabric" includes yarns in warp or sheet form

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D06F)

D06F

LAUNDERING, DRYING, IRONING, PRESSING OR FOLDING TEXTILE ARTICLES (apparatus for blocking, pressing, steaming, or stretching hats [A42C](#); treating textile materials by liquids, gases or vapours [D06B](#); chemical matters, see [D06L](#), [D06M](#))

NOTES

1. This subclass covers:

- domestic or laundry dry-cleaning apparatus using volatile solvents;
- domestic, laundry, or tailors' ironing or other hot-pressing of clothes, linen, or other textile articles.

2. This subclass does not cover:

- apparatus for wringing, washing, dry-cleaning, ironing, or other hot-pressing of textiles in manufacturing operations, which is covered by subclasses [D06B](#), [D06C](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D06G)

D06G

MECHANICAL OR PRESSURE CLEANING OF CARPETS, RUGS, SACKS, HIDES OR OTHER SKIN OR TEXTILE ARTICLES OR FABRICS; TURNING INSIDE-OUT FLEXIBLE TUBULAR OR OTHER HOLLOW ARTICLES (mechanical preparation or mechanical treatment of bed feathers [B68G 3/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D06H)

D06H

MARKING, INSPECTING, SEAMING OR SEVERING TEXTILE MATERIALS (seaming by sewing [D05B](#); in connection with manufacturing, see the relevant subclasses)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D06M)**D06M**

TREATMENT, NOT PROVIDED FOR ELSEWHERE IN CLASS [D06](#), OF FIBRES, THREADS, YARNS, FABRICS, FEATHERS, OR FIBROUS GOODS MADE FROM SUCH MATERIALS (surface treatment of fibres or filaments from glass, minerals or slags {also in the form of fabrics if the chemical aspects of the treatment are important} [C03C 25/00](#); treatment of textiles by mechanical means, see [D06B](#) - [D06J](#))

NOTES

1. In each of the groups [D06M 11/00](#) - [D06M 15/00](#), in the absence of an indication to the contrary, a substance is classified in the last appropriate place.
2. Within each one of main groups [D06M 11/00](#) - [D06M 15/00](#), a mixture of substances is classified at least according to the essential ingredient. If more than one ingredient is essential, the mixture is classified, in the absence of an indication to the contrary, according to the essential ingredient which belongs to the last appropriate place in the sequence of substances;
3. Treatment by mixtures of substances covered by two or more of main groups [D06M 11/00](#) - [D06M 15/00](#) is classified in each appropriate main group.
4. In this subclass, the treatment of textiles, not provided for elsewhere in class [D06](#), is classified according to the following principles:
 - Treatment of textiles characterised by the treating agent in groups [D06M 11/00](#) - [D06M 16/00](#);
 - Treatment of textiles characterised by the process in group [D06M 23/00](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D06Q)**D06Q**

DECORATING TEXTILES (for treatment of textiles by mechanical means, see [D06B](#) - [D06J](#); metallising the entire surface of textiles [D06M 11/83](#); textile threads, filaments, yarns or tow, glued on macromolecular material [D06N 7/00](#); dyeing or printing [D06P](#))

NOTE

- In this subclass, the following term is used with the meaning indicated:
- "decorating" means "local treatment" or "local effects produced" as to change, e.g. optically, the appearance or the properties of textile materials

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D07B)**D07B**

ROPES OR CABLES IN GENERAL (joining ropes or cables to one another or to other objects [B65H 69/00](#), [F16G 11/00](#); {mountaineering ropes [A63B 29/02](#)}; mechanical finishing or dressing of ropes [D02J](#); {braiding [D04C](#)}; decorative ropes or cords [D04D](#); suspension cables for bridges [E01D 19/16](#); specially adapted for driving, or for being driven by, pulleys or other gearing elements [F16G 9/00](#); electric cables or joints insofar as electrical aspects are essential [H01B](#), [H01R](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D21B)

D21B

FIBROUS RAW MATERIALS OR THEIR MECHANICAL TREATMENT**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D21C)

D21C

PRODUCTION OF CELLULOSE BY REMOVING NON-CELLULOSE SUBSTANCES FROM CELLULOSE-CONTAINING MATERIALS; REGENERATION OF PULPING LIQUORS; APPARATUS THEREFOR**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D21D)

D21D

TREATMENT OF THE MATERIALS BEFORE PASSING TO THE PAPER-MAKING MACHINE**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D21F)

D21F

PAPER-MAKING MACHINES; METHODS OF PRODUCING PAPER THEREON**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D21G)

D21G

CALENDERS; ACCESSORIES FOR PAPER-MAKING MACHINES (winders or rewinders for finished products, means for adjustment of wrinkles or lateral extensions [B65H](#))**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D21H)

D21H

PULP COMPOSITIONS; PREPARATION THEREOF NOT COVERED BY SUBCLASSES [D21C](#) OR [D21D](#); IMPREGNATING OR COATING OF PAPER; TREATMENT OF FINISHED PAPER NOT COVERED BY CLASS [B31](#) OR SUBCLASS [D21G](#); PAPER NOT OTHERWISE PROVIDED FOR**NOTES**

1. This subclass covers also pulp compositions for the preparation of fibreboard or other fibrous articles by wet processes.
2. In this subclass, the following terms are used with the meaning indicated:
 - "pulp" means a dispersion, { e.g. an aqueous suspension, } comprising paper-making fibres and optional additives, which is to be processed, and

covers the term "stock"; it also means dry paper-making fibres which are to be made into paper by either wet or dry processes;

- "paper" means paper, cardboard or wet-laid non-woven fabrics.

3. In groups [D21H 11/00](#) - [D21H 15/00](#), in the absence of an indication to the contrary, classification is made in the last appropriate place.

4. Attention is drawn to the use of Combination Sets as specified in the Notes after groups [D21H 17/00](#), [D21H 17/69](#), [D21H 17/71](#), [D21H 19/00](#), [D21H 21/00](#), [D21H 21/14](#), [D21H 23/00](#), [D21H 23/22](#), [D21H 25/00](#) and [D21H 27/00](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[D21H 27/12](#) covered by

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (D21J)

D21J

FIBREBOARD; MANUFACTURE OF ARTICLES FROM CELLULOSIC FIBROUS SUSPENSIONS OR FROM PAPIER-MACHE (manufacture of articles by dry processes [B27N](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E01B)

E01B

PERMANENT WAY; PERMANENT-WAY TOOLS; MACHINES FOR MAKING RAILWAYS OF ALL KINDS (derailing or rerailing blocks on track, track brakes or retarders [B61K](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E01C)

E01C

CONSTRUCTION OF, OR SURFACES FOR, ROADS, SPORTS GROUNDS, OR THE LIKE; MACHINES OR AUXILIARY TOOLS FOR CONSTRUCTION OR REPAIR (forming roads or like surfaces by compacting or grading snow or ice [E01H](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E01D)

E01D

CONSTRUCTION OF BRIDGES, {ELEVATED ROADWAYS} OR VIADUCTS; ASSEMBLY OF BRIDGES (bridges extending between terminal buildings and aircraft for embarking or disembarking passengers [B64F 1/305](#); {tracks for special kinds of railways [E01B 25/00](#); culverts [E01F 5/005](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[E01D 24/00](#)

covered by

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E01F)

E01F

ADDITIONAL WORK, SUCH AS EQUIPPING ROADS OR THE CONSTRUCTION OF PLATFORMS, HELICOPTER LANDING STAGES, SIGNS, SNOW FENCES, OR THE LIKE

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[E01F 15/10](#)

covered by

[E01F 15/02](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E01H)

E01H

STREET CLEANING; CLEANING OF PERMANENT WAYS; CLEANING BEACHES; DISPERSING {OR PREVENTING} FOG IN GENERAL {CLEANING STREET OR RAILWAY FURNITURE OR TUNNEL WALLS} (cleaning in general [B08B](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E02B)

E02B

HYDRAULIC ENGINEERING (ship-lifting [E02C](#); dredging [E02F](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E02C)

E02C

SHIP-LIFTING DEVICES OR MECHANISMS

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E02D)

E02D

FOUNDATIONS; EXCAVATIONS; EMBANKMENTS (specially adapted for hydraulic engineering [E02B](#)); UNDERGROUND OR UNDERWATER STRUCTURES {(tunnels, tunnelling, mining [E21](#))}

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[E02D 29/09](#)

covered by

[E02D 29/06](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E02F)

E02F

DREDGING; SOIL-SHIFTING (winning peat [E21C 49/00](#))NOTE

This subclass covers :

- primarily equipment for excavating or loosening earth or for moving loose earth;
- equipment for working similarly on other materials and similar equipment for loading or unloading materials

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[E02F 3/39](#) covered by [E02F 3/286](#), [E02F 3/306](#),
[E02F 3/3402](#)

[E02F 3/85](#) covered by [E02F 3/841](#), [E02F 3/842](#),
[E02F 3/844](#), [E02F 3/845](#),
[E02F 3/847](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E03B)

E03B

INSTALLATIONS OR METHODS FOR OBTAINING, COLLECTING, OR DISTRIBUTING WATER (drilling wells, obtaining fluids in general from wells [E21B](#); pipe-line systems in general [F17D](#))WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E03C)

E03C

DOMESTIC PLUMBING INSTALLATIONS FOR FRESH WATER OR WASTE WATER (not connected to either water-supply main or to waste pipe [A47K](#); devices of the kind used in the ground [E03B](#), [E03F](#)); SINKSWARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E03D)

E03D

WATER-CLOSETS OR URINALS WITH FLUSHING DEVICES; FLUSHING VALVES THEREFORWARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E03F)

E03F

SEWERS; CESSPOOLSWARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E04B)

E04B

GENERAL BUILDING CONSTRUCTIONS; WALLS, e.g. PARTITIONS; ROOFS; FLOORS; CEILINGS; INSULATION OR OTHER PROTECTION OF BUILDINGS (border constructions of opening in walls, floors or ceilings [E06B 1/00](#); {electromagnetic shielding [H05K 9/0001](#)})

NOTE

In this subclass, the following term is used with the meaning indicated:

- "ceiling" includes all the finishing material concealing the underside of the load-carrying ceiling structure or roof structure.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

E04B 1/682	covered by	E04B 1/68
E04B 1/684	covered by	E04B 1/68
E04B 1/686	covered by	E04B 1/68

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E04C)

E04C

STRUCTURAL ELEMENTS; BUILDING MATERIALS (for bridges [E01D](#); specially designed for insulation or other protection [E04B](#); elements used as building aids [E04G](#); for mining [E21](#); for tunnels [E21D](#); structural elements with broader range of application than for building engineering [F16](#), particularly [F16S](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E04D)

E04D

ROOF COVERINGS; SKY-LIGHTS; GUTTERS; ROOF-WORKING TOOLS (coverings of outer walls by plaster or other porous material [E04F 13/00](#))

NOTE

In this subclass, the following expression is used with the meaning indicated:

- "roof coverings" includes any similar kind of watertight covering against rain, snow, hail, or the like, for other parts of buildings

WARNING

1. The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

E04D 3/3645	covered by	E04D 3/363
E04D 3/367	covered by	E04D 3/364
E04D 13/18	covered by	F24S 20/67 , H02S 20/23

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E04F)

E04F

FINISHING WORK ON BUILDINGS, e.g. STAIRS, FLOORS (windows, doors [E06B](#))WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[E04F 11/09](#) covered by [E04F 11/02](#)

[E04F 11/17](#) covered by [E04F 11/16](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E04G)

E04G

SCAFFOLDING; FORMS; SHUTTERING; BUILDING IMPLEMENTS OR OTHER BUILDING AIDS, OR THEIR USE; HANDLING BUILDING MATERIALS ON THE SITE; REPAIRING, BREAKING-UP OR OTHER WORK ON EXISTING BUILDINGSNOTE

In this subclass the word "scaffolding" includes other supports for like purposes

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[E04G 23/03](#) covered by

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E04H)

E04H

BUILDINGS OR LIKE STRUCTURES FOR PARTICULAR PURPOSES; SWIMMING OR SPLASH BATHS OR POOLS; MASTS; FENCING; TENTS OR CANOPIES, IN GENERAL (foundations [E02D](#))NOTES

1. This subclass deals primarily with the layout of buildings as a whole, but includes details which are peculiar to types of buildings or buildings for special purposes, specified in the groups. The word "buildings" does not exclude engineering structures and other constructions

2. This subclass provides for canopies in general and for canopies similar in construction to tents. For canopies having special application, see the relevant class, e.g. bed canopies [A47C 29/00](#); protecting chairs against the weather [A47C 7/66](#); sunshades or awnings for buildings [E04F 10/00](#)

3. In this subclass, the term "tent" means a tent or canopy having a supporting means, e.g. frame and a flexible cover

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[E04H 4/02](#) covered by [E04H 4/0018](#), [E04H 4/0075](#)

[E04H 4/04](#) covered by [E04H 4/0018](#), [E04H 4/0075](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E05C)**E05C**

BOLTS OR FASTENING DEVICES FOR WINGS, SPECIALLY FOR DOORS OR WINDOWS (latching means for sideboard or tailgate structures for vehicles [B62D](#), {[B62D 33/02](#)}; fastening devices for constructional or engineering elements [E04](#), [F16B](#); locks, fastening devices structurally or operatively combined or having significant cooperation with locks [E05B](#); means for operating or controlling wing fasteners in conjunction with mechanisms for moving the wing [E05F](#))

NOTES

1. In this subclass only the movement essential for securing the wing is considered, e.g. a sliding bolt which is rotated on its axis to prevent its withdrawal is classified as having only a sliding movement
2. Attention is drawn to the definition following the title of class [E05](#)
3. {In this subclass, it is desirable to add the indexing code(s) of [E05Y](#).}

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

E05C 3/32	covered by
E05C 17/06	covered by
E05C 17/10	covered by
E05C 21/02	covered by

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E05D)**E05D**

HINGES OR OTHER SUSPENSION DEVICES FOR DOORS, WINDOWS OR WINGS ({foldable tables [A47B 3/00](#); hinged panels [A47B 5/00](#); foldable chairs [A47C 4/00](#); making hinges [B21D 53/40](#), [B21K 13/02](#); making holes for taking-up fittings [B27F 5/12](#); for vehicle tailboards [B60P 1/26](#); for refuse receptacles [B65F 1/1646](#)}; pivotal connections in general [F16C 11/00](#) {; mounting of stove or range doors [F24C 15/023](#); for folding flat displays of portable computers [G06F 1/1616](#)})

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

E05D 5/16	covered by	E05D 5/14
E05D 7/081	covered by	E05D 7/08
E05D 7/083	covered by	E05D 7/082
E05D 15/04	covered by	E05D 15/02 , E05D 15/28 , E05D 15/403
E05D 15/522	covered by	E05D 15/52
E05D 15/523	covered by	E05D 15/52
E05D 15/524	covered by	E05D 15/52

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E05F)

E05F

DEVICES FOR MOVING WINGS INTO OPEN OR CLOSED POSITION; CHECKS FOR WINGS; WING FITTINGS NOT OTHERWISE PROVIDED FOR, CONCERNED WITH THE FUNCTIONING OF THE WING

NOTE

In this subclass, the following terms are used with the meanings indicated:

- "closer" or "opener" includes devices for assisting wing-movement or for wing-counterbalancing.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E05G)

E05G

SAFES OR STRONG-ROOMS FOR VALUABLES; BANK PROTECTION DEVICES; SAFETY TRANSACTION PARTITIONS (devices to prevent theft of bags, trunks or baskets [A45C 13/18](#);) alarm arrangements *per se* [G08B](#))

NOTE

In this subclass, the following terms are used with the meanings indicated:

- "bank" is a building or portion of a building devoted to the safekeeping or exchange of valuables between the "bank" and its customers;
- "bank protection device" is a mechanism in or on a bank for protecting the valuables or repelling attacks by stealth or force.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E06B)

E06B

FIXED OR MOVABLE CLOSURES FOR OPENINGS IN BUILDINGS, VEHICLES, FENCES OR LIKE ENCLOSURES IN GENERAL, e.g. DOORS, WINDOWS, BLINDS, GATES (shades or blinds for greenhouses [A01G 9/22](#); curtains [A47H](#); lids for car boots or bonnets [B62D 25/10](#); skylights [E04B 7/18](#); sunshades, awnings [E04F 10/00](#))

NOTES

1. This subclass does not cover combinations of wings or frames with operating, mounting, latching or locking means of the type found in class [E05](#), which are covered by the relevant subclasses of class [E05](#), except such as are covered by groups [E06B 7/086](#), [E06B 9/00](#), or [E06B 11/02](#) of this subclass.
2. In this subclass, the following terms or expressions are used with the meanings indicated:
 - "wing" means a swingable, slidable or otherwise movable member such as a door or window, for closing an opening;
 - "wing frame" means the peripheral edge or edges which define the outer border of the wing.
3. For vehicle door or window arrangements, attention is drawn to Note (1) following the title of subclass [B60J](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

E06B 11/06 covered by [E05B 65/0007](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E06C)

E06C

LADDERS ([E04F 11/00](#) takes precedence; step-stools [A47C 12/00](#); adaptation of ladders to use on ships [B63B](#), to use on aircraft [B64](#); scaffolding [E04G](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E21B)

E21B

EARTH DRILLING, e.g. DEEP DRILLING (mining, quarrying [E21C](#); making shafts, driving galleries or tunnels [E21D](#)); OBTAINING OIL, GAS, WATER, SOLUBLE OR MELTABLE MATERIALS OR A SLURRY OF MINERALS FROM WELLS

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

E21B 1/12 - E21B 1/38	covered by	E21B 1/00
E21B 7/08	covered by	E21B 7/06
E21B 11/04	covered by	E21B 27/00
E21B 23/12	covered by	E21B 23/002
E21B 31/08	covered by	E21B 27/00
E21B 43/22	covered by	C09K 8/58
E21B 43/27	covered by	
E21B 47/001-E21B 47/009	covered by	
E21B 47/013-E21B 47/017	covered by	
E21B 47/0224-E21B 47/0236	covered by	
E21B 47/047-E21B 47/053	covered by	
E21B 47/07	covered by	
E21B 47/085	covered by	
E21B 47/092-E21B 47/098	covered by	
E21B 47/103-E21B 47/117	covered by	
E21B 47/125-E21B 47/135	covered by	
E21B 47/20-E21B 47/24	covered by	
E21B 47/26	covered by	

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E21C)

E21C

MINING OR QUARRYING

NOTES

1. This subclass covers methods or apparatus specific to mining or quarrying
2. This subclass does not cover, even though they may be disclosed only for mining or quarrying, drill bits, bore reamers, core taking devices, drilling pipes or rods, handling, racking or connecting arrangements for drilling pipes or rods,

counterboring or enlarging drilled holes, flame drilling, or other drilling apparatus, which are covered by subclass [E21B](#)

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

E21B 3/02	covered by	E21B 3/02
E21B 3/035	covered by	E21B 3/035
E21B 3/025	covered by	E21B 3/025
E21B 3/03	covered by	E21B 3/03
E21B 6/00	covered by	E21B 6/00
E21C3/08	covered by	B25D 9/06 , B25D15/00
E21C3/10	covered by	B25D15/02
E21C3/12	covered by	B25D 11/00
E21C3/14	covered by	B25D 11/00
E21C3/20	covered by	B25D 9/12
E21C3/22	covered by	B25D 9/125
B25D11/005	covered by	B25D 9/265
E21C3/34	covered by	B25D 17/08
E21B 19/081	covered by	E21B 19/081
E21B 19/083	covered by	E21B 19/083
E21B 19/084	covered by	E21B 19/084
E21B 19/089	covered by	E21B 19/089
E21B 44/08	covered by	E21B 44/08
E21B 44/00	covered by	E21B 44/00
E21B 21/14	covered by	E21B 21/14
E21B 7/02	covered by	E21B 7/02
E21C 37/24	covered by	B25D
E21C 37/26	covered by	B25D
E21C 41/18	covered by	E21C 41/16
E21C 41/20	covered by	E21C 41/16
E21C 41/22	covered by	E21C 41/16
E21C 41/24	covered by	E21C 41/16
E21C 41/28	covered by	E21C 41/26
E21C 41/30	covered by	E21C 41/26
E21C 45/02	covered by	E21C 25/60 , E21C 45/00
E21C 45/04	covered by	E21C 25/60 , E21C 45/00
E21C 45/06	covered by	E21C 25/60 , E21C 45/00
E21C 45/08	covered by	E21C 25/60 , E21C 45/00
E21C 50/00	covered by	E02F 3/88
E21C 50/02	covered by	E02F 3/88

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E21D)

E21D

SHAFTS; TUNNELS; GALLERIES; LARGE UNDERGROUND CHAMBERS (soil-conditioning or soil-stabilising materials [C09K 17/00](#); drilling or cutting machines for mining or quarrying [E21C](#); safety devices, transport, rescue, ventilation or drainage [E21F](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

E21D 13/02	covered by	E21D 13/00
E21D 13/04	covered by	E21D 13/00
E21D 15/582	covered by	E21D 15/58
E21D 15/59	covered by	E21D 15/44 , E21D 15/58
E21D 17/022	covered by	E21D 17/02
E21D 17/05	covered by	E21D 17/0206 , E21D 17/04
E21D 17/054	covered by	E21D 17/04
E21D 19/06	covered by	E21D 19/02 , E21D 19/04

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (E21F)

E21F

SAFETY DEVICES, TRANSPORT, FILLING-UP, RESCUE, VENTILATION, OR DRAINING IN OR OF MINES OR TUNNELS

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (E21F)

M E21F 11/00

Rescue devices or other safety devices, e.g. safety chambers, ~~or~~ escape ways (~~breathing aids for curative purposes [A61H 31/00](#)~~; respiratory apparatus [A62B 7/00](#); ~~revival apparatus [A62B 33/00](#)~~; ~~breathing apparatus for accidentally buried persons [A62B 33/00](#)~~; ~~breathing aids for curative purposes [A61H 31/00](#)~~)

Project: N/A (F01B)

F01B

MACHINES OR ENGINES, IN GENERAL OR OF POSITIVE-DISPLACEMENT TYPE, e.g. STEAM ENGINES (of rotary-piston or oscillating-piston type [F01C](#); of non-positive-displacement type [F01D](#); internal-combustion aspects of reciprocating-piston engines [F02B 57/00](#), [F02B 59/00](#); crankshafts, crossheads, connecting-rods [F16C](#); flywheels [F16F](#); gearings for interconverting rotary motion and reciprocating motion in general [F16H](#); pistons, piston rods, cylinders, for engines in general [F16J](#))

NOTES

1. This subclass covers, with the exception of the matter provided for in subclasses [F01C](#) - [F01P](#) :

- engines for elastic fluids, e.g. steam engines;
- engines for liquids and elastic fluids;
- machines for elastic fluids;

- machines for liquids and elastic fluids.
2. Attention is drawn to the note preceding class [F01](#), especially as regards the definitions of "steam" and "special vapour".

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F01C)

F01C

**ROTARY-PISTON OR OSCILLATING-PISTON MACHINES OR ENGINES
(internal-combustion aspects [F02B 53/00](#), [F02B 55/00](#))**

NOTES

1. This subclass covers:
- rotary-piston or oscillating-piston engines for elastic fluids, e.g. steam;
 - rotary-piston or oscillating-piston engines for liquids and elastic fluids;
 - rotary-piston or oscillating-piston machines for elastic fluids;
 - rotary-piston or oscillating-piston machines for liquids and elastic fluids.
2. In this subclass, the following expression is used with the meaning indicated:
- "rotary-piston machine" includes the German expressions "Drehkolbenmaschinen", "Kreiskolbenmaschinen" and "Umlaufkolbenmaschinen".
3. Attention is drawn to the Notes preceding class [F01](#), especially as regards the definitions of "rotary-piston machine", "oscillating-piston machine", "rotary piston", "co-operating members", "movement of co-operating members", "teeth or tooth-equivalents" and "internal-axis".

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F01D)

F01D

**NON-POSITIVE DISPLACEMENT MACHINES OR ENGINES, e.g.
STEAM TURBINES (machines or engines for liquids [F03](#); non-positive
displacement pumps [F04D](#))**

NOTES

1. This subclass covers:
- non-positive-displacement engines for elastic fluids, e.g. steam turbines;
 - non-positive-displacement engines for liquids and elastic fluids;
 - non-positive-displacement machines for elastic fluids;
 - non-positive-displacement machines for liquids and elastic fluids.
2. Attention is drawn to the Notes preceding class [F01](#), especially as regards the definitions of "reaction type", e.g. with airfoil-like blades, and "impulse type", e.g. bucket turbines.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[F01D 5/32](#) covered by [F01D 5/30](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F01K)

F01K

STEAM ENGINE PLANTS; STEAM ACCUMULATORS; ENGINE PLANTS NOT OTHERWISE PROVIDED FOR; ENGINES USING SPECIAL WORKING FLUIDS OR CYCLES (gas-turbine or jet-propulsion plants [F02](#); nuclear power plants, engine arrangements therein [G21D](#))

NOTE

Attention is drawn to the notes preceding class [F01](#), especially as regards the definitions of "steam" and "special vapour".

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F01L)

F01L

CYCLICALLY OPERATING VALVES FOR MACHINES OR ENGINES (valves in general [F16K](#))

NOTES

1. Groups [F01L 1/00](#) - [F01L 13/00](#) cover only valve-gear or valve arrangements without provision for variable fluid distribution.
2. Valve gear or valve arrangements specially adapted for steam engines are covered by groups [F01L 15/00](#) - [F01L 35/00](#).
3. Valve-gear arrangements specially adapted for machines or engines with variable working-fluid distribution are covered by groups [F01L 15/00](#) - [F01L 35/00](#).
4. Attention is drawn to the notes preceding class [F01](#), especially Note (3).
5. As regards the above-mentioned Note (3), attention is drawn to [F01B 3/10](#), [F01B 15/06](#), [F01C 21/18](#), [F02B 53/06](#), [F03C 1/08](#), [F04B 1/18](#), [F04B 7/00](#), [F04B 39/08](#), [F04B 39/10](#), and [F04C 15/06](#), [F04C 29/12](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

F01L 31/20	covered by
F01L 31/22	covered by
F01L 31/24	covered by

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0228 (F01L)

U F01L 1/00

Valve-gear or valve arrangements, e.g. lift-valve gear (lift-valve and valve-seat assemblies *per se* [F01L 3/00](#); slide-valve gear [F01L 5/00](#); actuated non-mechanically [F01L 9/00](#); valve arrangements in working piston or piston rod [F01L 11/00](#); modifications of valve-gear to facilitate reversing, braking, starting, changing compression ratio, or other specific operations [F01L 13/00](#))

U F01L 1/02

· Valve drive (transmitting-gear between valve drive and valve [F01L 1/12](#))

U F01L 1/04

· · by means of cams, camshafts, cam discs, eccentrics or the like ([F01L 1/10](#) takes precedence)

U F01L 1/047

· · · Camshafts

M F01L 2001/0471

· · · · {Assembled camshafts, e.g. "gebaute Nockenwelle"}

Project: MP0228 (F01M)

M F01M

LUBRICATING OF MACHINES OR ENGINES IN GENERAL (~~lubricating in general F16N~~); LUBRICATING INTERNAL COMBUSTION ENGINES; CRANKCASE VENTILATING

NOTE

Attention is drawn to the notes preceding class [F01](#), specially as regards Note (3).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F01N)

F01N

GAS-FLOW SILENCERS OR EXHAUST APPARATUS FOR MACHINES OR ENGINES IN GENERAL; GAS-FLOW SILENCERS OR EXHAUST APPARATUS FOR INTERNAL COMBUSTION ENGINES ({evacuation of fumes from the area where they are produced [B08B 15/00](#); arrangement of exhaust or silencing apparatus on percussive tools [B25D 17/12](#)}; arrangements in connection with gas exhaust of propulsion units in vehicles [B60K 13/00](#), {on ships or other waterborne vessels [B63H 21/32](#), on aircraft [B64D 33/04](#); arrangement of exhaust or silencing apparatus on firearms [F41A 21/30](#); ground installations for reducing aircraft engine or jet noise [B64F 1/26](#); silencers specially adapted for steam engines [F01B 31/16](#); air-intake silencers for gas turbine or jet propulsion plants [F02C 7/045](#); jet pipe or nozzles for jet propulsion plants [F02K](#)}; combustion-air intake silencers specially adapted for, or arranged on, internal-combustion engines [F02M 35/00](#); {combating noise or silencing in positive displacement machines or pumps [F04B 39/0027](#), in rotary-piston machines or pumps [F04C 29/06](#), in non-positive displacement pumps [F04D 29/66](#); means in valves for absorbing noise [F16K 47/02](#); noise absorbers in pipe system [F16L 55/02](#); conducting smoke or fumes from various locations to the outside [F23J 11/00](#); means for preventing or suppressing noise in air-conditioning or ventilation systems [F24F 13/24](#)}; protecting against, or damping, noise in general [G10K 11/16](#))

NOTE

Attention is drawn to the notes preceding Class [F01](#), especially as regards Note 2(b).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0194 (F01N)

M F01N 9/00

Electrical control of exhaust gas treating apparatus (monitoring or diagnostic devices for exhaust-gas treatment apparatus [F01N 11/00](#); ~~electrical control of supply of combustible mixture or its constituents in relation with the state of the exhaust gas treating apparatus F02D 41/0235~~; ~~conjoint electrical control of two or more combustion engine functions F02D 43/00~~; ~~controlling combustion engines conjoint electrical control of two or more combustion engine functions F02D 43/00~~)

Project: N/A (F01P)

F01P

COOLING OF MACHINES OR ENGINES IN GENERAL; COOLING OF INTERNAL-COMBUSTION ENGINES (arrangements in connection with cooling of propulsion units in vehicles [B60K 11/00](#); heat-transfer, heat-exchange or heat-storage materials [C09K 5/00](#); {cooling of gas-turbine engines [F02C 7/12](#)}; heat exchange in general, radiators [F28](#))

NOTES

- In this subclass, the following terms or expressions are used with the meanings indicated:
 - "air" also includes other gaseous cooling fluids;
 - "liquid cooling" also includes cooling where liquid is used as the heat transferring fluid between parts to be cooled and the air, e.g. using radiators;
 - "air cooling" means direct air cooling and thus excludes indirect air cooling occurring in liquid cooling systems as explained herefore;
 - "cooling-air" includes directly or indirectly acting cooling-air.
- Attention is drawn to the notes preceding class [F01](#), especially as regards Note (3).
- Cooling by lubricant is classified in subclass [F01M](#) when the lubrication aspect predominates and in subclass [F01P](#) when the cooling aspect predominates.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F02B)

F02B

INTERNAL-COMBUSTION PISTON ENGINES; COMBUSTION ENGINES IN GENERAL (plants in which engines use combustion products [F02C](#), [F02G](#); internal-combustion turbines [F02C](#))

NOTES

- In this subclass, the following terms or expressions are used with the meanings indicated:
 - "positive ignition" means ignition by a source external to the working fluid, e.g. by spark or incandescent source;
 - "charging" means forcing air or fuel-air mixture into engine cylinders and thus embraces super-charging;
 - "scavenging" means forcing the combustion residues from the cylinders other than by movement of the working pistons and thus embraces tuned exhaust systems.
- Attention is drawn to the Notes preceding class [F01](#), specially as regards Note (1).
- Engines with specified cycles or number of cylinders are classified in group [F02B 75/02](#) or [F02B 75/16](#), unless other classifying features predominate.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F02C)

F02C

GAS-TURBINE PLANTS; AIR INTAKES FOR JET-PROPULSION PLANTS; CONTROLLING FUEL SUPPLY IN AIR-BREATHING JET-PROPULSION PLANTS (construction of turbines [F01D](#); jet-propulsion plants [F02K](#); construction of compressors or fans [F04](#); gas-turbine combustion chambers [F23R](#); using gas turbines in compression refrigeration plants [F25B 11/00](#); using gas-turbine plants in vehicles, see the relevant vehicle classes)

NOTES

1. This subclass covers:
 - combustion product or hot gas turbine plants;
 - internal combustion turbines or turbine plants;
 - turbine plants in which the working fluid is an unheated, pressurised gas.
2. This subclass does not cover:
 - steam turbine plants, which are covered by subclass [F01K](#);
 - special vapour plants, which are covered by subclass [F01K](#).
 - { combined cycle plants, which are covered by subclass [F01K 23/00](#)}
3. In this subclass, the following expression is used with the meaning indicated:
 - "gas-turbine plants" covers all the subject matter of Note (1) above and covers also features of jet-propulsion plants common to gas-turbine plants.
4. Attention is drawn to the Notes preceding class [F01](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F02D)

F02D

CONTROLLING COMBUSTION ENGINES (cyclically operating valves for combustion engines [F01L](#); controlling combustion engine lubrication [F01M](#); cooling internal combustion engines [F01P](#); supplying combustion engines with combustible mixtures or constituents thereof, e.g. carburettors, injection pumps [F02M](#); starting of combustion engines [F02N](#); controlling of ignition [F02P](#); controlling gas-turbine plants, jet-propulsion plants, or combustion-product engine plants, see the relevant subclasses for these plants)

NOTES

1. Attention is drawn to the notes preceding class [F01](#).
2. In this subclass, the following words are used with the meanings indicated:
 - "Fuel injection" means the introduction of a combustible substance into a space, e.g. cylinder, by means of a pressure source, e.g. a pump, continuously or cyclically acting behind the substance;
 - "Supercharging" means supplying to the working space, e.g. cylinder, combustion-air pressurised by means of a pressure source, e.g. a pump.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0194 (F02D)

M F02D 41/00

Electrical control of supply of combustible mixture or its constituents ([F02D 43/00](#) takes precedence {; *control of engine starters [F02N 11/08](#), electrical control of engine ignition timing [F02P 5/145](#)*})

Project: N/A (F02F)

F02F

CYLINDERS, PISTONS OR CASINGS, FOR COMBUSTION ENGINES; ARRANGEMENTS OF SEALINGS IN COMBUSTION ENGINES (specially adapted for rotary-piston or oscillating-piston internal-combustion engines [F02B](#); specially adapted for gas-turbine plants [F02C](#); specially adapted for jet-propulsion plants [F02K](#))

NOTES

1. Attention is drawn to the notes preceding class [F01](#).
2. In considering the relationship between class [F16](#) and subclass [F02F](#), class [F16](#) will take precedence unless the subject-matter is specific to combustion engines.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F02G)

F02G

HOT GAS OR COMBUSTION-PRODUCT POSITIVE-DISPLACEMENT ENGINE PLANTS (steam engine plants, special vapour plants, plants operating on either hot gas or combustion-product gases together with other fluid [F01K](#); gas-turbine plants [F02C](#); jet-propulsion plants [F02K](#)); USE OF WASTE HEAT OF COMBUSTION ENGINES; NOT OTHERWISE PROVIDED FOR

NOTE

Attention is drawn to the notes preceding class [F01](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F02K)

F02K

JET-PROPULSION PLANTS (arrangement or mounting of jet-propulsion plants in land vehicles or vehicles in general [B60K](#); arrangement or mounting of jet-propulsion plants in waterborne vessels [B63H](#); controlling aircraft attitude, flight direction or altitude by jet reaction [B64C](#); arrangement or mounting of jet-propulsion plants in aircraft [B64D](#); plants characterised by the power of the working fluid being divided between jet-propulsion and another form of propulsion, e.g. propeller, [F02B](#), [F02C](#); features of jet-propulsion plants common to gas-turbine plants, air intakes or fuel supply control of air-breathing jet-propulsion plants [F02C](#))

NOTES

1. In this subclass, the following expression is used with the meaning indicated:
 - "jet-propulsion plants" means plants using combustion to produce a fluid stream from which a propulsive thrust on the plant is obtained on the reaction principle.
2. Attention is drawn to the notes preceding class [F01](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F02M)

F02M

SUPPLYING COMBUSTION ENGINES IN GENERAL, WITH COMBUSTIBLE MIXTURES OR CONSTITUENTS THEREOF (charging such engines [F02B](#))NOTES

1. Attention is drawn to the notes preceding class [F01](#).
2. In this subclass the following terms are used with the meanings indicated:
 - "Carburettors" means essentially apparatus for mixing fuel with air, the fuel being brought into mixing contact with the air by lowering the air pressure, e.g. in a venturi;
 - "Fuel injection apparatus" means apparatus for introducing fuel into a space, e.g. engine cylinder, by pressurising the fuel, e.g. by a pump acting behind the fuel, and thus embraces the so-called "solid fuel injection" in which liquid fuel is introduced without any admixture of gas;
 - "Low-pressure fuel injection" means fuel injection in which the fuel-air mixture containing fuel thus injected will be substantially compressed in the compression stroke of the engine;
 - "Pumping element" means a single piston-cylinder unit in a reciprocating-piston fuel-injection pump or the equivalent unit in any other type of fuel-injection pump.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[F02M 7/23](#) covered by [F02M 7/103](#)

[F02M 51/08](#) covered by [F02M 51/06](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0228 (F02M)

M F02M 2700/00

Supplying, feeding or preparing air, fuel, fuel air mixtures or auxiliary fluids for a combustion engine; Use of exhaust gas; Compressors for piston engines

WARNING

Groups [F02M 2700/00](#)–[F02M 2700/4397](#) are no longer used for the classification of documents as of January 1, 1975.

Project: N/A (F02N)

F02N

STARTING OF COMBUSTION ENGINES (starting of free-piston combustion engines [F02B 71/02](#); starting of gas-turbine plants [F02C 7/26](#)); STARTING AIDS FOR SUCH ENGINES, NOT OTHERWISE PROVIDED FOR

NOTES

1. Attention is drawn to the notes preceding class [F01](#).
2. The starting of engines which are not explicitly stated to be combustion engines will be classified in this subclass insofar as their starting is equivalent to that of combustion engines.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F02P)

F02P

IGNITION, OTHER THAN COMPRESSION IGNITION, FOR INTERNAL-COMBUSTION ENGINES; TESTING OF IGNITION TIMING IN COMPRESSION-IGNITION ENGINES ({anti-pollution means for internal-combustion engines [F02B 17/00](#)}; specially adapted for rotary-piston or oscillating-piston engines [F02B 53/12](#); {ignition of gas turbine plants [F02C 7/26](#); ignition of jet propulsion plants [F02K 9/95](#); starting of combustion engines [F02N 9/00](#)}; ignition of combustion apparatus in general, glowing plugs [F23Q](#); measuring of physical variables in general [G01](#); controlling in general [G05](#); data processing in general [G06](#); electrical components in general see Section [H](#); {ignition coils [H01F 38/12](#)}; sparking plugs [H01T 13/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F03B)

F03B

MACHINES OR ENGINES FOR LIQUIDS (positive-displacement engines for liquid [F03C](#); machines for liquids and gases [F01](#); positive-displacement machines for liquids [F04](#), rotary fluid gearing of the hydrokinetic type [F16H 41/00](#))

NOTES

1. Attention is drawn to the notes preceding Class [F01](#), especially as regards the definition of "reaction type".
2. This subclass comprises:
 - engines, other than of positive-displacement type, driven by liquids;
 - machines, other than of positive-displacement type, for liquids.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F03C)

F03C

POSITIVE-DISPLACEMENT ENGINES DRIVEN BY LIQUIDS (positive-displacement engines for liquids and elastic fluids [F01](#); positive-displacement machines for liquids [F04](#); fluid-pressure actuators [F15B](#); fluid gearing [F16H](#))

NOTE

Attention is drawn to the notes preceding class [F01](#), especially as regards the meanings of "positive displacement", "rotary-piston machines", "oscillating-piston machines", "rotary-piston", "co-operating members", "movement of co-operating members", "teeth or tooth-equivalents", and "internal axis".

