

Compilation of Changes to the CPC Scheme Between 2016.08 and 2016.11

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

The following IPC groups are not used in the CPC system. Subject matter covered by these 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

<i>A01B 69/04</i>	<i>covered by</i>	<i>A01B 69/008</i>
<i>A01B 69/06</i>	<i>covered by</i>	<i>A01B 69/005</i>
<i>A01B 69/08</i>	<i>covered by</i>	<i>A01B 69/006</i>

Project: MP0139 (A01B)

U A01B 63/00

Lifting or adjusting devices or arrangements for agricultural machines or implements (lifting mechanisms for the cutter-bar of a mower [A01D 34/24](#); adjusting devices for the cutter-bar of a mower [A01D 34/28](#); constructional features of lifting devices per se [B66F](#))

M A01B 63/002

- {Devices for adjusting or regulating the position of tools or wheels (preventing overstrain [A01B 61/00](#); wheels adjustable relatively to the frame for drawn implements [A01B 3/16](#); tools or tool holders adjustable relatively to the frame for drawn implements [A01B 63/24](#))}

WARNING

~~Documents of group A01B 63/002 and subgroups are in the process of being reorganised to groups A01B 63/111, A01B 63/16, A01B 63/24~~

Project: N/A (A01B)

A01B 63/006

- {~~Lateral adjustment~~ *Lateral adjustment* of wheels}

Project: N/A (A01D)

A01D 90/00

Vehicles for carrying harvested crops with means for self-loading or unloading (combined with mowers [A01D 43/06](#); load transporting vehicles modified to facilitate loading in general [B60P](#); bucket cars, i.e. having scraper bowls [E02F 3/64](#))

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~A01G 33/02 covered by A01G 33/00~~

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

Project: MP0115 (A01G)

M A01G 9/00

Cultivation of **flowers, vegetables or rice plants** in receptacles, forcing-frames, or greenhouses (cultivation without soil [A01G 31/00](#) {; {turfig of roofs [E04D 11/002](#)})

M A01G 9/10

• Pots {(or other receptacles)} for {seeds,} seedlings {, {saplings, cuttings or other young plants-(, e.g. foldable pots)}; Soil-**blocks** {(or like)} **blocks** for seedlings {; {Plant substrate bodies}; Means for forming soil-blocks

Project: N/A (A01G)

A01G 21/00

{Devices for hanging-up harvested fruit}

Project: N/A (A01K)

U A01K 97/00

Accessories for angling (landing-nets, landing-spoons [A01K 77/00](#))

A01K 97/02

• Devices for laying ground-bait, e.g. chum dispensers, {e.g. also for throwing ground-bait}

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

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

Project: MP0139 (A01N)

U A01N 1/00 Preservation of bodies of humans or animals, or parts thereof (preservation of foodstuffs [A23](#); medicinal preparations containing materials from mammals or birds, e.g. blood, sperm, [A61K 35/12](#); cell or tissue culture [C12N 5/00](#))

M A01N 1/02 • Preservation of living parts

WARNING

Subgroups A01N 1/0205-A01N 1/0294 are not complete, due to a reorganisation in progress

M A01N 1/0205 • {Chemical aspects}

WARNING

This group contains documents to be reclassified into subgroups A01N 1/021-A01N 1/0294

Project: N/A (A01N)

U A01N 1/0236 • {Mechanical aspects}

U A01N 1/0263 • • {Non-refrigerated containers specially adapted for transporting or storing living parts whilst preserving, e.g. cool boxes, blood bags or "straws" for cryopreservation (containers for collecting, administering, analyzing and storing without specific measures for preservation, e.g. blood bags as such, [A61J 1/10](#))}

Project: MP0156 (A21D)

M A21D 2/00 Treatment of flour or dough by adding materials thereto (**A21D 10/00** takes precedence)

NOTE

In groups **A21D 2/02** - **A21D 2/40**, *the last place priority rule is applied, i.e. at each hierarchical level*, in the absence of an indication to the contrary, a substance is classified in the last appropriate place.