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

F03C 1/253	covered by	F03C
F03C 1/28	covered by	F03C 1/0406 , F03C 1/0605
F03C 1/30	covered by	F03C 1/0409 , F03C 1/0631 , F03C 1/0668
F03C 1/32	covered by	F03C 1/0415 , F03C 1/0626 , F03C 1/0652

F03C 1/34	covered by	F03C 1/0435 , F03C 1/0615 , F03C 1/0655
F03C 1/36	covered by	F03C 1/0435 , F03C 1/0615 , F03C 1/0655
F03C 1/38	covered by	F03C 1/0435 , F03C 1/0615 , F03C 1/0655
F03C 1/40	covered by	F03C 1/0447 , F03C 1/0678

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F03G)

F03G

SPRING, WEIGHT, INERTIA OR LIKE MOTORS; MECHANICAL-POWER PRODUCING DEVICES OR MECHANISMS, NOT OTHERWISE PROVIDED FOR OR USING ENERGY SOURCES NOT OTHERWISE PROVIDED FOR (arrangements in connection with power supply in vehicles from force of nature [B60K 16/00](#); electric propulsion with power supply in vehicles from force of nature [B60L 8/00](#))

NOTE

In this subclass, the following term is used with the meaning indicated:

- "motors" means mechanisms for producing mechanical power from potential energy of solid bodies.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

F03G 4/00	covered by	F03G 7/04
F03G 4/02	covered by	F03G 7/04
F03G 4/04	covered by	F03G 7/04
F03G 4/06	covered by	F03G 7/04

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F03H)

F03H

PRODUCING A REACTIVE PROPULSIVE THRUST, NOT OTHERWISE PROVIDED FOR (from combustion products [F02K](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F04B)

F04B

POSITIVE DISPLACEMENT MACHINES FOR LIQUIDS; PUMPS (machines for liquids, or pumps, of rotary piston or oscillating piston type [F04C](#); non-positive displacement pumps [F04D](#); pumping of fluid by direct contact of another fluid or by using inertia of fluid to be pumped [F04F](#); crankshafts, crossheads, connecting-rods [F16C](#); flywheels [F16F](#); gearings for interconverting rotary motion and reciprocating motion in general [F16H](#); pistons, piston-rods, cylinders, in general [F16J](#))

NOTES

1. In this subclass, the following term is used with the meaning indicated:

- "piston" also covers a plunger.
2. Attention is drawn to the notes preceding class [F01](#), especially as regards the definitions of "machines", "pumps", and "positive-displacement".

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[F04B 35/02](#) covered by [F04B 9/08](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F04C)

F04C

ROTARY-PISTON, OR OSCILLATING-PISTON, POSITIVE-DISPLACEMENT MACHINES FOR LIQUIDS (engines [F03C](#)); ROTARY-PISTON, OR OSCILLATING-PISTON, POSITIVE-DISPLACEMENT PUMPS

NOTE

Attention is drawn to the notes preceding class [F01](#) especially as regards the definitions of "machines", "pumps", "positive displacement", "rotary-piston machines", "oscillating-piston machines", "rotary piston", "co-operating members", "movement of co-operating members", "teeth or tooth-equivalents" and "internal axis".

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0188 (F04D)

M F04D

NON-POSITIVE-DISPLACEMENT PUMPS (*engine fuel-injection pumps [F02M](#); ion pumps [H01J 41/12](#); electrodynamic pumps [H02K 44/02](#)*)

NOTES

1. This subclass covers non-positive-displacement pumps for liquids, for elastic fluids, or for liquids and elastic fluids whether rotary or not having pure rotation.
2. This subclass does not cover combinations of non-positive-displacement pumps with other pumps, which are covered by subclass [F04B](#), except that the use of such other pumps for priming or boosting non-positive-displacement is covered by this subclass.
3. Attention is drawn to the Notes preceding class [F01](#), especially as regards the definition of "pump".

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

U F04D 29/00

Details, component parts, or accessories (machine elements in general [F16](#))

U F04D 29/26

• Rotors specially for elastic fluids

M F04D 29/32

• • for axial flow pumps ~~{(multistage rotors [F01D 5/00](#))}~~

U F04D 29/321

• • • {for axial flow compressors}

M F04D 29/322

• • • • {blade ~~Blade~~ mountings ~~([F01D 5/30](#) takes precedence)}~~

M F04D 29/324

• • • • • {blades ~~Blades~~} ~~([F01D 5/282](#) takes precedence)}~~

Project: N/A (F04F)

F04F

PUMPING OF FLUID BY DIRECT CONTACT OF ANOTHER FLUID OR BY USING INERTIA OF FLUID TO BE PUMPED {{(evacuating by sorption [F04B](#))}; **SIPHONS** {{(conveying materials in bulk by flows of gas, liquid of foam [B65G 53/00](#))}}

NOTES

1. Attention is drawn to the notes preceding class [F01](#).
2. Combinations of pumps belonging to this subclass with other pumps are only classified in this subclass if such other pumps are fore pumps of diffusion pumps.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F15B)

F15B

SYSTEMS ACTING BY MEANS OF FLUIDS IN GENERAL; FLUID-PRESSURE ACTUATORS, e.g. SERVO-MOTORS; DETAILS OF FLUID-PRESSURE SYSTEMS, NOT OTHERWISE PROVIDED FOR {{(hydraulically or pneumatically operated lifting devices for soil-working machines [A01B 63/10](#); hydraulic drawing presses [B21D](#); hydraulic or pneumatic manipulators [B25J](#); hydraulic or pneumatic tipping devices for vehicles [B60P 1/00](#); hydraulic or pneumatic remote control for railway signals [B61L 7/04](#); hydraulic or pneumatic mine supports [E21D 15/44](#)); motors, turbines, compressors, blowers, pumps [F01](#) - [F04](#); {fluid signal amplifiers, relays [F15C](#)}; fluid dynamics [F15D](#); fluid clutches or brakes [F16D](#); fluid springs [F16F](#); fluid gearing [F16H](#); pistons, cylinders packing [F16J](#); valves, taps, cocks, actuating-floats [F16K](#); safety valves with auxiliary fluid operation of the main valve [F16K 17/10](#); fluid-operating means for valves [F16K 31/12](#); pipes, pipe joints [F16L](#); lubricating [F16N](#))}}

NOTE

In this subclass, the following terms are used with the meaning stated:

- "Telemotor" means a system or device in which a substantially constant amount of fluid is trapped between an input member and an output member to act as a fluid link;
- "Servomotor" means a fluid-pressure actuator, e.g. a piston and cylinder, directly controlled by a valve or other device which is responsive to operation of an initial controlling member; "Servomotor" does not cover a telemotor. The initial controlling member may be adjacent to the servomotor or at a distance, and may be, for example a hand lever.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F15C)

F15C

FLUID-CIRCUIT ELEMENTS PREDOMINANTLY USED FOR COMPUTING OR CONTROL PURPOSES (transducers [F15B 5/00](#), {[F15B 21/00](#)}; fluid dynamics in general [F15D](#); computer comprising fluid elements [G06D](#), [G06G](#); {electric control by means of electro-hydraulic or electro-pneumatic amplifiers [G05B 7/02](#)})

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F15D)

F15D

FLUID DYNAMICS, i.e. METHODS OR MEANS FOR INFLUENCING THE FLOW OF GASES OR LIQUIDS ({nozzles, spray heads [B05B](#); devices to decrease friction or resistance or to increase speed of ships [B63B](#); ship rudders [B63H 25/38](#); influencing the flow or the viscosity of fluids with chemical additives [C09K 3/00](#), [C10M](#); hydraulic engineering [E02B](#)}; fluid circuit elements [F15C](#); {one-way check valves [F16K 15/00](#)})

NOTE

This subclass comprises boundary-layer control and other arrangements and methods, not provided for in other classes, for influencing the flow of fluids relative to constraining surfaces and after leaving these surfaces, e.g. producing or removing turbulence, deflecting jets, guiding flow through bends in conduits, affecting distribution of fluid in a conduit, reducing fluid friction.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0290 (F16B)

M F16B

DEVICES FOR FASTENING OR SECURING CONSTRUCTIONAL ELEMENTS OR MACHINE PARTS TOGETHER, e.g. NAILS, BOLTS, CIRCLIPS, CLAMPS, CLIPS, WEDGES, JOINTS OR JOINTING (*couplings for transmitting rotation [F16D](#)*)

NOTES

1. Attention is drawn to:

- a. the Note following group [E04B 1/38](#);
- b. the following places:

A44B	Buckles, slide fasteners
A47G 3/00	Ornamental heads for nails, screws, or the like
B42F 3/00	Means, not using staples, for attaching sheets temporarily together
{ C14B 17/08 }	{Fastening devices, e.g. clips for leather-stretching used in apparatus or machines for manufacturing or treating skins, hides, leathers or furs}
E01B 9/10	Screws or bolts for railway sleepers
E01B 11/00	Rail joints
E04	Connections for building
E04D 13/08	Clamping means for down pipes for roof drainage
E04G 5/04	Fastening scaffolds against buildings
E04G 7/00	Scaffolding couplings
E05C	Bolts for fasteners for wings, specially for doors or windows
F16C 29/10	Locking bearings for parts moving only linearly
F16G 17/00	Hooks as integral parts of chains
F16L	Pipe joints
F16L 3/00	Supports for pipes, cables or protective tubing, e.g. hangers, holders, clamps, cleats, clips, brackets
F16L 33/02	Clips for connecting hoses to rigid members
H01F 7/00	Magnetic holding devices

[H02N 13/00](#) Electrostatic holding devices.

2. Groups [F16B 2/00](#) - [F16B 47/00](#) take precedence over group [F16B 1/00](#).

3. *{In this main group, it is desirable to add the indexing codes of [F16B 2200/00](#)}*

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

F16B 7/08	covered by	F16B 5/12 , F16B 7/04 , F16L 3/00
F16B 7/12	covered by	F16B 7/105
F16B 7/16	covered by	F16B 7/14
F16B 13/10	covered by	F16B 13/08
F16B 13/13	covered by	F16B 13/002 , F16B 13/12
F16B 21/14	covered by	F16B 21/12 , F16B 21/125
F16B 25/02	covered by	F16B 25/00
F16B 25/04	covered by	F16B 25/00
F16B 25/06	covered by	F16B 25/00
F16B 25/08	covered by	F16B 25/00
F16B 33/04	covered by	F16B 33/02
F16B 37/10	covered by	F16B 37/0842 , F16B 37/0871

2. *In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.*

M F16B 5/00 Joining sheets or plates, {, e.g. panels}, } to one another or to strips or bars parallel to them (~~{[F16B 17/002](#)[F16B 17/00](#) takes precedence};~~ **by sticking together [F16B 11/00](#);** *by sticking together [F16B 11/00](#);* dowel connections [F16B 13/00](#); pins, including deformable elements [F16B 19/00](#); covering of walls [E04F 13/00](#); fastening signs, plates, panels or boards to a supporting structure, fastening readily-detachable elements, e.g. letters to signs, plates, panels, or boards, [G09F 7/00](#))

M F16B 7/00 Connections of rods or tubes, e.g. of non-circular section, mutually, including resilient connections (~~{[F16B 11/008](#), [F16B 17/002](#)[F16B 17/00](#) take precedence};~~ *umbrella frames [A45B 25/02](#);* *umbrella frames [A45B 25/02](#);* welding or soldering of connections [B23K](#); vehicle connections in general [B60D](#); railway couplings [B61G](#); bicycle frames [B62K](#); couplings for transmitting rotation [F16D](#); couplings for tubes conveying fluids [F16L](#))

C F16B 9/00 Connections of rods or tubular parts to flat surfaces at an angle (~~{[F16B 17/002](#) takes precedence}~~ *{with a part of or on one member entering a hole in the other and involving plastic deformation [F16B 17/006](#);* *friction-grip releasable fastenings in general [F16B 2/00](#);* *;* *friction-grip releasable fastenings in general [F16B 2/00](#);* making press-fit connections [B23P 11/00](#), [B23P 19/00](#); fluid-tight connecting of pipes to reservoirs, sheets, or the like [F16L](#), e.g. joining pipes *{or rods conveying fluids}* to walls [F16L 41/00](#))

WARNING

Group [F16B 9/00](#) is impacted by reclassification into groups [F16B 9/01](#), [F16B 9/05](#), [F16B 9/052](#), [F16B 9/054](#), [F16B 9/056](#), [F16B 9/058](#), [F16B 9/07](#), [F16B 9/09](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N F16B 9/01
- {Welded or bonded connections}
- WARNING
Group [F16B 9/01](#) is incomplete pending reclassification of documents from group [F16B 9/00](#). Groups [F16B 9/00](#) and [F16B 9/01](#) should be considered in order to perform a complete search.
- C F16B 9/02
- Detachable connections *{(F16B 9/05 – F16B 9/09 take precedence)}*
- WARNING
Group [F16B 9/02](#) is impacted by reclassification into groups [F16B 9/05](#), [F16B 9/052](#), [F16B 9/054](#), [F16B 9/056](#), [F16B 9/058](#), [F16B 9/07](#), [F16B 9/09](#). All groups listed in this Warning should be considered in order to perform a complete search.
- F F16B 9/023
(Frozen)
- • {using clamps or clips}
- WARNING
Group [F16B 9/023](#) is no longer used for the classification of documents as of August 1, 2018. The content of this group is being reclassified into groups [F16B 9/02](#), [F16B 9/05](#), [F16B 9/052](#), [F16B 9/054](#), [F16B 9/056](#), [F16B 9/058](#), [F16B 9/07](#), [F16B 9/09](#). All groups listed in this Warning should be considered in order to perform a complete search.
- F F16B 9/026
(Frozen)
- • {using screw-thread elements}
- WARNING
Group [F16B 9/026](#) is no longer used for the classification of documents as of August 1, 2018. The content of this group is being reclassified into groups [F16B 9/02](#), [F16B 9/05](#), [F16B 9/052](#), [F16B 9/054](#), [F16B 9/056](#), [F16B 9/058](#), [F16B 9/07](#), [F16B 9/09](#). All groups listed in this Warning should be considered in order to perform a complete search.
- N F16B 9/05
- {by way of an intermediate member}
- WARNING
Groups [F16B 9/05-F16B 9/058](#) are incomplete pending reclassification of documents from groups [F16B 9/00](#), [F16B 9/02 - F16B 9/026](#) and [F16B 17/00](#). Groups [F16B 9/00](#), [F16B 9/02 - F16B 9/026](#), [F16B 9/05 - F16B 9/058](#) and [F16B 17/00](#) should be considered in order to perform a complete search.
- N F16B 9/052
- • {the intermediate member having a radial flange secured to the flat surface}
- N F16B 9/054
- • {the intermediate member being threaded}
- N F16B 9/056
- • {the intermediate member extending through the flat surface; the rod or tubular part extending through the flat surface}
- N F16B 9/058
- • {the intermediate member being secured to the rod by transverse fasteners}
- N F16B 9/07
- {involving plastic or elastic deformation when assembling (involving plastic deformation with a part of or on one member entering a hole in the other [F16B 17/006](#))}
- WARNING
Group [F16B 9/07](#) is incomplete pending reclassification of documents from groups [F16B 9/00](#), [F16B 9/02 - F16B 9/026](#) and [F16B 17/00](#). Groups [F16B 9/00](#), [F16B 9/02 - F16B 9/026](#), [F16B 9/07](#), and [F16B 17/00](#) should be considered in order to perform a complete search.

- N F16B 9/09 · {rods and flat surfaces interengaging by projections and mating sockets}
WARNING
 Group [F16B 9/09](#) is incomplete pending reclassification of documents from groups [F16B 9/00](#), [F16B 9/02 - F16B 9/026](#) and [F16B 17/00](#).
 Groups [F16B 9/00](#), [F16B 9/02 - F16B 9/026](#), [F16B 9/09](#), and [F16B 17/00](#) should be considered in order to perform a complete search.
- U F16B 11/00 **Connecting constructional elements or machine parts by sticking or pressing them together, e.g. cold pressure welding (non-electric welding in general [B23K](#); methods of using adhesives independently of the form of the surfaces joined [C09J 5/00](#))**
- M F16B 11/002 · {by pressing the elements together so as to obtain plastic deformation (shrinkage connections, force fits [F16B 4/00](#); pin-and-hole connections *involving plastic deformation* [F16B 17/00](#))}
- U F16B 15/00 **Nails; Staples (surgical staples [A61B 17/064](#); manufacture of nails or staples [B21G](#) {; drawing-pins, thumb-tacks [B43M 15/00](#)}; railway spikes [E01B 9/06](#))**
- U F16B 15/08 · formed in integral series but easily separable
- C F16B 17/00 **Connecting constructional elements or machine parts by a part of or on one member entering a hole in the other *{and involving plastic deformation}*(~~construction of pins, bolts or rivets [F16B 19/00](#); riveting [F16B 19/04](#); means for preventing withdrawal of a pin, spigot or the like from its operative position, stud-and-socket releasable fastenings [F16B 21/00](#))~~**
- WARNING**
 Group [F16B 17/00](#) is impacted by reclassification into groups [F16B 9/02](#), [F16B 9/05 - F16B 9/09](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- D F16B 17/002 · {~~Non-releasable connections, i.e. by means of plastic deformation~~}
 <administratively transferred to [F16B 17/00](#)>
- M F16B 17/004 · {~~of rods or tubes mutually~~}
- E F16B 17/006 · {~~of rods or tubes to sheets or plates~~}
- M F16B 17/008 · {~~of sheets or plates mutually~~ (*joining sheets by riveting without the use of separate rivets [F16B 5/045](#)*)}

Project: N/A (F16B)

F16B 23/00
 - ~~F16B 47/00~~
[F16B 2200/00](#)

Fastening means using screw-thread (wall-dowels [F16B 13/00](#); manufacture of threaded fastening means [B21H](#), [B21K](#), [B23G](#); screws or bolts for railway sleepers [E01B 9/10](#); screw mechanisms [F16H](#))

Project: RP0290 (F16B)

- U F16B 47/00 **Suction cups for attaching purposes; Equivalent means using adhesives {(devices using adhesives, suction or magnetism for hanging or supporting pictures or the like [A47G 1/17](#); vacuum work holders [B25B 11/005](#); anchoring of ships using suction [B63B 21/27](#); suction cups for handling glass [B65G 49/061](#); load-engaging elements for cranes using suction means [B66C 1/02](#))}**
- U F16B 47/006 · {the suction cups being activated by the rotation of a cranked lever arm}
- N [F16B 2200/00](#) ***Constructional details of connections not covered for in other groups of this subclass***

- N F16B 2200/10 · Details of socket shapes
- N F16B 2200/20 · Connections with hook-like parts gripping behind a blind side of an element to be connected
- N F16B 2200/205 · · the hook being a separate retainer
- N F16B 2200/30 · Dovetail-like connections
- N F16B 2200/40 · Clamping arrangements where clamping parts are received in recesses of elements to be connected
- N F16B 2200/403 · · Threaded clamping parts
- N F16B 2200/406 · · Clamping parts being collars, bushings or wedges
- N F16B 2200/50 · Flanged connections
- N F16B 2200/503 · · the flange being separate from the elements to be connected
- N F16B 2200/506 · · bolted or riveted
- N F16B 2200/509 · · clamped

Project: N/A (F16C)**F16C****SHAFTS; FLEXIBLE SHAFTS; ELEMENTS OR CRANKSHAFT MECHANISMS; ROTARY BODIES OTHER THAN GEARING ELEMENTS; BEARINGS**NOTES

1. In this subclass the following expression is used with the meaning indicated:
 - "rotary bodies other than gearing elements" covers any element which rotates so far as its features are affected only by the fact that it rotates.

2. Attention is drawn to the following places:

- | | |
|--|---|
| A01B 71/04 | Bearings for agricultural machines |
| B21B 31/07 | Adaptation of roll bearings for metal-rolling mills |
| B61C 17/10 | Connecting-rods, bearings for driving wheels of railway locomotives |
| B61F 15/00 | Axle-boxes for railway vehicles |
| B62K 21/06 | Bearings for steering heads |
| E06B 9/174,
E06B 9/50 | Bearings specially adapted for roller shutters or for roller blinds |
| E21B 10/22 | Bearings for drill bits |
| F01C 21/02 | Arrangement of bearings in rotary-piston machines or engines |
| F01D 25/16 | Arrangement of bearings in non-positive displacement machines or engines |
| F02C 7/06 | Arrangement of bearings in gas-turbine plants |
| G01C 19/16 | Bearings for gyroscopes |
| G01D 11/02 | Bearings or suspensions for moving parts of measuring instruments |
| G01G 21/02 | Arrangements of bearings in weighing apparatus |
| G01R 1/10 | Arrangements of bearings in instruments for measuring electric variables |
| G01R 11/12 | Arrangements of bearings for apparatus for measuring time integral of electric power or current |
| G02C 5/22 | Hinges for spectacles |
| G04B 31/00 | Bearings for clockwork |

[H02N 15/00](#) Magnetic levitation devices.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0250 (F16D)

M F16D

COUPLINGS FOR TRANSMITTING ROTATION; CLUTCHES; BRAKES

NOTE

Attention is drawn to the following places:

A01D 69/08 , A01D 69/10	Clutches or brakes of harvesting machines for grass or cereals;
A61C 1/18	Clutches in dental machines for boring or cutting;
B21B 35/14	Drive couplings for metal-rolling mills;
B30B 15/10	Brakes specially adapted for presses;
B30B 15/12	Clutches specially adapted for presses;
B41J 33/52	Braking devices for ribbon-feed devices in selective printing mechanisms;
B60K 17/00	Arrangement or location of clutches in vehicles;
B61H	Brakes peculiar to rail vehicles;
B62B 5/04	Braking mechanisms for hand carts;
B62B 9/08	Braking mechanisms for children's carriages or perambulators;
B62C 7/00	Braking mechanisms for animal-drawn vehicles;
B62L	Cycle brakes;
B66D 5/00	Braking devices for lifting or hoisting gear;
E21B 17/02	Couplings for drilling rods;
H02P 3/04	Brakes for electric motors, generators, dynamo-electric converters;
H04L 13/04	Clutches for apparatus for transmission of coded digital information.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

F16D 3/19	covered by	F16D 3/50 ;
F16D 3/27	covered by	F16D 3/265 ;
F16D 27/07	covered by	F16D 27/06 , F16D 27/14 ;
F16D 48/12	covered by	B60K 23/0808 ;
F16D65/35	covered by	F16D 63/00 .

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F16F)

F16F

SPRINGS; SHOCK-ABSORBERS; MEANS FOR DAMPING VIBRATION

NOTES

1. This subclass covers:

- springs, shock-absorbers or vibration-dampers;

- their arrangement in, or adaptation for, particular apparatus if not provided for in the subclasses covering said apparatus.
2. This subclass does not cover inventions concerning the arrangement or adaptation of springs, shock-absorbers or vibration-dampers in, or for, particular apparatus, if provided for in the subclasses concerning the said apparatus, e.g.
- | | |
|-------------------------------|---|
| A47C 23/00 - | Spring mattresses |
| A47C 27/00 | |
| { A61F 2/00 } | {Prostheses} |
| A63C 5/075 | Vibration dampers in skis |
| B60G | Vehicle suspensions |
| B60R 19/24 | Mounting of bumpers on vehicles |
| B61F | Rail vehicle suspensions |
| B61G 11/00 | Buffers for railway or tramway vehicles |
| B62D 21/15 | Vehicle chassis frames having impact absorbing means |
| B62J 1/02 | Resiliently mounted saddles on cycles |
| B62K 21/08 | Steering dampers |
| B63H 21/30 | Anti-vibration mounting of marine propulsion plant in ships |
| B64C 25/58 | Arrangement of shock-absorbers or springs in aeroplane alighting gear |
| B65D 81/02 | Containers, packing elements or packages with shock-absorbing means |
| D06F 37/20 | Resilient mountings in washing machines |
| D06F 49/06 | Resilient mountings in domestic spin-dryers |
| { E04B 1/98 } | {Protection of buildings against vibrations or shocks} |
| E05D 7/086 | Braking devices structurally combined with hinges |
| F03G 1/00 | Spring motors |
| { F16L 3/20 } | {Pipe or cable supports} |
| F21V 15/04 | Resilient mounting of lighting devices |
| F41A 25/00 | Gun cradles to permit recoil |
| F41B 5/1426 | Vibration dampers for archery bows |
| G01D 11/00 | Indicating or recording in connection with measuring |
| G01G 21/10 | Weighing apparatus, e.g. arrangement of shock-absorbers in weighing apparatus |
| G04B | Clocks, watches |
| G12B 3/08 | Damping of movements in instruments |
| G21C 7/20 | Disposition of shock-absorbing devices for displaceable control elements in nuclear reactors. |
| { H02G 7/14 } | {Arrangements or devices for damping mechanical oscillations of power lines} |

3. Mention of "steel" or "metal" in groups [F16F](#), unless specific mention is made otherwise, should be seen in the light of the title of group [F16F 1/00](#), i.e. material having low internal friction. This normally includes composite materials such as fibre-reinforced plastics.

4. Mention of "rubber" or "plastics" in group [F16F](#), unless specific mention is made otherwise, should be seen in the light of the title of group [F16F 1/36](#), i.e. material having high internal friction. This normally does NOT include composite materials such as fibre-reinforced plastics except in the case of groups [F16F 1/366](#) - [F16F 1/3686](#) and [F16F 15/305](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

F16F 3/07	covered by	F16F 13/00
F16F 9/24	covered by	F16F 9/22

F16F 9/40	covered by	F16F 9/00 - F16F 9/50
F16F 9/508	covered by	F16F 9/512
F16F 11/00	covered by	F16F 7/00 , F16F 9/00 , F16F 15/00
F16F 13/12	covered by	F16F 13/08

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F16G)

F16G

BELTS, CABLES, OR ROPES, PREDOMINANTLY USED FOR DRIVING PURPOSES; CHAINS; FITTINGS PREDOMINANTLY USED THEREFOR

NOTE

Attention is drawn to the following places:

B63B 21/04	Fastening equipment for chains, ropes or the like for ships
B63B 21/20	Adaptations of chains, ropes or the like for ships
B65G 15/30	Endless conveyor belts
B65G 17/38 , B65G 19/20	Traction chains for conveyors
F16H	Gearings using flexible members
F16H 9/24	Chains specially adapted for gearings with variable ratio
H05F	Preventing or carrying-off electrostatic charges.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F16H)

F16H

GEARING

NOTES

1. Combinations including mechanical gearings are classified in groups [F16H 37/00](#) or [F16H 47/00](#), unless they are provided for in groups [F16H 1/00](#) - [F16H 35/00](#).
2. In this subclass, sets of rigidly-connected members are regarded as single members.
3. In this subclass, the following terms or expressions are used with the meanings indicated:
 - "toothed gearing" includes worm gearing and other gearing involving at least one wheel or sector provided with teeth or the equivalent, EXCEPT gearing with chains or toothed belts, which is treated as friction gearing;
 - "conveying motion" includes transmitting energy, and means that the applied and resultant motions are of the same kind, though they may differ in, e.g. speed, direction extent:
 - "rotary" implies that the motion may continue indefinitely;
 - "oscillating" means moving about an axis to an extent which is limited by the construction of the gearing, and which may exceed one revolution, the movement being alternately forwards and backwards during continued operation of the gearing;
 - "reciprocating" means moving substantially in a straight line, the movement being alternately forwards and backwards during continued operation of the gearing;
 - "reversing" or "reversal" means that an applied movement in one direction may produce a resultant movement in either of two opposed directions at will;

- "central gears" includes any gears whose axis is the main axis of the gearing.

4. Attention is drawn to the following places:

A01D 69/06	Gearings in harvesting machines
A63H 31/00	Gearing for toys
B21B 35/12	Toothed-wheel gearing for metal-rolling mills
B60K	Arrangement of transmissions in vehicles
B61C 9/00	Transmissions for railway locomotives
B62D 3/00	Vehicle steering gears
B62M	Transmissions for cycles
B63H 23/00	Transmissions for marine propulsions
B63H 25/00	Marine steering gears
{ B64C 27/12 , B64C 27/58 }	{Transmissions for helicopters}
{ B64D 35/00 }	{Transmissions for aircraft}
F01-F04	Machines, engines, pumps
F15B 15/00	Gearings associated with fluid-actuated devices
G01D 5/04	Gearing used in indicating or recording apparatus in connection with measuring devices
H03J 1/00	Driving arrangements for tuning resonant circuits
H04L 13/04	Driving mechanisms for apparatus for transmission of coded digital information.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F16J)

F16J

PISTONS {(specially adapted for dampers [F16F 9/32](#))}; CYLINDERS; SEALINGS

NOTE

Attention is drawn to the following places:

A47J 27/08	Pressure cookers
E04B 1/68	Sealing building joints
E05C 9/00	Multi-point fastening of wings in general
F01B	Machines or engines in general or of reciprocating type, e.g. cylinders peculiar to steam engines
F01B 31/28	
F02F 1/00	Cylinders for combustion engines
F02F 3/00	Pistons for combustion engines
F04D 29/08	Sealings of non-positive displacement pumps
F17B 1/04	Sealing devices for sliding parts of gas holders of variable capacity
F28F 9/04	Arrangements for sealing elements into header boxes or end plates of heat-exchangers.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[F16J 15/53](#) covered by [F16J 15/43](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

U F16J 15/00**Sealings**

U F16J 15/002

- {comprising at least two sealings in succession ([F16J 15/162](#), [F16J 15/40](#) take precedence)}

F16J 15/004

- · {forming ~~erof~~ recuperation chamber for the leaking fluid}

Project: N/A (F16K)

F16K

VALVES; TAPS; COCKS; ACTUATING-FLOATS; DEVICES FOR VENTING OR AERATING {(devices for emptying and evacuating the excess liquid in valves or conduits [F16L 55/07](#))}**NOTE**

Attention is drawn to the following places:

[A47J 27/09](#)

Safety devices for pressure cookers

[A47J 31/46](#)

Dispensing spouts, drain valves or like beverage-making apparatus

[A61B 5/0235](#)

Valves specially adapted for measuring pressure in heart or blood vessels

[A61F 2/24](#)

Heart valves

[A61M 16/20](#)

Valves specially adapted for medical respiratory devices

[A61M 39/00](#)

Tube connectors, tube couplings, valves or branch units specially adapted for medical use in general

[A62B 9/02](#)

Valves for respiratory apparatus

[A62B 18/10](#)

Valves for breathing masks or helmets

[A62C](#)

Fire extinguishers

{[B01D 35/04](#)}

{Plug, tap, or cock filters}

[B05B](#)

Nozzles, spray heads or other discharge apparatus for spraying or atomising

[B60C 29/00](#)

Arrangements of tyre-inflating valves relative to tyres or wheel rims; Connection of valves to wheel rims, tyres or other inflatable elastic bodies

[B60G 17/048](#)

Valves specially adapted for adjusting vehicle fluid-spring characteristics

[B60T](#)

Valves specially adapted for vehicle brake control systems

[B62D 5/08](#)

Vehicle power-assisted steering characterised by the type of valve used

[B63B 7/00,](#)

Arrangement of inflating valves for floatable life-saving equipment

[B63C 9/00](#)[B65D 47/04](#)

Container closures with discharging valves

[B65D 90/32](#)

Safety valves for large containers

[B65D 90/54](#)

Gates or closures on large containers

[B67C 3/28](#)

Flow control devices for bottling liquids

[B67D](#)

Dispensing, delivering or transferring liquids

{[C21B 9/12](#)}

{Hot-blast valves for blast furnaces}

[E02B 8/00](#)

Details, e.g. valves, of barrages or weirs

[E02B 13/02](#)

Closures for irrigation conduits

{[E03C 1/04](#)}

{Water-basin installations specially adapted for wash-basins or baths}

{[E03C 1/05](#)}

{Arrangements on wash-basins for the remote control of taps}

[E03D](#)

Flushing valves for water-closets or urinals

{[E03F 7/04](#)}

{Valves for preventing return flow in sewer systems}

[E05F 3/12](#)

Valve arrangements in door closers

[E21B 21/10](#)

Valve arrangements in drilling-fluid circulation systems

E21B 34/00	Valve arrangements for boreholes or wells
{E21D 15/51}	{Arrangement of relief valves in hydraulic mine props}
F01B 25/10	Working-fluid valves for controlling machines or engines in general or of positive-displacement type
F01D 17/10	Final actuators for controlling non-positive displacement machines or engines
F01L	Cyclically operated valves for machines or engines
F02D 9/08	Throttle valves for controlling combustion engines
F02K 9/58	Propellant feed valves for rocket-engines
F02M	Carburettors, fuel injection
F02M 59/46	Valves for fuel injection pumps
F04	Pumps
F16F 9/34	Valves for shock absorbers
F16L 29/00, F16L 37/28	Pipe joints or quick-acting couplings with fluid cut-off means
F16L 55/00	Arrangement of valves in pipes
F16L 55/055	Valves specially adapted to prevent or minimise the effect of water hammer
F16L 55/46	Launching devices for pigs or moles
F16N 23/00	Check valves for lubrication systems
{F16T}	{Draining-off liquids from steam traps}
F17C 13/04	Arrangement of valves in pressure vessels
F22B 37/44	Arrangement of safety valves on steam boilers
F22D 5/34	Application of valves to automatic water-feed in boiler
F23L 13/00	Valves for air supply control to burners
{F23Q 2/16}	{Valves for lighters with gaseous fuel and adjustable flame}
F24C 3/12, F24C 5/16	Arrangement of valves on stoves or ranges
F24F	Air conditioning; Ventilation
F25B 41/04	Disposition of fluid circulation valves in refrigeration machines
G05D	Controlling non-electric variables
G10B 3/06	Valves for organs
G10D 9/04	Valves for other wind-actuated musical instruments
{G21C 9/06}	{Safety valves structurally associated with nuclear reactors}
{H01M 2/12}	{Vent plugs in batteries or cells}

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

F16K 31/11	covered by	F16K 31/06 , F16K 31/08 , F16K 31/10
F16K 31/64	covered by	G05D
F16K 31/66	covered by	F16K 31/06 ; H01F
F16K 31/68	covered by	G05D
F16K 31/70	covered by	F16K 31/002
F16K 31/72	covered by	F16K 31/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F16L)

F16L

PIPES; JOINTS OR FITTINGS FOR PIPES; SUPPORTS FOR PIPES, CABLES OR PROTECTIVE TUBING; MEANS FOR THERMAL INSULATION IN GENERAL**NOTES**

1. In this subclass, the following terms are used with the meanings indicated:
 - "pipe" means a conduit of closed cross-section, which is specially adapted to convey fluids, materials or objects;
 - "hose" means a pipe, as defined above, which has flexibility as an essential characteristic.

2. Attention is drawn to the following places:

A61M 39/00	Tube connectors, tube couplings or branch units, specially adapted for medical use
B05B 1/20	Perforated pipes
{B60T 17/04}	{Arrangement of piping or air hoses in brake systems}
B63B 35/03	Pipe-laying vessels
B64D 39/04	Adaptation of hose constructions for refuelling aircraft during flight
{B65G 51/00}	{Conveying articles through pipes or tubes by fluid flow or pressure}
{B65G 53/00}	{Conveying materials in bulk through pipes or tubes}
B67D 7/38	Arrangements of hoses in apparatus for transferring liquids, e.g. fuel, from bulk to vehicles or portable containers
E01D 19/10	Fastening of pipes or cables to bridges
E03B	Water supply installations
E03D 11/17	Means for connecting water-closet bowls to the flushing pipe
E03D 11/18	Siphons for water-closets
E03F 3/04	Pipes or fittings specially adapted to sewers
E04D 13/08	Down pipes for roof drainage; Clamping means therefor
E04F 17/00	Vertical ducts, channels in buildings, e.g. chimneys
E21F 1/04	Air ducts for ventilation of mines or tunnels; Connections therefor
E21F 17/02	Suspension devices for tubes or the like in mines or tunnels
F01N	Gas flow silencers or exhaust apparatus for machines or engines
{F16B 7/00}	{Connections of rods or tubes}
F16N 21/00	Conduits, junctions for lubrication systems
F17C 3/02	Thermal insulation of vessels not under pressure for storing liquefied or solidified gases, e.g. Dewar flask
{F17D}	{Pipe-line systems, pipe-lines}
F22B 37/10	Water tubes of steam boilers
F23J 13/04	Joints, connections for chimneys or flues
F24H 9/12	Connecting circulation pipes to heaters
F28F 9/04	Arrangements for sealing elements into header boxes or end plates of heat-exchangers
G21C 15/22	Structural association of coolant tubes with headers or other pipes in nuclear reactors
H02G 3/04	Protective tubing or conduits for electric cables

[H02G 3/26](#) Installations of electric cables or lines, or protective tubing on or in walls, ceilings or floors.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

F16L 3/21	covered by	F16L 3/2053 , F16L 3/2056 ;
F16L 13/013	covered by	F16L 13/007 ;
F16L 19/03	covered by	F16L 19/0212 ;
F16L 59/05	covered by	F16L 59/021 .
F16L 101/14	covered by	

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F16M)

F16M

FRAMES, CASINGS, OR BEDS OF ENGINES OR OTHER MACHINES OR APPARATUS NOT SPECIFIC TO AN ENGINE, MACHINE, OR APPARATUS PROVIDED FOR ELSEWHERE; STANDS OR SUPPORTS

NOTE

Attention is drawn to the following places:

B21B 31/02	Metal-rolling stand frames
G01D 11/30	Supports specially adapted for indicating or recording instruments.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F16N)

F16N

LUBRICATING

NOTE

Attention is drawn to the following places:

A01D 69/12	Lubrication of harvesters;
B21J 3/00	Lubricating during forging or pressing;
B25D 17/26	Lubricating of portable power-driven percussive tools;
B60R 17/00	Arrangements or adaptations of lubricating; systems or devices in vehicles;
B61C 17/08	Lubrication systems for railway locomotives;
B62D 55/092	Vehicle endless-track units with lubrication means;
D04B 35/28	Devices for lubricating knitting machine parts;
E05B 17/08	Lubricating devices for locks;
E05D 11/02	Lubricating arrangements for hinges;
E21B 10/22	Lubricating details of roller drill bits for earth; drilling.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F16P)

F16P

SAFETY DEVICES IN GENERAL; {SAFETY DEVICES FOR PRESSES}**NOTE**

Attention is drawn to the following places:

A01D 75/18	Harvesting machines
A01F 21/00	Threshing machines or baling presses
B02C 23/04	Crushing or disintegrating machines
B21B 33/00	Rolling of metal
B21D 55/00	Working sheet metal or tubes, rods or profiles without essentially removing material
B23B 25/04	Turning-machines
B23Q 11/00	Machine tools
B24B 55/00	Grinding or polishing machines
B25J 19/06	Manipulators
B26D 7/22	Cutting machines
B27G 19/00	Wood saws
B65B 57/00	Packaging machines or apparatus
B65G 43/00	Conveyors
B65H 26/00	Web-advancing mechanisms
B65H 63/00	Handling or winding of thin or filamentary material
D01G 31/00	Treatment of fibres
D01H 13/14	Spinning or twisting
D05B 83/00	Sewing machines
F21V 25/00	Lighting devices.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F16S)

F16S

CONSTRUCTIONAL ELEMENTS IN GENERAL; STRUCTURES BUILT-UP FROM SUCH ELEMENTS, IN GENERAL**NOTE**

This subclass does not cover similar elements and structures, restricted to use in the building art, which are covered by subclass [E04C](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F16T)

F16T

STEAM TRAPS OR LIKE APPARATUS FOR DRAINING-OFF LIQUIDS FROM ENCLOSURES PREDOMINANTLY CONTAINING GASES OR VAPOURS**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F17B)

F17B

GAS-HOLDERS OF VARIABLE CAPACITY (self-acting gas cut-off devices [A47J 27/62](#), [G05D](#); flame traps [A62C 4/00](#); gas mixers [B01F](#), [F16K 11/00](#), [G05D 11/00](#); construction or assembling of bulk storage containers employing civil-engineering techniques [E04H 7/00](#), gas compressors [F04](#); valves [F16K](#); damping pulsations in valves or pipes [F16K](#), [F16L](#); pipes [F16L](#); stopping devices for gas mains [F16L 55/10](#); vessels adapted for storing compressed, liquefied, or solidified gases [F17C](#); gas distribution systems [F17D 1/04](#); detecting leakage [F17D 5/02](#), [G01M](#); supervising or alarm devices [F17D 5/02](#), [G08B](#); control of combustion in burners [F23N](#); gas flow or pressure regulators [G05D](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F17C)

F17C

VESSELS FOR CONTAINING OR STORING COMPRESSED, LIQUEFIED OR SOLIDIFIED GASES; FIXED-CAPACITY GAS-HOLDERS; FILLING VESSELS WITH, OR DISCHARGING FROM VESSELS, COMPRESSED, LIQUEFIED, OR SOLIDIFIED GASES (storing fluids in natural or artificial cavities or chambers in the earth [B65G 5/00](#); construction or assembling of bulk storage containers employing civil-engineering techniques [E04H 7/00](#); variable-capacity gas-holders [F17B](#); liquefaction or refrigeration machines, plants, or systems [F25](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F17D)

F17D

PIPE-LINE SYSTEMS; PIPE-LINES (pumps or compressors [F04](#); fluid dynamics [F15D](#); valves or the like [F16K](#); pipes, laying pipes, supports, joints, branches, repairing, work on the entire line, accessories [F16L](#); steam traps or the like [F16T](#); fluid-pressure electric cables [H01B 9/06](#))

NOTE

In this subclass, pipe-line systems are interpreted as systems described in flow sheets as well as arrangements of co-operating elements, the elements per se being covered in the relevant subclasses.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F22B)

F22B

METHODS OF STEAM GENERATION; STEAM BOILERS (steam engine plants where engine aspects predominate [F01K](#); domestic central-heating systems using steam [F24D](#); heat exchange or heat transfer in general [F28](#); generation of vapour in the cores of nuclear reactors [G21](#))

NOTE

This subclass covers only methods of, or apparatus for, the generation of steam under pressure for heating or power purposes

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F22D)

F22D

PREHEATING, OR ACCUMULATING PREHEATED, FEED-WATER; FEED-WATER SUPPLY; CONTROLLING WATER LEVEL; AUXILIARY DEVICES FOR PROMOTING WATER CIRCULATION WITHIN BOILERS (chemical treatment of water, e.g. purification, [C02F](#); enclosed heat-exchange apparatus in general [F28D](#); controlling in general [G05](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F22G)

F22G

SUPERHEATING OF STEAM (steam separating arrangements in boilers [F22B 37/26](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (F23B)

M F23B

METHODS OR APPARATUS FOR COMBUSTION USING ONLY SOLID FUEL (for combustion of fuels that are solid at room temperatures, but burned in melted form, e.g. candle wax, [C11C 5/00](#), [F23C](#), [F23D](#); using solid fuel suspended in air [F23C](#), [F23D 1/00](#); using solid fuel suspended in liquids [F23C](#), [F23D 11/00](#); using solid fuel and fluent fuel simultaneously or alternately [F23C](#), [F23D 17/00](#); burning of low grade fuel [F23G](#); grates [F23H](#); feeding solid fuel to combustion apparatus [F23K](#); combustion chambers, not otherwise provided for [F23M](#); domestic apparatus [F24](#); central heating boilers [F24D](#); package boilers [F24H](#))

NOTE

1. This subclass ~~is~~ only ~~concerned with the~~ covers combustion ~~of lump fuel,~~ ~~or wherein the main body~~ of ~~pulverulent fuel is either essentially stationary during combustion~~ or ~~granulated fuel if no use is made of its fluent nature~~ mechanically

transported, as opposed to pneumatically transported or suspended in air, during combustion.

2. In this subclass, the first place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place.

3. In this subclass, methods are classified in the groups that cover the apparatus used. Methods that are not related to a particular type of apparatus are classified in group F23B 90/00.

4. In this subclass, it is desirable to add the indexing codes of groups F23B 2101/00 - F23B 2900/00.

Project: N/A (F23C)

F23C

METHODS OR APPARATUS FOR COMBUSTION USING FLUID FUEL OR SOLID FUEL SUSPENDED IN {A CARRIER GAS OR} AIR (burners [F23D](#))

NOTE

In this subclass, methods are classified in the groups that cover the apparatus used.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[F23C 101/00](#) covered by

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F23D)

F23D

BURNERS (generating combustion products of high pressure or high velocity [F23R](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F23G)

F23G

CREMATION FURNACES; CONSUMING WASTE PRODUCTS BY COMBUSTION

NOTE

This subclass covers also the burning of low-grade fuel of solid, liquid, or gaseous nature.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F23H)

F23H

GRATES (inlets for fluidisation air for fluidised bed combustion apparatus [F23C 10/20](#)); CLEANING OR RAKING GRATES

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F23J)

F23J

REMOVAL OR TREATMENT OF COMBUSTION PRODUCTS OR COMBUSTION RESIDUES {(from fluidised-bed combustion apparatus [F23C 10/24](#)); FLUES (precipitating dust from flue gases [B01D](#); composition of fuel [C10](#); combustion apparatus for consuming smoke or fumes, e.g. exhaust gases, [F23G 7/06](#))

NOTE

This subclass covers the cleaning of external surfaces of water tubes of boilers

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F23K)

F23K

FEEDING FUEL TO COMBUSTION APPARATUS (fuel feeders specially adapted for fluidised-bed combustion apparatus [F23C 10/22](#); regulating or controlling combustion [F23N](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0435 (F23L)

M F23L

SUPPLYING AIR SUPPLY OR NON-COMBUSTIBLE LIQUIDS OR GASES TO COMBUSTION APPARATUS IN GENERAL ({air-supply arrangements for fluent fuels [F23C](#);} firebridges with means for feeding air or steam [F23M 3/04](#); baffles or shields with air supply passages [F23M 9/04](#)); **DRAUGHT-INDUCING; SUPPLYING NON-COMBUSTIBLE LIQUID VALVES OR DAMPERS SPECIALLY ADAPTED FOR CONTROLLING AIR SUPPLY OR GAS DRAUGHT IN COMBUSTION APPARATUS** ({air-supply arrangements for fluent fuels [F23C](#); dampers and throat restrictors for open fire-places [F24](#); air inlet valves for open fire fronts [F24](#)); **INDUCING DRAUGHT IN COMBUSTION APPARATUS; TOPS FOR CHIMNEYS OR VENTILATING SHAFTS; TERMINALS FOR FLUES**

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

C F23L 1/00

Passages or apertures for delivering primary air for combustion (**baffles or deflectors in air inlets [F23M 9/02](#)**)

WARNING

Group [F23L 1/00](#) is impacted by reclassification into group [F23M 9/02](#). Groups [F23L 1/00](#) and [F23M 9/02](#) should be considered in order to perform a complete search.

U F23L 5/00

Blast-producing apparatus before the fire

M F23L 5/02

• Arrangements of fans or blowers (~~fans or blowers per se [F04](#)~~)

C F23L 9/00

Passages or apertures for delivering secondary air for completing combustion of fuel (**baffles or deflectors in air inlets [F23M 9/02](#)**)

WARNING

Group [F23L 9/00](#) is impacted by reclassification into group [F23M 9/02](#).

Groups F23L 9/00 and F23M 9/02 should be considered in order to perform a complete search.

M F23L 13/00 Construction of valves or dampers for controlling air supply or draught ~~(in general F16K)~~

M F23L 17/00 Inducing draught; *Tops for chimneys or ventilating shafts; Terminals for flues*

Project: N/A (F23M)

F23M

CASINGS, LININGS, WALLS OR DOORS SPECIALLY ADAPTED FOR COMBUSTION CHAMBERS, e.g. FIREBRIDGES; DEVICES FOR DEFLECTING AIR, FLAMES OR COMBUSTION PRODUCTS IN COMBUSTION CHAMBERS; SAFETY ARRANGEMENTS SPECIALLY ADAPTED FOR COMBUSTION APPARATUS; DETAILS OF COMBUSTION CHAMBERS, NOT OTHERWISE PROVIDED FOR

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0435 (F23M)

U F23M 9/00

Baffles or deflectors for air or combustion products (structurally associated with burners [F23D](#)); Flame shields

F23M 9/02

· in air inlets

WARNING

Group F23M 9/02 is incomplete pending reclassification of documents from groups F23L 1/00 and F23L 9/00.

Groups F23L 1/00, F23L 9/00, and F23M 9/02 should be considered in order to perform a complete search.

Project: N/A (F23N)

F23N

REGULATING OR CONTROLLING COMBUSTION (control devices specially adapted for fluidised-bed combustion apparatus [F23C 10/28](#); condition responsive controls for regulating combustion in domestic stoves with open fires for solid fuel [F24B 1/187](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F23Q)

F23Q

IGNITION (devices or installations peculiar to internal-combustion engines [F02P](#); of cigarettes or tobacco [A24F](#); compositions therefor, chemical igniters [C06C](#)); EXTINGUISHING-DEVICES

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0201 (F23R)

- M F23R** GENERATING COMBUSTION PRODUCTS OF HIGH PRESSURE OR HIGH VELOCITY, e.g. GAS-TURBINE COMBUSTION CHAMBERS (~~using such products for specific purposes, see the relevant classes for the purposes; chemical aspects of gas production C06D 5/00; gas-turbine plants characterised by the arrangement of the combustion chamber in the plant F02C 3/14; arrangement of afterburners in jet-propulsion plants F02K 3/10; combustion chambers of rocket-engine plants F02K 9/00~~*fluidised bed combustion apparatus specially adapted for operation at superatmospheric pressures F23C 10/16*)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

- U F23R 3/00** Continuous combustion chambers using liquid or gaseous fuel
- U F23R 3/28** · characterised by the fuel supply (burners [F23D](#))
- M F23R 3/283** · · {Attaching or cooling of fuel injecting means *including supports for fuel injectors, stems, or lances*}
- M F23R 3/40** · characterised by the ~~used~~*use* of catalytic means

Project: N/A (F24B)**F24B****DOMESTIC STOVES OR RANGES FOR SOLID FUELS****WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F24C)**F24C****OTHER DOMESTIC STOVES OR RANGES; DETAILS OF DOMESTIC STOVES OR RANGES, OF GENERAL APPLICATION (radiator stoves of the fluid-circulating type [F24H](#))****WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F24D)**F24D****DOMESTIC- OR SPACE-HEATING SYSTEMS, e.g. CENTRAL HEATING SYSTEMS; DOMESTIC HOT-WATER SUPPLY SYSTEMS; ELEMENTS OR COMPONENTS THEREFOR (preventing corrosion [C23F](#); water supply in general [E03](#); using steam or condensate extracted or exhausted from steam engine plants for heating purposes [F01K 17/02](#); steam traps [F16T](#); domestic stoves or ranges [F24B](#), [F24C](#); water or air heaters having heat generating means [F24H](#); combined heating and refrigeration systems [F25B](#); heat exchange apparatus or elements [F28](#); removing furring [F28G](#))****NOTE**

In this subclass, the following expression is used with the meaning indicated:

- "Central heating system" means a system in which heat is generated or stored at central sources and is distributed by means of a transfer fluid to the spaces or areas to be heated.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0437 (F24F)

M F24F

AIR-CONDITIONING; AIR-HUMIDIFICATION; VENTILATION; AIR-CONDITIONING, AIR-HUMIDIFICATION, VENTILATION, USE OF AIR CURRENTS FOR SCREENING (devices for ventilating greenhouses A01G {air-conditioning systems for greenhouses A01G 9/246}; animal husbandry A01K, e.g. controlling humidity in incubators A01K 41/04; disinfecting or sterilising of air A61L; devices for reconditioning breathing air in sealed rooms or for ventilating gas-proof shelters A62B; filtering, washing or drying of gases B01D; mixing gases with vapours or liquids in general B01F 3/00; spraying B05B, B05D; removing dirt or fumes from areas where they are produced B08B 15/00; ventilation, air-conditioning or cooling, specially adapted for vehicles, see the relevant vehicle places, e.g. B60H, B61D 27/00, {B64D 13/00}; vertical ducts for carrying away waste gases from buildings E04F 17/02; production of ozone C01B 13/10; chimneys or flues E04F 17/02, E04H 12/28, F23J 11/00, F23L 17/02; air ducts or conduits E04F 17/04, F16L; ventilation in doors or windows E06B 7/02; fans, blowers F04; noise-absorbing in pipes or pipe systems F16L; tops for chimneys and ventilating shafts F23L; tops for chimneys or ventilating shafts, terminals for flues F23L 17/02; cooling F25; details of heat-exchange or heat-transfer apparatus, of general application F28F; apparatus for generating ions to be introduced into non-enclosed gases, e.g. the atmosphere H01T 23/00)

NOTES

1. In this subclass:

- air-humidification as auxiliary treatment in air-conditioning, i.e. in units wherein the air is also either cooled or heated, is covered by groups [F24F 1/00](#) or [F24F 3/14](#);
- air-humidification per se, e.g. "room humidifiers", is covered by group [F24F 6/00](#).

2. In this subclass, the following terms or expressions are used with the meanings indicated:

- "air-conditioning" means the supply of air to rooms or spaces by means which provide for the treatment of the air in at least two of the following ways: heating — cooling — any other kind of treatment, e.g. humidification.
- "ventilation" means the supply of air to, or its extraction from, rooms or spaces, and systems for circulating air within rooms or spaces, but does not cover the mere treatment of air being supplied to, extracted from, or circulated within, rooms or spaces.

3. In this subclass, control or safety arrangements are classified in [F24F 11/00](#).

In order to indicate the type of air-treatment system in which these arrangements are used, further classification may be made in main groups [F24F 1/00](#) -[F24F 9/00](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0440 (F24F)

U F24F 1/00 Room units, e.g. separate or self-contained units or units receiving primary air from a central station {or with supply of heating or cooling agents from a central station, such as those applied to air-treatment systems included in [F24F 3/00](#) and [F24F 5/00](#)}

M F24F 1/06 • Separate outdoor units, e.g. outdoor unit to be linked to a separate room comprising a compressor and a heat exchanger

NOTE

In this group, *the first place priority rule is applied, i.e.* at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place.

Project: RP0437 (F24F)

U F24F 3/00 Air-conditioning systems in which conditioned primary air is supplied from one or more central stations to distributing units in the rooms or spaces where it may receive secondary treatment; Apparatus specially designed for such systems (room units [F24F 1/00](#))

C F24F 3/02 • characterised by the pressure or velocity of the primary air (~~F24F 3/044 takes precedence~~)

WARNING

Group [F24F 3/02](#) is incomplete pending reclassification of documents from groups [F24F 3/044](#) - [F24F 3/056](#).

Group [F24F 3/02](#) is also impacted by reclassification into groups [F24F 3/06](#) - [F24F 3/10](#) and [F24F 3/12](#) - [F24F 2003/1696](#).

All groups listed in this Warning should be considered in order to perform a complete search.

C F24F 3/04 • • operating with high pressure or high velocity

WARNING

Group [F24F 3/04](#) is incomplete pending reclassification of documents from groups [F24F 3/044](#) - [F24F 3/056](#).

Group [F24F 3/04](#) is also impacted by reclassification into groups [F24F 3/06](#) - [F24F 3/10](#) and [F24F 3/12](#) - [F24F 2003/1696](#).

All groups listed in this Warning should be considered in order to perform a complete search.

C F24F 3/044 • Systems in which all treatment is given in the central station, i.e. all-air systems

WARNING

Group [F24F 3/044](#) is impacted by reclassification into groups [F24F 3/02](#) and [F24F 3/04](#).

Groups [F24F 3/044](#), [F24F 3/02](#), and [F24F 3/04](#) should be considered in order to perform a complete search.

C F24F 3/0442 • • {with volume control at a constant temperature}

WARNING

Group [F24F 3/0442](#) is impacted by reclassification into groups [F24F 3/02](#) and [F24F 3/04](#).

Groups [F24F 3/0442](#), [F24F 3/02](#), and [F24F 3/04](#) should be considered in order to perform a complete search.

- C F24F 3/0444
- • {in which two airstreams are conducted from the central station via independent conduits to the space to be treated, of which one has a constant volume and a season-adapted temperature to compensate for the fluctuating heat transfer losses of the building, while the other varies in volume and is always cold in order to compensate for the interior fluctuations and variable solar heating effects, i.e. so-called "Dual Conduit System"; this system is similar to a high-pressure air-water system}
- WARNING**
*Group F24F 3/0444 is impacted by reclassification into groups F24F 3/02 and F24F 3/04.
 Groups F24F 3/0444, F24F 3/02, and F24F 3/04 should be considered in order to perform a complete search.*
- C F24F 2003/0446
- • {with a single air duct for transporting treated air from the central station to the rooms}
- WARNING**
*Group F24F 2003/0446 is impacted by reclassification into groups F24F 3/02 and F24F 3/04.
 Groups F24F 2003/0446, F24F 3/02, and F24F 3/04 should be considered in order to perform a complete search.*
- C F24F 2003/0448
- • {with two air ducts for separately transporting treated hot and cold air from the central station to the rooms}
- WARNING**
*Groups F24F 2003/0448 is impacted by reclassification into groups F24F 3/02 and F24F 3/04.
 Groups F24F 2003/0448, F24F 3/02, and F24F 3/04 should be considered in order to perform a complete search.*
- C F24F 3/048
- • with temperature control at constant rate of air-flow (~~F24F 3/056 takes precedence~~)
- WARNING**
*Group F24F 3/048 is incomplete pending reclassification of documents from group F24F 3/056.
 Group F24F 3/048 is also impacted by reclassification into groups F24F 3/02 and F24F 3/04.
 All groups listed in this Warning should be considered in order to perform a complete search.*
- C F24F 3/052
- • Multiple duct systems, e.g. systems in which hot and cold air are supplied by separate circuits from the central station to mixing chambers in the spaces to be conditioned
- WARNING**
*Group F24F 3/052 is incomplete pending reclassification of documents from group F24F 3/056.
 Group F24F 3/052 is also impacted by reclassification into groups F24F 3/02 and F24F 3/04.
 All groups listed in this Warning should be considered in order to perform a complete search.*

- C F24F 3/0522
- • • {in which warm or cold air from the central station is delivered via individual pipes to mixing chambers in the space to be treated, the cold air/warm air ratio being controlled by a thermostat in the space concerned, i.e. so-called Dual-duct System}
- WARNING**
*Group [F24F 3/0522](#) is incomplete pending reclassification of documents from group [F24F 3/056](#).
 Group [F24F 3/0522](#) is also impacted by reclassification into groups [F24F 3/02](#) and [F24F 3/04](#).
 All groups listed in this Warning should be considered in order to perform a complete search.*
- C F24F 3/0525
- • • {in which the air treated in the central station is reheated; this may take place near the central station upon arrival, in the space to be treated, in a branch pipe to zone in a multi-zone system or in the warm pipe in a system having separate supply conduits for warm and cold air}
- WARNING**
*Group [F24F 3/0525](#) is incomplete pending reclassification of documents from group [F24F 3/056](#).
 Group [F24F 3/0525](#) is also impacted by reclassification into groups [F24F 3/02](#) and [F24F 3/04](#).
 All groups listed in this Warning should be considered in order to perform a complete search.*
- C F24F 3/0527
- • • {in which treated air having differing temperatures is conducted through independent conduits from the central station to various spaces to be treated, i.e. so-called "multi-Zone" system; ([F24F 3/0525](#) takes precedence)}
- WARNING**
*Group [F24F 3/0527](#) is incomplete pending reclassification of documents from group [F24F 3/056](#).
 Group [F24F 3/0527](#) is also impacted by reclassification into groups [F24F 3/02](#) and [F24F 3/04](#).
 All groups listed in this Warning should be considered in order to perform a complete search.*
- C F24F 3/056
- • the air at least partially flowing over lighting fixtures, the heat of which is dissipated or used (*outlets for directing or distributing air into rooms or spaces combined with lighting fixtures [F24F 13/078](#)*)
- WARNING**
*Group [F24F 3/056](#) is impacted by reclassification into groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/048](#), [F24F 3/052](#), [F24F 3/0522](#), [F24F 3/0525](#), [F24F 3/0527](#), and [F24F 13/078](#).
 All groups listed in this Warning should be considered in order to perform a complete search.*
- C F24F 3/06
- characterised by the arrangements for the supply of heat-exchange fluid for the subsequent treatment of primary air in the room units (~~F24F 3/02 takes precedence {Arrangement or assembly of components for the regulation of the supply of heating or cooling media for the secondary treatment of air [F24F 11/83](#)}~~)
- WARNING**
*Group [F24F 3/06](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 11/83](#), [F24F 11/84](#), and [F24F 11/85](#).
 Group [F24F 3/06](#) is also impacted by reclassification into groups [F24F 3/12](#) - [F24F 2003/1696](#).*

All groups listed in this Warning should be considered in order to perform a complete search.

C F24F 3/065

- {with a plurality of evaporators or condensers}

WARNING

Group F24F 3/065 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 11/83, F24F 11/84, and F24F 11/85. Group F24F 3/065 is also impacted by reclassification into groups F24F 3/12 - F24F 2003/1696. All groups listed in this Warning should be considered in order to perform a complete search.

C F24F 3/08

- with separate supply and return lines for hot and cold heat-exchange fluids {i.e. so-called "4-conduit" system}

WARNING

Group F24F 3/08 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 11/83, F24F 11/84, and F24F 11/85. Group F24F 3/08 is also impacted by reclassification into groups F24F 3/12 - F24F 2003/1696. All groups listed in this Warning should be considered in order to perform a complete search.

C F24F 3/10

- with separate supply lines and common return line for hot and cold heat-exchange fluids {i.e. so-called "3-conduit" system}

WARNING

Group F24F 3/10 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 11/83, F24F 11/84, and F24F 11/85. Group F24F 3/10 is also impacted by reclassification into groups F24F 3/12 - F24F 2003/1696. All groups listed in this Warning should be considered in order to perform a complete search.

E F24F 3/12

- characterised by the treatment of the air otherwise than by heating and cooling (F24F 3/02, F24F 3/06 take precedence, apparatus for the individual treatment, see the appropriate subclasses for the treatments)

WARNING

Group F24F 3/12 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10. All groups listed in this Warning should be considered in order to perform a complete search.

M F24F 3/14

- by humidification; by dehumidification

WARNING

Group F24F 3/14 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10. All groups listed in this Warning should be considered in order to perform a complete search.

M F24F 3/1405

- {in which the humidity of the air is exclusively affected by contact with the evaporator of a closed-circuit cooling system or heat pump circuit}

WARNING

Group F24F 3/1405 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24F 3/1411 . . . {by absorbing or adsorbing water, e.g. using an hygroscopic desiccant}

WARNING

Group F24F 3/1411 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24F 3/1417 . . . {with liquid hygroscopic desiccants}

WARNING

Group F24F 3/1417 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24F 3/1423 . . . {with a moving bed of solid desiccants, e.g. a rotary wheel supporting solid desiccants}

WARNING

Group F24F 3/1423 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24F 3/1429 . . . {alternatively operating a heat exchanger in an absorbing/adsorbing mode and a heat exchanger in a regeneration mode}

WARNING

Group F24F 3/1429 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24F 2003/1435 . . . {comprising semi-permeable membrane}

WARNING

Group F24F 2003/1435 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24F 2003/144 . . . {by dehumidification only}

WARNING

Group F24F 2003/144 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24F 2003/1446 {by condensing}
- WARNING**
*Group F24F 2003/1446 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.
 All groups listed in this Warning should be considered in order to perform a complete search.*
- M F24F 2003/1452 {heat extracted from the humid air for condensing is returned to the dried air}
- WARNING**
*Group F24F 2003/1452 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.
 All groups listed in this Warning should be considered in order to perform a complete search.*
- M F24F 2003/1458 . . . {using regenerators}
- WARNING**
*Group F24F 2003/1458 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.
 All groups listed in this Warning should be considered in order to perform a complete search.*
- M F24F 2003/1464 {using rotating regenerators}
- WARNING**
*Group F24F 2003/1464 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.
 All groups listed in this Warning should be considered in order to perform a complete search.*
- M F24F 3/147 . . . with both heat and humidity transfer between supplied and exhausted air
- WARNING**
*Group F24F 3/147 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.
 All groups listed in this Warning should be considered in order to perform a complete search.*
- M F24F 3/153 . . . with subsequent heating, i.e. with the air, given the required humidity in the central station, passing a heating element to achieve the required temperature
- WARNING**
*Group F24F 3/153 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.
 All groups listed in this Warning should be considered in order to perform a complete search.*

- M F24F 3/16
- • by purification, e.g. by filtering; by sterilisation; by ozonisation {(ion sources [H01J 27/02](#), [H01J 37/08](#); treatment rooms or enclosures for medical purposes [A61G 10/00](#))}
- WARNING**
*Group F24F 3/16 is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).
All groups listed in this Warning should be considered in order to perform a complete search.*
- M F24F 3/1603
- • • {by filtering (arrangements or mounting of filters [F24F 13/28](#))}
- WARNING**
*Group F24F 3/1603 is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).
All groups listed in this Warning should be considered in order to perform a complete search.*
- M F24F 3/1607
- • • • {Clean air work stations, i.e. selected areas within a space to which filtered air is passed (means providing sterile air at a surgical operation table or area [A61G 13/108](#))}
- WARNING**
*Group F24F 3/1607 is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).
All groups listed in this Warning should be considered in order to perform a complete search.*
- M F24F 3/161
- • • • {Clean rooms, i.e. enclosed spaces in which a uniform flow of filtered air is distributed (air distribution by perforated walls [F24F 7/10](#); dust-free rooms or enclosures applicable solely to laboratory purposes [B01L 1/04](#))}
- WARNING**
*Group F24F 3/161 is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).
All groups listed in this Warning should be considered in order to perform a complete search.*
- M F24F 2003/1614
- • • • {using a dry filtering element}
- WARNING**
*Group F24F 2003/1614 is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).
All groups listed in this Warning should be considered in order to perform a complete search.*
- M F24F 2003/1617
- • • • {using wet filtering methods}
- WARNING**
*Group F24F 2003/1617 is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).
All groups listed in this Warning should be considered in order to perform a complete search.*

- M F24F 2003/1621 {using chemical filtering methods}
- WARNING
Group F24F 2003/1621 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10. All groups listed in this Warning should be considered in order to perform a complete search.
- M F24F 2003/1625 {using active carbon}
- WARNING
Group F24F 2003/1625 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10. All groups listed in this Warning should be considered in order to perform a complete search.
- M F24F 2003/1628 {using catalytic reaction}
- WARNING
Group F24F 2003/1628 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10. All groups listed in this Warning should be considered in order to perform a complete search.
- M F24F 2003/1632 {using vortex}
- WARNING
Group F24F 2003/1632 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10. All groups listed in this Warning should be considered in order to perform a complete search.
- M F24F 2003/1635 {using high voltage}
- WARNING
Group F24F 2003/1635 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10. All groups listed in this Warning should be considered in order to perform a complete search.
- M F24F 2003/1639 {with filter cleaning}
- WARNING
Group F24F 2003/1639 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10. All groups listed in this Warning should be considered in order to perform a complete search.
- M F24F 2003/1642 {of pollen, to avoid allergies}
- WARNING
Group F24F 2003/1642 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10. All groups listed in this Warning should be considered in order to perform a complete search.

- M F24F 2003/1646 . . . {of tobacco smoke}
- WARNING**
 Group [F24F 2003/1646](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- M F24F 2003/165 . . . {of ozone}
- WARNING**
 Group [F24F 2003/165](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- M F24F 2003/1653 . . . {using biofilters, plants or microorganisms}
- WARNING**
 Group [F24F 2003/1653](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- M F24F 2003/1657 . . . {the air pollution of a street or a city}
- WARNING**
 Group [F24F 2003/1657](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- M F24F 3/166 . . . {using electric means, e.g. applying electrostatic field (using thermo-electric means [F24F 5/0042](#))}
- WARNING**
 Group [F24F 3/166](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- M F24F 2003/1664 . . . {by sterilisation}
- WARNING**
 Group [F24F 2003/1664](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- M F24F 2003/1667 . . . {using UV light}
- WARNING**
 Group [F24F 2003/1667](#) is incomplete pending reclassification of documents from groups [F24F 3/02](#), [F24F 3/04](#), [F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

M F24F 2003/1671 . . . {using ozone}

WARNING

Group F24F 2003/1671 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

M F24F 2003/1675 . . . {using a sterilising medium}

WARNING

Group F24F 2003/1675 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

M F24F 2003/1678 . . . {to avoid the Legionella bacteria}

WARNING

Group F24F 2003/1678 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

M F24F 2003/1682 . . . {by ionisation}

WARNING

Group F24F 2003/1682 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

M F24F 2003/1685 . . . {by ozonisation}

WARNING

Group F24F 2003/1685 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

M F24F 2003/1689 . . . {by odorising}

WARNING

Group F24F 2003/1689 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

M F24F 2003/1692 . . . {by adding oxygen}

WARNING

Group F24F 2003/1692 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24F 2003/1696
- • • {by removing radon}

WARNING

Group F24F 2003/1696 is incomplete pending reclassification of documents from groups F24F 3/02, F24F 3/04, F24F 3/06, F24F 3/065, F24F 3/08, and F24F 3/10.

All groups listed in this Warning should be considered in order to perform a complete search.

U F24F 6/00

Air-humidification {, e.g. cooling by humidification}

- U F24F 6/12

- by forming water dispersions in the air

- M F24F 6/14

- • using nozzles ~~{nozzles per se, spraying in general B05B}~~

U F24F 7/00

Ventilation {, e.g. by means of wall-ducts or systems using window or roof apertures}

- C F24F 7/007

- with forced flow (using ducting systems [F24F 7/06](#))

WARNING

Group F24F 7/007 is impacted by reclassification into groups F24F 7/02 and F24F 7/025.

Groups F24F 7/007, F24F 7/02, and F24F 7/025 should be considered in order to perform a complete search.

- C F24F 7/013

- • using wall or window fans, displacing air through the wall or window ~~{possibly through a grill or through a shutter or flap (with heating elements F24F 3/00 – F24F 3/14; ventilators with provision for recirculating air or piping it away F24F 7/06; room ventilators, portable ventilators F04D 25/08)}~~

WARNING

Group F24F 7/013 is incomplete pending reclassification of documents from group F24F 13/08.

Group F24F 7/013 is also impacted by reclassification into groups F24F 7/02 and F24F 7/025.

All groups listed in this Warning should be considered in order to perform a complete search.

- E F24F 7/02

- Roof ventilation (~~F24F 7/007 takes precedence~~; ventilation of roof coverings [E04D](#))

WARNING

Group F24F 7/02 is incomplete pending reclassification of documents from groups F24F 7/007 and F24F 7/013.

Groups F24F 7/007, F24F 7/013, and F24F 7/02 should be considered in order to perform a complete search.

- M F24F 7/025

- • {with forced air circulation by means of a built-in ventilator}

WARNING

Group F24F 7/025 is incomplete pending reclassification of documents from groups F24F 7/007 and F24F 7/013.

Groups F24F 7/007, F24F 7/013, and F24F 7/025 should be considered in order to perform a complete search.

- U F24F 7/04

- with ducting systems {also by double walls; with natural circulation ([F24F 7/02](#) takes precedence)}

- M F24F 7/06

- • with forced air circulation, e.g. by fan {positioning of a ventilator in or against a conduit ~~{ventilators per se F04D 25/08}~~}

- M F24F 7/065 . . . {fan combined with single duct; mounting arrangements of a fan in a duct
(~~construction of fans F04D~~)}
- M F24F 7/10 . . . with air supply, or exhaust, through perforated wall, floor or ceiling; (outlet
members for directing or distributing air {into rooms or spaces, e.g. ceiling
air-diffusers} [F24F 13/06](#))
- U F24F 9/00 Use of air currents for screening, e.g. air curtains**
- U F24F 11/00 Control or safety arrangements**
- NOTE
In this group, it is desirable to add the indexing codes of groups [F24F 2110/00](#) –
[F24F 2140/00](#).
- U F24F 11/70 . Control systems characterised by their outputs; Constructional details thereof
- WARNING
Groups [F24F 11/70](#) – [F24F 11/875](#) are incomplete pending reclassification of
documents from group [F24F 11/30](#).
Group [F24F 11/70](#) is also impacted by reclassification into groups [F24F 11/80](#) –
[F24F 11/875](#).
All groups listed in this warning should be considered in order to perform a
complete search.
- U F24F 11/80 . . for controlling the temperature of the supplied air
- WARNING
Groups [F24F 11/80](#) – [F24F 11/875](#) are incomplete pending reclassification of
documents from groups [F24F 11/30](#) and [F24F 11/70](#).
All groups listed in this Warning should be considered in order to perform a
complete search.
- C F24F 11/83 . . . by controlling the supply of heat-exchange fluids to heat-exchangers
- WARNING
Group [F24F 11/83](#) is incomplete pending reclassification of documents from
groups [F24F 11/30](#) and [F24F 11/70](#).
Group [F24F 11/83](#) is also impacted by reclassification into groups
[F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), [F24F 3/10](#), [F24F 11/84](#), and
[F24F 11/85](#).
All groups listed in this Warning should be considered in order to perform a
complete search.
- C F24F 11/84 using valves
- WARNING
Group [F24F 11/84](#) is incomplete pending reclassification of documents
from groups [F24F 11/30](#), [F24F 11/70](#) and [F24F 11/83](#).
*Group [F24F 11/84](#) is also impacted by reclassification into groups
[F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).*
All groups listed in this warning should be considered in order to perform
a complete search.
- C F24F 11/85 using variable-flow pumps
- WARNING
Group [F24F 11/85](#) is incomplete pending reclassification of documents
from groups [F24F 11/30](#), [F24F 11/70](#) and [F24F 11/83](#).
*Group [F24F 11/85](#) is also impacted by reclassification into groups
[F24F 3/06](#), [F24F 3/065](#), [F24F 3/08](#), and [F24F 3/10](#).*

All groups listed should be considered in order to perform a complete search.

- M F24F 12/00** Use of energy recovery systems in air conditioning, ventilation or screening (with both heat and humidity transfer between supplied and exhausted air [F24F 3/147](#); ~~heat-exchange in general F28~~)
- U F24F 13/00** Details common to, or for air-conditioning, air-humidification, ventilation or use of air currents for screening
- U F24F 13/02** • Ducting arrangements
- M F24F 13/04** • • Air-mixing units ([F24F 13/06](#) takes precedence; ~~mixing gases in general B01F 3/02~~ {room units for the mixing of pre-treated primary air with recirculated or room air [F24F 1/00](#)}; ~~room units for the mixing of pre-treated primary air with recirculated or room air [F24F 1/00](#)~~)
- U F24F 13/06** • • Outlets for directing or distributing air into rooms or spaces, e.g. ceiling air diffuser
- E F24F 13/062** • • • having one or more bowls or cones diverging in the flow direction (~~F24F 13/072 takes precedence~~)
- WARNING**
*Group [F24F 13/062](#) is incomplete pending reclassification of documents from group [F24F 13/072](#).
Groups [F24F 13/072](#) and [F24F 13/062](#) should be considered in order to perform a complete search.*
- E F24F 13/065** • • • formed as cylindrical or spherical bodies which are rotatable (~~F24F 13/072 takes precedence~~)
- WARNING**
*Group [F24F 13/065](#) is incomplete pending reclassification of documents from group [F24F 13/072](#).
Groups [F24F 13/072](#) and [F24F 13/065](#) should be considered in order to perform a complete search.*
- C F24F 13/072** • • • of elongated shape, e.g. between ceiling panels
- WARNING**
*Group [F24F 13/072](#) is impacted by reclassification into groups [F24F 13/062](#) and [F24F 13/065](#).
Groups [F24F 13/072](#), [F24F 13/062](#), and [F24F 13/065](#) should be considered in order to perform a complete search.*
- E F24F 13/078** • • • combined with lighting fixtures (~~air-treatment systems with air-flow over lighting fixtures [F24F 3/056](#)~~)
- WARNING**
*Group [F24F 13/078](#) is incomplete pending reclassification of documents from group [F24F 3/056](#).
Groups [F24F 3/056](#) and [F24F 13/078](#) should be considered in order to perform a complete search.*
- C F24F 13/08** • Air-flow control members, e.g. louvres, grilles, flaps, ~~or~~ guide plates ([F24F 7/013](#), [F24F 13/06](#) takes take precedence; ~~roof ventilators [F24F 7/02](#)~~)
- WARNING**
*Group [F24F 13/08](#) is impacted by reclassification into group [F24F 7/013](#).
Groups [F24F 13/08](#) and [F24F 7/013](#) should be considered in order to perform a complete search.*

- E F24F 13/10
- • movable, e.g. ~~damper~~ dampers (F24F 13/18 takes precedence; valves in general F16K)
- WARNING
Group F24F 13/10 is incomplete pending reclassification of documents from group F24F 13/18.
Groups F24F 13/18 and F24F 13/10 should be considered in order to perform a complete search.
- M F24F 13/105
- • • {composed of diaphragms or segments}
- WARNING
Group F24F 13/105 is incomplete pending reclassification of documents from group F24F 13/18.
Groups F24F 13/18 and F24F 13/105 should be considered in order to perform a complete search.
- M F24F 13/12
- • • built up of sliding members
- WARNING
Group F24F 13/12 is incomplete pending reclassification of documents from group F24F 13/18.
Groups F24F 13/18 and F24F 13/12 should be considered in order to perform a complete search.
- M F24F 13/14
- • • built up of tilting members, e.g. louvre
- WARNING
Group F24F 13/14 is incomplete pending reclassification of documents from group F24F 13/18.
Groups F24F 13/18 and F24F 13/14 should be considered in order to perform a complete search.
- M F24F 13/1406
- • • • {characterised by sealing means}
- WARNING
Group F24F 13/1406 is incomplete pending reclassification of documents from group F24F 13/18.
Groups F24F 13/18 and F24F 13/1406 should be considered in order to perform a complete search.
- M F24F 13/1413
- • • • {using more than one tilting member, e.g. with several pivoting blades (F24F 13/15 takes precedence)}
- WARNING
Group F24F 13/1413 is incomplete pending reclassification of documents from group F24F 13/18.
Groups F24F 13/18 and F24F 13/1413 should be considered in order to perform a complete search.
- M F24F 13/142
- • • • {using pivoting blades with intersecting axes}
- WARNING
Group F24F 13/142 is incomplete pending reclassification of documents from group F24F 13/18.
Groups F24F 13/18 and F24F 13/142 should be considered in order to perform a complete search.
- M F24F 13/1426
- • • • {characterised by actuating means}
- WARNING
Group F24F 13/1426 is incomplete pending reclassification of documents from group F24F 13/18.

Groups F24F 13/18 and F24F 13/1426 should be considered in order to perform a complete search.