Project: N/A (A21D)

U A21D 13/00 Finished or partly finished {(par-baked)} bakery products

U A21D 13/08 · Pastry, e.g. cake, biscuits, {cookies}

A21D 13/082 · · {dummy}

A21D 13/085 · · {dummy}

A21D 13/087 · · {dummy}

Project: N/A (A23)

A23

FOODS OR FOODSTUFFS; THEIR TREATMENT, NOT COVERED BY OTHER CLASSESNOTE

Attention is drawn to the following places:-

~~C08B Polysaccharides, derivatives thereof~~

~~C11 Animal or vegetable oils, fats, fatty substances or waxes~~

~~C12 Biochemistry, beer, spirits, wine, vinegar~~

~~C13 Sugar industry~~

C08B

Polysaccharides, derivatives thereof

C11

Animal or vegetable oils, fats, fatty substances or waxes

C12

Biochemistry, beer, spirits, wine, vinegar

C13

Sugar industry

Project: N/A (A23C)

U A23C 2210/00 Physical treatment of dairy products (not used, see subgroups)

U A23C 2210/20 · Treatment using membranes, including sterile filtration (not used, see subgroups)

A23C 2210/202 · · Treatment of milk with a membrane before or after fermentation of the milk, e.g. UF of diafiltration

U A23C 2250/00 Particular aspects related to cheese (not used, see subgroups below)

U A23C 2250/05 · Emulsifying cheese (not used, see subgroups below)

A23C 2250/052 · · Emulsifying cheese below melting or pasteurisation temperature, e.g. below about 60 ~~degrees~~degrees

Project: N/A (A23G)

A23G

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

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 micro-organisms, 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~~

D . Containing organic compounds

D2 .. containing micro-organisms, 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

U A23G 1/00 **Cocoa; Cocoa products, e.g. chocolate; Substitutes therefor (kitchen equipment for cocoa preparation [A47J](#), e.g. apparatus for making beverages [A47J 31/00](#))**

NOTE

Attention is drawn to the internal note after the subclass title

- U A23G 1/0003** · {Processes of manufacture not relating to composition or compounding ingredients}
- A23G 1/0076** · · {Processes for moulding hollow products, open shells or other articles having cavities, ~~eg~~e.g. open cavities}

Project: N/A (A23L)

U A23L 27/00 **Spices; Flavouring agents or condiments; Artificial sweetening agents; Table salts; Dietetic salt substitutes; Preparation or treatment thereof**

- U A23L 27/20** · Synthetic spices, flavouring agents or condiments
- A23L 27/204** · · {Aromatic compounds-}

Project: N/A (A23N)

U A23N 7/00 **Peeling vegetables or fruit (devices for skinning onions [A23N 15/08](#); {peeling by non-mechanical means [A23P](#)}; peeling machines of the household type [A47J 17/00](#))**

- A23N 7/01** · using chemical substances, ~~e.g.~~lye e.g. lye

Project: N/A (A23P)

U A23P 20/00 **Coating of foodstuffs; Coatings therefor; Making laminated, multi-layered, stuffed or hollow foodstuffs**

- A23P 20/19** · {Coating with non-edible coatings-}
- U A23P 20/20** · Making of laminated, multi-layered, stuffed or hollow foodstuffs, e.g. by wrapping in preformed edible dough sheets or in edible food containers
- U A23P 20/25** · · Filling or stuffing cored food pieces, e.g. combined with coring or making cavities
- A23P 20/251** · · · {Tempura batter; Leavened or other aerate batter or coating-}

Project: N/A (A23V)

U A23V 2200/00 **Function of food ingredients (not used; see subgroups)**

NOTE

The indexing codes under this group are used in combination with the codes for ingredients compositions

- U A23V 2200/20** · Ingredients acting on or related to the structure
- A23V 2200/209** · · Barrier agent-, e.g. layer

U A23V 2300/00 **Processes (not used; see subgroups)**

A23V 2300/08 · Denaturation-, e.g. denaturation of protein

A23V 2300/12

- Electrical treatment, e.g. electrolysis, electrical field treatment, with or without heating effect

NOTE

To be combined with [A23V 2300/24](#) in case of heating effect

Project: RP0137 (A24B)

U A24B 15/00

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

U A24B 15/10

- Chemical features of tobacco products or tobacco substitutes

C A24B 15/16

- of tobacco substitutes

WARNING

Group [A24B 15/16](#) is impacted by reclassification into group [A24B 15/167](#). Groups [A24B 15/16](#) and [A24B 15/167](#) should be considered in order to perform a complete search.