M F24F 2013/1433 {with electric motors}

WARNING

*Group F24F 2013/1433 is incomplete pending reclassification of documents from group F24F 13/18.
Groups F24F 13/18 and F24F 2013/1433 should be considered in order to perform a complete search.*

M F24F 2013/144 {with thermoactuators}

WARNING

*Group F24F 2013/144 is incomplete pending reclassification of documents from group F24F 13/18.
Groups F24F 13/18 and F24F 2013/144 should be considered in order to perform a complete search.*

M F24F 2013/1446 {with gearings}

WARNING

*Group F24F 2013/1446 is incomplete pending reclassification of documents from group F24F 13/18.
Groups F24F 13/18 and F24F 2013/1446 should be considered in order to perform a complete search.*

M F24F 2013/1453 {with cables, e.g. bowden cables}

WARNING

*Group F24F 2013/1453 is incomplete pending reclassification of documents from group F24F 13/18.
Groups F24F 13/18 and F24F 2013/1453 should be considered in order to perform a complete search.*

M F24F 2013/146 {with springs}

WARNING

*Group F24F 2013/146 is incomplete pending reclassification of documents from group F24F 13/18.
Groups F24F 13/18 and F24F 2013/146 should be considered in order to perform a complete search.*

M F24F 2013/1466 {with pneumatic means}

WARNING

*Group F24F 2013/1466 is incomplete pending reclassification of documents from group F24F 13/18.
Groups F24F 13/18 and F24F 2013/1466 should be considered in order to perform a complete search.*

M F24F 2013/1473 {with cams or levers}

WARNING

*Group F24F 2013/1473 is incomplete pending reclassification of documents from group F24F 13/18.
Groups F24F 13/18 and F24F 2013/1473 should be considered in order to perform a complete search.*

- M F24F 2013/148 {with magnets}
- WARNING
*Group F24F 2013/148 is incomplete pending reclassification of documents from group F24F 13/18.
 Groups F24F 13/18 and F24F 2013/148 should be considered in order to perform a complete search.*
- M F24F 13/1486 {characterised by bearings, pivots or hinges}
- WARNING
*Group F24F 13/1486 is incomplete pending reclassification of documents from group F24F 13/18.
 Groups F24F 13/18 and F24F 13/1486 should be considered in order to perform a complete search.*
- M F24F 2013/1493 {using an elastic membrane}
- WARNING
*Group F24F 2013/1493 is incomplete pending reclassification of documents from group F24F 13/18.
 Groups F24F 13/18 and F24F 2013/1493 should be considered in order to perform a complete search.*
- M F24F 13/15 with parallel simultaneously tilttable lamellae
- WARNING
*Group F24F 13/15 is incomplete pending reclassification of documents from group F24F 13/18.
 Groups F24F 13/18 and F24F 13/15 should be considered in order to perform a complete search.*
- M F24F 13/16 built up of parallelly-movable plates
- WARNING
*Group F24F 13/16 is incomplete pending reclassification of documents from group F24F 13/18.
 Groups F24F 13/18 and F24F 13/16 should be considered in order to perform a complete search.*
- C F24F 13/18 specially adapted for insertion in flat panels, e.g. in door or window-pane
- WARNING
*Group F24F 13/18 is impacted by reclassification into groups F24F 13/10 - F24F 13/16.
 All groups listed in this Warning should be considered in order to perform a complete search.*

Project: N/A (F24H)

F24H

FLUID HEATERS, e.g. WATER OR AIR HEATERS, HAVING HEAT GENERATING MEANS, IN GENERAL (heat-transfer, heat-exchange or heat-storage materials [C09K 5/00](#); tube furnaces for thermal non-catalytic cracking [C10G 9/20](#); devices, e.g. valves, for venting and aerating enclosures [F16K 24/00](#); steam traps or like apparatus [F16T](#); steam generation [F22](#); combustion apparatus [F23](#); domestic stoves or ranges [F24B](#), [F24C](#); domestic- or space-heating systems [F24D](#); furnaces, kilns, ovens, retorts [F27](#); heat-exchangers [F28](#); electric heating elements or arrangements [H05B](#))

NOTES

1. The distinguishing feature of the air heaters covered by this subclass is that the heat is predominantly released to the air by convection, mostly by forced circulation of the air. The domestic stoves or ranges covered by subclasses [F24B](#), [F24C](#) may also be fired or electric air heaters but they release their heat to a considerable extent by radiation and only to some extent by natural convection.
2. In this subclass the following terms are used with the meanings indicated:
 - "Water" includes other liquids;
 - "air" includes other gases or gas mixtures;
 - "water" and "air" always mean, respectively, the liquid and gas to be heated;
 - "Furnace tubes" means tubes inside the heater wherein combustion is performed;
 - "Fire tubes" means tubes inside the heater through which flue-gases flow from a combustion chamber located outside the tubes;
 - "Heater" means apparatus including both heat generating means and means for transferring the generated heat to water or air.
3. All storage heaters are classified in group [F24H 7/00](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F25B)

F25B

REFRIGERATION MACHINES, PLANTS OR SYSTEMS; COMBINED HEATING AND REFRIGERATION SYSTEMS; HEAT-PUMP SYSTEMS (evaporation or evaporation apparatus for physical or chemical purposes, e.g. evaporation of liquids for gas phase reactions [B01B 1/005](#)); heat-transfer, heat-exchange or heat-storage materials, e.g. refrigerants, or materials for the production of heat or cold by chemical reactions other than by combustion [C09K 5/00](#); pumps, compressors [F04](#); use of heat-pumps for domestic- or space-heating or for domestic hot-water supply [F24D](#); air-conditioning, air-humidification [F24F](#); fluid heaters using heat pumps [F24H](#))

NOTES

1. Attention is drawn to Note (2) following the title of subclass [F24F](#).
2. When classifying heat pump circuits or systems, groups [F25B 1/00](#) - [F25B 25/00](#) and [F25B 29/00](#) take precedence over group [F25B 30/00](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F25D)

F25D

REFRIGERATORS; COLD ROOMS; ICE-BOXES; COOLING OR FREEZING APPARATUS NOT COVERED BY ANY OTHER SUBCLASS (refrigerated show cases [A47F 3/04](#); thermally-insulated vessels for domestic use [A47J 41/00](#); refrigerated vehicles, see the appropriate subclasses of classes [B60](#) - [B64](#); containers with thermal insulation in general [B65D 81/38](#); heat-transfer, heat-exchange or heat-storage materials, e.g. refrigerants, or materials for the production of heat or cold by chemical reactions other than by combustion [C09K 5/00](#); thermally-insulated vessels for liquefied or solidified gases [F17C](#); air-conditioning or air-humidification [F24F](#); refrigeration machines, plants or systems [F25B](#); cooling of instruments and comparable apparatus without refrigeration [G12B](#); cooling of engines or pumps, see the relevant classes)

NOTES

- In this subclass, the following term is used with the meaning indicated:
 - "device" means an enclosed space to be cooled; such devices being associated either with refrigerating machinery, e.g. in a refrigerator, or with other cold sources, e.g. in an ice-box.
- Attention is drawn to Note (2) following the title of subclass [F24F](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F25J)

F25J

LIQUEFACTION, SOLIDIFICATION OR SEPARATION OF GASES OR GASEOUS {OR LIQUEFIED GASEOUS} MIXTURES BY PRESSURE AND COLD TREATMENT {OR BY BRINGING THEM INTO THE SUPERCRITICAL STATE (cryogenic pumps [F04B 37/08](#); gas storage vessels, gas holders [F17](#); filling vessels with, or discharging from vessels, compressed, liquefied or solidified gases [F17C](#); refrigeration machines, plants, or systems [F25B](#))}

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F26B)

F26B

DRYING SOLID MATERIALS OR OBJECTS BY REMOVING LIQUID THEREFROM (racks for drying fruit and vegetables [A01F 25/12](#); drying foodstuffs [A23](#); drying hair [A45D 20/00](#); body-drying implements [A47K 10/00](#); drying household articles [A47L](#), {e.g. drying footwear [A47L 23/20](#);} drying gases and vapours [B01D](#); chemical and physical processes for dewatering or like separating liquids from solids [B01D 43/00](#); centrifugal apparatus [B04](#); drying ceramics [C04B 33/30](#); drying yarns and fabrics in association with some other form of treatment [D06C](#); drying frames for laundry without heating or positive air circulation, domestic and like spin-dryers, wringing and hot pressing laundry [D06F](#); furnaces, kilns, ovens [F27](#); {treatment including a drying step of semiconductor substrates, e.g. wafers, [H01L 21/67028](#)})

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

F26B 11/06	covered by	F26B 11/0486
F26B 13/02	covered by	F26B 13/10

F26B 13/04	covered by	F26B 13/10
F26B 13/20	covered by	F26B 13/104
F26B 23/08	covered by	F26B 3/343 , F26B 3/347

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F27B)

F27B

FURNACES, KILNS, OVENS, OR RETORTS IN GENERAL; OPEN SINTERING OR LIKE APPARATUS

NOTE

Attention is drawn to the references and notes following the title of class [F27](#) and the note (par. III) following the Contents of Section [H](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

F27B 1/09	covered by	F27B 1/08
F27B 5/05	covered by	F27B 5/04
F27B 14/16 , F27B 14/18	covered by	F27B 14/0806
F27B 21/08 - F27B 21/14	covered by	F27D

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F27D)

F27D

DETAILS OR ACCESSORIES OF FURNACES, KILNS, OVENS, OR RETORTS, IN SO FAR AS THEY ARE OF KINDS OCCURRING IN MORE THAN ONE KIND OF FURNACE (combustion apparatus [F23](#))

NOTE

Attention is drawn to the references and Notes following the title of class [F27](#) and the Note III following the Contents of Section [H](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F28B)

F28B

STEAM OR VAPOUR CONDENSERS (condensation of vapours [B01D 5/00](#); steam engine plants having condensers [F01K](#); liquefaction of gases [F25J](#); details of heat-exchange and heat-transfer arrangements of general application [F28F](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F28C)

F28C

HEAT-EXCHANGE APPARATUS, NOT PROVIDED FOR IN ANOTHER SUBCLASS, IN WHICH THE HEAT-EXCHANGE MEDIA COME INTO DIRECT CONTACT WITHOUT CHEMICAL INTERACTION (safety devices in general [F16P](#); fluid heaters having heat generating means [F24H](#); with an intermediate heat-transfer medium coming into direct contact with heat-exchange media [F28D 15/00](#) - [F28D 19/00](#); details of heat-exchange apparatus of general application [F28F](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F28D)

F28D

HEAT-EXCHANGE APPARATUS, NOT PROVIDED FOR IN ANOTHER SUBCLASS, IN WHICH THE HEAT-EXCHANGE MEDIA DO NOT COME INTO DIRECT CONTACT (fluid heaters having heat generating means and heat transferring means [F24H](#); furnaces [F27](#); details of heat-exchange apparatus of general)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F28F)

F28F

DETAILS OF HEAT-EXCHANGE AND HEAT-TRANSFER APPARATUS, OF GENERAL APPLICATION (water and air traps, air venting [F16](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0343 (F28F)

U F28F 2275/00

Fastening; Joining

F28F 2275/06

- by welding (welding heat exchangers [B23K 2201/14](#)[B23K 2101/14](#))

Project: N/A (F28G)

F28G

CLEANING OF INTERNAL OR EXTERNAL SURFACES OF HEAT-EXCHANGE OR HEAT-TRANSFER CONDUITS, e.g. WATER TUBES OR BOILERS (cleaning pipes or tubes in general [B08B 9/02](#); devices or arrangements for removing water, minerals, or sludge from boilers while the boiler is in operation, or which remain in position while the boiler is in operation, or are specifically adapted to boilers without any other utility [F22B 37/48](#); removal or treatment of combustion products or combustion residues [F23J](#); removing ice from heat-exchange apparatus [F28F 17/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F41A)

F41A

FUNCTIONAL FEATURES OR DETAILS COMMON TO BOTH SMALLARMS AND ORDNANCE, e.g. CANNONS; MOUNTINGS FOR SMALLARMS OR ORDNANCE

NOTES

1. This subclass covers those features or details which are considered to be of a kind generally applicable to, or to be concerned with intrinsic functions common to, both smallarms and ordnance.
2. Such features or details are classified in this subclass, even if they are stated to be applied only to smallarms or only to ordnance.
3. Attention is drawn to the definitions given in Note (2) following the title of class [F41](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F41B)

F41B

WEAPONS FOR PROJECTING MISSILES WITHOUT USE OF EXPLOSIVE OR COMBUSTIBLE PROPELLANT CHARGE; WEAPONS NOT OTHERWISE PROVIDED FOR (projectiles for fishing, e.g. fish-spears, [A01K 81/00](#); sports implements for throwing [A63B 65/00](#), e.g. boomerangs [A63B 65/08](#); stationary apparatus for projecting sports balls, e.g. tennis balls, [A63B 69/40](#); throwing or slinging toys [A63H 33/18](#); knives, axes [B26B](#); projectiles or missiles other than those incorporating springs as projecting means [F42B 6/00](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

F41B 5/16	covered by	F41B 5/1473
F41B 5/18	covered by	F41B 5/1469
F41B 5/20	covered by	F41B 5/1426
F41B 5/22	covered by	F41B 5/143

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F41C)

F41C

SMALLARMS, e.g. PISTOLS, RIFLES (functional features or details common to both smallarms and ordnance, mountings therefor [F41A](#); projecting missiles without use of explosive or combustible propellant charge [F41B](#)); ACCESSORIES THEREFOR

NOTE

Attention is drawn to the definitions in Note (2) following the title of class [F41](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F41F)

F41F

APPARATUS FOR LAUNCHING PROJECTILES OR MISSILES FROM BARRELS, e.g. CANNONS (smallarms [F41C](#)); LAUNCHERS FOR ROCKETS OR TORPEDOES; HARPOON GUNS (functional features or details common to both smallarms and ordnance, mountings therefor [F41A](#); projecting missiles without use of explosive or combustible propellant charge [F41B](#))

NOTE

This subclass does not cover the arrangement of armaments, adaptation of mountings therefor, or arrangements of ammunition handlers on ships or aircraft, if they present a shipbuilding or aircraft-building aspect, which are covered by subclass [B63G](#) or [B64D](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F41G)

F41G

WEAPON SIGHTS; AIMING (optical aspects thereof [G02B](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0171 (F41G)

U F41G 7/00

Direction control systems for self-propelled missiles (flight control [B64C](#), [G05D 1/00](#) {; counter-measures against guided missiles [F41H 11/02](#); spin-stabilised missiles [F42B 10/26](#)); self-propelled or guided missiles having direction control systems only installed aboard [F42B 15/01](#); rocket torpedoes [F42B 17/00](#); marine torpedoes or sea-mines having self-propulsion means [F42B 19/00](#); locating by use of radio or other waves [G01S](#); computing aspects [G06](#))

U F41G 7/20

• based on continuous observation of target position

U F41G 7/30

• • Command link guidance systems {(homing [F41G 7/2206](#))}

E F41G 7/32

• • • for wire-guided missiles

WARNING

Group [F41G 7/32](#) is incomplete pending reclassification of documents from groups [F42B 19/01](#) and [F42B 19/10](#).

Groups [F41G 7/32](#), [F42B 19/01](#) and [F42B 19/10](#) should be considered in order to perform a complete search.

D F41G 2700/00

Torpedoes

<administratively transferred to [F42B 19/10](#)>

D F41G 2700/005

• Remote steering of torpedoes by means of electric or acoustic waves or otherwise

<administratively transferred to [F42B 19/10](#)>

Project: N/A (F41H)

F41H

ARMOUR; ARMoured TURRETS; ARMoured OR ARMED VEHICLES; MEANS OF ATTACK OR DEFENCE, e.g. CAMOUFLAGE, IN GENERAL

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F41J)

F41J

TARGETS; TARGET RANGES; BULLET CATCHERS {(targets for shooting or hurling games [A63F 9/0204](#))}

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0171 (F42B)

M F42B

EXPLOSIVE CHARGES, e.g. FOR BLASTING, FIREWORKS, AMMUNITION (explosive compositions [C06B](#); fuzes [F42C](#); blasting [F42D](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:-

[F42B 5/14](#) covered by [F42B 12/40](#), [A01K 11/00](#)

~~[F42B 19/10](#)~~ covered by ~~[F41G 7/24](#)~~

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

M F42B 19/00

Marine torpedoes, e.g. launched by surface vessels or submarines (*having additional propulsion means for movement through air* [F42B 17/00](#)); **Sea mines** having self-propulsion means ([F42B 12/00](#) takes precedence; launching means [F41F](#); locating by use of radio or other waves [G01S](#); automatic control of course [G05D 1/00](#); firing directors or calculators [G06G](#))

C F42B 19/01

- Steering control

WARNING

Group [F42B 19/01](#) is incomplete pending reclassification of documents from group [F42B 19/10](#).

Group [F42B 19/01](#) is also impacted by reclassification into groups [F42B 19/10](#) and [F41G 7/32](#).

All groups listed in this Warning should be considered in order to perform a complete search.

U F42B 19/08

- with means for preventing rolling or pitching

Q ~~F42B 19/10~~

- ~~remotely controlled, e.g. by sonic or radio control (control systems using wire [F41G 7/32](#))~~

WARNING

Group [F42B 19/10](#) is incomplete pending reclassification of documents from group [F42B 19/01](#).

Group [F42B 19/10](#) is also impacted by reclassification into groups [F42B 19/01](#) and [F41G 7/32](#).

All groups listed in this Warning should be considered in order to perform a complete search.

Project: N/A (F42C)

F42C

AMMUNITION FUZES (blasting cartridge initiators [F42B 3/10](#); chemical aspects [C06C](#)); **ARMING OR SAFETY MEANS THEREFOR** (filling fuzes [F42B 33/02](#); fitting or extracting primers in or from fuzes [F42B 33/04](#); containers for fuzes [F42B 39/30](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (F42D)

F42D

BLASTING (fuses, e.g. fuse cords, [C06C 5/00](#); {for obtaining fluid from wells [E21B 43/00](#); for mining or quarrying [E21C 37/00](#); for making tunnels or galleries [E21D 9/006](#)}; cartridges [F42B 3/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01B)

G01B

MEASURING LENGTH, THICKNESS OR SIMILAR LINEAR DIMENSIONS; MEASURING ANGLES; MEASURING AREAS; MEASURING IRREGULARITIES OF SURFACES OR CONTOURS {(measuring human body, see the relevant places, where such exist, e.g. [A41H 1/00](#), [A43D 1/02](#), [A61B 5/103](#); measuring appliances combined with walking-sticks [A45B 3/08](#); sorting according to dimensions [B07](#); tool-setting or drawing instruments not specially modified for measuring [B23B 49/00](#), [B23Q 15/00](#) - [B23Q 17/00](#), [B43L](#); combinations of measuring devices with writing-appliances [B43K 29/08](#); geodetical, nautical or aeronautical measuring, surveying, rangefinding [G01C](#); photogrammetry [G01C 11/00](#); measuring force or stress, in general [G01L 1/00](#); investigating or analysing particle size, investigating or analysing surface area of porous material [G01N](#); measuring position, distance or direction, in general, by reception or emission of radiowaves or other waves and based on propagation effects, e.g. Doppler effect, propagation time, direction of propagation [G01S](#); geophysical measuring [G01V](#); measuring length or roll diameter of film in cameras or projectors [G03B 1/60](#); combinations of measuring devices with means for controlling or regulating [G05](#); methods or arrangements for converting the position of a manually-operated writing or tracing member into an electrical signal [G06K 11/00](#); measuring elapsed travel of recording medium in recording and playback equipment, sensing diameter of record in autochange gramophones [G11B](#); means structurally associated with electric rotary current collectors for indicating brush wear [H01R 39/58](#); indicating consumption of electrodes in arc lamps [H05B 31/34](#))}
indicating consumption of electrodes in arc lamps [H05B 31/34](#)}}

NOTES

1. This subclass covers measuring of position or displacement in terms of linear or angular dimensions.
2. In this subclass, the groups are distinguished by the means of measurement which is of major importance. Thus the mere application of other means for giving a final indication does not affect the classification.
3. Attention is drawn to the Notes following the title of class [G01](#).
4. Machines operated on similar principles to the hand-held devices specified in this subclass are classified with these devices.
5. Measuring arrangements or details thereof covered by two or more of groups [G01B 3/00](#) - [G01B 17/00](#) are classified in group [G01B 21/00](#) if no single other group can be selected as being predominantly applicable.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01C)**G01C**

MEASURING DISTANCES, LEVELS OR BEARINGS; SURVEYING; NAVIGATION; GYROSCOPIC INSTRUMENTS; PHOTOGRAMMETRY OR VIDEOGRAMMETRY (measuring dimensions or angles of objects [G01B](#); measuring liquid level [G01F](#); measuring intensity or direction of magnetic fields, other than the earth's field, in general [G01R](#); radio navigation, determining distance or velocity by use of propagation effects, e.g. Doppler effects, propagation time, of radio waves, analogous arrangements using other waves [G01S](#); optical systems therefor [G02B](#); maps, globes [G09B](#))

NOTES

1. In this subclass, the following term is used with the meaning indicated:
"navigation" means determining the position and course of land vehicles, ships, aircraft, and space vehicles.
2. Attention is drawn to the Notes following the title of class [G01](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[G01C 11/36](#) covered by [G01C 11/00-G01C 11/34](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01D)**G01D**

MEASURING NOT SPECIALLY ADAPTED FOR A SPECIFIC VARIABLE; ARRANGEMENTS FOR MEASURING TWO OR MORE VARIABLES NOT COVERED IN A SINGLE OTHER SUBCLASS; TARIFF METERING APPARATUS; MEASURING OR TESTING NOT OTHERWISE PROVIDED FOR (means structurally associated with lightning or other over-voltage discharging apparatus for recording the operation thereof [G01R](#); displaying information in general [G09F](#); recording in a way which requires playback through a transducer [G11B](#))

NOTES

1. This subclass covers :
 - devices for indicating or recording the results of measurements, not peculiar to variables covered by a single other subclass;
 - analogous apparatus but in which the input is not a variable to be measured, e.g. a hand operation;
 - details of measuring instruments, which are of general interest;
 - measurement transducers not adapted solely for the measurement of a single specified variable and not provided for elsewhere, i.e. means for converting the output of a sensing member to another variable where the form or nature of the sensing member does not constrain the means for converting;
 - measuring or testing not otherwise provided for.
2. Attention is drawn to the Notes following the title of class [G01](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01F)**G01F**

MEASURING VOLUME, VOLUME FLOW, MASS FLOW OR LIQUID LEVEL; METERING BY VOLUME (milk flow sensing devices in milking machines or devices [A01J 5/01](#); measuring or recording blood flow [A61B 5/02](#), [A61B 8/06](#); metering media to the human body [A61M 5/168](#); burettes or pipettes [B01L 3/02](#); arrangements of liquid volume meters or volume-flow meters in liquid-delivering apparatus, e.g. for retail sale purposes, [B67D 7/16](#); pumps, fluid motors, details common to measuring or metering devices and pumps or fluid motors [F01 - F04](#); {sampling [G01N 1/00](#)}; locating, determining distance or velocity using reflection or reradiation of radio waves, analogous arrangements using other waves [G01S](#); systems for ratio control [G05D 11/00](#); {coin-freed apparatus for metering flow of liquid or gas [G07F 15/00](#)})

NOTE

Attention is drawn to the Notes following the title of class [G01](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01G)**G01G****WEIGHING (sorting by weighing [B07C 5/16](#))**NOTE

Attention is drawn to the Notes following the title of class [G01](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01H)**G01H**

MEASUREMENT OF MECHANICAL VIBRATIONS OR ULTRASONIC, SONIC OR INFRASONIC WAVES (generation of mechanical vibrations without measurement [B06B](#), [G10K](#); measuring position, direction or velocity of an object [G01C](#), [G01S](#); measuring quasi-steady pressure of a fluid [G01L 7/00](#); determining unbalance [G01M 1/14](#); determining properties of material by sonic or ultrasonic waves transmitted therethrough [G01N](#); systems using the reflection or reradiation of acoustic waves, e.g. acoustic imaging, [G01S 15/00](#); seismology, seismic prospecting, acoustic prospecting [G01V 1/00](#); acousto-optical devices *per se* [G02F](#); obtaining records by techniques analogous to photography using ultrasonic, sonic or infrasonic waves [G03B 42/06](#); speech analysis or synthesis, speech recognition [G10L](#); information storage based on relative movement between record carrier and transducer [G11B](#); piezo-electric, electrostrictive or magnetostrictive elements in general [H01L](#); manufacture of electromechanical resonators by processes which include measurement of frequency with consequential modification of the resonator [H03H 3/00](#), [H03H 3/007](#), [H03H 9/00](#))}
{[H03H 3/007](#), [H03H 9/00](#)}

NOTES

1. This subclass covers the combination of generation and measurement of mechanical vibrations.
2. Attention is drawn to the Notes following the title of class [G01](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01J)**G01J**

MEASUREMENT OF INTENSITY, VELOCITY, SPECTRAL CONTENT, POLARISATION, PHASE OR PULSE CHARACTERISTICS OF INFRA-RED, VISIBLE OR ULTRA-VIOLET LIGHT; COLORIMETRY; RADIATION PYROMETRY (light sources [F21](#), [H01J](#), [H01K](#), [H05B](#); investigating properties of materials by optical means [G01N](#))

NOTES

1. This subclass covers the detection of the presence or absence of infra-red, visible, or ultra-violet light, not otherwise provided for.
2. Attention is drawn to the Notes following the title of class [G01](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01K)**G01K**

MEASURING TEMPERATURE; MEASURING QUANTITY OF HEAT; THERMALLY-SENSITIVE ELEMENTS NOT OTHERWISE PROVIDED FOR (sensing temperature changes for compensating measurements of other variables for compensating readings of instruments for variation in temperature, *see* [G01D](#) or relevant subclasses for variable measured; radiation pyrometry [G01J](#); investigating or analysing materials by use of thermal means [G01N 25/00](#); compound sensitive elements, e.g. bimetallic, [G12B 1/02](#))

NOTES

1. In this subclass, the following term is used with the meaning indicated :

- "thermometer" includes thermally-sensitive elements not provided for in other subclasses.
2. Attention is drawn to the Notes following the title of class [G01](#).
 3. Attention is drawn to the Notes following the titles of class [B81](#) and subclass [B81B](#) relating to "microstructural devices" and "microstructural systems".

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01L)

G01L

MEASURING FORCE, STRESS, TORQUE, WORK, MECHANICAL POWER, MECHANICAL EFFICIENCY, OR FLUID PRESSURE (sensing pressure changes for compensating measurements of other variables or compensating readings of instruments for variations in pressure [G01D](#) or other relevant subclasses for the variable measured; weighing [G01G](#); converting a pattern of forces into electrical signals [G06K 11/00](#))

NOTE

Attention is drawn to the Notes following the title of class [G01](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01M)

G01M

TESTING STATIC OR DYNAMIC BALANCE OF MACHINES OR STRUCTURES; TESTING STRUCTURES OR APPARATUS NOT OTHERWISE PROVIDED FOR {(devices for testing the performance of portable percussive tools with fluid-pressure drive [B25D 9/005](#))}

NOTE

Attention is drawn to the Note following the title of Class [G01](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[G01M 1/38](#) covered by [G01M 1/14](#) and [G01M 1/30](#) and subgroups

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01N)

G01N

INVESTIGATING OR ANALYSING MATERIALS BY DETERMINING THEIR CHEMICAL OR PHYSICAL PROPERTIES (separating components of materials in general [B01D](#), [B01J](#), [B03](#), [B07](#); apparatus fully provided for in a single other subclass, see the relevant subclass, e.g. [B01L](#); measuring or testing processes other than immunoassay, involving enzymes or microorganisms [C12M](#), [C12Q](#); investigation of foundation soil in situ [E02D 1/00](#); sensing humidity changes for compensating measurements of other variables or for compensating readings of instruments for variations in humidity, see [G01D](#) or the relevant subclass for the variable measured; testing or determining the properties of structures [G01M](#); measuring or investigating electric or magnetic properties of materials [G01R](#); systems or methods in general, using reception or emission of radiowaves or other waves and based on propagation effects, e.g. Doppler effect, propagation time, direction of propagation, [G01S](#); determining sensitivity, graininess, or density of photographic materials [G03C 5/02](#); testing component parts of nuclear reactors [G21C 17/00](#); {controlling or regulating non-electric variables [G05D](#); measuring degree of ionisation of ionised gases, i.e. plasma [H05H 1/0006](#); testing electrographic developer properties [G03G 15/0848](#)})

NOTES

- In this subclass, the following terms are used with the meanings indicated :
 - "investigating" means testing or determining;
 - "materials" includes solid, liquid or gaseous media, e.g. the atmosphere.
- Attention is drawn to the Notes following the title of class [G01](#).
- Inventions relating to investigating the properties of materials, specially adapted for use in processes covered by subclass [B23K](#), are classified in group [B23K 31/12](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0226 (G01N)

- | | | |
|---|-------------|--|
| U | G01N 33/00 | Investigating or analysing materials by specific methods not covered by the preceding groups |
| U | G01N 33/48 | <ul style="list-style-type: none"> Biological material, e.g. blood, urine (G01N 33/02 - G01N 33/14, G01N 33/26, G01N 33/44, G01N 33/46 take precedence; determining the germinating capacity of seeds A01C 1/02); Haemocytometers (counting blood corpuscles distributed over a surface by scanning the surface G06M 11/02) |
| U | G01N 33/483 | <ul style="list-style-type: none"> Physical analysis of biological material |
| U | G01N 33/487 | <ul style="list-style-type: none"> of liquid biological material |
| U | G01N 33/49 | <ul style="list-style-type: none"> Blood {(taking blood samples A61B 5/15; chemical methods for determining blood cell populations G01N 33/5094; chemical analysis of blood groups or blood types G01N 33/80)} |
| | G01N 33/491 | <ul style="list-style-type: none"> {by separating the blood components (G01N 15/05 takes precedence; test tubes per se B01L 3/14)} |

Project: N/A (G01P)

G01P

MEASURING LINEAR OR ANGULAR SPEED, ACCELERATION, DECELERATION, OR SHOCK; INDICATING PRESENCE, ABSENCE, OR DIRECTION, OF MOVEMENT (measuring or recording blood flow [A61B 5/02](#), [A61B 8/06](#); monitoring speed or deceleration of electrically-propelled vehicles [B60L 3/00](#); vehicle lighting systems adapted to indicate speed [B60Q 1/54](#); determining position or course in navigation, measuring ground distance in geodesy or surveying [G01C](#); combined measuring devices for measuring two or more variables of movement [G01C 23/00](#); measuring velocity of sound [G01H](#); measuring velocity of light [G01J 7/00](#); measuring direction or velocity of solid objects by reception or emission of radiowaves or other waves and based on propagation effects, e.g. Doppler effect, propagation time, direction of propagation, [G01S](#); measuring speed of nuclear radiation [G01T](#); measuring acceleration of gravity [G01V](#); {measuring or recording the speed of trains [B61L 23/00](#); speed indicators incorporated in motor vehicles [B60K 35/00](#); measuring frequency or phase [G01R](#); traffic control [G08G](#)})

NOTES

1. This subclass covers measuring direction or velocity of flowing fluids using propagation effects of radiowaves or other waves caused in the fluid itself, e.g. by laser anemometer, by ultrasonic flowmeter with "sing-around-system".
2. Attention is drawn to the Notes following the title of class [G01](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

G01P 9/00

{Measuring speed by using gyroscopic effect, e.g. using gas, using electron beam (gyroscopes or turn-sensitive devices per se [G01C 19/00](#))}

NOTE

Absolute angular speed sensors are classified under ~~G01C 9/00~~ [G01C 19/00](#) and s.gr.

Project: N/A (G01R)

G01R

MEASURING ELECTRIC VARIABLES; MEASURING MAGNETIC VARIABLES (measuring physical variables of any kind by conversion into electric variables, see Note (4) following the title of class [G01](#); measuring diffusion of ions in an electric field, e.g. electrophoresis, electro-osmosis [G01N](#); investigating non-electric or non-magnetic properties of materials by using electric or magnetic methods [G01N](#); indicating correct tuning of resonant circuits [H03J 3/12](#); monitoring electronic pulse counters [H03K 21/40](#); monitoring operation of communication systems [H04](#))

NOTES

1. This subclass covers:
 - measuring all kinds of electric or magnetic variables directly or by derivation from other electric or magnetic variables;
 - measuring all kinds of electric or magnetic properties of materials;
 - testing electric or magnetic devices, apparatus or networks, (e.g. discharge tubes, amplifiers) or measuring their characteristics;
 - indicating presence or sign of current or voltage;
 - NMR, EPR or other spin-effect apparatus, not specially adapted for a particular application;

- equipment for generating signals to be used for carrying out such tests and measurements.
2. In this subclass, the following terms or expressions are used with the meanings indicated :
 - "measuring" includes investigating;
 - "instruments" or "measuring instruments" means electro-mechanical measuring mechanisms;
 - "arrangements for measuring" means apparatus, circuits, or methods for measuring;
 3. Attention is drawn to the Notes following the title of class [G01](#).
 4. In this subclass, group [G01R 17/00](#) takes precedence over groups [G01R 19/00](#) - [G01R 31/00](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01S)

G01S

RADIO DIRECTION-FINDING; RADIO NAVIGATION; DETERMINING DISTANCE OR VELOCITY BY USE OF RADIO WAVES; LOCATING OR PRESENCE-DETECTING BY USE OF THE REFLECTION OR RERADIATION OF RADIO WAVES; ANALOGOUS ARRANGEMENTS USING OTHER WAVES ({for special applications, see the relevant subclasses, e.g. [A61B](#), [G01F](#), [G01N](#), [G02B](#); measuring dimensions or angles of objects [G01B](#); navigation in general [G01C](#); measuring infrasonic, sonic or ultrasonic vibrations in general [G01H](#); measuring infra-red, visible, or ultra-violet radiation in general [G01J](#); transducers per se, see the relevant subclasses, e.g. [G01L](#), [H01L](#), [H04R](#); measuring direction or velocity of flowing fluids by reception or emission of radiowaves or other waves and based on propagation effects caused in the fluid itself [G01P](#); measuring electric or magnetic variables in general [G01R](#)); detecting masses or objects by methods not involving reflection or radiation of radio, acoustic or other waves [G01V](#); {time-interval measuring [G04F](#)}; aerials [H01Q](#))

NOTES

1. In this subclass, the following term is used with the meaning indicated:
 - "transponder" means an arrangement which reacts to an incoming interrogating or detecting wave by emitting a specific answering or identifying wave.
2. Attention is drawn to the Notes following the title of class [G01](#) and to Note (1) following the title of subclass [G09B](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[G01S 7/26](#) covered by [G01S 7/06](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01T)**G01T**

MEASUREMENT OF NUCLEAR OR X-RADIATION (radiation analysis of materials, mass spectrometry [G01N](#); counters *per se* [G06M](#), [H03K](#); electric discharge tubes for analysing radiation or particles [H01J 40/00](#), [H01J 47/00](#), [H01J 49/00](#))

NOTES

1. This subclass covers the measurement of X-radiation, gamma radiation, corpuscular radiation, cosmic radiation or neutron radiation.
2. Attention is drawn to the Notes following the title of class [G01](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01V)**G01V**

GEOPHYSICS; GRAVITATIONAL MEASUREMENTS; DETECTING MASSES OR OBJECTS (detecting or locating foreign bodies for diagnostic, surgical or person-identification purposes [A61B](#); means for indicating the location of accidentally buried, e.g. snow-buried persons [A63B 29/02](#); investigating or analysing earth materials by determining their chemical or physical properties [G01N](#); measuring electric or magnetic variables in general, other than direction or magnitude of the earth's field [G01R](#); electronic or nuclear magnetic resonance arrangements [G01R 33/20](#); radar, sonar or analogous methods in general, detecting masses or objects involving these methods [G01S](#))

NOTES

1. In this subclass, the geophysical methods apply both to the earth and to other celestial objects, e.g. planets.
2. Attention is drawn to the Notes following the title of class [G01](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[G01V 3/11](#) covered by [G01V 3/101](#), [G01V 3/104](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G01W)**G01W**

METEOROLOGY (influencing weather conditions [A01G 15/00](#); dispersing fog [E01H 13/00](#); instruments for measuring single variable in general, see the appropriate subclass of [G01](#), e.g. [G01K](#), [G01L](#); obtaining meteorological information by radar [G01S 13/95](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G02B)**G02B**

OPTICAL ELEMENTS, SYSTEMS, OR APPARATUS (G02F takes precedence; measuring-instruments, see the relevant subclass of G01, e.g. optical rangefinders G01C; testing of optical elements, systems, or apparatus G01M 11/00; spectacles G02C; sound lenses G10K 11/30; electron and ion "optics" H01J; X-ray "optics" H01J, H05G 1/00; optical elements structurally combined with electric discharge tubes H01J 5/16, H01J 29/89, H01J 37/22; microwave "optics" H01Q; combination of optical elements with television receivers H04N 5/72; heating arrangements specially adapted for transparent or reflecting areas H05B 3/84; {optical apparatus 42H})

NOTE

In this subclass, the following terms are used with the meanings indicated :

- "simple lens or prism" means a single lens or prism;
- "compound lens or prism" means an optical member, the constituents of which either are close together without air-space or (except in group) are "in broken contact", i.e. with the air-space between the constituents having no essential optical influence;
- "objective" means a lens or an optical system designed to produce a real image of a real object;
- "eyepiece" means a lens or an optical system designed to produce a virtual image for viewing by the eye or by another optical system;
- "front" or "rear" is determined by looking from the more distant conjugate.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[G02B 11/00](#) - [G02B 11/34](#) covered by [G02B 9/00](#) and subgroups and [G02B 13/00](#) and subgroups

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G02C)**G02C**

SPECTACLES; SUNGLASSES OR GOGGLES INsofar AS THEY HAVE THE SAME FEATURES AS SPECTACLES; CONTACT LENSES (trial frames for testing the eyes [A61B 3/04](#); goggles or eyeshields not having the same features as spectacles [A61F 9/00](#))

NOTE

This subclass also covers monacles, pince-nez or lorgnettes.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G02F)**G02F**

DEVICES OR ARRANGEMENTS, THE OPTICAL OPERATION OF WHICH IS MODIFIED BY CHANGING THE OPTICAL PROPERTIES OF THE MEDIUM OF THE DEVICES OR ARRANGEMENTS FOR THE CONTROL OF THE INTENSITY, COLOUR, PHASE, POLARISATION OR DIRECTION OF LIGHT, e.g. SWITCHING, GATING, MODULATING OR DEMODULATING; TECHNIQUES OR PROCEDURES FOR THE OPERATION THEREOF; FREQUENCY-CHANGING; NON-LINEAR OPTICS; OPTICAL LOGIC ELEMENTS; OPTICAL ANALOGUE/DIGITAL CONVERTERS (optical transfer means between sensing member and indicating or recording part in connection with measuring [G01D 5/26](#); devices in which mathematical operations are carried out with optical elements [G06E 3/00](#), {[G06E 3/001](#)} ; electrical signal transmission systems using optical means to convert the input signal [G08C 19/36](#); information-recording by electric or magnetic means and reproducing by sensing optical properties [G11B 11/00](#); static stores using optical elements [G11C 13/04](#); transmission systems employing electromagnetic waves other than radio waves, e.g. light, infra-red radiation, [H04B 10/00](#); optical multiplex systems [H04J 14/00](#); pictorial communication, e.g. television [H04N](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

Subject matter covered by these groups is classified in the following CPC groups:

[G02F 1/13357](#) covered by [G02F 1/1336](#) and subgroups

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G03B)**G03B**

APPARATUS OR ARRANGEMENTS FOR TAKING PHOTOGRAPHS OR FOR PROJECTING OR VIEWING THEM; APPARATUS OR ARRANGEMENTS EMPLOYING ANALOGOUS TECHNIQUES USING WAVES OTHER THAN OPTICAL WAVES; ACCESSORIES THEREFOR (optical parts of such apparatus [G02B](#); photosensitive materials or processes for photographic purposes [G03C](#); apparatus for processing exposed photographic materials [G03D](#))

NOTE

This subclass covers, as far as processes are concerned, only processes characterised by the use or manipulation of apparatus classifiable per se in this subclass.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G03C)**G03C**

PHOTOSENSITIVE MATERIALS FOR PHOTOGRAPHIC PURPOSES (for photomechanical purposes [G03F](#)); PHOTOGRAPHIC PROCESSES, e.g. CINE, X-RAY, COLOUR, STEREO-PHOTOGRAPHIC PROCESSES; AUXILIARY PROCESSES IN PHOTOGRAPHY (photographic processes characterised by the use or manipulation of apparatus classifiable per se in subclass [G03B](#), see [G03B](#); photomechanical production of textured or patterned surfaces [G03F](#); electrophotography, magnetography [G03G](#))

NOTE

In this subclass, the following expressions are used with the meanings indicated :

- "photosensitive compositions" covers photosensitive substances, e.g. silverhalides, and, if applicable, binders or additives;
- "photosensitive materials" covers the photosensitive compositions, e.g. emulsions, the bases carrying them, and, if applicable, auxiliary layers.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

Subject matter covered by this group is classified in the following CPC group:
[G03C 9/08](#) covered by [G03F 7/0037](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G03D)**G03D**

APPARATUS FOR PROCESSING EXPOSED PHOTOGRAPHIC MATERIALS (apparatus specially adapted for photomechanical production of textured or patterned surfaces [G03F](#)); ACCESSORIES THEREFOR (photosensitive materials or processes for photographic purposes [G03C](#); electrographic, electrophotographic, or magnetographic methods or apparatus [G03G](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G03F)**G03F**