U A24B 15/165

- • {comprising as heat source a carbon fuel or an oxydized or thermally degraded carbonaceous fuel, e.g. carbohydrates, cellulosic material}

N A24B 15/167

- • {in liquid or vaporizable form, e.g. liquid compositions for e-cigarettes}

WARNING

Group [A24B 15/167](#) is incomplete pending reclassification of documentation from group [A24B 15/16](#).

Groups [A24B 15/16](#) and [A24B 15/167](#) should be considered in order to perform a complete search.

Project: N/A (A42C)

U A42C 1/00

Manufacturing hats

A42C 1/04

- Blocking; ~~Presssing~~Presssing; Steaming; Stretching

Project: N/A (A43B)

A43B

CHARACTERISTIC FEATURES OF FOOTWEAR; PARTS OF FOOTWEARWARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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](#)

- ~~A43B 21/10 - A43B 21/16~~ covered by ~~A43B 21/06~~
- ~~A43B 21/34~~ covered by ~~A43B 21/24~~

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

The following IPC group is not used in the CPC scheme. Subject matter covered by this group is classified in the following CPC group:

~~A44B 1/16~~ covered by ~~A44B 1/14~~

A44B 1/16 covered by A44B 1/14

U A44B 19/00

Slide fasteners

U A44B 19/24

· Details

U A44B 19/26

· · Sliders

U A44B 19/30

· · · with means for locking in position

A44B 19/303

· · · · {Self-locking sliders, e.g. slider body provided with locking projection or groove, friction means}

Project: N/A (A44C)

A44C

**JEWELLERY; BRACELETS; OTHER PERSONAL ADORNMENTS; COINS
(jewel boxes [A45C 11/16](#))**

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~A44C 11/02 covered by A44C 5/18~~

A44C 11/02 covered by A44C 5/18

Project: N/A (A45D)

A45D

**HAIRDRESSING OR SHAVING EQUIPMENT; MANICURING OR OTHER
COSMETIC TREATMENT (wigs, toupees, or the like [A41G 3/00](#), [A41G 5/00](#);
hairdressers' chairs [A47C 1/04](#); hair cutting appliances, razors [B26B](#))**

WARNING

The following IPC groups are not used not used in the CPC scheme. Subject matter covered by this group is classified in the corresponding CPC groups as it follows: ~~-A45D 97/00 covered by A45D 44/00~~

A45D 97/00 covered by A45D 44/00

Project: N/A (A46B)

A46B

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

WARNING

The following IPC groups are not used in the classification scheme. Subject matter covered by these groups is classified in the following 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~~

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

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups are classified in the following CPC groups: ~~A47B 21/013 and subgroups are covered by A47B 21/00 and subgroups~~
~~A47B 21/013 and subgroups~~ covered by ~~A47B 21/00 and subgroups~~ are

- U A47B 3/00** **Folding or stowable tables (folded and suspended or hinged, or wall tables [A47B 5/04](#); with tops of variable height [A47B 9/00](#); foldable service or tea tables [A47B 31/04](#))**
- U A47B 3/08
A47B 3/0803
 - with legs pivoted to top or underframe
 - {the legs rotating around ~~a vertical~~ **a vertical** axis ([A47B 3/083](#), [A47B 3/087](#) and [A47B 3/091](#) take precedence)}
- U A47B 39/00** **School forms; Benches or forms combined with desks (attaching to floor [A47B 91/08](#))**
- A47B 39/08
 - Seats or backs for forms, {e.g. foldable seat parts}
- U A47B 2220/00** **General furniture construction, e.g. fittings**
- U A47B 2220/0022
A47B 2220/0025
 - Slides
 - having telescoping guides with friction reducing pieces, e.g. balls between inner and outer profiles

Project: RP0149 (A47C)

- M A47C** **CHAIRS (seats specially adapted for vehicles [B60N 2/00](#); ~~hunting stands, e.g. hunting seats A01M 31/02; seats adapted for angling, e.g. fisherman's seats A01K 97/22; bath seats A47K 3/12; shower seats A47K 3/282; chairs with toilet means A47K 11/04; seats for surgeons, dentists A61B 90/60; chairs for disabled persons A61G 5/00; operating chairs, dental chairs, physiotherapeutic chairs, gynaecological chairs A61G 15/00; chairs with massage means A61H 2201/0149; ski-lift seats B61B 12/002; rail vehicles seats B61D 33/00; vessel furniture, e.g. boat seats B63B 29/04; aircraft seats B64D 11/06}); SOFAS; BEDS (upholstery in general [B68G](#); ~~beds specially adapted for nursing A61G 7/00; sleeping accommodation for caravans B60P 3/38; sleeping accommodation for rail vehicles B61D 31/00; sleeping accommodation for load-carrying vehicles B62D 33/0612; berths for vessels B63B 29/10~~)~~**

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~A47C 1/038 covered by A47C 1/0355~~
~~A47C 23/053 covered by A47C 23/05, A47C 23/0507, A47C 23/0515~~
~~A47C 23/053~~ covered by ~~A47C 23/05, A47C 23/0507, A47C 23/0515~~

- E A47C 23/00** **Spring mattresses with rigid frame or forming part of the bedstead, e.g. **box springs**; Divan bases; ~~Slatted bed bases~~**(unframed spring units [A47C 25/00](#); spring units forming part of stuffed mattresses [A47C 27/00](#))****
- M A47C 23/002
 - {with separate **resilient** support elements, e.g. elastomeric springs arranged in a two-dimensional matrix pattern}

- D A47C 25/00 Unframed spring units**
WARNING
 This group and its subgroup are no longer used for classification of new documents as from October 1, 2012.
 The backfile is being continuously reclassified to groups A47C 23/00, A47C 27/06 and subgroups thereof.
- D A47C 25/02 · without additional connecting means between the springs
- U A47C 27/00 Stuffed or fluid mattresses 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](#))**
- U A47C 27/04 · with spring inlays ([A47C 27/20](#) takes precedence)
- E A47C 27/06 · · Spring inlays
- U A47C 31/00 Details or accessories for chairs, beds, or the like, not provided for in other groups of this subclass, e.g. upholstery fasteners, mattress protectors, stretching devices for mattress nets**
- M A47C 31/08 · Mattress hand-straps *{, hand-grips or the like}*

Project: N/A (A47F)

A47F

SPECIAL FURNITURE, FITTINGS, OR ACCESSORIES FOR SHOPS, STOREHOUSES, BARS, RESTAURANTS OR THE LIKE; PAYING COUNTERS**WARNING**

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~A47F 1/14 covered by A47B 87/0207~~
~~A47F 1/16 covered by A47F 5/0037~~
~~A47F 1/18 covered by A47F 5/0025~~
~~A47F 3/022 covered by A47F 1/06~~
~~A47F 3/024 covered by A47F 1/08~~
~~A47F 3/026 covered by A47F 1/10~~

A47F 1/14 covered by [A47B 87/0207](#)
A47F 1/16 covered by [A47F 5/0037](#)
A47F 1/18 covered by [A47F 5/0025](#)
A47F 3/022 covered by [A47F 1/06](#)
A47F 3/024 covered by [A47F 1/08](#)
A47F 3/026 covered by [A47F 1/10](#)

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

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

A47G 29/00

Miscellaneous supports, holders, or containers for household use (for drying towels [A47K 10/04](#); stands, racks, or the like for airing beds, garments, or the like, clothes, drying devices [D06F 57/00](#))