PHOTOMECHANICAL PRODUCTION OF TEXTURED OR PATTERNED SURFACES, e.g. FOR PRINTING, FOR PROCESSING OF SEMICONDUCTOR DEVICES; MATERIALS THEREFOR; ORIGINALS THEREFOR; APPARATUS SPECIALLY ADAPTED THEREFOR; (phototypographic composing devices [B41B](#); photosensitive materials or processes for photographic purposes [G03C](#); electrophotography, sensitive layers or processes therefor [G03G](#))

NOTE

In this subclass, the following terms or expressions are used with the meanings indicated :

- "photosensitive" means not only sensitive to electro- magnetic radiation but also to corpuscular radiation;
- "photosensitive compositions" covers photosensitive substances, e.g. quinonediazides, and, if applicable, binders or additives;
- "photosensitive materials" covers the photosensitive compositions, e.g. photoresists, the bases carrying them and, if applicable, auxiliary layers.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

G03F 3/08	covered by	H04N 1/46
G03F 7/207	covered by	G03F 7/20
G03F 7/23	covered by	G03F 7/22
G03F 9/02	covered by	G03F 9/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G03G)

G03G

ELECTROGRAPHY; ELECTROPHOTOGRAPHY; MAGNETOGRAPHY (information storage based on relative movement between record carrier and transducer [G11B](#); static stores with means for writing-in or reading-out information [G11C](#); recording of television signals [H04N 5/76](#))

NOTES

1. This subclass covers:
 - the production of permanent directly-visible pictures in conformity with an original picture or document, using an intermediate imagewise distribution of an electric or magnetic quantity, such as a charge pattern, an electric conductivity pattern, or a magnetic pattern;
 - the production of permanent directly-visible pictures using an intermediate imagewise distribution of an electric or magnetic quantity, when the origin and the way of generating said intermediate distribution are not relevant.
2. This subclass does not cover:
 - use of electric signals for the transmission of the picture information from the original to the reproduction, i.e. pictorial communication, which is covered by subclass [H04N](#);
 - production of pictures by heat patterns exclusively, not using an electrostatic or magnetic pattern, which is covered by group [B41M 5/00](#);
 - production of prints by transferring ink from a printing form to a printing surface, without physical contact and using the force of an electrostatic field, which is covered by subclass [B41M](#);
 - selective printing mechanisms characterised by the selective supply of electric current, or the selective application of magnetism or radiation, to a printing material or impression-transfer material, which are covered by groups [B41J 2/385](#), [B41J 2/435](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0207 (G03G)

- U G03G 15/00 Apparatus for electrographic processes using a charge pattern ([G03G 16/00](#), [G03G 17/00](#) take precedence {; xerographic printers for data processors per se [G06K 15/14](#)})**
- U G03G 15/06 · for developing
- U G03G 15/08 · · using a solid developer, e.g. powder developer
- U G03G 15/0822 · · · {Arrangements for preparing, mixing, supplying or dispensing developer}
- D G03G 15/0824 · · · · {Detection or control means for the toner concentration}
<administratively transferred to [G03G 15/0849](#)>
- D G03G 15/0825 · · · · · {the concentration being measured by electrical means}
<administratively transferred to [G03G 15/0851](#)>
- D G03G 15/0827 · · · · · {the concentration being measured by optical means}
<administratively transferred to [G03G 15/0855](#)>

- D G03G 15/0829 {the concentration being measured by magnetic means}
<administratively transferred to [G03G 15/0853](#)>
- D G03G 15/0831 {Detection means for the toner level}
<administratively transferred to [G03G 15/0856](#)>
- D G03G 15/0832 {Arrangements for supplying new toner; Toner cartridges}
<administratively transferred to [G03G 15/0865](#)>
- D G03G 15/0834 {Toner cartridges fulfilling a continuous function within the electrographic apparatus during the use of the supplied developer material, e.g. toner discharge on demand, storing residual toner, not acting as a passive closure for the developer replenishing opening}
<administratively transferred to [G03G 15/0868](#)>
- D G03G 15/0836 {Toner cartridges having a longitudinal rotational axis, around which at least one part is rotated when mounting or using the cartridge (G03G 15/0834 takes precedence)}
<administratively transferred to [G03G 15/087](#)>
- D G03G 15/0837 {the toner cartridges being generally horizontally mounted parallel to its longitudinal rotational axis}
<administratively transferred to [G03G 15/0872](#)>
- D G03G 15/0839 {Arrangements for metering and dispensing toner into the development sump; Toner hoppers; Augers}
<administratively transferred to [G03G 15/0877](#)>
- D G03G 15/0841 {Toner cartridges using a peelable sealing film (resealing used developer units before refilling G03G 15/0894)}
<administratively transferred to [G03G 15/0882](#)>
- D G03G 15/0843 {Toner cartridges using a sealing film to be ruptured or cut}
<administratively transferred to [G03G 15/0884](#)>
- D G03G 15/0846 {Arrangements for conditioning developer in the developing sump, e.g. removing impurities or humidity}
<administratively transferred to [G03G 15/0887](#)>
- U G03G 15/0865 {Arrangements for supplying new developer}
- U G03G 15/0867 {cylindrical developer cartridges, e.g. toner bottles for the developer replenishing opening}
- E G03G 15/087 {Developer cartridges having a longitudinal rotational axis, around which at least one part is rotated when mounting or using the cartridge (~~G03G 15/0834 takes precedence~~)}
- U G03G 15/20 for fixing, e.g. by using heat
- U G03G 15/2003 . . . {using heat}
- U G03G 15/2014 . . . {using contact heat}
- U G03G 15/2064 {combined with pressure}
- D G03G 15/2067 {with retractable fixing or pressure unit}
<administratively transferred to [G03G 15/2032](#)>
- D G03G 15/2071 {for maintenance purpose, e.g. for removing a jammed sheet}
<administratively transferred to [G03G 15/2035](#)>
- D G03G 15/2075 {with special means for lubricating and/or cleaning the fuser unit, e.g. applying offset preventing fluid}
<administratively transferred to [G03G 15/2025](#)>
- D G03G 15/2078 {with means for controlling and/or regulating the fixing temperature}
<administratively transferred to [G03G 15/2039](#)>
- D G03G 15/2082 {specially the axial heat repartition}
<administratively transferred to [G03G 15/2042](#)>

- D G03G 15/2085 {with means for handling the copy material in the fuser nip, e.g. introduction guides, stripping means}
<administratively transferred to [G03G 15/2028](#)>
- D G03G 15/2089 {Details of pressure units, e.g. structure}
<administratively transferred to [G03G 15/206](#)>
- U G03G 15/55 . {Self-diagnostics; Malfunction or lifetime display}
- U G03G 15/553 . . {Monitoring or warning means for exhaustion or lifetime end of consumables, e.g. indication of insufficient copy sheet quantity for a job}
- M G03G 15/556 . . . {for toner consumption, e.g. pixel counting, toner coverage detection, ~~or~~ toner density measurement (~~detectors G03G 15/0831~~)}

Project: N/A (G03H)**G03H**

HOLOGRAPHIC PROCESSES OR APPARATUS (holograms, e.g. point holograms, used as ordinary optical elements [G02B 5/32](#); producing stereoscopic or other three-dimensional effects [G02B 27/22](#); diffraction-grating systems [G02B 27/44](#); systems using moiré fringes [G02B 27/60](#); optical logic elements [G02F 3/00](#); stereo-photography [G03B 35/00](#); photosensitive materials or processes for photographic purposes [G03C](#); {stereo-photographic or similar processes [G03C 9/00](#)}; apparatus for processing exposed photographic materials [G03D](#); analogue computers performing mathematical operations with the aid of optical elements [G06E 3/00](#); authentication by radiation, of concealed information carried by holograms or diffraction gratings [G06K 19/16](#); holographic storage [G11B 7/0065](#), [G11C 13/04](#); {stereoscopic or other three dimensional effects in television systems [H04N 13/00](#)})

NOTE

This subclass covers means for producing a record of the phase and amplitude information of a wave-front, which information can be used to reconstruct the original wave-front, or means to reconstruct the original wave-front from a record containing the phase and amplitude information of the wave-front.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G04B)**G04B**

MECHANICALLY-DRIVEN CLOCKS OR WATCHES; MECHANICAL PARTS OF CLOCKS OR WATCHES IN GENERAL; TIME PIECES USING THE POSITION OF THE SUN, MOON OR STARS (spring- or weight-driven mechanisms in general [F03G](#); electromechanical clocks or watches [G04C](#); electromechanical clocks with attached or built-in means operating any device at pre-selected times or after predetermined time intervals [G04C 23/00](#); clocks or watches with stop devices [G04F 7/08](#))

NOTE

This subclass covers mechanically-driven clocks or clockwork calendars, and the mechanical part of such clocks or calendars.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G04C)**G04C**

ELECTROMECHANICAL CLOCKS OR WATCHES (mechanical parts of clocks or watches in general [G04B](#); electronic time-pieces with no moving parts, electronic circuitry for producing timing pulses [G04G](#))

NOTE

This subclass covers electric features of mechanically-driven clocks or watches, such as electric winding of such clocks or the provision of electric contacts thereon.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G04F)**G04F**

TIME-INTERVAL MEASURING (measuring pulse characteristics [G01R](#), e.g. [G01R 29/02](#); in radar or like systems [G01S](#); masers [H01S 1/00](#); generation of oscillations [H03B](#); generation or counting of pulses, frequency dividing, analogue/digital conversion [H03K](#) {time fuzes [F42C 9/00](#)})

NOTE

This subclass covers:

- apparatus for measuring-off predetermined time intervals;
- apparatus for producing such intervals as timing standards, e.g. metronomes;
- apparatus for measuring unknown intervals, e.g. precision systems for short time interval measurement.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[G04F 10/08](#) covered by [G04F 5/16](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G04G)**G04G****ELECTRONIC TIME-PIECES**NOTES

1. This subclass covers:

- electronic time-pieces with no moving parts;
- electronic circuitry for producing timing pulses irrespective of the nature of the time indicating means utilised.

2. This subclass does not cover electronic time-pieces with moving parts, which are covered by subclass [G04C](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G05B)**G05B**

CONTROL OR REGULATING SYSTEMS IN GENERAL; FUNCTIONAL ELEMENTS OF SUCH SYSTEMS; MONITORING OR TESTING ARRANGEMENTS FOR SUCH SYSTEMS OR ELEMENTS (fluid-pressure actuators or systems acting by means of fluids in general [F15B](#); valves per se [F16K](#); characterised by mechanical features only [G05G](#); sensitive elements, see the appropriate subclass, e.g. [G12B](#), subclass of [G01](#), [H01](#); correcting units, see the appropriate subclass, e.g. [H02K](#))

NOTES

1. This subclass covers features of control systems or elements for regulating specific variables, which are clearly more generally applicable.
2. This subclass does not cover applications of such systems or elements, which are covered by subclass [G05D](#) or [G05F](#).
3. In this subclass, the following terms or expressions are used with the meanings indicated :
 - "automatic controller" means a system, circuit, or device in which a signal from the detecting element is compared with a signal representing the desired value and which operates in such a way as to reduce the deviation. The automatic controller generally does not include the sensitive element, i.e. that element which measures the value of the condition to be corrected, or the correcting element, i.e. that element which adjusts the condition to be corrected;
 - "electric" includes "electromechanical", "electrohydraulic" or "electropneumatic".
4. In this subclass, details or specific control systems are classified in the group relevant to that system, if not otherwise provided for.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0145 (G05B)

- U G05B 23/00** **Testing or monitoring of control systems or parts thereof (monitoring of programme-control systems** [G05B 19/048](#), [G05B 19/406](#))
- U G05B 23/02 • Electric testing or monitoring
- F G05B 23/0202 • • {in which a transfer function of a process is calculated}
- (Frozen)

WARNING

Group [G05B 23/0202](#) is no longer used for the classification of documents as of August 1, 2018. The content of this group is being reclassified into groups [G05B 23/0205](#) - [G05B 23/0297](#).

Groups [G05B 23/0205](#) - [G05B 23/0297](#) are incomplete pending reclassification from group [G05B 23/0202](#).

Groups [G05B 23/0202](#) and [G05B 23/0205](#) - [G05B 23/0297](#) should be considered in order to perform a complete search.

- M G05B 23/0205 • • {by means of a monitoring system capable of detecting and responding to faults}

WARNING

Groups [G05B 23/0205](#) - [G05B 23/0297](#) are incomplete pending reclassification of documents from group [G05B 23/0202](#).

Groups [G05B 23/0202](#) and [G05B 23/0205](#) - [G05B 23/0297](#) should be considered in order to perform a complete search.

- U G05B 2219/00** **Program-control systems**

- U G05B 2219/30 · Nc systems
- U G05B 2219/50 · · Machine tool, machine tool null till machine tool work handling
- U G05B 2219/50401 · · · In line work storage system

N G05B 2223/00 *Indexing scheme associated with group [G05B 23/00](#)*

- N G05B 2223/02 · *Indirect monitoring, e.g. monitoring production to detect faults of a system*
- N G05B 2223/04 · *Detection of intermittent failure*
- N G05B 2223/06 · *Remote monitoring*

Project: N/A (G05D)

G05D

SYSTEMS FOR CONTROLLING OR REGULATING NON-ELECTRIC VARIABLES (for continuous casting of metals [B22D 11/16](#); valves per se [F16K](#); sensing non-electric variables, see the relevant subclasses of [G01](#); for regulating electric or magnetic variables [G05F](#))

NOTES

1. This subclass does not cover features of general applicability to regulating systems, e.g. anti-hunting arrangements, which are covered by subclass [G05B](#).
2. In this subclass, the following term is used with the meaning indicated:
 - "systems" includes self-contained devices such as speed governors, pressure regulators.
3. Control systems specially adapted for particular apparatus, machines or processes are classified in the subclasses for the apparatus, machines or processes, provided that there is specific provision for control or regulation relevant to the special adaptation, either at a detailed level, (e.g. [A21B 1/40](#) : "for regulating temperature in bakers' ovens") or at a general level, (e.g. [B23K 9/095](#) : "for automatic control of welding parameters in arc welding"). Otherwise, classification is made in the most appropriate place in this subclass.

The following are lists of places where there is specific provision of the kind referred to above. Where such provision is at a detailed level, the places have been grouped according to the main groups of this subclass. Where the provision is at a general level (e.g. of a kind appropriate to more than one of the main groups specified in the lists, or to main groups [G05D 27/00](#) or [G05D 29/00](#)), the places are listed under the title "General References".

Places related to [G05D 1/00](#)

- [A01B 69/00](#) Agricultural machines or implements
- [A63H 17/36](#) Toy vehicles
- [B60V 1/11](#) Air-cushion vehicles
- [B62D 1/00](#) Steering controls of motor vehicles or trailers, i.e. means for initiating a change of direction
- [B62D 6/00](#) Arrangements for automatically controlling the steering depending on driving conditions
- [B62D 55/116](#) Chassis of endless-tracked vehicles
- [B63H 25/00](#) Marine steering; control of waterborne vessels
- [B64C 13/00](#) - Controlling aircraft
- [B64C 15/00](#)
- [B64D 25/10](#) Controlling attitude or direction of aircraft ejector seats
- [B64G 1/24](#) Cosmonautic vehicles
- [F41G 7/00](#) Self-propelled missiles
- [F42B 15/01](#) Guided missiles
- [F42B 19/01](#) Marine torpedoes

Places related to [G05D 3/00](#)

- [A43D 119/00](#) Footwear manufacture

B21K 31/00	Tool carriers in forging or pressing
B23B 39/26	Pattern-controlled boring or drilling tools
B23D 1/30, B23D 3/06, B23D 5/04	Planing or slotting machines controlled by copying device
B23H 7/18	Electrode to workpiece spacing in electric discharge and electrochemical machining
B23K 26/02	Workpiece in laser welding or cutting
B23K 37/04	Workpiece in welding
B23K 37/06	Molten metal in welding
B23Q 5/20	Spindles in machine tools
B23Q 15/00, B23Q 16/00	Tool or work position in machine tools
B23Q 35/00	Tools controlled by pattern or master model
B24B 17/00	Grinding controlled by patterns, drawings, magnetic tape or the like
B24B 47/22	Starting position in grinding
B30B 15/24	Actuating members in presses
B62D 55/116	Chassis of tracked vehicles
B65H 23/18	Web-advancing mechanisms
E02F 3/43	Dippers or buckets in dredgers
F15B 9/00	Fluid-pressure servomotors with follow-up action
F24S 50/20	Tracking of solar haet collectors
G03F 9/00	Photomechanical production of patterned or textured surfaces
G11B 5/588	Rotating heads in information storage systems
G21C 7/12	Movement of control elements in nuclear reactors

Places related to [G05D 5/00](#)

A24B 7/14	Tobacco cutting
B05C 11/02	Thickness of coating of fluent material on surface
B21B 37/16	Thickness, width, diameter or other transverse dimensions of the products of metal-rolling mills
C03B 18/04	Dimension of glass ribbon
D21F 7/06	Thickness of layer in paper making

Places related to [G05D 7/00](#)

A45D 20/26	Air in hair drying helmets
A61M 5/168	Flow of media to the human body
B03C 3/36	Gases or vapour in electrostatic separators
B05C 11/10	Fluent material in coating devices
B67D 1/12	Dispensing beverages on draught
B67D 7/28	Transferring liquids
C10K 1/28	Gas purifiers
E21B 21/08	Flushing boreholes
E21B 43/12	Obtaining liquids from wells
F01D 17/00	Flow in non-positive-displacement machines or systems
F01M 1/16	Lubrication arrangements
F01P 7/00	Coolant flow in cooling devices
F02C 9/16, F02C 9/50	Gas-turbine working fluid
F16L 55/027	Throttle passages in pipes

[F24F 11/00](#) Air-flow or supply of heating or cooling fluids in air treatment arrangements
[F26B 21/12](#) Air or gas flow in dryers
[G01G 11/08](#) Continuous flow weighing apparatus
[G21D 3/14](#) Coolant in nuclear power plant

Places related to [G05D 9/00](#)

[B01D 21/34](#) Liquid level in sedimentation arrangements
[B41L 27/04](#) Ink level in printing, manifolding or duplicating arrangements
[F22D 5/00](#) Feed water for boilers
[H01J 1/10](#),
[H01J 13/14](#) Liquid pool electrodes in electric discharge tubes or lamps

Places related to [G05D 11/00](#)

[B01D 21/32](#) Density in sedimentation arrangements
[B01F 15/04](#) Mixers
[B24C 7/00](#) Abrasive blasts
[B28C 7/00](#) Mixtures of clays or cements
[B65G 53/66](#) Bulk material conveyors
[F02K 3/075](#) Flow ratio in jet-propulsion plants

Places related to [G05D 13/00](#)

[B21C 1/12](#) Drum speed in metal drawing
[B23Q 15/00](#) Cutting velocity of tool or work
[B30B 15/20](#) Ram speed in presses
[B60K 31/00](#) Setting or limiting speed of vehicles
[B60L 15/00](#) Electrically-propelled vehicles
[B64D 31/08](#) Cruising speed of aircraft
[D01D 1/09](#) Feed rate in manufacture of artificial filaments, threads, fibres, bristles or ribbons
[D01G 15/36](#) Carding machines
[D02H 13/14](#) Warping, beaming or leasing machines
[D03D 51/16](#) Cyclically varying speed of looms
[G01N 30/32](#) Speed of fluid carrier in chemical analysis
[G11B 15/46](#) Filamentary or web record carriers or heads for such carriers in information storage systems
[G11B 19/28](#) Non-filamentary, non-web record carriers, or heads for such carriers in information storage systems

Places related to [G05D 15/00](#)

[B25D 9/26](#) Portable percussive tools
[B30B 15/22](#) Ram pressure in presses
[B65H 59/00](#) Tension in filamentary material
{[B65H 23/00](#),
[B65H 59/00](#)} Tension in webs, tapes, filamentary material
[B66D 1/50](#) Rope, cable or chain tension
[D03D 49/04](#) Tension in looms
[D05B 47/04](#) Tension in sewing machines
[D21F 3/06](#) Pressure in paper-making machines
[F26B 13/12](#) Drying fabrics
[F26B 21/10](#) Pressure in dryers

[G11B 15/43](#) Record carrier tension in information storage arrangements

Places related to [G05D 16/00](#)

[B60C 23/00](#) Tyre pressure
[B63C 11/08](#) Air within diving suit
[B64D 13/00](#) Aircraft air-pressure
[B65G 53/66](#) Bulk material conveyors
[D01D 1/09](#) Manufacture of artificial filaments, threads, fibres, bristles or ribbons
[E21B 21/08](#) Flushing boreholes
[F01M 1/16](#) Lubrication arrangements
[G01N 30/32](#) Pressure of fluid carrier in chemical analysis
[H01J 7/14](#) Pressure in electric discharge tubes or lamps
[H01K 1/52](#) Pressure in electric incandescent lamps

Places related to [G05D 19/00](#)

[B25D 9/26](#) Portable percussion tools
[B65G 27/32](#) Jigging conveyors

Places related to [G05D 21/00](#)

[B01D 21/32](#) Density in sedimentation arrangements
[B01D 53/30](#) Treating gases or vapours
[G01N 30/34](#) Composition of fluid carrier in chemical analysis

Places related to [G05D 22/00](#)

[A01G 25/16](#) Watering gardens, fields, sports grounds or the like
[A01K 41/04](#) Poultry incubators
[A24B 9/00](#) Tobacco products
[F24F 11/00](#) Air conditioning
[F26B 21/08](#) Dryers

Places related to [G05D 23/00](#)

[A21B 1/40](#) Bakers' ovens
[A45D 6/20](#) Hair curlers
[B21C 31/00](#) Metal extruding
[B60C 23/00](#) Tyre temperature
[B64G 1/50](#) Cosmonautic vehicles
[C03B 18/18](#),
[C03B 18/22](#) Float baths in glass making
[D01D 1/09](#) Manufacture of artificial filaments, threads, fibres, bristles or ribbons
[D04B 35/30](#) Knitting machines
[D06F 75/26](#) Hand irons
[D21F 5/06](#) Paper-making machines
[F01M 5/00](#) Lubricant in lubrication arrangements
[F16N 7/08](#) Arrangements for supplying oil or unspecified lubricant from a reservoir
[F22G 5/00](#) Steam superheat
[F26B 21/10](#) Dryers
[G01N 30/30](#) Temperature of fluid carrier in chemical analysis
[H01M 10/60](#) Electric storage cells

[H05B 6/06](#), Dielectric, induction or microwave heating
[H05B 6/50](#),
[H05B 6/68](#)
[H05G 1/36](#) Anode of X-ray tube

Places related to [G05D 25/00](#)

[B41B 21/08](#) Photographic composing machines
[H01S 3/10](#), Lasers and other light sources
[H05B 33/08](#),
[H05B 35/00](#) to
[H05B 43/00](#)

General references

[A01J 5/007](#) Milking machines
[B23K 9/095](#) Welding parameters
[B23Q 35/00](#) Copying
[B24B 17/00](#), Grinding or polishing
[B24B 49/00](#)
[B24C 7/00](#) Abrasive blasts
[B67D 1/12](#) Dispensing beverages on draught
[G03G 21/20](#) Electrographic, electrophotographic or magnetographic processes
[H02P 5/00](#) - Dynamo-electric motors or generators
[H02P 9/00](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

- U G05D 1/00** Control of position, course or altitude of land, water, air, or space vehicles, e.g. automatic pilot (steering applicable only to other than landborne vehicles, e.g. three-dimensional steering applicable to both aircraft and submarines [B60K](#) ; construction or disposition of steering means on land vehicles [B62](#), on waterborne vessels [B63](#) ; manual or automatic control of aircraft, e.g. using automatic pilot or radiated signal [B64C](#) ; radio navigation systems or analogous systems using other waves [G01S](#))
- U G05D 1/02 · Control of position or course in two dimensions
- U G05D 1/021 · · {specially adapted to land vehicles}

NOTES

1. This group covers control of position or course in two dimensions specially adapted for land vehicles, i.e. control systems to define a trajectory for a land vehicle, and to take suitable actions to make the vehicle follow said trajectory.
2. Relationships with other classification places.
Subclass [G01C](#) covers navigation in general, i.e. determining the position and course of land vehicles, ships, aircraft, and space vehicles.
Subclass [G01S](#) covers radio, sonar or lidar navigation systems, i.e. navigation by use of radio, acoustic or optical waves, or analogue arrangements using other electromagnetic waves.
Subclass [G08G](#) covers navigation systems for traffic control purposes, i.e. systems in which the navigation is not performed autonomously by or in the vehicle, but where the vehicles are guided by instructions transmitted to them.
Aspects of navigation systems that are important per se should also be classified in the relevant groups of [G01C](#) (see for example list under "Informative References" below).

Aspects of radio, sonar or lidar navigation systems that are important per se should also be classified in the relevant groups of [G01S](#) (see for example list under "Informative References" below).

Aspects of navigation systems for traffic purposes that are important per se should also be classified in the relevant groups of [G08G](#) (see for example list under "Informative References" below).

3. Informative References.

Attention is drawn to the following places, which could be of interest for search:

- navigation, i.e. determining the position and course of land vehicles, ships, aircraft, and space vehicles [G01C 21/00](#)
- measuring distance traversed on the ground by vehicles, e.g. using odometers [G01C 22/00](#)
- position-fixing by co-ordinating a plurality of determinations of direction or position lines [G01S 5/00](#)
- determining distance or velocity using waves and not using reflection or reradiation of waves [G01S 11/00](#)
- radar systems specially designed for traffic control [G01S 13/91](#)
- radar systems specially designed for for anti-collision purposes [G01S 13/93](#)
- sonar systems specially designed for for anti-collision purposes [G01S 15/93](#)
- lidar systems specially designed for for anti-collision purposes [G01S 17/93](#)
- traffic control systems for road vehicles [G08G 1/00](#)
- monitoring the location of fleet of vehicles in traffic control systems [G08G 1/127](#)
- anti-collision traffic control systems [G08G 1/16](#)

U G05D 1/0231

- . . {using optical position detecting means (position-fixing by using electromagnetic waves other than radio waves, e.g. optical position detecting means [G01S 5/16](#))}

G05D 1/0246

- . . . {~~using~~using a video camera in combination with image processing means (image data processing in general [G06T](#); video signal coding and transmission [H04N](#))}

Project: N/A (G05F)

G05F

SYSTEMS FOR REGULATING ELECTRIC OR MAGNETIC VARIABLES (regulating the timing or recurrence frequency of pulses in radar or radio navigation systems [G01S](#); closed-loop systems for regulating non-electric variables by electric means [G05D](#); regulating power supply of digital computers [G06F 1/26](#); regulating electric power distribution networks [H02J](#); regulating the charging of batteries [H02J 7/00](#); regulation of the output of static converters, e.g. switching regulators [H02M](#); regulation of the output of electric generators [H02N](#), [H02P 9/00](#), [H03L](#); controlling transformers, reactors or choke coils [H02P 13/00](#); regulating frequency response, gain, maximum output, amplitude or bandwidth of amplifiers [H03G](#); regulating tuning of resonant circuits [H03J](#); regulating characteristics of transmission lines [H04B](#); electric control of X-ray apparatus [H05G 1/30](#))

NOTES

1. This subclass covers:

- systems only;
- use of hydraulic, pneumatic, mechanical, and electrical motors for varying electric characteristics of devices which restore the quantity regulated;

- the combination of static converters and current or voltage regulators, if the invention resides in the combination.
2. This subclass does not cover elements per se, which are covered by the relevant subclasses.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

G05F 3/28	covered by	G05F 3/26
G05F 5/02	covered by	G05F 5/00
G05F 5/04	covered by	G05F 5/00
G05F 5/06	covered by	G05F 5/00
G05F 5/08	covered by	G05F 5/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G05G)

G05G

CONTROL DEVICES OR SYSTEMS INsofar AS CHARACTERISED BY MECHANICAL FEATURES ONLY ("Bowden" or like mechanisms [F16C 1/10](#); gearings or mechanisms not peculiar to this purpose [F16H](#); speed changing or reversing mechanisms for gearings conveying rotary motion [F16H 59/00](#) - [F16H 63/00](#))

NOTES

1. This subclass covers:
- members of general applicability for mechanical control;
 - mechanical systems for moving members to one or more definite settings.
2. Systems peculiar to the control of particular machines or apparatus provided for in a single other class are classified in the relevant class for such machines or apparatus, for example:
- | | |
|--|---|
| A61G 13/02 | Controls for adjusting operating tables |
| A61G 15/02 | Controls for adjusting operating chairs |
| A63F 13/20 ,
A63F 13/98 | Accessories for games using an electronically generated display |
| B25J | Manipulators, e.g. controls therefor |
| B60K 26/00 | Arrangement or mounting of propulsion-unit control devices in vehicles |
| B60T 7/00 | Vehicle brake-action initiating means |
| B62D 33/073 | Adaptations of control devices for movable vehicle cabs |
| B62K 21/00 | Cycle-steering devices |
| B62K 23/00 | Rider-operated controls specially adapted for cycles |
| B62L 3/00 | Brake-actuating mechanisms specially adapted for cycles |
| B63H 25/02 | Marine steering initiating means |
| B66B 1/00 | Controls for elevators |
| B66C 13/18 | Control systems or devices for cranes |
| B66C 13/56 | Arrangements of handles or pedals for crane operation |
| E02F 9/20 | Control devices for dredging or soil shifting machines |
| F16C 3/28 | Adjustable cranks or eccentrics |
| F16D 43/00 | Automatic clutches |
| F16K 31/00 ,
F16K 33/00 | Controls for valves |
| F16P 3/00 | Safety devices acting in conjunction with the control or operation of a machine |

F16P 7/02	Stopping machines on occurrence of dangerous conditions therein
G02B 21/32	Micromanipulators structurally combined with microscopes
G04B 1/00 - G04B 18/00	Driving mechanisms in clocks or watches
G06C	Digital computers in which all the computation is effected mechanically
G06F 3/02	Manual computer input arrangements
G06K 11/00	Converting a pattern of mechanical parameters into electric signals
G21C 7/08	Displacement of solid control elements in nuclear reactors
H01H	Mechanisms for operating switch contacts
H03J 1/00	Mechanical control of resonant circuits.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G06C)

G06C

DIGITAL COMPUTERS IN WHICH ALL THE COMPUTATION IS EFFECTED MECHANICALLY (score computers for card games [A63F 1/18](#); construction of keys, printing mechanisms or other parts of general application to the typewriting or printing art [B41](#); keys or printing mechanisms for special applications, see the relevant subclasses, e.g. [G05G](#), [G06K](#); cash registers [G07G 1/00](#))

NOTE

Details of mechanisms covered in main groups [G06C 9/00](#), [G06C 11/00](#) or [G06C 15/00](#), which are applicable to mechanical counters driven only through the lowest denomination, are classified in [G06M](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G06D)

G06D

DIGITAL FLUID-PRESSURE COMPUTING DEVICES

NOTE

This subclass includes all devices in which at least one computing function is performed by hydraulic or pneumatic means

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G06F)

G06F

ELECTRIC DIGITAL DATA PROCESSING (computer systems based on specific computational models [G06N](#))

NOTE

In this subclass, the following terms or expressions are used with the meaning indicated:

- "handling" includes processing or transporting of data;
- "data processing equipment" means an association of an electric digital data processor classifiable under group [G06F 7/00](#), with one or more

arrangements classifiable under groups [G06F 1/00](#) - [G06F 5/00](#) and [G06F 9/00](#) - [G06F 13/00](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

G06F 3/18	covered by	G06F 3/00 , G06K 11/00
G06F 7/04	covered by	G06F 7/02
G06F 9/302 - G06F 9/318	covered by	G06F 9/30

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G06G)

G06G

ANALOGUE COMPUTERS (analogue optical computing devices [G06E 3/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G06J)

G06J

HYBRID COMPUTING ARRANGEMENTS (optical hybrid computing devices [G06E 3/00](#); {fuzzy computing [G06N 7/02](#)}; neural networks for image data processing [G06T](#); analog/digital conversion, in general [H03M 1/00](#))

NOTE

In this subclass, the following expression is used with the meaning indicated:

- "hybrid computing arrangement" is an arrangement in which part of the computation is digital and part is analogue.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G06K)

G06K

RECOGNITION OF DATA; PRESENTATION OF DATA; RECORD CARRIERS; HANDLING RECORD CARRIERS

NOTES

1. This subclass covers:

- marking, sensing, and conveying of record carriers;
- recognising characters or other data;
- presenting visually or otherwise the data recognised or the result of a computation.

2. This subclass does not cover printing per se.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G06M)**G06M**

COUNTING MECHANISMS; COUNTING OF OBJECTS NOT OTHERWISE PROVIDED FOR (counting by measuring volume or weight of articles to be counted [G01F](#), [G01G](#); computers [G06C](#) - [G06J](#); counting electric pulses [H03K](#); counting characters, words or messages in switching networks for transmission of digital information [H04L 12/08](#))

NOTE

This subclass covers:

- stepping or continuously-moving mechanical counters operated through one or more inputs applied to the lowest order mechanically or electrically;
- counting systems involving applications of either mechanical, electrical, or electronic counters.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[G06M 15/00](#) covered by

2. *In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.*

Project: N/A (G06N)**G06N**

COMPUTER SYSTEMS BASED ON SPECIFIC COMPUTATIONAL MODELS

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G07B)**G07B**

TICKET-ISSUING APPARATUS; FARE-REGISTERING APPARATUS; FRANKING APPARATUS

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G07C)**G07C**

TIME OR ATTENDANCE REGISTERS; REGISTERING OR INDICATING THE WORKING OF MACHINES; GENERATING RANDOM NUMBERS; VOTING OR LOTTERY APPARATUS; ARRANGEMENTS, SYSTEMS OR APPARATUS FOR CHECKING NOT PROVIDED FOR ELSEWHERE (identification of persons [A61B 5/117](#); indicating or recording apparatus for measuring in general, analogous apparatus but in which the input is not a variable to be measured, e.g. a hand operation, [G01D](#); clocks, clock mechanisms [G04B](#), [G04C](#); time-interval measuring [G04F](#); counting mechanisms *per se* [G06M](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G07F)**G07F**

COIN-FREED OR LIKE APPARATUS (coin sorting [G07D 3/00](#); coin testing [G07D 5/00](#); {handling coins or paper currencies apart from payment activated apparatus [G07D](#); payment architectures, schemes or protocols [G06Q 20/00](#)})

NOTES

1.

This subclass does not cover constructions or details of apparatus which includes, or is combined with, coin-actuated mechanisms but is not specially adapted or modified for use therewith. Such constructions or details are covered by the relevant subclass for the particular apparatus.

2. In this subclass, the following term are used with the meaning indicated:

- {"coin-freed" means "payment activated"}
- "coins" covers also tokens or the like.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G07G)**G07G**

REGISTERING THE RECEIPT OF CASH, VALUABLES, OR TOKENS (digital computing in general [G06C](#), [G06F](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G08C)**G08C**

TRANSMISSION SYSTEMS FOR MEASURED VALUES, CONTROL OR SIMILAR SIGNALS (fluid pressure transmission systems [F15B](#); sensing members for specific physical variables, see the relevant subclasses, e.g. of [G01](#) or [H01](#); indicators or recorders, see the relevant subclasses, e.g. [G01D](#), [G09F](#); mechanical means for transferring the output of a sensing member [G01D 5/00](#); means for converting the output of the sensing member into a different variable [G01D 5/00](#); self-balancing bridges [G01R](#); position control in general [G05D 3/00](#); mechanical control systems [G05G](#); systems for transmitting "on/off" signals only, systems for transmitting alarm conditions [G08B](#); order telegraph systems [G08B 9/00](#); generating electric pulses [H03K](#); coding, decoding or code conversion [H03M](#); transmission of digital information [H04L](#); selective calling from one station to another [H04Q 9/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G08G)**G08G**

TRAFFIC CONTROL SYSTEMS (guiding railway traffic, ensuring the safety of railway traffic [B61L](#); arrangement of road signs or traffic signals [E01F 9/00](#); radar or analogous systems, sonar systems, lidar systems specially adapted for traffic control [G01S 13/91](#), [G01S 15/88](#), [G01S 17/88](#); {radar or analogous systems, sonar systems, lidar systems specially adapted for anti-collision purposes [G01S 13/93](#), [G01S 15/93](#), [G01S 17/93](#)})

NOTES1. This subclass covers:

- identification of traffic offenders;
- indicating the position of vehicles for traffic control purposes;
- navigation systems for traffic control purposes, i.e. systems in which the navigation is not performed autonomously by or in the vehicles, but where the vehicles are guided by instructions transmitted to them;
- indication of free spaces in parking areas.

2. This subclass does not cover:

- arrangements for measuring levels and bearings for surveillance and navigation, which are covered by [G01C](#);
- radio navigation systems, e.g. for locating, measuring distances or velocity, which are covered by [G01S](#);
- details of display instrumentation, which are covered by [G09F](#), [G09G](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G09B)**G09B**

EDUCATIONAL OR DEMONSTRATION APPLIANCES; APPLIANCES FOR TEACHING, OR COMMUNICATING WITH, THE BLIND, DEAF OR MUTE; MODELS; PLANETARIA; GLOBES; MAPS; DIAGRAMS (devices for psychotechnics or for testing reaction times [A61B 5/16](#); games, sports, amusements [A63](#); projectors, projector screens [G03B](#))

NOTES1. This subclass covers:

- simulators regarded as teaching or training devices, which is the case if they give perceptible sensations having a likeness to the sensations a student would experience in reality in response to actions taken by him;
- models of buildings, installations, or the like.

2. This subclass does not cover:

- simulators which demonstrate, by means involving computing, the function of apparatus or of a system, which are covered by class [G06](#), if no provision exists elsewhere
- components of simulators, if identical with real devices or machines, which are covered by the relevant subclasses for these devices or machines (and not by class [G09](#)).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G09C)

G09C

CODING OR CIPHERING APPARATUS FOR CRYPTOGRAPHIC OR OTHER PURPOSES INVOLVING THE NEED FOR SECRECY (secret transmission [H04K](#); arrangements for secret telegraphic communication [H04L 9/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G09F)

G09F

DISPLAYING; ADVERTISING; SIGNS; LABELS OR NAME-PLATES; SEALS (display cases [A47F](#); designs or pictures characterised by special or unusual effects, e.g. changing [B44F 1/00](#); disposition of road signs or traffic signals [E01F 9/00](#); lighting in general [F21](#); arrangements for controlling light beams [G02F 1/00](#); visible signalling arrangements or devices [G08B 5/00](#); traffic control systems [G08G](#); arrangements or circuits for control of indicating devices using static means to present variable information [G09G](#), {[G06F 3/14](#)}; static indicating arrangements comprising integral associations of a plurality of light sources [H01J](#), [H01K](#), [H01L](#), [H05B 33/12](#))

NOTES

- In this subclass, the following term is used with the meaning indicated :
 - "sign" designates a mark or indication serving to make something recognisable, the information presented being non-varying, even if it is flashing; by way of example it covers, therefore, advertising hoardings, or luminous, or light reflecting, safety arrangements.
- Attention is drawn to the Notes following the titles of class [B81](#) and subclass [B81B](#) relating to "microstructural devices" and "microstructural systems".

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G09G)

G09G

ARRANGEMENTS OR CIRCUITS FOR CONTROL OF INDICATING DEVICES USING STATIC MEANS TO PRESENT VARIABLE INFORMATION (lighting in general [F21](#); arrangements for displaying electric variables or waveforms [G01R 3/00](#); devices or arrangements for the control of light beams [G02F 1/00](#); indicating of time by visual means [G04B 19/00](#), [G04C 17/00](#), [G04G 9/00](#); arrangements for transferring data between computers and peripheral equipment [G06F 3/00](#); visible signalling arrangements or devices [G08B 5/00](#); traffic control systems [G08G](#); display, advertising, signs [G09F](#), e.g. static indicating arrangements comprising an association of a number of separate sources or light control cells [G09F 9/00](#); static indicating arrangements comprising integral associations of a number of light sources [H01J](#), [H01K](#), [H01L](#), [H05B 33/12](#); circuits in pulse counters for indicating the result [H03K 21/18](#); coding, decoding or code conversion, in general [H03M](#); reproducing a picture or pattern using electric signals representing parts thereof and produced by scanning an original [H04N](#))

NOTES

- This subclass covers indicator consoles, i.e. arrangements or circuits for processing control signals to achieve the display, e.g. for the calling up,

reception, storage, regeneration, coding, decoding, addressing of control signals.