WARNING

The following IPC group is not used in the CPC scheme. Subject matter covered by this group is classified in the following CPC group:

A47G 29/02	covered by	A47B 97/001
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~~A47G 29/02 covered by A47B 97/001~~

U A47G 33/00

Religious or ritual equipment in dwelling or for general use

U A47G 33/04

- Christmas trees (lighting devices therefor [F21S](#) {electric candles [F21S 10/04](#), string lighting systems [F21S 4/00](#)}, candle holders [F21V 35/00](#), {light guides for lighting systems [G02B 6/00](#)})

U A47G 33/08

- Christmas tree decorations

A47G 33/0836

- • {comprising means for attaching **teato a** lamp or candle holder, e.g. reflectors, lamp shades}

Project: N/A (A47H)

A47H

FURNISHINGS FOR WINDOWS OR DOORS (concerned with the functioning of the door or window [E05](#); roller blinds [E06B](#))

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~A47H 13/10 covered by A47H 15/02~~

~~A47H 13/12 covered by A47H 15/04~~

A47H 13/10	covered by	A47H 15/02
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A47H 13/12	covered by	A47H 15/04
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Project: N/A (A47J)

U A47J 42/00

Coffee mills; Spice mills (as part of universal or multi-purpose machines [A47J 43/04](#), [A47J 44/00](#); grinding or pulverising in general [B02C](#))

U A47J 42/38

- Parts or details

A47J 42/40

- relating to discharge, receiving container or the like; Bag clamps, **e.g.with e.g.** **with** means for actuating electric switches

Project: MP0139 (A47J)

U A47J 43/00

Miscellaneous implements for preparing or holding food

U A47J 43/04

- Machines for domestic use not covered elsewhere, e.g. for grinding, mixing, stirring, kneading, emulsifying, whipping or beating foodstuffs, e.g. power-driven (food straining implements [A47J 19/00](#); devices for grating [A47J 43/25](#); multi-purpose machines [A47J 44/00](#))

- U A47J 43/07 · · Parts or details, e.g. mixing tools, whipping tools
- M A47J 43/075 · · · {Safety devices}
 - WARNING
 - Not complete, see also A47J 42/56, A47J 43/07
- M A47J 43/0755 · · · · {for machines with tools driven from the upper side}
 - WARNING
 - Not complete, see also A47J 43/0705
- M A47J 43/0761 · · · · {for machines with tools driven from the lower side}
 - WARNING
 - Not complete, see also A47J 43/0716
- U A47J 43/28 · Other culinary hand implements, e.g. spatulas, pincers, forks or like food holders, ladles, skimming ladles, cooking spoons; Spoon-holders attached to cooking pots ({measuring spoons for powders [A61J](#), measuring flasks [B01L 3/00](#)}; calibrated capacity measures for fluids or fluent solid material [G01F 19/00](#); weighing spoons [G01G 19/56](#))
- M A47J 43/284 · · {Hand implements for separating solids from liquids or liquids from liquids}
 - WARNING
 - Skimmers and skimming ladles are being continuously reclassified to A47J 43/285
- M A47J 43/285 · · · {Skimmers; Skimming ladles}
 - WARNING
 - Not complete, see also A47J 43/284

Project: N/A (A47J)

- U A47J 45/00 **Devices for fastening or gripping kitchen utensils {or crockery}{kitchen cabinets with provision for attachment of kitchen implements or utensils [A47B 77/00](#)}**
- U A47J 45/06 · Handles for hollow-ware articles {(handles for metallic holders [B65D](#))}
- A47J 45/068 · · {Handles having indicating means, e.g. for temperature ([A47J 45/07](#) takes precedence)}

Project: N/A (A47K)