2. This subclass does not cover the structural details of the indicating devices, such as panels or tubes per se, or assemblies of individual light sources, which are covered by the relevant subclasses, e.g. [H01J](#), [H01K](#), [H01L](#), [G02F](#), [G09F](#), [H05B](#).

3. Contrary to subclass [H04N](#), in which are classified display devices capable of representing continuous brightness value scales, this subclass is limited to devices using only a discrete number of brightness values, e.g. visible/non-visible.

4. The visual effect may be produced by a luminescent screen scanned by an electron beam, directly by controlled light sources, by projection of light, from controlled light sources onto characters, symbols, or elements thereof drawn on a support, or by electric, magnetic, or acoustic control of the parameters of light rays from an independent source.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

G09G 5/32	covered by	G09G 5/42
G09G 5/37	covered by	G09G 5/39
G09G 5/373	covered by	G09G 5/39
G09G 5/377	covered by	G09G 5/39
G09G 5/38	covered by	G09G 5/42
G09G 5/397	covered by	G09G 5/395 , G09G 5/399

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G10B)

G10B

ORGANS; HARMONIUMS OR LIKE WIND-ACTUATED MUSICAL INSTRUMENTS (mouth organs [G10D 7/12](#); accordions [G10D 11/00](#); aspects of automatic actuation [G10F 1/12](#); combinations of microphones, pick-ups or amplifiers with musical instruments [G10H](#); electronic organs [G10H 7/00](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G10D)**G10D**

STRINGED MUSICAL INSTRUMENTS; WIND MUSICAL INSTRUMENTS; ACCORDIONS OR CONCERTINAS; PERCUSSION MUSICAL INSTRUMENTS; MUSICAL INSTRUMENTS NOT OTHERWISE PROVIDED FOR (non-musical aspects of musical toy instruments [A63H 5/00](#); organs, harmoniums or like musical instruments with associated blowing apparatus [G10B](#); pianos, harpsichords, spinets or similar stringed musical instruments with one or more keyboards [G10C](#); automatic musical instruments [G10F](#); electrophonic musical instruments [G10H](#); instruments in which the tones are generated by electromechanical means or electronic generators, or in which the tones are synthesised from a data store [G10H](#))

NOTES

1. This subclass covers certain stringed musical instruments that can optionally include a keyboard, e.g. zithers.
2. This subclass does not cover pianos, harpsichords, spinets or similar stringed instruments provided by design with one or more keyboards, which are covered by subclass [G10C](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G10F)**G10F**

AUTOMATIC MUSICAL INSTRUMENTS (non-musical aspects of toy instruments [A63H 5/00](#); sound recording or reproducing [G11B](#); working in association with recording or reproducing apparatus [G11B 31/02](#))

NOTE

This subclass does not cover aspects of musical instruments which are independent of the automatic actuation, which are covered by subclass [G10B](#), [G10C](#) or [G10D](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G10H)**G10H**

ELECTROPHONIC MUSICAL INSTRUMENTS (electronic circuits in general [H03](#))

NOTE

This subclass covers musical instruments in which individual notes are constituted as electric oscillations under the control of a performer and the oscillations are converted to sound-vibrations by a loud-speaker or equivalent instrument.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G10K)**G10K**

SOUND-PRODUCING DEVICES (sound-producing toys [A63H 5/00](#)); METHODS OR DEVICES FOR PROTECTING AGAINST, OR FOR DAMPING, NOISE OR OTHER ACOUSTIC WAVES IN GENERAL; ACOUSTICS NOT OTHERWISE PROVIDED FOR

NOTES

1. This subclass covers arrangements for generating mechanical vibrations in fluids.
2. This subclass covers also the production of sounds which may not be audible to human beings but which are audible to animals.
3. In this subclass, the following terms are used with the meanings indicated:
 - "acoustics" and "sound" cover the technical field dealing with mechanical vibrations at all infrasonic -, sonic - and ultrasonic frequencies. However, generation or transmission of mechanical waves, in general, is covered by subclass [B06B](#), subject to the exception specified in Note (1) above.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G10L)**G10L**

SPEECH ANALYSIS OR SYNTHESIS; SPEECH RECOGNITION; SPEECH OR VOICE PROCESSING; SPEECH OR AUDIO CODING OR DECODING

NOTE

This subclass does not cover:

- devices for the storage of speech signals, which are covered by subclasses [G11B](#) and [G11C](#);
- encoding of compressed speech signals for transmission or storage, which is covered by group [H03M 7/30](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G11B)

G11B

INFORMATION STORAGE BASED ON RELATIVE MOVEMENT BETWEEN RECORD CARRIER AND TRANSDUCER ({producing carriers of sound records for needle playback [B29C 39/00](#)}; recording measured values in a way that does not require playback through a transducer [G01D](#); photosensitive materials or processes for photographic purposes [G03C](#); electrography, electrophotography, magnetography [G03G](#); recording or playback apparatus using mechanically marked tape, e.g. punched paper tape, or using unit records, e.g. punched or magnetically marked cards, [G06K](#); transferring data from one type of record carrier to another [G06K 1/18](#); printing of data from record carriers [G06K 3/00](#); arrangements for producing a permanent visual presentation of the output data [G06K 15/00](#); arrangements or circuits for control of indicating devices using static means to present variable information [G09G](#); coding, decoding or code conversion, in general [H03M](#); circuits for coupling output of reproducer to radio receiver [H04B 1/20](#); circuits {or arrangements} specially adapted for {pictorial or} television signal recording {[H04N 1/21](#)}, [H04N 5/76](#), [H04N 9/79](#); loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers or circuits therefor [H04R](#))

NOTES

1. This subclass covers :
 - recording or playback of information by relative movement between a record track and a transducer, the transducer directly producing, or being directly actuated by, modulation in the track being recorded or played-back, and the extent of modulation corresponding to the signal being recorded or played-back;
 - apparatus and machines for recording or playback, and parts thereof such as heads;
 - record carriers for use with such apparatus and machines;
 - associated working of other apparatus with such apparatus and machines;
 - {relative positioning or movement of transducers and record carriers before, during or after transducing operation, e.g. for accessing record carriers or parts thereof, or for track change, selection or acquisition or for track following or for accessing parts of tracks;}
 - {driving or moving of heads or record carriers or both heads and record carriers for increasing, maintaining or decreasing the relative speed before, during or after transducing operation}
2. In this subclass, the following terms or expressions are used with the meanings indicated :
 - "head" includes any means for converting sinusoidal or non-sinusoidal electric wave-forms into variations of the physical condition of at least the adjacent surface of the record carrier, or vice versa;
 - "record carrier" means a body, such as a cylinder, disc, card, tape, or wire, capable of permanently holding information, which can be read-off by a sensing element movable relatively to the record carrier.
3. Documents concerning relative positioning or movement of transducers and record carriers are classified in groups [G11B 3/00](#) - [G11B 7/00](#) and [G11B 21/00](#) when only the transducer is controlled and in groups [G11B 15/00](#), [G11B 17/00](#) and [G11B 19/00](#) when only the record carrier is controlled. When both record carrier and head are controlled, the documents are classified in [G11B 15/1808](#), [G11B 15/1816](#), [G11B 19/00](#) and [G11B 27/002](#).
When a plurality of record carriers are controlled, the documents are classified in [G11B 15/68](#), [G11B 17/08](#), [G11B 17/22](#) and [G11B 27/002](#).
4. By "access" is meant an operation including a relative movement for positioning between record carrier and head before, during or after transducing; this operation including "seek", "select", "change", "acquire" and "follow"

functions for at least a part of a track on at least one record carrier. By "programmed access" is meant a sequence of access operations the result of the sequence being to acquire a wanted sequence of parts of tracks or a wanted sequence of tracks. Relative movement between head and record carrier also covers the movement of a coupling beam such as a light beam between the head and a stationary record carrier.

5. "Movement of the head" also covers any virtual movement or any physical movement such as obtained by switching between successive transducing parts of the head or by moving the transducing zone of the head, i.e. by "scanning". If different transducing parts of the head are switchable, the number of transducing parts should be much smaller than the number of individual storage areas of the record carrier.

6. Attention is drawn to the notes of subclass [G11C](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

G11B 5/65	covered by	G11B 5/64 - G11B 5/656
G11B 5/667	covered by	G11B 5/66
G11B 5/673	covered by	G11B 5/66
G11B7/16	covered by	G11B 7/135
G11B7/18	covered by	G11B 7/135
G11B 7/30	covered by	G11B 7/00
G11B 9/12 - G11B 9/14	covered by	G11B 9/00
G11B 11/24 - G11B 11/26	covered by	G11B 11/00
G11B 13/08	covered by	G11B

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G11C)

G11C

STATIC STORES (information storage based on relative movement between record carrier and transducer [G11B](#); semiconductor devices for storage [H01L](#), e.g. [H01L 27/108](#) - [H01L 27/11597](#); pulse technique in general [H03K](#), e.g. electronic switches [H03K 17/00](#))

NOTES

1. This subclass covers devices or arrangements for storage of digital or analogue information in which no relative movement takes place between an information storage element and a transducer; which incorporate a selecting-device for writing-in or reading-out the information into or from the store
2. This subclass does not cover elements not adapted for storage and not provided with such means as referred to in Note (3) below, which elements are classified in the appropriate subclass, e.g. of [H01](#), [H03K](#).
3. In this subclass, the following terms are used with the meaning indicated:
 - "storage element" is an element which can hold at least one item of information and is provided with means for writing-in or reading-out this information;
 - "memory" is a device, including storage elements, which can hold information to be extracted when desired.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

G11C 8/02	covered by	G11C 8/00 , H03K 17/00
G11C 11/4193	covered by	G11C 11/00

G11C 11/4195 covered by G11C 11/00
G11C 11/4197 covered by G11C 11/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G12B)

G12B

**CONSTRUCTIONAL DETAILS OF INSTRUMENTS, OR COMPARABLE
DETAILS OF OTHER APPARATUS, NOT OTHERWISE PROVIDED FOR**

NOTES

1. This subclass covers only details which are not restricted to measuring instruments or to any other apparatus covered by a single class.
2. This subclass does not cover:
 - details covered by any other subclass in section [A](#), [E](#), [G](#) or [H](#). In particular, details restricted to the measuring instruments are covered by the relevant subclasses of class [G01](#), e.g. [G01D](#);
 - constructional details restricted to electric apparatus, e.g. casings, screenings, which are covered by subclass [H05K](#) or the relevant subclass in section [H](#).
3. Attention is drawn to the Notes following the title of section [G](#), especially as regards to the definition of the term "measuring" in Note (2) following the title of class [G01](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G21C)

G21C

**NUCLEAR REACTORS (fusion reactors, hybrid fission-fusion reactors
[G21B](#); nuclear explosives [G21J](#))**

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[G21C 19/33](#) covered by [G21C 19/34](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G21F)

G21F

**PROTECTION AGAINST X-RADIATION, GAMMA RADIATION,
CORPUSCULAR RADIATION OR PARTICLE BOMBARDMENT; TREATING
RADIOACTIVELY CONTAMINATED MATERIAL; DECONTAMINATION
ARRANGEMENTS THEREFOR (radiation protection by pharmaceutical
means [A61K 8/00](#); in cosmonautic vehicles [B64G](#); combined with a reactor
[G21C 11/00](#); combined with X-ray tubes [H01J 35/16](#); combined with X-ray
apparatus [H05G 1/02](#))**

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G21G)

G21G

CONVERSION OF CHEMICAL ELEMENTS; RADIOACTIVE SOURCES (applications of radiation in general [G21H 5/00](#); handling particles, e.g. neutrons, or electromagnetic radiation not otherwise provided for [G21K](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G21H)

G21H

OBTAINING ENERGY FROM RADIOACTIVE SOURCES; APPLICATIONS OF RADIATION FROM RADIOACTIVE SOURCES, NOT OTHERWISE PROVIDED FOR; UTILISING COSMIC RADIATION (measurement of nuclear or X-radiation [G01T](#); fusion reactors [G21B](#); nuclear reactors [G21C](#); lamps in which a gas filling is excited to luminescence by external corpuscular radiation or by radioactive material structurally associated with the lamp [H01J 65/04](#), [H01J 65/06](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G21J)

G21J

NUCLEAR EXPLOSIVES; APPLICATIONS THEREOF (electric or magnetic analogue computers, e.g. simulators, for nuclear physics [G06G 7/54](#))

NOTE

This subclass covers uncontrollable fission or fusion reactions.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (G21K)

G21K

TECHNIQUES FOR HANDLING PARTICLES OR IONISING RADIATION NOT OTHERWISE PROVIDED FOR; IRRADIATION DEVICES; GAMMA RAY OR X-RAY MICROSCOPES

NOTE

In this subclass, the following term is used with the meaning indicated:

"particle" means a molecular, atomic or subatomic particle

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[G21K 3/00](#) covered by [G21K 1/10](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H01B)

H01B

CABLES; CONDUCTORS; INSULATORS; SELECTION OF MATERIALS FOR THEIR CONDUCTIVE, INSULATING OR DIELECTRIC PROPERTIES (selection for magnetic properties [H01F 1/00](#); waveguides [H01P](#); installations of cables or lines [H02G](#); {printed circuits [H05K](#)})

NOTE

Group [H01B 12/00](#) takes precedence over groups [H01B 5/00](#) - [H01B 11/00](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H01C)

H01C

RESISTORSNOTES

1. In this subclass, the term "adjustable" means mechanically adjustable.
2. Variable resistors, the value of which is changed non-mechanically, e.g. by voltage or temperature, are classified in group [H01C 7/00](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H01F)

H01F

MAGNETS; INDUCTANCES; TRANSFORMERS; SELECTION OF MATERIALS FOR THEIR MAGNETIC PROPERTIES (ceramics based on ferrites [C04B 35/26](#); alloys [C22C](#); {construction of loading coils [H01B](#)}; thermomagnetic devices [H01L 37/00](#); loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers [H04R](#))

NOTE

In this subclass, inductances and transformers are regarded as being "for power supply" if they are intended for this purpose even in systems operating at frequencies above 60 cycles/sec.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

U H01F 7/00

Magnets (superconducting magnets [H01F 6/00](#); for separation of solid materials or fluids [B03C 1/00](#); for bench or like work-holders [B23B 31/28](#), [B23Q 3/00](#); work-holding devices [B25B 11/00](#); lifting magnets [B66C 1/00](#); {operating or controlling locks using permanent magnets [E05B 47/0038](#); devices for holding a wing, e.g. door or window, by magnetic or electromagnetic attraction [E05C 19/16](#); relieving load or bearings using magnetic means [F16C 39/06](#)}; for electric meters [G01R](#); for relays [H01H](#); {for electric discharge tubes [H01J](#), e.g. [H01J 3/24](#), [H01J 23/10](#), [H01J 29/68](#)}; for dynamo-electric machines [H02K](#))

- U H01F 7/06
- Electromagnets; Actuators including electromagnets {(electric coils [H01F 5/00](#); devices for holding workpieces using electric force [B23Q 3/15](#); load-engaging elements for lifting articles electromagnetically [B66C 1/06](#); electromagnetic couplings [F16D 27/00](#); magnetic brakes [F16D 63/002](#); electromagnetically operated valves [F16K 11/24](#), [F16K 31/00](#); analysing materials by magnetic means [G01N 27/72](#), [G01N 27/80](#); electromagnets for winding mechanical clocks [G04C 1/02](#); electromagnetic relays [H01H 51/00](#); windings for salient poles of dynamo-electric machines [H02K 3/18](#); electromagnets for telegraphic communication [H04L](#); for arc lamps [H05B 31/28](#))}
- H01F 7/20
- • without armatures (cores [H01F 3/00](#); coils [H01F 5/00](#) {; {shaping metal by applying magnetic forces [B21D 26/14](#); electromagnets specially adapted for NMR applications [G01R 33/381](#))}

Project: MP0138 (H01F)

- U H01F 17/00
- Fixed inductances of the signal type (coils in general [H01F 5/00](#) {inductors without a potential-jump or surface barrier specially adapted for integrated circuits, details thereof and multistep manufacturing processes therefor [H01L 28/10](#)})**
- U H01F 17/0006
- {Printed inductances (printed coils for dynamo-electric machines [H02K 3/26](#); printed circuits [H05K](#))}
- M H01F 17/0013
- • {with stacked layers ~~([H01F 27/2804](#) takes precedence)~~}

Project: N/A (H01G)

H01G

CAPACITORS; CAPACITORS, RECTIFIERS, DETECTORS, SWITCHING DEVICES OR LIGHT-SENSITIVE DEVICES, OF THE ELECTROLYTIC TYPE (selection of specified materials as dielectric [H01B 3/00](#); {ceramics [C04B](#)})

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H01H)

H01H

ELECTRIC SWITCHES; RELAYS; SELECTORS; EMERGENCY PROTECTIVE DEVICES (contact cables [H01B 7/10](#); overvoltage protection resistors, resistive arresters [H01C 7/12](#), [H01C 8/04](#); electrolytic self-interrupters [H01G 9/18](#); switching devices of the waveguide type [H01P](#); devices for interrupted current collection [H01R 39/00](#); overvoltage arresters using spark gaps [H01T 4/00](#); emergency protective circuit arrangements [H02H](#); switching by electronic means without contact-making [H03K 17/00](#))

NOTES

1.

Attention is drawn to the Notes following the titles of class [B81](#) an subclass [B81B](#) relating to "microstructural devices" and microstructural systems"

2. This subclass covers (in groups [H01H 69/00](#) - [H01H 87/00](#)) devices for the protection of electric lines or electric machines or apparatus in the event of undesired change from normal electric working conditions, the electrical condition serving directly as the input to the device.

3. This subclass does not cover bases, casings, or covers accommodating two or more switching devices or for accommodating a switching device as well as another electric component, e.g. bus-bar, line connector. Those bases, casings or covers are covered by group [H02B 1/26](#).

4. In this subclass, the following terms or expressions are used with the meanings indicated :

- "relay" means a switching device having contacts which are operated from electric inputs which supply, directly or indirectly, all the mechanical energy necessary to cause both the closure and the opening of the contacts;
- "driving mechanism" refers to the means by which an operating force applied to the switch is transmitted to the moving contact or contacts;
- "operating" is used in a broader sense than "actuating" which is reserved for those parts not touched by hand to effect switching;
- "acting" or "action" means a self-induced movement of parts at one stage of the switching.

These connotations apply to all parts of the verbs "to operate", "to actuate" and "to act" and to words derived therefrom, e.g. to "actuation".

5. In this subclass, details are classified as follows :

- details of an unspecified type of switching device, or disclosed as applicable to two or more kinds of switching devices designated by the terms or expressions "switches", "relays", "selector switches", and "emergency protective devices", are classified in groups [H01H 1/00](#) - [H01H 9/00](#);
- details of an unspecified type of switch, or disclosed as applicable to two or more types of switches as defined by groups [H01H 13/00](#) - [H01H 43/00](#) and sub-groups [H01H 35/02](#), [H01H 35/06](#), [H01H 35/14](#), [H01H 35/18](#), [H01H 35/24](#) and [H01H 35/42](#), all hereinafter called basic types, are classified in groups [H01H 1/00](#) - [H01H 9/00](#);
- details of an unspecified type of relay, or disclosed as applicable to two or more types of relays as defined by groups [H01H 51/00](#) - [H01H 61/00](#), hereinafter called basic types are classified in [H01H 45/00](#);
- details of an unspecified protective device, or applicable to two or more types of protective devices as defined by groups [H01H 73/00](#) - [H01H 83/00](#), hereinafter called basic types, are classified in [H01H 71/00](#).
- However, details only described with reference to, or clearly only applicable to, switching devices of a single basic type, are classified in the group appropriate to switching devices of that basic type, e.g. [H01H 19/02](#), [H01H 75/04](#);
- mechanical structural details of control members of switches or of keyboards such as keys, push-buttons, levers or other mechanisms for transferring the force to the activated elements are classified in this subclass, even when they are used for controlling electronic switches.

However, mechanical details directly producing electronic effects are classified in group [H03K 17/94](#).

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

H01H 13/708-H01H 13/718	covered by	
H01H 33/575	covered by	H01H 33/56
H01H 33/65	covered by	
H01H 33/825	covered by	H01H 33/82
H01H 33/835	covered by	H01H 33/83
H01H 33/867	covered by	H01H 33/86
H01H 33/873	covered by	H01H 33/86
H01H 33/915	covered by	H01H 33/91
H01H 33/985	covered by	H01H 33/98
H01H 33/99	covered by	H01H 33/98

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H01J)**H01J**

ELECTRIC DISCHARGE TUBES OR DISCHARGE LAMPS (spark-gaps [H01T](#); arc lamps with consumable electrodes [H05B](#); particle accelerators [H05H](#))

NOTES

1. This subclass covers only devices for producing, influencing, or using a flow of electrons or ions, e.g. for controlling, indicating, or switching of electric current, counting electric pulses, producing light or other electromagnetic oscillations, such as X-rays, or for separating or analysing radiation or particles, and having a closed or substantially closed casing containing a chosen gas, vapour, or vacuum, upon the pressure and nature of which the characteristics of the device depend. Light sources using a combination (other than covered by group [H01J 61/96](#) of this subclass) of discharge and other kinds of light generation are dealt with in [H05B 35/00](#).
2. In this subclass, groups [H01J 1/00](#) - [H01J 7/00](#) relate only to:
 - i. details of an unspecified kind of discharge tube or lamp, or
 - ii. details mentioned in a specification as applicable to two or more kinds of tubes or lamps as defined by groups [H01J 11/00](#), [H01J 13/00](#), [H01J 15/00](#), [H01J 17/00](#), [H01J 21/00](#), [H01J 25/00](#), [H01J 27/00](#), [H01J 31/00](#), [H01J 33/00](#), [H01J 35/00](#), [H01J 37/00](#), [H01J 40/00](#), [H01J 41/00](#), [H01J 47/00](#), [H01J 49/00](#), [H01J 61/00](#), [H01J 63/00](#) or [H01J 65/00](#), hereinafter called basic kinds. A detail only described with reference to, or clearly only applicable to, tubes or lamps of a single basic kind is classified in the detail group appropriate to tubes or lamps of that basic kind, e.g. [H01J 17/04](#).
3. In this subclass, the following term is used with the meaning indicated:
 - "lamp" includes tubes emitting ultra-violet or infra-red light.
4. Attention is drawn to the definition of the expression "spark gaps" given in the Note following the title of subclass [H01T](#).
5. Apparatus or processes specially adapted for the manufacture of electric discharge tubes, discharge lamps, or parts thereof are classified in group [H01J 9/00](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H01K)**H01K**

ELECTRIC INCANDESCENT LAMPS (details or apparatus or processes for manufacture applicable to both discharge devices and incandescent lamps [H01J](#); light sources using a combination of incandescent and other types of light generation [H01J 61/96](#), [H05B 35/00](#); circuits therefor [H05B](#))

NOTE

- In this subclass, the following term is used with the meaning indicated:
- "lamp" includes tubes emitting ultra-violet or infra-red light.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H01L)

H01L

SEMICONDUCTOR DEVICES; ELECTRIC SOLID STATE DEVICES NOT OTHERWISE PROVIDED FOR (use of semiconductor devices for measuring [G01](#); resistors in general [H01C](#); magnets, inductors {in general} , transformers [H01F](#); capacitors in general [H01G](#); electrolytic devices [H01G 9/00](#); batteries, accumulators [H01M](#); waveguides, resonators or lines of the waveguide type [H01P](#); line connectors, current collectors [H01R](#); stimulated emission devices [H01S](#); electromechanical resonators [H03H](#); loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers [H04R](#); electric light sources in general [H05B](#); printed circuits, hybrid circuits, casings or constructional details of electric apparatus, manufacture of assemblages of electrical components [H05K](#); use of semiconductor devices in circuits having a particular application, see the subclass for the application)

NOTES1. This subclass covers:

- electric solid state devices which are not covered by any other subclass and details thereof, and includes: semiconductor devices adapted for rectifying, amplifying, oscillating or switching; semiconductor devices sensitive to radiation; electric solid state devices using thermoelectric, superconductive, piezo-electric, electrostrictive, magnetostrictive, galvano-magnetic or bulk negative resistance effects and integrated circuit devices;
- photoresistors, magnetic field dependent resistors, field effect resistors, capacitors with potential-jump barrier, resistors with potential-jump barrier or surface barrier, incoherent light emitting diodes and thin-film or thick-film circuits;
- processes and apparatus adapted for the manufacture or treatment of such devices, except where such processes relate to single-step processes for which provision exists elsewhere.

2. In this subclass, the following terms or expressions are used with the meaning indicated:

- "wafer" means a slice of semiconductor or crystalline substrate material, which can be modified by impurity diffusion (doping), ion implantation or epitaxy, and whose active surface can be processed into arrays of discrete components or integrated circuits;
- "solid state body" means the body of material within which, or at the surface of which, the physical effects characteristic of the device occur. In thermoelectric devices, it includes all materials in the current path. Regions in or on the body of the device (other than the solid state body itself), which exert an influence on the solid state body electrically, are considered to be "electrodes" whether or not an external electrical connection is made thereto. An electrode may include several portions and the term includes metallic regions which exert influence on the solid state body through an insulating region (e.g. capacitive coupling) and inductive coupling arrangements to the body. The dielectric region in a capacitive arrangement is regarded as part of the electrode. In arrangements including several portions, only those portions which exert an influence on the solid state body by virtue of their shape, size, or disposition or the material of which they are formed are considered to be part of the electrode. The other portions are considered to be "arrangements for conducting electric current to or from the solid state body" or "interconnections between solid state components formed in or on a common substrate", i .e. leads;
- "device" means an electric circuit element; where an electric circuit element is one of a plurality of elements formed in or on a common substrate it is referred to as a "component";

- "complete device" is a device in its fully assembled state which may or may not require further treatment, e.g. electroforming, before it is ready for use but which does not require the addition of further structural units;
- "parts" includes all structural units which are included in a complete device;
- "container" is an enclosure forming part of the complete device and is essentially a solid construction in which the body of the device is placed, or which is formed around the body without forming an intimate layer thereon. An enclosure which consists of one or more layers formed on the body and in intimate contact therewith is referred to as an "encapsulation";
- "integrated circuit" is a device where all components, e.g. diodes, resistors, are built up on a common substrate and form the device including interconnections between the components;
- "assembly" of a device is the building up of the device from its component constructional units and includes the provision of fillings in containers.

3. In this subclass, both the process or apparatus for the manufacture or treatment of a device and the device itself are classified, whenever both of these are described sufficiently to be of interest.

4. Attention is drawn to Note (3) after the title of section C, which Note indicates to which version of the periodic table of chemical elements the IPC refers. In this subclass, the Periodic System used is the 8 group system indicated by Roman numerals in the Periodic Table thereunder.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

H01L 21/301	covered by	H01L 21/30
H01L 21/328	covered by	H01L 29/66075
H01L 21/329	covered by	H01L 29/66083
H01L 21/33	covered by	H01L 29/66227
H01L 21/331	covered by	H01L 29/66234
H01L 21/332	covered by	H01L 29/66363
H01L 21/334	covered by	H01L 29/66075
H01L 21/335	covered by	H01L 29/66409
H01L 21/336	covered by	H01L 29/66477
H01L 21/337	covered by	H01L 29/66893
H01L 21/338	covered by	H01L 29/66848
H01L 21/339	covered by	H01L 29/66946
H01L 21/36-H01L 21/368	covered by	
H01L 21/58	covered by	H01L 24/80
H01L 21/60	covered by	H01L 24/80
H01L 21/66	covered by	H01L 22/00
H01L 21/603	covered by	H01L 24/80
H01L 21/607	covered by	H01L 24/80
H01L 21/8242	covered by	H01L 27/10844
H01L 21/8244	covered by	H01L 27/11
H01L 21/8246	covered by	H01L 27/112
H01L 21/98	covered by	H01L 25/50
H01L 29/38	covered by	H01L 29/04-H01L 29/365
H01L 29/96	covered by	H01L 29/68-H01L 29/945
H01L 51/30	covered by	H01L 51/0032
H01L 51/40	covered by	H01L 51/0001
H01L 51/46	covered by	H01L 51/0032
H01L 51/48	covered by	H01L 51/0001

[H01L 51/54](#) covered by [H01L 51/0032](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0156 (H01L)

U H01L 27/00 **Devices consisting of a plurality of semiconductor or other solid-state components formed in or on a common substrate (details thereof [H01L 23/00](#), [H01L 29/00](#) - [H01L 51/00](#); assemblies consisting of a plurality of individual solid state devices [H01L 25/00](#))**

NOTES

1. In this group, with the exception of groups [H01L 27/115](#) - [H01L 27/11597](#), the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place.
2. When classifying in this group, subject matter relating to electrically programmable read-only memories is classified in group [H01L 27/115](#), irrespective of the last place priority rule.

U H01L 27/14 • including semiconductor components sensitive to infra-red radiation, light, electromagnetic radiation of shorter wavelength, or corpuscular radiation and specially adapted either for the conversion of the energy of such radiation into electrical energy or for the control of electrical energy by such radiation (radiation-sensitive components structurally associated with one or more electric light sources only [H01L 31/14](#); couplings of light guides with optoelectronic elements [G02B 6/42](#))

U H01L 27/144 • • Devices controlled by radiation

E H01L 27/146 • • • Imager structures

WARNING

Groups [H01L 27/146](#) – [H01L 27/14893](#) are incomplete pending reclassification of documents from groups [H04N 5/3696](#) and [H04N 9/045](#). Groups [H04N 5/3696](#), [H04N 9/045](#), and [H01L 27/146](#) – [H01L 27/14893](#) should be considered in order to perform a complete search.

U H01L 27/28 • including components using organic materials as the active part, or using a combination of organic materials with other materials as the active part

U H01L 27/30 • • with components specially adapted for sensing infra-red radiation, light, electromagnetic radiation of shorter wavelength, or corpuscular radiation; with components specially adapted for either the conversion of the energy of such radiation into electrical energy or for the control of electrical energy by such radiation {(combination of organic light sensitive components with organic light emitting components, e.g. optocoupler [H01L 27/288](#))}

U H01L 27/305 • • • {Devices controlled by radiation}

E H01L 27/307 • • • • {Imager structures}

WARNING

Group [H01L 27/307](#) is incomplete pending reclassification of documents from groups [H04N 5/3696](#) and [H04N 9/045](#). Groups [H04N 5/3696](#), [H04N 9/045](#), and [H01L 27/307](#) should be considered in order to perform a complete search.

Project: N/A (H01M)**H01M**

PROCESSES OR MEANS, e.g. BATTERIES, FOR THE DIRECT CONVERSION OF CHEMICAL INTO ELECTRICAL ENERGY (electrochemical processes or apparatus in general [C25](#); semiconductor or other solid state devices for converting light or heat into electrical energy [H01L](#), e.g. [H01L 31/00](#), [H01L 35/00](#), [H01L 37/00](#))

NOTE

This subclass covers galvanic primary or secondary cells or batteries, fuel cells or batteries.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H01P)**H01P**

WAVEGUIDES; RESONATORS, LINES, OR OTHER DEVICES OF THE WAVEGUIDE TYPE (operating at optical frequencies [G02B](#); aeriels [H01Q](#); {modulating electromagnetic waves in transmission line, waveguide, cavity resonator or radiation field of aerial [H03C 7/02](#)}; networks comprising lumped impedance elements [H03H](#))

NOTE

In this subclass, the following expression is used with the meaning indicated :

- "waveguide type" as applied to transmission lines includes only high-frequency coaxial cables or Lecher lines, and as applied to resonators, delay lines, or other devices includes all devices having distributed inductance and capacitance.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H01Q)**H01Q**

ANTENNAS, i.e. RADIO AERIALS (radiators or antennas for microwave heating [H05B 6/72](#))

NOTES

1. This subclass covers:
 - in addition to the primary active radiating elements,
 - i. secondary devices for absorbing or for modifying the direction or polarisation of waves radiated from antennas, and
 - ii. combinations with auxiliary devices such as earthing switches, lead-in devices, and lightning protectors;
 - both transmitting and receiving antennas.
2. This subclass does not cover devices of the waveguide type, such as resonators or lines, not designed as radiating elements, which are covered by subclass [H01P](#).
3. In this subclass, the following expression is used with the meaning indicated:
 - "active radiating element" covers corresponding parts of a receiving antenna.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H01R)

H01R

LINE CONNECTORS; CURRENT COLLECTORS (switches, fuses [H01H](#); coupling devices of the waveguide type [H01P 5/00](#); switching arrangements for the supply or distribution of electric power [H02B](#); installations of electric lines, cables or auxiliary apparatus [H02G](#); printed means for providing electric connections to or between printed circuits [H05K](#))

NOTES

1. This subclass covers:

- all kinds of contact-making disconnectible and non-disconnectible electric line connectors, coupling devices, lamp or similar holders or current collectors for all kinds of electric lines, cables or apparatus;
- non-printed means for electric connections to or between printed circuits.

2. This subclass does not cover mounting of connections in or specified apparatus. Such mounting is covered by the relevant subclass for such apparatus, e.g. mounting in junction or distribution boxes is covered by subclass [H02B](#) or [H02G](#), high-temperature connections for heating elements is covered by group [H05B 3/08](#). Structural association of one part of a two-part coupling device with specific electric apparatus is classified with the apparatus e.g. association of cap with incandescent lamp is covered by subclass [H01K](#).

3. In this subclass, a contact in a coupling device is only regarded as an additional earth contact if this contact is clearly designed for that purpose.

4. General details are classified in groups [H01R 4/00](#), [H01R 9/00](#), [H01R 11/00](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H01S)

H01S

DEVICES USING STIMULATED EMISSIONNOTE

This subclass covers:

- devices for the generation or amplification, by using stimulated emission, of coherent electromagnetic waves or other forms of wave energy;
- such functions as modulating, demodulating, controlling, or stabilising such waves.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[H01S 3/098](#) covered by [H01S 3/08018](#), [H01S 3/11](#) and s.gr.

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0343 (H01S)

U H01S 3/00

Lasers, i.e. devices for generation, amplification, modulation, demodulation, or frequency-changing, using stimulated emission, of infra-red, visible, or ultra-violet waves ({stimulated Brillouin or Raman effects [H01S 3/30](#) } ; semiconductor lasers [H01S 5/00](#))

- U H01S 3/005
- {Optical devices external to the laser cavity, specially adapted for lasers, e.g. for homogenisation of the beam or for manipulating laser pulses, e.g. pulse shaping (shaping laser beam for working metal or other materials [B23K 26/06](#); optical elements, systems or apparatus in general [G02B](#))}
- H01S 3/0064
- {Anti-reflection devices, e.g. optical isolators (absorbing layers for marking or protecting purposes in laser working ~~B23K 26/0054~~[B23K 26/50](#); magneto-optical non-reciprocal devices [G02F 1/093](#), [G02F 1/0955](#))}

Project: N/A (H02B)**H02B**

BOARDS, SUBSTATIONS, OR SWITCHING ARRANGEMENTS FOR THE SUPPLY OR DISTRIBUTION OF ELECTRIC POWER (basic electric elements, their assembly, including the mounting in enclosures or on bases, or the mounting of covers thereon, see the subclasses for such elements, e.g. transformers [H01F](#), switches, fuses [H01H](#), line connectors [H01R](#); installation of lines, cables, or other conductors for supply or distribution [H02G](#))

NOTE

This subclass covers boards, switchyards, switchgear or their installation, or the association of switching devices with each other or with other devices, e.g. transformers, fuses, meters or distribution boards; such associations constitute substations or distribution points.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H02G)**H02G**

INSTALLATION OF ELECTRIC CABLES OR LINES, OR OF COMBINED OPTICAL AND ELECTRIC CABLES OR LINES (distribution points incorporating switches [H02B](#); guiding telephone cords [H04M 1/15](#); cable ducts or mountings for telephone or telegraph exchange installations [H04Q 1/06](#))

NOTES

1. This subclass covers installation of communication cables or lines, including those comprising a combination of optical and electrical conductors, or of lightning conductors as well as installation of power cables or lines.
2. This subclass does not cover installation of purely optical cables, which is covered by groups {[G02B 6/4401](#)}, [G02B 6/46](#).
3. In this subclass, the following expression is used with the meaning indicated:
 - "electric cable" includes cables comprising optical conductors, e.g. fibres, in combination with electrical conductors.
4. In this subclass it is desirable to add indexing codes of group [H02G 2200/00](#) whenever appropriate

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H02H)**H02H**

EMERGENCY PROTECTIVE CIRCUIT ARRANGEMENTS (indicating or signalling undesired working conditions [G01R](#), e.g. [G01R 31/00](#), [G08B](#); locating faults along lines [G01R 31/08](#); emergency protective devices [H01H](#))

NOTE

This subclass covers only circuit arrangements for the automatic protection of electric lines or electric machines or apparatus in the event of an undesired change from normal working conditions

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H02J)**H02J**

CIRCUIT ARRANGEMENTS OR SYSTEMS FOR SUPPLYING OR DISTRIBUTING ELECTRIC POWER; SYSTEMS FOR STORING ELECTRIC ENERGY (for digital computers [G06F 1/18](#); circuits or apparatus for the conversion of electric power, arrangements for control or regulation of such circuits or apparatus [H02M](#); interrelated control of several motors, control of a prime-mover/generator combination [H02P](#); control of high-frequency power [H03L](#); additional use of power line or power network for transmission of information [H04B](#))

NOTES

1. This subclass covers:

- ac or dc mains or distribution networks;
- circuit arrangements for battery supplies, including charging or control thereof, or coordinated supply from two or more sources of any kind;
- circuit arrangements or systems for wireless supply or distribution of electric power.

2. This subclass does not cover:

- control of a single motor, generator or dynamo-electric converter, of the types covered by subclass [H01F](#) or [H02K](#), which is covered by subclass [H02P](#);
- control of a single motor or generator, of the types covered by subclass [H02N](#), which is covered by that subclass.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[H02J 7/10](#) covered by [H02J 7/0072](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H02K)**H02K**

DYNAMO-ELECTRIC MACHINES (dynamo-electric relays [H01H 53/00](#); conversion of DC or AC input power into surge output power {[H03K 3/53](#)})

NOTES

1. This subclass covers the structural adaptation of dynamo-electric machines for the purpose of their control.
2. This subclass does not cover starting, regulating, electronically commutating, braking, or otherwise controlling motors, generators or dynamo-electric converters, in general, which are covered by subclass [H02P](#).
3. Attention is drawn to the Notes following the titles of class [B81](#) and subclass [B81B](#) relating to "microstructural devices" and "microstructural systems".
4. {In this subclass, it is desirable to add the indexing codes of [H02K 2201/00-H02K 2213/12](#).}

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H02M)**H02M**

APPARATUS FOR CONVERSION BETWEEN AC AND AC, BETWEEN AC AND DC, OR BETWEEN DC AND DC, AND FOR USE WITH MAINS OR SIMILAR POWER SUPPLY SYSTEMS; CONVERSION OF DC OR AC INPUT POWER INTO SURGE OUTPUT POWER; CONTROL OR REGULATION THEREOF (systems for regulating electric or magnetic variables in general, e.g. using transformers, reactors or choke coils, combination of such systems with static converters [G05F](#); {digital function or clock generators} for digital computers [G06F 1/00](#), {[G06F 1/025](#), [G06F 1/04](#)}; transformers [H01F](#); connection or control of one converter with regard to conjoint operation with a similar or other source of supply [H02J](#); dynamo-electric converters [H02K 47/00](#); controlling transformers, reactors or choke coils, control or regulation of electric motors, generators or dynamo-electric converters [H02P](#); pulse generators [H03K](#); {static converters specially adapted for igniting or operating discharge lamps [H05B 41/28](#)})

NOTES

1. This subclass covers only circuits or apparatus for the conversion of electric power, or arrangements for control or regulation of such circuits or apparatus. The electrotechnical elements employed are dealt within the appropriate subclasses, e.g. inductors, transformers [H01F](#), capacitors, electrolytic rectifiers [H01G](#), mercury rectifying or other discharge tubes [H01J](#), semiconductor devices [H01L](#), impedance networks or resonant circuit not primarily concerned with the transfer of electric power [H03H](#).
2. In this subclass, the following term is used with the meaning indicated:
 - "conversion", in respect of an electric variable, e.g. voltage or current, means the change of one or more of the parameters of the variable, e.g. amplitude, frequency, phase, polarity.