- U A47K 5/00 **Holders or dispensers for soap, toothpaste, or the like (specially adapted for shaving soap or cosmetics [A45D 33/00](#) - [A45D 40/00](#))**
- U A47K 5/06 · Dispensers for soap
- U A47K 5/12 · · for liquid or pasty soap
- A47K 2005/1218 · · · {Table mounted}; Dispensers integrated with the mixing tap}
- U A47K 10/00 **Body-drying implements; Toilet paper; Holders therefor**
- U A47K 10/24 · Towel dispensers, {e.g. for piled-up or folded textile towels}; Toilet-paper dispensers (sheet or web dispensers in general [B65H](#); {paper dispensers for publicity purposes [G09F 21/22](#), [G09F 23/10](#)}); Dispensers for piled-up or folded textile towels provided or not with devices for taking-up soiled towels as far as not mechanically driven
- U A47K 10/32 · · Dispensers for paper towels or toilet-paper
- A47K 2010/326 · · · {dispensing ~~simultaneously~~*simultaneously* from several rolls or stacks}

- U A47K 11/00** Closets without flushing (closets with recirculation of bowl-cleaning fluid [E03D 5/016](#)); Urinals without flushing (for vehicles in general [B60R](#); closets for railway-cars [B61D](#); for ships [B63B](#); for aircraft [B64D](#); urinals with flushing arrangements [E03D 13/00](#)); Chamber pots; Chairs with toilet conveniences or specially adapted for use with toilets
- A47K 11/06
- Chamber-pots (bed pans or other sanitary devices for bed-ridden persons [A61G 9/00](#)); ~~{~~Throw-away urinals for non-bedridden persons; Chamber-pots for children, also with signalling means, e.g. with [amusic music](#) box, or the like}

Project: N/A (A47L)

- U A47L 9/00** Details or accessories of suction cleaners, e.g. mechanical means for controlling the suction or for effecting pulsating action; Storing devices specially adapted to suction cleaners or parts thereof; Carrying-vehicles specially adapted for suction cleaners
- U A47L 9/02
- Nozzles (suction nozzles for fluid transport [B65G 51/00](#))
- U A47L 9/06
- · with fixed, e.g. adjustably fixed brushes or the like
- A47L 9/068
- · · {Nozzles combined with a different cleaning side, ~~e.e.g. g.~~ duplex nozzles or dual purpose nozzles}
- U A47L 9/28
- Installation of the electric equipment, e.g. adaptation or attachment to the suction cleaner; Regulation of suction cleaners by electric means
- A47L 9/2868
- · {~~Arrangements~~[Arrangements](#) for power supply of vacuum cleaners or the accessories thereof}
- U A47L 13/00** Implements for cleaning floors, carpets, furniture, walls, or wall coverings (brushes, their handles or fastenings [A46B](#), [B25G](#); scrapers for finishing work on buildings [E04F 21/00](#))
- U A47L 13/10
- Scrubbing; Scouring; Cleaning; Polishing
- A47L 13/26
- · Other cleaning devices with liquid supply arrangements (such arrangements on floor-polishing machines [A47L 11/00](#), on scrapers [A47L 13/03](#), on mops [A47L 13/22](#); ~~cloths, pads, or the like containing cleaning agents~~ [A47L 13/17](#), [A47L 13/19](#); [cloths, pads, or the like containing cleaning agents](#) [A47L 13/17](#), [A47L 13/19](#))

Project: RP0153 (A47L)

- U A47L 15/00** Washing or rinsing machines for crockery or tableware
- U A47L 15/42
- Details
- NOTE
- Details specific to a particular type of dishwasher should also get a classification symbol for the relevant type of dishwasher
- U A47L 15/4202
- · {Water filter means or strainers}
- U A47L 15/4208
- · · {Arrangements to prevent clogging of the filters, e.g. self-cleaning}
- N A47L 15/4209
- · {~~Insulation arrangements, e.g. for sound damping or heat insulation~~}
- M A47L 15/4246
- · {Details of the tub ([A47L 15/4272](#) takes precedence; [insulation arrangements](#) [A47L 15/4209](#))}
- M A47L 15/4251
- · {Details of the casing ([insulation arrangements](#) [A47L 15/4209](#); collecting leaked water in the casing for preventing water damage [A47L 15/4212](#))}
- D A47L 15/4255
- · · {~~Insulation arrangements, e.g. for sound damping or heat insulation~~}