WARNING

1.

The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

H02M 9/00	covered by	H03K 3/53
H02M 9/02	covered by	H03K 3/53
H02M 9/04	covered by	H03K 3/53

H02M 9/06 covered by [H03K 3/53](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H02N)

H02N

ELECTRIC MACHINES NOT OTHERWISE PROVIDED FOR

NOTES

1. This subclass covers:
 - electrostatic generators, motors, clutches, or holding devices;
 - other non-dynamo-electric generators or motors;
 - holding or levitation devices using magnetic attraction or repulsion;
 - arrangements for starting, regulating, braking, or otherwise controlling such machines unless in conjoint operation with a second machine.
2. Specific provision for generators, motors, or other means for converting between electric and other forms of energy also exists in other subclasses, e.g. in subclasses [H01L](#), [H01M](#), [H02K](#), [H04R](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H02P)

H02P

CONTROL OR REGULATION OF ELECTRIC MOTORS, ELECTRIC GENERATORS OR DYNAMO-ELECTRIC CONVERTERS; CONTROLLING TRANSFORMERS, REACTORS OR CHOKE COILS

NOTES

1. This subclass covers arrangements for starting, regulating, electronically commutating, braking, or otherwise controlling motors, generators, dynamo-electric converters, clutches, brakes, gears, transformers, reactors or choke coils, of the types classified in the relevant subclasses, e.g. [H01F](#), [H02K](#).
2. This subclass does not cover similar arrangements for the apparatus of the types classified in subclass [H02N](#), which arrangements are covered by that subclass.
3. In this subclass, the following terms or expressions are used with the meanings indicated:
 - "control" means influencing a variable in any way, e.g. changing its direction or its value (including changing it to or from zero), maintaining it constant or limiting its range of variation;
 - "regulation" means maintaining a variable at a desired value, or within a desired range of values, by comparison of the actual value with the desired value.
4. In this subclass, it is desirable to add the indexing codes of groups [H02P 2101/00](#) and [H02P 2103/00](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H03B)

H03B

GENERATION OF OSCILLATIONS, DIRECTLY OR BY FREQUENCY-CHANGING, BY CIRCUITS EMPLOYING ACTIVE ELEMENTS WHICH OPERATE IN A NON-SWITCHING MANNER; GENERATION OF NOISE BY SUCH CIRCUITS (measuring, testing [G01R](#); generators adapted for electrophonic musical instruments [G10H](#); Speech synthesis [G10L](#); masers, lasers [H01S](#); dynamo-electric machines [H02K](#); power inverter circuits [H02M](#); by using pulse techniques [H03K](#); automatic control of generators [H03L](#); starting, synchronisation or stabilisation of generators where the type of generator is irrelevant or unspecified [H03L](#); generation of oscillations in plasma [H05H](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H03F)

H03F

AMPLIFIERS (measuring, testing [G01R](#); optical parametric amplifiers [G02F](#); circuit arrangement with secondary emission tubes [H01J 43/30](#); masers, lasers [H01S](#); control of amplification [H03G](#); coupling arrangements independent of the nature of the amplifiers, voltage dividers [H03H](#); amplifiers capable only of dealing with pulses [H03K](#); repeater circuits in transmission lines [H04B 3/36](#), [H04B 3/58](#); application of speech amplifiers in telephonic communication [H04M 1/60](#), [H04M 3/40](#))

NOTE

This subclass covers:

- linear amplification, there being linear relationship between the amplitudes of input and output, and the output having substantially the same waveform as the input;
- dielectric amplifiers, magnetic amplifiers, and parametric amplifiers when used as oscillators or frequency-changers;
- constructions of active elements of dielectric amplifiers and parametric amplifiers if no provision exists elsewhere.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

H03F 1/44	covered by	H03F 1/42
H03F 1/46	covered by	H03F 1/42
H03F 3/18	covered by	H03F 3/00
H03F 3/32	covered by	H03F 3/30
H03F 7/06	covered by	H03F 7/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H03G)

H03G

CONTROL OF AMPLIFICATION (impedance networks, e.g. attenuators, [H03H](#); control of transmission in lines [H04B 3/04](#))

NOTES

1. This subclass covers:

- control of gain of amplifiers or frequency-changers,
- control of frequency range of amplifiers,

- limiting amplitude or rate of change of amplitude
2. Attention is drawn to the Note following the title of subclass [H03F](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H03H)

H03H

IMPEDANCE NETWORKS, e.g. RESONANT CIRCUITS; RESONATORS (measuring, testing [G01R](#); arrangements for producing a reverberation or echo sound [G10K 15/08](#); impedance networks or resonators consisting of distributed impedances, e.g. of the waveguide type, [H01P](#); control of amplification, e.g. bandwidth control of amplifiers, [H03G](#); tuning resonant circuits, e.g. tuning coupled resonant circuits, [H03J](#); networks for modifying the frequency characteristics of communication systems [H04B](#))

NOTES

1. This subclass covers :
 - networks comprising lumped impedance elements;
 - networks comprising distributed impedance elements together with lumped impedance elements;
 - networks comprising electromechanical or electro-acoustic elements;
 - networks simulating reactances and comprising discharge tubes or semiconductor devices;
 - constructions of electromechanical resonators.
2. In this subclass, the following expression is used with the meaning indicated: "passive elements" means resistors, capacitors, inductors, mutual inductors or diodes.
3. Attention is drawn to the Notes following the titles of class [B81](#) and subclass [B81B](#) relating to "microstructural devices" and "microstructural systems".
4. In this subclass, main groups with a higher number take precedence.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H03J)

H03J

TUNING RESONANT CIRCUITS; SELECTING RESONANT CIRCUITS (indicating arrangements for measuring [G01D](#); measuring, testing [G01R](#); remote-control in general [G05](#), [G08](#); automatic control or stabilisation of generators [H03L](#))

NOTE

This subclass covers also the control of tuning, including the combined control of tuning and other functions, e.g. combinations of tuning control and volume control, combinations of control of local oscillator and of supplementary resonant circuits.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H03K)

H03K

PULSE TECHNIQUE (measuring pulse characteristics [G01R](#); mechanical counters having an electrical input [G06M](#); information storage devices in general [G11](#); sample-and-hold arrangements in electric analogue stores [G11C 27/02](#); construction of switches involving contact making and breaking for generation of pulses, e.g. by using a moving magnet, [H01H](#); static conversion of electric power [H02M](#); generation of oscillations by circuits employing active elements which operate in a non-switching manner [H03B](#); modulating sinusoidal oscillations with pulses [H03C](#), [H04L](#); discriminator circuits involving pulse counting [H03D](#); automatic control of generators [H03L](#); starting, synchronisation or stabilisation of generators where the type of generator is irrelevant or unspecified [H03L](#); coding, decoding or code conversion in general [H03M](#))

NOTES

1. This subclass covers:
 - methods, circuits, devices, or apparatus using active elements operating in a discontinuous or switching manner for generating, counting, amplifying, shaping, modulating, demodulating, or otherwise manipulating signals;
 - electronic switching not involving contact-making and braking;
 - logic circuits handling electric pulses.
2. In this subclass, the following expression is used with the meaning indicated:
 - "active element" exercises control over the conversion of input energy into an oscillation or a discontinuous flow of energy.
3. In this subclass, where the claims of a patent document are not limited to a specific circuit element, the document is classified at least according to the elements used in the described embodiment.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[H03K 17/695](#) covered by [H03K 17/687](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H03L)

H03L

AUTOMATIC CONTROL, STARTING, SYNCHRONISATION, OR STABILISATION OF GENERATORS OF ELECTRONIC OSCILLATIONS OR PULSES (of dynamo-electric generators [H02P](#))

NOTES

1. This subclass covers:
 - automatic control circuits for generators of electronic oscillations or pulses;
 - starting, synchronisation, or stabilisation circuits for generators where the type of generator is irrelevant or unspecified.
2. This subclass does not cover stabilisation or starting circuits specially adapted to only one specific type of generator, which are covered by subclasses [H03B](#), [H03K](#).
3. In this subclass, the following expression is used with the meaning indicated:
 - "automatic control" covers only closed loop systems.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H03M)**H03M**

CODING; DECODING; CODE CONVERSION IN GENERAL (using fluidic means [F15C 4/00](#); optical analogue/digital converters [G02F 7/00](#); coding, decoding or code conversion, specially adapted for particular applications, see the relevant subclasses, e.g. [G01D](#), [G01R](#), [G06F](#), [G06T](#), [G09G](#), [G10L](#), [G11B](#), [G11C](#), [H04B](#), [H04L](#), [H04M](#), [H04N](#); ciphering or deciphering for cryptography or other purposes involving the need for secrecy [G09C](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

H03M 7/32	covered by	H03M 7/3004 , H03M 7/3048
H03M 7/34	covered by	H03M 7/3004 , H03M 7/3051
H03M 7/36	covered by	H03M 7/3004 , H03M 7/3044
H03M 7/38	covered by	H03M 7/3004 , H03M 7/3046
H03M 7/44	covered by	

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H04B)**H04B**

TRANSMISSION (transmission systems for measured values, control or similar signals [G08C](#); coding, decoding, code conversion, in general [H03M](#); broadcast communication [H04H](#); multiplex systems [H04J](#); secret communication [H04K](#); transmission of digital information [H04L](#))

NOTE

This subclass covers the transmission of information-carrying signals, the transmission being independent of the nature of the information, and includes monitoring and testing arrangements and the suppression and limitation of noise and interference.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H04J)**H04J**

MULTIPLEX COMMUNICATION (transmission in general [H04B](#); peculiar to transmission of digital information [H04L 5/00](#); systems for the simultaneous or sequential transmission of more than one television signal [H04N 7/08](#); in exchanges [H04Q 11/00](#); stereophonic systems [H04S](#))

NOTE

This subclass covers

- circuits or apparatus for combining or dividing signals for the purpose of transmitting them simultaneously or sequentially over the same transmission path;
- monitoring arrangements therefor.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H04L)

H04L

TRANSMISSION OF DIGITAL INFORMATION, e.g. TELEGRAPHIC COMMUNICATION (typewriters [B41J](#); order telegraphs, fire or police telegraphs [G08B](#); visual telegraphy [G08B](#), [G08C](#); teleautographic systems [G08C](#); ciphering or deciphering apparatus per se [G09C](#); coding, decoding or code conversion, in general [H03M](#); arrangements common to telegraphic and telephonic communication [H04M](#); selecting [H04Q](#))

NOTE

This subclass covers transmission of signals having been supplied in digital form and includes data transmission, telegraphic communication and methods or arrangements for monitoring.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

H04L 9/18	covered by	H04L 9/065
H04L 9/20	covered by	H04L 9/0656
H04L 9/22	covered by	H04L 9/0662
H04L 9/24	covered by	H04L 9/0662
H04L 9/26	covered by	H04L 9/0668
H04L 9/28	covered by	H04L 9/002 , H04L 9/008 , H04L 9/06 , H04L 9/08 , H04L 9/30 , H04L 9/32
H04L 12/20	covered by	H04L 29/00
H04L 12/24	covered by	H04L 41/00
H04L 12/26	covered by	H04L 43/00
H04L 12/58	covered by	H04L 51/00
H04L 12/60-H04L 12/62	covered by	H04L 12/54
H04L 12/70	covered by	H04L 47/00
H04L 12/701	covered by	H04L 45/00
H04L 12/703	covered by	H04L 45/28
H04L 12/705	covered by	H04L 45/18
H04L 12/707	covered by	H04L 45/22 , H04L 45/24
H04L 12/709	covered by	
H04L 12/711	covered by	
H04L 12/713	covered by	H04L 45/586
H04L 12/715	covered by	H04L 45/04 , H04L 45/46 , H04L 45/64
H04L 12/717	covered by	H04L 45/42
H04L 12/721	covered by	H04L 45/06 , H04L 45/12 , H04L 45/123 , H04L 45/124 , H04L 45/127 , H04L 45/14 , H04L 45/26 , H04L 45/32 , H04L 45/34 , H04L 45/36 , H04L 45/38 , H04L 45/40 , H04L 45/44 , H04L 45/566 , H04L 45/62 , H04L 45/66 , H04L 45/68 , H04L 45/70 , H04L 45/72
H04L 12/723	covered by	H04L 45/50-H04L 45/507
H04L 12/725	covered by	H04L 45/30-H04L 45/308
H04L 12/727	covered by	
H04L 12/729	covered by	H04L 45/125

H04L 12/733	covered by	H04L 45/122 , H04L 45/126 , H04L 45/20
H04L 12/735	covered by	H04L 45/128 - H04L 45/1287
H04L 12/741	covered by	
H04L 12/743	covered by	H04L 45/7453 , H04L 45/7457
H04L 12/745	covered by	H04L 45/748
H04L 12/747	covered by	H04L 45/742
H04L 12/749	covered by	H04L 45/741
H04L 12/751	covered by	
H04L 12/753	covered by	H04L 45/48
H04L 12/755	covered by	H04L 45/021
H04L 12/757	covered by	H04L 45/023
H04L 12/759	covered by	H04L 45/023
H04L 12/761	covered by	H04L 45/16
H04L 12/763	covered by	
H04L 12/771	covered by	H04L 45/56 , H04L 45/563
H04L 12/773	covered by	H04L 45/60
H04L 12/775	covered by	H04L 45/58 , H04L 45/583
H04L 12/781	covered by	H04L 45/52
H04L 12/801	covered by	H04L 47/10 , H04L 47/11 , H04L 47/115 , H04L 47/12 , H04L 47/127 , H04L 47/13 - H04L 47/196 , H04L 47/29 , H04L 47/33 , H04L 47/34 , H04L 47/35 , H04L 47/37 , H04L 47/39
H04L 12/803	covered by	H04L 47/122 , H04L 47/125
H04L 12/805	covered by	H04L 47/36 , H04L 47/365
H04L 12/807	covered by	H04L 47/27
H04L 12/811	covered by	H04L 47/38
H04L 12/813	covered by	H04L 47/20
H04L 12/815	covered by	H04L 47/22 , H04L 47/225 , H04L 47/23
H04L 12/819	covered by	H04L 47/21 , H04L 47/215
H04L 12/823	covered by	H04L 47/32 - H04L 47/326
H04L 12/825	covered by	H04L 47/25 - H04L 47/266
H04L 12/827	covered by	
H04L 12/829	covered by	
H04L 12/833	covered by	H04L 47/2458 , H04L 47/31
H04L 12/835	covered by	H04L 47/30
H04L 12/841	covered by	H04L 47/28 - H04L 47/286
H04L 12/851	covered by	H04L 47/24 , H04L 47/2408 , H04L 47/2425 , H04L 47/2433 , H04L 47/245 , H04L 47/2483
H04L 12/853	covered by	H04L 47/2416
H04L 12/855	covered by	H04L 47/2466
H04L 12/857	covered by	H04L 47/2491
H04L 12/859	covered by	H04L 47/2475
H04L 12/861	covered by	

H04L 12/863	covered by	H04L 47/50 , H04L 47/54 , H04L 47/62-H04L 47/627 , H04L 47/628 , H04L 47/6285 , H04L 47/6295
H04L 12/865	covered by	H04L 47/6275
H04L 12/867	covered by	H04L 47/629
H04L 12/869	covered by	H04L 47/58 , H04L 47/60
H04L 12/873	covered by	H04L 47/52 , H04L 47/521 , H04L 47/522 , H04L 47/524 , H04L 47/527 , H04L 47/528
H04L 12/875	covered by	H04L 47/56-H04L 47/568
H04L 12/877	covered by	H04L 47/525
H04L 12/879	covered by	H04L 49/901 , H04L 49/9026
H04L 12/883	covered by	
H04L 12/885	covered by	
H04L 12/891	covered by	H04L 47/41
H04L 12/893	covered by	
H04L 12/901	covered by	
H04L 12/903	covered by	
H04L 12/905	covered by	
H04L 12/911	covered by	H04L 47/70-H04L 47/748 , H04L 47/78 , H04L 47/781 , H04L 47/782 , H04L 47/783 , H04L 47/788 , H04L 47/82- H04L 47/829
H04L 12/913	covered by	H04L 47/724
H04L 12/915	covered by	H04L 47/785 , H04L 47/787 , H04L 47/787
H04L 12/917	covered by	H04L 47/76
H04L 12/919	covered by	H04L 47/765 , H04L 47/767
H04L 12/923	covered by	H04L 47/762
H04L 12/925	covered by	H04L 47/722
H04L 12/927	covered by	H04L 47/80-H04L 47/808
H04L 12/931	covered by	
H04L 12/933	covered by	H04L 49/10-H04L 49/1592
H04L 12/935	covered by	H04L 49/30-H04L 49/3009
H04L 12/937	covered by	H04L 49/253-H04L 49/255
H04L 12/939	covered by	H04L 49/55-H04L 49/557
H04L 12/943	covered by	
H04L 12/945	covered by	
H04L 12/947	covered by	H04L 49/25 , H04L 49/251 , H04L 49/252 , H04L 49/256 , H04L 49/257 , H04L 49/258
H04L 12/951	covered by	
H04L 12/953	covered by	
H04L 25/04	covered by	H04L 25/03
H04L 25/17	covered by	H03H
H04L 25/18	covered by	H04L 25/027
H04L 25/28	covered by	H04L 25/0268
H04L 25/30	covered by	H04L 25/061
H04L 25/32	covered by	H04L 25/49
H04L 25/34	covered by	H04L 25/4917

H04L 25/48	covered by	H04L 25/49
H04L 25/52	covered by	H04L 25/20
H04L 25/54	covered by	H04L 25/20
H04L 25/56	covered by	H04L 25/202
H04L 25/58	covered by	H04L 25/20
H04L 25/60	covered by	H04L 25/207
H04L 25/62	covered by	H04L 25/205
H04L 25/64	covered by	H04L 25/245
H04L 25/66	covered by	H04L 25/247

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H04M)

H04M

TELEPHONIC COMMUNICATION (counting mechanisms [G06M](#); circuits for controlling other apparatus via a telephone cable and not involving telephone switching apparatus [G08](#); reels or other take-up devices for cords [H02G 11/00](#); multiplex transmission between switching centres [H04J](#); selecting arrangements [H04Q](#); loudspeakers, microphones, gramophone pick-ups or like electromechanical transducers [H04R](#))

NOTES

1. This subclass covers :
 - telephonic communication systems combined with other electrical systems;
 - testing arrangements peculiar to telephonic communication systems.
2. In this subclass, the following terms or expressions are used with the meanings indicated :
 - "subscriber" is a general term for terminal equipment, e.g. telephone for public use;
 - "substation" means a subscriber or monitoring equipment which may connect a single subscriber to a line without choice as to subscriber;
 - "satellite" is a type of exchange the operation of which depends upon control signals received from a supervisory exchange;
 - "switching centres" includes exchanges and satellites.

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

H04M 7/02	covered by	H04Q 3/00
H04M 7/04	covered by	H04Q 3/00
H04M 7/10	covered by	H04Q 3/00
H04M 15/02	covered by	H04M 15/888

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: MP0250 (H04N)

M H04N

PICTORIAL COMMUNICATION, e.g. TELEVISION (measuring, testing [G01](#); systems for autographic writing, e.g. writing telegraphy, which involve following an outline {[G08C 21/00](#)}; information storage based on relative movement between record carrier and transducer [G11B](#); coding, decoding or code conversion, in general [H03M](#); broadcast distribution or the recording of use made thereof [H04H](#))

NOTES

1. This subclass covers :

- transmission of pictures or their transient or permanent reproduction either locally or remotely {and the corresponding electronic image capture and reproduction process employing image representative electric signals}, by methods involving both of {or at least one of} the following steps:
 - a. the {electronic acquisition or} scanning of a picture {or scene}, i.e. resolving the whole picture-containing area into individual picture-elements and the derivation of picture-representative electric signals related thereto, simultaneously or in sequence {, e.g. by reading an electronic solid-state image sensor [SSIS] pickup device, e.g. CCD or CMOS image sensor, as electronic image sensor converting optical image information into said electrical signals};
 - b. the reproduction of the whole picture-containing area {or scene} by the reproduction of individual picture -elements into which the picture is resolved by means of picture -representative electric signals derived therefrom, simultaneously or in sequence;
 - in group [H04N 1/00](#), systems for the transmission or the reproduction of arbitrarily composed pictures or patterns in which the local light variations composing a picture are not subject to variation with time, e.g. documents, maps, charts, photographs other than cinematograph films;
 - circuits specially designed for dealing with pictorial communication signals, e.g. television signals, as distinct from merely signals of a particular frequency range.
2. This subclass does not cover :
- circuits or other parts of systems which form the subject of other subclasses, which are covered by the corresponding subclasses, e.g. [H03C](#), [H03F](#), [H03J](#), [H04B](#), [H04H](#);
 - systems in which legible alphanumeric or like character forms are analysed according to step (a) of Note (1) to derive an electric signal from which the character is recognised by comparison with stored information, which are covered by subclass [G06K](#);
 - systems for the direct photographic copying of an original picture in which an electric signal representative of the picture is derived according to the said step (a) and employed to modify the operation of the system, e.g. to control exposure, which are covered by class [G03](#);
 - systems for the reproduction according to step (b) of Note (1) of pictures comprising alphanumeric or like character forms but involving the production of the equivalent of a signal which would be derived according to the above -mentioned step (a), e.g. by cams, punched card or tape, coded control signal, or other means, which are covered by the subclass for the application, e.g. [G01D](#), [G06T](#), [H04L](#);
 - systems for the reproduction according to the above-mentioned step (b) of pictures comprising alphanumeric or like character forms and involving the generation according to the above -mentioned step (a) of picture-representative electric signals from a pre-arranged assembly of such characters, or records thereof, forming an integral part of the systems, which are covered by the subclass for the application, e.g. [B41B](#), [G06K](#), subject to those applications which are covered by this subclass;
 - printing, duplication or marking processes , or materials or processes therefor, which are covered by the relevant subclasses, e.g. [B41C](#), [B41J](#), [B41M](#), [G03C](#), [G03F](#), [G03G](#);
 - {apparatus or methods for taking photographs using light sensitive film for image capture, apparatus/methods for printing, for projecting or viewing images using film stock, photographic film or slides by optical means, e.g. mounting of optical elements, flashes, and their related controls, e.g. exposure, focus, (opto-)mechanical motion blur (anti-shake), cooling, beam shaping;}
 - {aspects of apparatus or methods for taking photographs using an electronic image sensor [EIS] for image capture, insofar as they correspond to those of said apparatus methods for taking photographs

- using light sensitive film, i.e. insofar as not peculiar to the presence of the EIS, e.g. mounting of optical elements or flashes not peculiar to the presence of the EIS, and their related controls insofar as they are not peculiar to the presence or use of the EIS, e.g. exposure, focus, (opto-)mechanical motion blur (anti-shake);}
- {aspects of apparatus or methods for projecting or viewing images using an electronic spatial light modulator [ESLM], insofar as they correspond to those of said apparatus/ methods for projecting or viewing images using film stock, photographic film or slides, i.e. insofar as not peculiar to the presence of the ESLM, e.g. mounting of optical elements not peculiar to the presence of the ESLM, and their related controls not peculiar to the presence of the ESLM, e.g. cooling, beam shaping, optical keystone correction;}
 - {(opto-)mechanical image enhancement in printers or projectors, e.g. keystone correction;}
 - {optical viewfinders;}
 - {remote control of cameras and projectors insofar not peculiar to the EIS or ESLM, e.g. not affecting their operation, or being based on a generated image signal;}
 - { optical aspects of camera modules using electronic image sensors and related constructional details (optical elements or arrangements associated with solid state imager structures [H01L 27/14625](#)); }
 - {constructional aspects of projectors, e.g. cooling, beam shaping, light integrating means not peculiar to the ESLM;}
3. In this subclass, the following expression is used with the meaning indicated:
- "television systems" means those systems for the {electronic generation,} transmission and reproduction of arbitrarily composed pictures in which the local light variations composing a picture may change with time, e.g. natural "live" scenes, {electronic} recordings of such scenes such as cinematograph films.
4. {In this subclass, as in subclass [G03B](#), the following terms are used with the meaning indicated:
- "camera": a device capturing image information represented by light patterns reflected or emitted from objects, and exposing a light sensitive film or a main electronic image sensor during a timed exposure, usually through a photographic lens, and producing an image on a light sensitive film or an electrical image information signal respectively;
 - "projector": a device displaying image information by projection of light patterns, usually through an optical lens, wherein the light patterns are generated by illuminating an image, e.g. film or slide, or by converting an electric image signal into an optical signal using an electronic spatial light modulator;
 - "electronic image sensor [EIS]": optoelectronic transducer, converting optical image information into an electrical signal susceptible of being processed, stored, transmitted or displayed;
 - "additional sensor": a sensor, other than the main electronic image sensor, used for controlling a camera;
 - "electronic spatial light modulator [ESLM]": optoelectronic transducer converting electric signals representing image information into optical image information.
- }

WARNING

1. The following IPC groups are not in the CPC scheme. Subject matter for these IPC groups is classified in the following CPC groups:

H04N 5/761	covered by	H04N 5/782
H04N 5/7613	covered by	H04N 5/782
H04N 5/7617	covered by	H04N 5/782

H04N 5/922	covered by	H04N 5/92
H04N 5/924	covered by	H04N 5/92
H04N 9/815	covered by	H04N 9/81
H04N 11/24	covered by	H04N 11/002
H04N 15/00	covered by	H04N 13/00

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0156 (H04N)

U H04N 5/00 Details of television systems (scanning details or combination thereof with generation of supply voltages [H04N 3/00](#); specially adapted for colour television [H04N 9/00](#); {servers specially adapted for the distribution of content [H04N 21/20](#); client devices specially adapted for the reception of or interaction with content [H04N 21/40](#)})

NOTE

Groups [H04N 5/341](#) - [H04N 5/378](#) are based on IPC2012.01

U H04N 5/222 • Studio circuitry; Studio devices; Studio equipment {; Cameras comprising an electronic image sensor, e.g. digital cameras, video cameras, TV cameras, video cameras, camcorders, webcams, camera modules for embedding in other devices, e.g. mobile phones, computers or vehicles}

M H04N 5/225 • • Television cameras {; Cameras comprising an electronic image sensor, e.g. digital cameras, video cameras, ~~video cameras~~, camcorders, webcams, camera modules *specially adapted for embedding being embedded* in other devices, e.g. mobile phones, computers or vehicles (~~optical systems G02B; associated working of recording or reproducing apparatus with TV camera or receiver in which the television signal is not significantly involved G11B 31/006; tubes H01J~~*constructional details of electronic still picture cameras or digital still picture cameras not peculiar to the presence or use of the electronic image sensor G03B*)}

C H04N 5/2251 • • • {Constructional details (~~arrangements comprising a plurality of cameras H04N 5/247; stereoscopic cameras having a single image sensor H04N 13/207~~)}

WARNING

Group [H04N 5/2251](#) is impacted by reclassification into groups [H04N 5/22521](#), [H04N 5/22525](#), and [H04N 5/225251](#).

All groups listed in this Warning should be considered in order to perform a complete search.

U H04N 5/2252 • • • • {Housings}

N H04N 5/22521 • • • • {Elements optimizing image sensor operations, e.g. EMF protection, heat transfer, moisture or dust}

WARNING

Group [H04N 5/22521](#) is incomplete pending reclassification of documents from group [H04N 5/2251](#).

Groups [H04N 5/2251](#) and [H04N 5/22521](#) should be considered in order to perform a complete search.

N H04N 5/22525 • • • • {Electronic viewfinders}

WARNING

Groups [H04N 5/22525](#) and [H04N 5/225251](#) are incomplete pending reclassification of documents from group [H04N 5/2251](#).

Groups [H04N 5/2251](#), [H04N 5/22525](#) and [H04N 5/225251](#) should be considered in order to perform a complete search.

- N [H04N 5/225251](#) {rotatable or detachable}
- C [H04N 5/2254](#) {Mounting of optical parts, e.g. lenses, shutters, filters *or optical parts peculiar to the presence or use of an electronic image sensor*}; *optical parts peculiar to the presence of use of an electronic image sensor*}

WARNING

Group [H04N 5/2254](#) is impacted by reclassification into group [H04N 5/22541](#).
Groups [H04N 5/2254](#) and [H04N 5/22541](#) should be considered in order to perform a complete search.

- N [H04N 5/22541](#) {Optical arrangements for light-field or plenoptic cameras}

WARNING

Group [H04N 5/22541](#) is incomplete pending reclassification of documents from group [H04N 5/2254](#).
Groups [H04N 5/2254](#) and [H04N 5/22541](#) should be considered in order to perform a complete search.

- C [H04N 5/232](#) Devices for controlling television cameras, e.g. remote control {; {Control of cameras comprising an electronic image sensor, e.g. *digital cameras, video cameras, TV cameras, video cameras, camcorders, webcams, camera modules for embedding in, e.g. mobile phones, computers or vehicles*}([H04N 5/235](#) takes precedence {; {*varying magnification for cameras, e.g. angle of view, by optical means only G02B 7/00*}, [G03B](#); *Mountings, adjusting means, or light-tight connections, for optical elements G02B 7/00*)}

WARNING

Group [H04N 5/232](#) is impacted by reclassification into groups [H04N 5/23218](#), [H04N 5/23227](#), and [H04N 5/23299](#).
All groups listed in this Warning should be considered in order to perform a complete search.

- M [H04N 5/23203](#) {Remote-control signaling for *television cameras, cameras comprising an electronic image sensor* or for parts *of camera thereof*, e.g. between main body and *another* part of camera (distributing sync-signals to television cameras [H04N 5/0733](#))}

- C [H04N 5/23206](#) {*using Transmission of camera control signals via a network, e.g. internet*~~Internet~~}

WARNING

Group [H04N 5/23206](#) is impacted by reclassification into group [H04N 5/232061](#).
Groups [H04N 5/23206](#) and [H04N 5/232061](#) should be considered in order to perform a complete search.

- N [H04N 5/232061](#) {*using Master/Slave camera arrangements for affecting the control of camera image capture, e.g. placing the camera in a desirable condition to capture a desired image*}

WARNING

Group [H04N 5/232061](#) is incomplete pending reclassification of documents from group [H04N 5/23206](#).
Groups [H04N 5/23206](#) and [H04N 5/232061](#) should be considered in order to perform a complete search.

- C H04N 5/23212 {Focusing based on image ~~signals~~*signals* provided by the electronic image sensor ~~(generation of focusing signals in general G02B 7/28)}~~
- WARNING**
Group H04N 5/23212 is impacted by reclassification into groups H04N 5/232121, H04N 5/232122, H04N 5/232123, H04N 5/232125, H04N 5/232127, and H04N 5/232133. All groups listed in this Warning should be considered in order to perform a complete search.
- N H04N 5/232121 {and on active ranging signals, e.g. using light or sound signals emitted toward objects}
- WARNING**
Group H04N 5/232121 is incomplete pending reclassification of documents from group H04N 5/23212. Groups H04N 5/23212 and H04N 5/232121 should be considered in order to perform a complete search.
- N H04N 5/232122 {based on the difference in phase of signals}
- WARNING**
Group H04N 5/232122 is incomplete pending reclassification of documents from group H04N 5/23212. Groups H04N 5/23212 and H04N 5/232122 should be considered in order to perform a complete search.
- N H04N 5/232123 {based on contrast or high frequency components of image signals, e.g. hill climbing method}
- WARNING**
Group H04N 5/232123 is incomplete pending reclassification of documents from group H04N 5/23212. Groups H04N 5/23212 and H04N 5/232123 should be considered in order to perform a complete search.
- N H04N 5/232125 {adjusting depth of field during image capture, e.g. maximizing or setting range based on scene characteristics}
- WARNING**
Group H04N 5/232125 is incomplete pending reclassification of documents from group H04N 5/23212. Groups H04N 5/23212 and H04N 5/232125 should be considered in order to perform a complete search.
- N H04N 5/232127 {setting of focusing region}
- WARNING**
Group H04N 5/232127 is incomplete pending reclassification of documents from group H04N 5/23212. Groups H04N 5/23212 and H04N 5/232127 should be considered in order to perform a complete search.
- N H04N 5/232133 {Bracketing relating to the capture of varying focusing conditions}
- WARNING**
Group H04N 5/232133 is incomplete pending reclassification of documents from group H04N 5/23212. Groups H04N 5/23212 and H04N 5/232133 should be considered in order to perform a complete search.

- M H04N 5/23216 {Control of parameters, e.g. field/ or angle of view of camera via graphical user interface, e.g. touchscreen}
- N H04N 5/23218 {Control of camera operation based on recognized objects}
WARNING
 Group [H04N 5/23218](#) is incomplete pending reclassification of documents from group [H04N 5/232](#).
 Groups [H04N 5/232](#) and [H04N 5/23218](#) should be considered in order to perform a complete search.
- M H04N 5/23219 {~~Control where the recognized objects include parts of camera operation based on recognized the human body, e.g. human faces, facial parts, or facial expressions or other parts of the human body (face recognition per se G06K 9/00221)~~}
- M H04N 5/23222 {Computer-aided capture of images, e.g. transfer from script file into camera, ~~camera control checks quality check~~ of taken ~~pictures~~*image quality, gives advices how to arrange picture advice or proposal for image composition or decides decision on* when to take image}
- U H04N 5/23225 {Input of new or changed control program into camera control means}
- N H04N 5/23227 {involving internal camera communication with the image sensor, e.g. synchronizing or multiplexing SSIS control signals}
WARNING
 Group [H04N 5/23227](#) is incomplete pending reclassification of documents from group [H04N 5/232](#).
 Groups [H04N 5/232](#) and [H04N 5/23227](#) should be considered in order to perform a complete search.
- C H04N 5/23241 {Control of camera operation in relation to power supply, ~~e.g. by reducing power consumption of electronic image sensor or image processor or by checking or displaying battery state (details of energy supply or management for digital still cameras not peculiar to the electronic image sensor G03B 2217/007)~~}
WARNING
 Group [H04N 5/23241](#) is impacted by reclassification into group [H04N 5/232411](#).
 Groups [H04N 5/23241](#) and [H04N 5/232411](#) should be considered in order to perform a complete search.
- N H04N 5/232411 {where power supply is reduced or conserved by affecting camera operations, e.g. sleep mode, hibernation mode, power off or turning off selective parts of the camera}
WARNING
 Group [H04N 5/232411](#) is incomplete pending reclassification of documents from group [H04N 5/23241](#).
 Groups [H04N 5/23241](#) and [H04N 5/232411](#) should be considered in order to perform a complete search.
- C H04N 5/23293 {Electronic ~~Viewfinder, e.g. displaying the image signal provided by an electronic image sensor and optionally additional information related to control or operation of the camera~~*viewfinders*}
WARNING
 Group [H04N 5/23293](#) is impacted by reclassification into groups [H04N 5/232933](#), [H04N 5/232935](#), [H04N 5/232939](#), [H04N 5/232941](#), and [H04N 5/232945](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N H04N 5/232933 {Graphical User Interface [GUI] specifically adapted for controlling image capture or setting capture parameters, e.g. using a touchscreen}
- WARNING
Groups [H04N 5/232933](#) and [H04N 5/232935](#) are incomplete pending reclassification of documents from group [H04N 5/23293](#).
Groups [H04N 5/23293](#), [H04N 5/232933](#) and [H04N 5/232935](#) should be considered in order to perform a complete search.
- N H04N 5/232935 {for displaying or modifying preview images prior to image capturing, e.g. variety of image resolutions or capturing parameters}
- N H04N 5/232939 {for displaying additional information relating to control or operation of the camera}
- WARNING
Groups [H04N 5/232939](#), [H04N 5/232941](#) and [H04N 5/232945](#) are incomplete pending reclassification of documents from group [H04N 5/23293](#).
Groups [H04N 5/23293](#), [H04N 5/232939](#), [H04N 5/232941](#) and [H04N 5/232945](#) should be considered in order to perform a complete search.
- N H04N 5/232941 {Warning indications}
- N H04N 5/232945 {Region indicators or field of view}
- U H04N 5/23296 {Control of means for changing angle of the field of view, e.g. optical zoom objective, electronic zooming or combined use of optical and electronic zooming (optical details of zoom lenses [G02B 15/14](#); optical zooming only for cameras [G03B 5/00](#))}
- N H04N 5/23299 {Controlling the position of the camera for changing the field of view, e.g. panning, tilting or tracking of objects (TV type tracking systems [G01S 3/7864](#); tracking movement of a target in burglar, theft or intruder alarms, using TV cameras [G08B 13/19608](#))}
- WARNING
Group [H04N 5/23299](#) is incomplete pending reclassification of documents from group [H04N 5/232](#).
Groups [H04N 5/232](#) and [H04N 5/23299](#) should be considered in order to perform a complete search.
- U H04N 5/235 . . . Circuitry {or methods} for compensating for variation in the brightness of the object {, e.g. based on electric image signals provided by an electronic image sensor}
- M H04N 5/2356 {Bracketing, i.e. taking a series of images with varying, ~~e.g. stepwise,~~ exposure conditions ~~or focusing conditions~~}
- U H04N 5/30 . . Transforming light or analogous information into electric information ([H04N 5/222](#) takes precedence; scanning details [H04N 3/00](#); light transforming elements [H01J](#), [H01L](#))
- U H04N 5/335 . . using solid-state image sensors [SSIS] ([H04N 5/32](#), [H04N 5/33](#) take precedence)
- NOTE
In this group, the first place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place.
Groups [H04N 5/341](#) - [H04N 5/378](#) are based on IPC2012.01

- U H04N 5/341 Extracting pixel data from an image sensor by controlling scanning circuits, e.g. by modifying the number of pixels having been sampled or to be sampled
- U H04N 5/345 by partially reading an SSIS array {, i.e. by outputting a number of pixels less than the number of pixels present on the image sensor}
- D H04N 5/3458 {by preserving the color pattern with or without loss of information} <administratively transferred to [H04N 9/04511](#)>
- U H04N 5/357 Noise processing, e.g. detecting, correcting, reducing or removing noise
- C H04N 5/3572 {the noise **resulting****originating** only from the lens unit, e.g. flare, shading, vignetting or "cos4" (suppressing or minimizing noise in picture signal generation [H04N 5/217](#); **correction of colour aberration from a lens** [H04N 9/04517](#))}
- WARNING**
Group [H04N 5/3572](#) is impacted by reclassification into groups [H04N 5/35721](#), [H04N 9/04517](#), and [H04N 9/04519](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N H04N 5/35721 {involving a transfer function modeling the optical system, e.g. Optical Transfer Function [OTF], Phase Transfer Function [PhTF] or Modulation Transfer Function [MTF]}
- WARNING**
Group [H04N 5/35721](#) is incomplete pending reclassification of documents from group [H04N 5/3572](#).
Groups [H04N 5/3572](#) and [H04N 5/35721](#) should be considered in order to perform a complete search.
- U H04N 5/361 applied to dark current
- C H04N 5/369 SSIS architecture; Circuitry associated therewith
- WARNING**
Group [H04N 5/369](#) is impacted by reclassification into group [H04N 5/379](#).
Groups [H04N 5/369](#) and [H04N 5/379](#) should be considered in order to perform a complete search.
- C H04N 5/3696 {SSIS **architecture** characterized by non-identical, non-equidistant or non-planar pixel layout, sensor embedding other types of pixels not meant for producing an image signal, e.g. fovea sensors, ~~or display pixels,~~ **pixels for focusing**} (*Imager structures* [H01L 27/146](#))}
- WARNING**
Group [H04N 5/3696](#) is impacted by reclassification into groups [H01L 27/146](#) – [H01L 27/14893](#), [H01L 27/307](#), [H04N 5/36961](#), [H04N 5/36963](#), and [H04N 5/36965](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N H04N 5/36961 {the other type of pixels are pixels specially adapted for focusing, e.g. phase difference pixel sets}
- WARNING**
Group [H04N 5/36961](#) is incomplete pending reclassification of documents from group [H04N 5/3696](#).
Groups [H04N 5/3696](#) and [H04N 5/36961](#) should be considered in order to perform a complete search.

- N H04N 5/36963 {Details of pixels used only for dark current, e.g. dummy pixels or optical black pixels}
- WARNING
Group [H04N 5/36963](#) is incomplete pending reclassification of documents from group [H04N 5/3696](#).
Groups [H04N 5/3696](#) and [H04N 5/36963](#) should be considered in order to perform a complete search.
- N H04N 5/36965 {the other type of pixels are pixels for depth measurement, e.g. RGBZ where Z is the depth pixel or embedded time-of-flight pixels (depth pixels used only for focusing [H04N 5/36961](#))}
- WARNING
Group [H04N 5/36965](#) is incomplete pending reclassification of documents from group [H04N 5/3696](#).
Groups [H04N 5/3696](#) and [H04N 5/36965](#) should be considered in order to perform a complete search.
- U H04N 5/378 Readout circuits, e.g. correlated double sampling [CDS] circuits, output amplifiers or A/D converters
- N H04N 5/379 {Details of the architecture or circuitry being divided to different or multiple substrates, chips or circuit boards, e.g. stacked image sensors (line sensors [H04N 5/3694](#))}
- WARNING
Group [H04N 5/379](#) is incomplete pending reclassification of documents from group [H04N 5/369](#).
Groups [H04N 5/369](#) and [H04N 5/379](#) should be considered in order to perform a complete search.
- U H04N 9/00 Details of colour television systems**
- U H04N 9/04 . Picture signal generators
- C H04N 9/045 . {using solid-state devices (~~H04N 9/11 takes precedence; solid state picture signal generators H01L 31/00~~scanning of colour motion picture films [H04N 9/11](#); Imager structures [H01L 27/146](#))}
- WARNING
[Group H04N 9/045 is impacted by reclassification into groups H01L 27/146 – H01L 27/14893, H01L 27/307, H04N 9/0451, H04N 9/04511, H04N 9/04513, H04N 9/04515, H04N 9/04517, H04N 9/04519, H04N 9/04521, H04N 9/0455, H04N 9/04551, H04N 9/04553, H04N 9/04555, H04N 9/04557, H04N 9/04559, H04N 9/04561, and H04N 9/04563.](#)
All groups listed in this Warning should be considered in order to perform a complete search.
- N H04N 9/0451 . . . {characterized by colour imaging operations}
- WARNING
Group [H04N 9/0451](#) is incomplete pending reclassification of documents from group [H04N 9/045](#).
Groups [H04N 9/045](#) and [H04N 9/0451](#) should be considered in order to perform a complete search.
- N H04N 9/04511 . . . {by partially reading a SSIS to preserve the colour pattern with or without loss of information}
- WARNING
Group [H04N 9/04511](#) is incomplete pending reclassification of documents from group [H04N 9/045](#).

Groups [H04N 9/045](#) and [H04N 9/04511](#) should be considered in order to perform a complete search.

- N [H04N 9/04513](#) {to modify Gamut}
WARNING
Group [H04N 9/04513](#) is incomplete pending reclassification of documents from group [H04N 9/045](#).
Groups [H04N 9/045](#) and [H04N 9/04513](#) should be considered in order to perform a complete search.
- N [H04N 9/04515](#) {Demosaicing, e.g. interpolating colour pixel values (Computational demosaicing [G06T 3/4015](#))}
WARNING
Group [H04N 9/04515](#) is incomplete pending reclassification of documents from group [H04N 9/045](#).
Groups [H04N 9/045](#) and [H04N 9/04515](#) should be considered in order to perform a complete search.
- N [H04N 9/04517](#) {Correcting colour aberration of lenses}
WARNING
Groups [H04N 9/04517](#) and [H04N 9/04519](#) are incomplete pending reclassification of documents from groups [H04N 5/3572](#) and [H04N 9/045](#).
Groups [H04N 5/3572](#), [H04N 9/045](#), [H04N 9/04517](#), and [H04N 9/04519](#) should be considered in order to perform a complete search.
- N [H04N 9/04519](#) {using transfer functions modeling the optical system, e.g. Optical Transfer Function [OTF], Phase Transfer Function [PhTF] or Modulation Transfer Function [MTF]}
- N [H04N 9/04521](#) {Colour sequential image capture, e.g. using a colour wheel}
WARNING
Group [H04N 9/04521](#) is incomplete pending reclassification of documents from group [H04N 9/045](#).
Groups [H04N 9/045](#) and [H04N 9/04521](#) should be considered in order to perform a complete search.
- N [H04N 9/0455](#) {Colour filter architecture (colour filters structurally associated with image sensors [H01L 27/146](#))}
WARNING
Group [H04N 9/0455](#) is incomplete pending reclassification of documents from group [H04N 9/045](#).
Groups [H04N 9/045](#) and [H04N 9/0455](#) should be considered in order to perform a complete search.
- N [H04N 9/04551](#) {Mosaic colour filter}
WARNING
Group [H04N 9/04551](#) is incomplete pending reclassification of documents from group [H04N 9/045](#).
Groups [H04N 9/045](#) and [H04N 9/04551](#) should be considered in order to perform a complete search.
- N [H04N 9/04553](#) {including elements transmitting or passing infrared wavelengths}
WARNING
Group [H04N 9/04553](#) is incomplete pending reclassification of documents from group [H04N 9/045](#).

Groups [H04N 9/045](#) and [H04N 9/04553](#) should be considered in order to perform a complete search.

N H04N 9/04555 {including elements transmitting or passing panchromatic light, e.g. white light}
WARNING
Group [H04N 9/04555](#) is incomplete pending reclassification of documents from group [H04N 9/045](#).
Groups [H04N 9/045](#) and [H04N 9/04555](#) should be considered in order to perform a complete search.

N H04N 9/04557 {based on three different wavelength filter elements}
WARNING
Group [H04N 9/04557](#) is incomplete pending reclassification of documents from group [H04N 9/045](#).
Groups [H04N 9/045](#) and [H04N 9/04557](#) should be considered in order to perform a complete search.

N H04N 9/04559 {based on four or more different wavelength filter elements}
WARNING
Group [H04N 9/04559](#) is incomplete pending reclassification of documents from group [H04N 9/045](#).
Groups [H04N 9/045](#) and [H04N 9/04559](#) should be considered in order to perform a complete search.

N H04N 9/04561 {using complementary colours}
WARNING
Group [H04N 9/04561](#) is incomplete pending reclassification of documents from group [H04N 9/045](#).
Groups [H04N 9/045](#) and [H04N 9/04561](#) should be considered in order to perform a complete search.

N H04N 9/04563 {colour separation based on photon absorption depth, e.g. full colour resolution obtained simultaneously at each pixel location}
WARNING
Group [H04N 9/04563](#) is incomplete pending reclassification of documents from group [H04N 9/045](#).
Groups [H04N 9/045](#) and [H04N 9/04563](#) should be considered in order to perform a complete search.

Project: N/A (H04Q)

H04Q

SELECTING (switches, relays, selectors [H01H](#); electronic switches [H03K 17/00](#))

NOTES

1. This subclass covers:

- methods, circuits, or apparatus for establishing selectively a connection between a desired number of stations (normally two), or between a main station and a desired number of substations (normally one) for the purpose of transferring information via this connection after it has been established;
- selective calling arrangements over connections already established.

In either case, the connection may be made by means of electric conductors or electromagnetic waves.

2. In this subclass, the following terms or expressions are used with the meanings indicated:

- "subscriber" is a general term for terminal equipment, e.g. telephone for public use;
- "substation" means a subscriber or monitoring equipment which may connect a single subscriber to a line without choice as to subscriber;
- "satellite" is a kind of exchange the operation of which depends upon control signals received from a supervisory exchange;
- "switching centres" includes exchanges and satellites.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H04R)

H04R

LOUDSPEAKERS, MICROPHONES, GRAMOPHONE PICK-UPS OR LIKE ACOUSTIC ELECTROMECHANICAL TRANSDUCERS; DEAF-AID SETS; PUBLIC ADDRESS SYSTEMS (generating mechanical vibrations in general [B06B](#); transducers for measuring particular variables [G01](#); transducers in clocks [G04](#); producing sounds with frequency not determined by supply frequency [G10K](#); transducers in recording or reproducing heads [G11B](#); transducers in motors [H02](#))

NOTE

This subclass covers :

- loudspeakers, microphones, {acoustic} transducers {therefor} producing acoustic waves or variations of electric current or voltage, or gramophone pick-ups;
- arrangements actuated by variations of electric current or voltage for cutting grooves in records;
- circuits for the above-mentioned {loudspeakers, microphones, acoustic transducers, gramophone pick-ups or} arrangements;
- monitoring or testing {of the above-mentioned loudspeakers, microphones, acoustic transducers, gramophone pick-ups or arrangements}

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H04S)

H04S

STEREOPHONIC SYSTEMS

NOTES

1. In this subclass, the following term is used with the meaning indicated:
 - "stereophonic systems" covers quadraphonic or similar systems
2. In this subclass, it is desirable to add the indexing codes of [H04S 2400/00](#) and [H04S 2420/00](#).

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0245 (H04W)

- C H04W 36/00** **Handoff***Hand-off* or reselection arrangements
- NOTE
In this group, local priority rules supersede the first-place priority rule (FPPR) applying throughout [H04W](#)
- WARNING
Group [H04W 36/00](#) is impacted by reclassification into group [H04W 36/03](#). Groups [H04W 36/00](#) and [H04W 36/03](#) should be considered in order to perform a complete search.
- C H04W 36/0005** • {Control or signalling for completing the hand-off}
- WARNING
Group [H04W 36/0005](#) is impacted by reclassification into groups [H04W 36/0007](#) and [H04W 36/0009](#). All groups listed in this Warning should be considered in order to perform a complete search.
- N H04W 36/0007** • • {for multicast or broadcast services, e.g. MBMS (multicast or broadcast application services [H04W 4/06](#); resource management for broadcast services [H04W 72/005](#); connection management for selective distribution or broadcast [H04W 76/40](#))}
- WARNING
Group [H04W 36/0007](#) is incomplete pending reclassification of documents from group [H04W 36/0005](#). Groups [H04W 36/0005](#) and [H04W 36/0007](#) should be considered in order to perform a complete search.
- N H04W 36/0009** • • {for a plurality of users or terminals, e.g. group communication or moving wireless networks (user group management [H04W 4/08](#); processing of subscriber group data [H04W 8/186](#))}
- WARNING
Group [H04W 36/0009](#) is incomplete pending reclassification of documents from group [H04W 36/0005](#). Groups [H04W 36/0005](#) and [H04W 36/0009](#) should be considered in order to perform a complete search.
- C H04W 36/0055** • • {Transmission and use of information for re-establishing the radio link}
- WARNING
Group [H04W 36/0055](#) is impacted by reclassification into groups [H04W 36/0058](#), [H04W 36/0069](#) and [H04W 36/0079](#). All groups listed in this Warning should be considered in order to perform a complete search.
- N H04W 36/0058** • • • {Transmission of hand-off measurement information, e.g. measurement reports}
- WARNING
Group [H04W 36/0058](#) is incomplete pending reclassification of documents from group [H04W 36/0055](#). Groups [H04W 36/0005](#) and [H04W 36/0058](#) should be considered in order to perform a complete search.
- U H04W 36/0066** • • • {of control information between different types of networks in order to establish a new radio link in the target network}

- N H04W 36/0069
- • • {in case of dual connectivity, e.g. CoMP, decoupled uplink/downlink or carrier aggregation (allocation of physical resources in CoMP or in carrier aggregation [H04L 5/0035](#))}
- WARNING
Group [H04W 36/0069](#) is incomplete pending reclassification of documents from group [H04W 36/0055](#).
Groups [H04W 36/0055](#) and [H04W 36/0069](#) should be considered in order to perform a complete search.
- U H04W 36/0077
- • • {of access information of target access point}
- N H04W 36/0079
- • • {in case of hand-off failure or rejection}
- WARNING
Group [H04W 36/0079](#) is incomplete pending reclassification of documents from groups [H04W 36/0055](#) and [H04W 36/30](#).
Groups [H04W 36/0055](#), [H04W 36/30](#) and [H04W 36/0079](#) should be considered in order to perform a complete search.
- C H04W 36/0083
- • {Determination of parameters used for hand-off, e.g. generation or modification of neighbour cell lists}
- WARNING
Group [H04W 36/0083](#) is impacted by reclassification into groups [H04W 36/00835](#), [H04W 36/00837](#), and [H04W 36/0085](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N H04W 36/00835
- • • {Determination of the neighbour cell list}
- WARNING
Group [H04W 36/00835](#) is incomplete pending reclassification of documents from group [H04W 36/0083](#).
Groups [H04W 36/0083](#) and [H04W 36/00835](#) should be considered in order to perform a complete search.
- N H04W 36/00837
- • • {Determination of triggering parameters for hand-off}
- WARNING
Group [H04W 36/00837](#) is incomplete pending reclassification of documents from group [H04W 36/0083](#).
Groups [H04W 36/0083](#) and [H04W 36/00837](#) should be considered in order to perform a complete search.
- N H04W 36/0085
- • • {Hand-off measurements}
- WARNING
Group [H04W 36/0085](#) is incomplete pending reclassification of documents from group [H04W 36/0083](#).
Groups [H04W 36/0083](#) and [H04W 36/0085](#) should be considered in order to perform a complete search.
- M H04W 36/0088
- • • ¶ {Scheduling hand-off measurements}
- M H04W 36/0094
- • • ¶ {Definition of hand-off measurement parameters}
- U H04W 36/02
- Buffering or recovering information during reselection {; Modification of the traffic flow during hand-off}
- U H04W 36/026
- • {Multicasting of data during hand-off}

- N H04W 36/03
- {Reselecting a link using a direct mode connection}
- WARNING
Group [H04W 36/03](#) is incomplete pending reclassification of documents from group [H04W 36/00](#).
Groups [H04W 36/03](#) and [H04W 36/00](#) should be considered in order to perform a complete search.
- C H04W 36/12
- Reselecting a serving backbone network switching or routing node
- WARNING
Group [H04W 36/12](#) is impacted by reclassification into group [H04W 36/125](#).
Groups [H04W 36/12](#) and [H04W 36/125](#) should be considered in order to perform a complete search.
- N H04W 36/125
- • {involving different types of service backbone}
- WARNING
Group [H04W 36/125](#) is incomplete pending reclassification of documents from group [H04W 36/12](#).
Groups [H04W 36/12](#) and [H04W 36/125](#) should be considered in order to perform a complete search.
- U H04W 36/24
- Reselection being triggered by specific parameters {used to improve the performance of a single terminal}
- C H04W 36/30
- • by measured or perceived connection quality data
- WARNING
Group [H04W 36/30](#) is impacted by reclassification into groups [H04W 36/305](#) and [H04W 36/0079](#)
Groups [H04W 36/30](#), [H04W 36/305](#) and [H04W 36/0079](#) should be considered in order to perform a complete search.
- N H04W 36/305
- • • {Reselection due to radio link failure (control signalling for hand-off failure [H04W 36/0079](#))}
- WARNING
Group [H04W 36/305](#) is incomplete pending reclassification of documents from group [H04W 36/30](#).
Groups [H04W 36/30](#) and [H04W 36/305](#) should be considered in order to perform a complete search.

Project: N/A (H05B)**H05B**

ELECTRIC HEATING; ELECTRIC LIGHTING NOT OTHERWISE PROVIDED FOR (apparatus for special application, see the relevant places, e.g. [A47J](#), [C21](#), [C22](#), [C23](#), [F21](#), [F24](#), [F27](#))

NOTE

Attention is drawn to the Note (paragraph III) following the contents of Section of Section [H](#)

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0222 (H05B)**U H05B 3/00**

Ohmic-resistance heating

- E H05B 3/0004
- {Devices wherein the heating current flows through the material to be heated (~~electrical diagrams H05B 3/0019~~ *Circuit arrangements for heating by passing the current directly across the material to be heated H05B 3/0023*; ; ~~details H05B 3/023, H05B 3/03~~; ~~for~~ granular, powdered or fluid material [H05B 3/60](#))}
- WARNING**
*Group H05B 3/0004 is incomplete pending reclassification of documents from group H05B 3/023.
 Groups H05B 3/0004 and H05B 3/023 should be considered in order to perform a complete search.*
- E H05B 3/0009
- {the material to be heated being in motion}
- WARNING**
*Group H05B 3/0009 is incomplete pending reclassification of documents from group H05B 3/023.
 Groups H05B 3/023 and H05B 3/0009 should be considered in order to perform a complete search.*
- E H05B 3/0014
- {Devices wherein the heating current flows through particular resistances}
- E H05B 3/0019
- {~~Electrical diagrams~~ *Circuit arrangements*}
- M H05B 3/0023
- {~~Electrical diagrams~~ for heating by passing the current directly across the material to be heated}
- D H05B 3/0028
- {~~electrical diagrams for heating by particular resistances~~
 <administratively transferred to [H05B 3/0019](#)>
- M H05B 3/0033
- {Heating devices using lamps (~~devices for radiation therapy A61N~~)}
- U H05B 3/0038
- {for industrial applications}
- E H05B 3/0047
- • {for ~~semi-conductors~~ *semiconductor* manufacture}
- WARNING**
*Group H05B 3/0047 is incomplete pending reclassification of documents from group H05B 3/143.
 Groups H05B 3/0047 and H05B 3/143 should be considered in order to perform a complete search.*
- U H05B 3/0085
- {for medical applications}
- M H05B 3/009
- {~~related to general description of heaters without specification of field of~~ *heating devices not specially adapted for a particular* application}
- U H05B 3/02
- Details
- F H05B 3/023
 (Frozen)
- {the current passing through the material to be heated}
- WARNING**
*Group H05B 3/023 is no longer used for the classification of documents as of August 1, 2018. The content of this group is being reclassified into groups H05B 3/0004 and H05B 3/0009.
 Groups H05B 3/023, H05B 3/0004, and H05B 3/0009 should be considered in order to perform a complete search.*
- D H05B 3/026
- {the current passing through particular resistances}
 <administratively transferred to [H05B 3/0014](#)>
- M H05B 3/03
- • Electrodes (~~electrothermic treatment of ores C22B 4/00~~)
- U H05B 3/10
- Heater elements characterised by the composition or nature of the materials or by the arrangement of the conductor (compositions per se see the relevant subclasses)
- M H05B 3/12
- • characterised by the composition or nature of the conductive material
 (~~electric conductive compositions characterised by PTC or NTC resistance~~, per se [H01C 7/02](#), [H01C 7/04](#))

- M H05B 3/14 · · · the material being non-metallic ~~{(non-metallic, non-adjustable resistors H01C 7/022, H01C 7/042)}~~
- U H05B 3/141 · · · · {Conductive ceramics, e.g. metal oxides, metal carbides, barium titanate, ferrites, zirconia, vitrous compounds}
- C H05B 3/143 · · · · · {applied to ~~semi-conductors~~ *semiconductors*, e.g. wafers heating ~~(apparatus for thermal treatment of semiconductor or solid-state devices or of parts thereof H01L 21/67098 H05B 3/0047 takes precedence)}~~
- WARNING
Group H05B 3/143 is impacted by reclassification into group H05B 3/0047.
Groups H05B 3/143 and H05B 3/0047 should be considered in order to perform a complete search.
- U H05B 3/20 · Heating elements having extended surface area substantially in a two-dimensional plane, e.g. plate-heater ([H05B 3/62](#), [H05B 3/68](#), [H05B 3/78](#), [H05B 3/84](#) take precedence)
- U H05B 3/34 · · flexible, e.g. heating nets or webs
- M H05B 3/342 · · · {heaters used in textiles ~~(making textile fabrics D04H)}~~}

Project: N/A (H05C)**H05C**

ELECTRIC CIRCUITS OR APPARATUS SPECIALLY DESIGNED FOR USE IN EQUIPMENT FOR KILLING, STUNNING, OR GUIDING LIVING BEINGS (stationary means for catching or killing insects by electric means [A01M 1/22](#); apparatus for the destruction of noxious animals, other than insects, by electricity [A01M 19/00](#); electric traps for animals [A01M 23/38](#); scaring devices for animals [A01M 29/00](#); slaughtering or stunning by electric current [A22B 3/06](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H05G)**H05G**

X-RAY TECHNIQUE (apparatus for radiation diagnosis [A61B 6/00](#); X-ray therapy [A61N](#); testing by X-rays [G01N](#); apparatus for X-ray photography [G03B](#); filters, conversion screens, microscopes [G21K](#); X-ray tubes [H01J 35/00](#); TV systems having X-ray input [H04N 5/321](#))

WARNING

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[H05G 1/61](#) covered by [H05G 1/60](#)

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: N/A (H05H)

H05H

PLASMA TECHNIQUE (fusion reactors [G21B](#); ion-beam tubes [H01J 27/00](#); magnetohydrodynamic generators [H02K 44/08](#); producing X-rays involving plasma generation [H05G 2/00](#)); PRODUCTION OF ACCELERATED ELECTRICALLY-CHARGED PARTICLES OR OF NEUTRONS (obtaining neutrons from radioactive sources [G21](#), e.g. [G21B](#), [G21C](#), [G21G](#)); PRODUCTION OR ACCELERATION OF NEUTRAL MOLECULAR OR ATOMIC BEAMS (atomic clocks [G04F 5/14](#); devices using stimulated emission [H01S](#); frequency regulation by comparison with a reference frequency determined by energy levels of molecules, atoms, or subatomic particles [H03L 7/26](#))

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

Project: RP0132 (H05K)

M H05K

PRINTED CIRCUITS; CASINGS OR CONSTRUCTIONAL DETAILS OF ELECTRIC APPARATUS; MANUFACTURE OF ASSEMBLAGES OF ELECTRICAL COMPONENTS (details of instruments or comparable details of other apparatus not otherwise provided for [G12B](#); thin-film or thick-film circuits [H01L 27/01](#), [H01L 27/13](#); non-printed means for electric connections to or between printed circuits; {, electric connections or line connectors, apparatus or processes for manufacturing, assembling, maintaining or repairing such connections or connectors} [H01R](#); casings for, or constructional details of, particular types of apparatus, **see see** the relevant subclasses; processes involving only a single technical art, e.g. heating, spraying, for which provision exists elsewhere, **see see** the relevant classes)

NOTES

1. This subclass covers:
 - combinations of a radio or television receiver with apparatus having a different main function;
 - printed circuits structurally associated with non-printed electric components;
 - {printed connectors (non printed connectors [H01R](#))}
2. In this subclass, the following expression is used with the meaning indicated:
 - "printed circuits" covers all kinds of mechanical constructions of circuits that consist of an insulating base or support carrying the conductor and are combined structurally with the conductor throughout their length, especially in a two-dimensional plane, the conductors of which are secured to the base in a non-dismountable manner, and also covers the processes or apparatus for manufacturing such constructions, e.g. forming the circuit by mechanical or chemical treatment of a conductive foil, paste, or film on an insulating support.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

E H05K 13/00

Apparatus or processes specially adapted for manufacturing or adjusting assemblages of electric components

D H05K 13/0023

- {Making assemblies of electric components, e.g. modules (H05K 13/04 take precedence)}
- <administratively transferred to [H05K 13/00](#)>

- D H05K 13/0046
- {Encapsulation of electrical assemblies in resins (hermetically-sealed casings H05K 5/06)}
- <administratively transferred to [H05K 13/00](#)>
- U H05K 13/0061
- {Tools for holding the circuit boards during processing; handling transport of printed circuit boards}
- M H05K 13/0076
- {Straightening or aligning terminal leads of pins mounted on boards, during transport of the boards (~~during the mounting operation, after fitting components on the board H05K 13/0473~~)}
- U H05K 13/02
- Feeding of components (in general [B65G](#))
- C H05K 13/021
- {Loading or unloading of containers ([H05K 13/028](#) takes precedence)}
- WARNING**
Group [H05K 13/021](#) is impacted by reclassification into group [H05K 13/0215](#). Groups [H05K 13/021](#) and [H05K 13/0215](#) should be considered in order to perform a complete search.
- N H05K 13/0215
- {Interconnecting of containers, e.g. splicing of tapes}
- WARNING**
Group [H05K 13/0215](#) is incomplete pending reclassification of documents from group [H05K 13/021](#). Groups [H05K 13/021](#) and [H05K 13/0215](#) should be considered in order to perform a complete search.
- M H05K 13/022
- {with orientation of the elements (~~orientation while mounting H05K 13/0413; in general B23P 19/00~~)}
- M H05K 13/023
- {with bending or straightening of the terminal leads (~~bending and cutting after the mounting on a p.c. board H05K 13/0473~~)}
- U H05K 13/04
- Mounting of components {, e.g. of leadless components}
- C H05K 13/0404
- {~~pick~~ Pick-and-place heads or apparatus, e.g. with jaws}
- WARNING**
Group [H05K 13/0404](#) is impacted by reclassification into groups [H05K 13/0406](#), [H05K 13/0408](#), [H05K 13/041](#), [H05K 13/0411](#) and [H05K 13/0413](#). All groups listed in this Warning should be considered in order to perform a complete search.
- N H05K 13/0406
- {Drive mechanisms for pick-and-place heads, e.g. details relating to power transmission, motors or vibration damping}
- WARNING**
Group [H05K 13/0406](#) is incomplete pending reclassification of documents from groups [H05K 13/0404](#), [H05K 13/0413](#) and [H05K 13/0452](#). All groups listed in this Warning should be considered in order to perform a complete search.
- C H05K 13/0408
- {~~incorporating~~ ~~incorporating~~ a sucking device pick-up tool}(H05K 13/0413 takes precedence)}
- WARNING**
Group [H05K 13/0408](#) is incomplete pending reclassification of documents from group [H05K 13/0404](#). Group [H05K 13/0408](#) is also impacted by reclassification into group [H05K 13/0409](#). Groups [H05K 13/0404](#), [H05K 13/0408](#) and [H05K 13/0409](#) should be considered in order to perform a complete search.

- N H05K 13/0409 . . . {Sucking devices}
- WARNING
Group [H05K 13/0409](#) is incomplete pending reclassification of documents from group [H05K 13/0408](#).
Groups [H05K 13/0408](#) and [H05K 13/0409](#) should be considered in order to perform a complete search.
- N H05K 13/041 . . . {having multiple pick-up tools}
- WARNING
Group [H05K 13/041](#) is incomplete pending reclassification of documents from groups [H05K 13/0404](#), [H05K 13/0413](#) and [H05K 13/0452](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N H05K 13/0411 . . . {having multiple mounting heads}
- WARNING
Group [H05K 13/0411](#) is incomplete pending reclassification of documents from groups [H05K 13/0404](#) and [H05K 13/0452](#).
Groups [H05K 13/0404](#), [H05K 13/0452](#) and [H05K 13/0411](#) should be considered in order to perform a complete search.
- C H05K 13/0413 . . . {with orientation of the component while holding it (~~orientation while feeding H05K 13/022~~); Drive mechanisms for gripping tools, e.g. lifting, lowering or turning of gripping tools}
- WARNING
Group [H05K 13/0413](#) is incomplete pending reclassification of documents from groups [H05K 13/0404](#) and [H05K 13/0452](#). Group [H05K 13/0413](#) is also impacted by reclassification into groups [H05K 13/0406](#) and [H05K 13/041](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- C H05K 13/0417 . . {Feeding with belts or tapes}
- WARNING
Group [H05K 13/0417](#) is impacted by reclassification into group [H05K 13/0419](#).
Groups [H05K 13/0417](#) and [H05K 13/0419](#) should be considered in order to perform a complete search.
- N H05K 13/0419 . . . {tape feeders}
- WARNING
Group [H05K 13/0419](#) is incomplete pending reclassification of documents from group [H05K 13/0417](#).
Groups [H05K 13/0417](#) and [H05K 13/0419](#) should be considered in order to perform a complete search.
- M H05K 13/0421 . . . {with treatment of the terminal leads (~~bending and cutting after fitting on a circuit board H05K 13/0473~~)}
- C H05K 13/0452 . . {Mounting machines or lines comprising a plurality of tools for guiding different components ~~being guided~~ to the same mounting place ([H05K 13/0406](#), [H05K 13/041](#) take precedence)}
- WARNING
Group [H05K 13/0452](#) is impacted by reclassification into groups [H05K 13/0406](#), [H05K 13/041](#), [H05K 13/0411](#) and [H05K 13/0413](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- U H05K 13/046
 - {Surface mounting (surface mounted components [H05K 3/341](#))}
- M H05K 13/0465
 - • {by soldering ([H05K 13/0469](#) takes precedence; ~~soldering apparatus in general B23K~~)}
- M H05K 13/0473
 - {Cutting and clinching the terminal ends of the leads after they are fitted on a circuit board (~~during transport H05K 13/0076~~)}
- C H05K 13/08
 - Monitoring manufacture of assemblages

WARNING

Group [H05K 13/08](#) is impacted by reclassification into groups [H05K 13/081](#), [H05K 13/0812](#), [H05K 13/0813](#), [H05K 13/0815](#), [H05K 13/0817](#), [H05K 13/0818](#), [H05K 13/082](#), [H05K 13/083](#), [H05K 13/084](#), [H05K 13/085](#), [H05K 13/0853](#), [H05K 13/0857](#), [H05K 13/086](#), [H05K 13/087](#), [H05K 13/0882](#), [H05K 13/0885](#), [H05K 13/0888](#), [H05K 13/089](#) and [H05K 13/0895](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- N [H05K 13/081](#)
 - • {Integration of optical monitoring devices in assembly lines; Processes using optical monitoring devices specially adapted for controlling devices or machines in assembly lines}

WARNING
Group [H05K 13/081](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/081](#) should be considered in order to perform a complete search.
- N [H05K 13/0812](#)
 - • {the monitoring devices being integrated in the mounting machine, e.g. for monitoring components, leads, component placement}

WARNING
Group [H05K 13/0812](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/0812](#) should be considered in order to perform a complete search.
- N [H05K 13/0813](#)
 - • {Controlling of single components prior to mounting, e.g. orientation, component geometry ([H05K 13/0812](#) takes precedence)}

WARNING
Group [H05K 13/0813](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/0813](#) should be considered in order to perform a complete search.
- N [H05K 13/0815](#)
 - • {Controlling of component placement on the substrate during or after manufacturing}

WARNING
Group [H05K 13/0815](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/0815](#) should be considered in order to perform a complete search.

- N H05K 13/0817
- • {Monitoring of soldering processes (inspection of solder joints or of printed solder paste [G01N 21/95684](#))}
- WARNING
Group [H05K 13/0817](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/0817](#) should be considered in order to perform a complete search.
- N H05K 13/0818
- • {Setup of monitoring devices prior to starting mounting operations; Teaching of monitoring devices for specific products; Compensation of drifts during operation, e.g. due to temperature shifts}
- WARNING
Group [H05K 13/0818](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/0818](#) should be considered in order to perform a complete search.
- N H05K 13/082
- • {Integration of non-optical monitoring devices, i.e. using non-optical inspection means, e.g. electrical means, mechanical means or X-rays}
- WARNING
Group [H05K 13/082](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/082](#) should be considered in order to perform a complete search.
- N H05K 13/083
- • {Quality monitoring using results from monitoring devices, e.g. feedback loops ([H05K 13/084](#) takes precedence)}
- WARNING
Group [H05K 13/083](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/083](#) should be considered in order to perform a complete search.
- N H05K 13/084
- • {Product tracking, e.g. of substrates during the manufacturing process; Component traceability}
- WARNING
Group [H05K 13/084](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/084](#) should be considered in order to perform a complete search.
- N H05K 13/085
- • {Production planning, e.g. of allocation of products to machines, of mounting sequences at machine or facility level}
- WARNING
Group [H05K 13/085](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/085](#) should be considered in order to perform a complete search.
- N H05K 13/0853
- • {Determination of transport trajectories inside mounting machines}
- WARNING
Group [H05K 13/0853](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/0853](#) should be considered in order to perform a complete search.

- N H05K 13/0857
- • {Product-specific machine setup; Changeover of machines or assembly lines to new product type}
- WARNING
Group [H05K 13/0857](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/0857](#) should be considered in order to perform a complete search.
- N H05K 13/086
- • {Supply management, e.g. supply of components or of substrates}
- WARNING
Group [H05K 13/086](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/086](#) should be considered in order to perform a complete search.
- N H05K 13/087
- • {Equipment tracking or labelling, e.g. tracking of nozzles, feeders or mounting heads}
- WARNING
Group [H05K 13/087](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/087](#) should be considered in order to perform a complete search.
- N H05K 13/0882
- • {Control systems for mounting machines or assembly lines, e.g. centralized control, remote links, programming of apparatus and processes as such ([H05K 13/083](#) takes precedence)}
- WARNING
Group [H05K 13/0882](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/0882](#) should be considered in order to perform a complete search.
- N H05K 13/0885
- • {Power supply}
- WARNING
Group [H05K 13/0885](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/0885](#) should be considered in order to perform a complete search.
- N H05K 13/0888
- • {Ergonomics; Operator safety; Training; Failsafe systems}
- WARNING
Group [H05K 13/0888](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/0888](#) should be considered in order to perform a complete search.
- N H05K 13/089
- • {Calibration, teaching or correction of mechanical systems, e.g. of the mounting head}
- WARNING
Group [H05K 13/089](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
Groups [H05K 13/08](#) and [H05K 13/089](#) should be considered in order to perform a complete search.

- N H05K 13/0895
- • {Maintenance systems or processes, e.g. indicating need for maintenance}
- WARNING**
 Group [H05K 13/0895](#) is incomplete pending reclassification of documents from group [H05K 13/08](#).
 Groups [H05K 13/08](#) and [H05K 13/0895](#) should be considered in order to perform a complete search.

Project: RP0290 (Y10T)**U Y10T 403/00****Joints and connections**

F Y10T 403/39
 (Frozen)

- Rod to member to side, e.g. , plate, rod side, etc.

WARNING

Groups [Y10T 403/39](#) - [Y10T 403/3993](#) are no longer used for the classification of documents as of August 1, 2018.

The content of these groups is being reclassified into groups [F16B 7/00](#), [F16B 9/00](#), [F16B 17/00](#), [F16B 2200/00](#), other [F16B](#) groups as appropriate and [Y10T 403/46](#).

All groups listed in this Warning should be considered in order to perform a complete search.

F Y10T 403/3906
 (Frozen)

- • Rod side to member to side

F Y10T 403/3913
 (Frozen)

- • Unilateral of side

F Y10T 403/3921
 (Frozen)

- • Arcuate or multiplanar side

F Y10T 403/3926
 (Frozen)

- • • Encompassed side

F Y10T 403/3933
 (Frozen)

- • Intermediate member includes tubular part

F Y10T 403/3941
 (Frozen)

- • • Side or tubular part deformed in situ

F Y10T 403/3946
 (Frozen)

- • • Intermediate member extends through side

F Y10T 403/3953
 (Frozen)

- • • • Split or divided tubular part and coating compressor

F Y10T 403/3961
 (Frozen)

- • • • Transverse clamp secures rod and tubular part

F Y10T 403/3966
 (Frozen)

- • • • Rod also extends through side

D Y10T 403/3973

- • • Oblique rod
 <administratively transferred to [Y10T 403/46](#)>

F Y10T 403/3981
 (Frozen)

- • • Intermediate member secured to side by radial flange

F Y10T 403/3986
 (Frozen)

- • • Internally threaded tubular part

F Y10T 403/3993
 (Frozen)

- • Intermediate member extends completely through side

E Y10T 403/46

- Rod end to transverse side of member

- F Y10T 403/4605 (Frozen) . . Stirrup
- WARNING**
Groups Y10T 403/4605 - Y10T 403/4648 are no longer used for the classification of documents as of August 1, 2018. The content of these groups is being reclassified into groups F16B 7/00, F16B 9/00, F16B 17/00, F16B 2200/00, other F16B groups as appropriate and Y10T 403/46. All groups listed in this Warning should be considered in order to perform a complete search.
- F Y10T 403/4608 (Frozen) . . Structure attached to rod end encompasses side
- F Y10T 403/4611 (Frozen) . . . Clamped saddle
- F Y10T 403/4614 (Frozen) . . . Yoke or ring
- F Y10T 403/4617 (Frozen) having radial screw at bight
- F Y10T 403/4621 (Frozen) . . including saddle
- D Y10T 403/4622 . . Gland type
<administratively transferred to [Y10T 403/46](#)>
- D Y10T 403/4625 . . . Rod and side gripped simultaneously by single actuation
<administratively transferred to [Y10T 403/46](#)>
- D Y10T 403/4628 . . Rod clamped to hole edge
<administratively transferred to [F16B 2200/406](#)>
- D Y10T 403/4631 . . Rod to open edge of side, e.g., wrap-around connection
<administratively transferred to [Y10T 403/46](#)>
- F Y10T 403/4634 (Frozen) . . Rod and side deformingly interlocked
- F Y10T 403/4637 (Frozen) . . Radially interposed, side-engaging shim or bushing
- F Y10T 403/4641 (Frozen) . . Socket formed by shaping or deforming side
- F Y10T 403/4642 (Frozen) . . Integral transverse projection on side, e.g., necked, etc.
- F Y10T 403/4645 (Frozen) . . . From rod side
- F Y10T 403/4648 (Frozen) . . Utilizing opposite sides of member
- D Y10T 403/4651 . . . Rod is expanded by component inserted from distal side
<administratively transferred to [F16B 2200/40](#)>
- D Y10T 403/4654 Separate and deformable component
<administratively transferred to [F16B 2200/40](#)>
- D Y10T 403/4657 Plural contacting components
<administratively transferred to [F16B 2200/40](#)>
- D Y10T 403/4661 Barbed component
<administratively transferred to [Y10T 403/46](#)>
- D Y10T 403/4662 . . . Inserted, blind-side-engaging, retaining portion on rod
<administratively transferred to [F16B 2200/20](#)>
- D Y10T 403/4665 . . . Stepped or tapered recess in side
<administratively transferred to [F16B 2200/20](#) and [F16B 2200/30](#)>

- D Y10T 403/4668 Terminal, rod-attached retainer engages distal side
<administratively transferred to [F16B 2200/205](#)>
- D Y10T 403/4671 Inserted into rod
<administratively transferred to [F16B 2200/205](#)>
- D Y10T 403/4674 . . . Clamped member
<administratively transferred to [F16B 2200/40](#)>
- D Y10T 403/4677 Clamping component engages recessed side
<administratively transferred to [F16B 2200/40](#)>
- D Y10T 403/4681 Bolted to rod
<administratively transferred to [F16B 2200/403](#)>
- D Y10T 403/4682 Between rod shoulder and terminal nut
<administratively transferred to [F16B 2200/403](#)>
- D Y10T 403/4685 Bolted through member
<administratively transferred to [F16B 2200/403](#)>
- D Y10T 403/4688 Coaxial collar or shoulder or rod is clamp element
<administratively transferred to [F16B 2200/406](#)>
- D Y10T 403/4691 . . Flange on rod bolted to side
<administratively transferred to [F16B 2200/403](#)>
- D Y10T 403/4694 . . Rod received in recessed side, e.g., socket or tapered opening, etc.
<administratively transferred to [F16B 2200/10](#)>
- D Y10T 403/4697 . . Utilizing internal rod structure
<administratively transferred to [F16B 2200/40](#)>
- D Y10T 403/64 . . Interconnected flanges or shoulders
<administratively transferred to [F16B 2200/50](#)>
- D Y10T 403/642 . . Separate flange or shoulder
<administratively transferred to [F16B 2200/503](#)>
- D Y10T 403/645 . . Axially bolted or riveted
<administratively transferred to [F16B 2200/506](#)>
- D Y10T 403/648 . . Clamped
<administratively transferred to [F16B 2200/509](#)>
- U Y10T 403/70 . . Interfitted members
- D Y10T 403/7039 . . Socket
<administratively transferred to [F16B 2200/10](#)>
- D Y10T 403/7094 . . Enlarged head in complementary recess, e.g., dovetail, etc.
<administratively transferred to [F16B 2200/30](#)>