Project: MP0190 (A47L)

- U A47L 15/48 • • Drying arrangements
- U A47L 15/488 • • • {Connections of the tub with the ambient air, e.g. air intake or venting arrangements}
- M A47L 15/50 • • Racks *{; Baskets}*

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

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](#)

- 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 {(medical informatics [G06F 19/30](#))}**
- U A61B 5/0093 • {Detecting, measuring or recording by applying one single type of energy and measuring its conversion into another type of energy}
- A61B 5/0097 • • {by applying acoustic waves and detecting light, i.e. acoustooptic measurements}
- U A61B 5/01 • Measuring temperature of body parts; {Diagnostic temperature sensing, e.g. for malignant or inflamed tissue}{clinical thermometers [G01K 5/22](#); thermometers for special purposes [G01K 13/00](#)}

- A61B 5/015
- A61B 5/14
- {By temperature mapping of body part-}
 - {Devices for taking samples of blood (hypodermic syringes [A61M 5/00](#)); Measuring characteristics of blood in vivo, e.g. gas concentration within the blood, pH-value of blood (measuring of blood pressure [A61B 5/02](#); non-radiation detecting or locating of foreign bodies in blood [A61B 5/06](#))}

WARNING

This group and its subgroups are no longer used for the classification of new documents as from April 1st, 2010. The backlog of these group is being continuously reclassified to [A61B 5/15](#) and subgroups

Project: MP0139 (A61B)

- U A61B 6/00 **Apparatus for radiation diagnosis, e.g. combined with radiation therapy equipment (analysis of materials using radiation [G01N 23/00](#), detecting hidden objects by radiation [G01V 5/0008](#), radiodiagnostic or X-ray contrast preparations [A61K 49/00](#); radiation therapy per se [A61N 5/00](#); instruments measuring radiation intensity for application in the field of nuclear medicine, e.g. in vivo counting [G01T 1/161](#); apparatus for taking X-ray photographs [G03B 42/02](#); X-ray photographic processes [G03C 5/16](#); irradiation devices [G21K](#); X-ray apparatus or circuits therefor [H05G 1/00](#))**
- U A61B 6/40 • {with arrangements for generating radiation specially adapted for radiation diagnosis (X-ray tubes or details thereof [H01J 35/00](#))}
- M A61B 6/4035 • • {the source being combined with a filter or grating (filters for radiation per se [G21K 1/10](#))}

WARNING

Groups [A61B 6/4035](#) and [A61B 6/4042](#) are not complete pending a reorganisation; see also [A61B 6/06](#)

Project: N/A (A61B)

- U A61B 6/42 • {with arrangements for detecting radiation specially adapted for radiation diagnosis (details of radiation detection [G01T 1/00](#))}
- A61B 6/4275 • • {using a detector unit almost surrounding the patient-, e.g. more than 180°}

Project: MP0139 (A61B)

- U A61B 6/50 • {Clinical applications (dentistry [A61B 6/14](#) takes precedence)}
- M A61B 6/503 • • {involving diagnosis of heart}
- WARNING
Group [A61B 6/503](#) is not complete pending a reorganisation; see [A61B 6/504](#)
- M A61B 6/506 • • {involving diagnosis of nerves}
- WARNING
Group [A61B 6/506](#) is not complete pending a reorganisation; see [A61B 6/50](#)
- M A61B 6/507 • • {involving determination of haemodynamic parameters, e.g. perfusion CT}
- WARNING
Group [A61B 6/507](#) is not complete pending a reorganisation; see [A61B 6/50](#)

- M A61B 6/52
- {Devices using data or image processing specially adapted for radiation diagnosis (image processing per se [G06T](#))}

WARNING

Groups of A61B 6/52 are not complete pending a reorganisation; see [A61B 6/00](#), [A61B 6/50](#), [A61B6/00F](#), [A61B 6/03](#), [A61B 6/032](#) and [A61B 6/04](#)

Project: N/A (A61B)

- U A61B 17/00
- Surgical instruments, devices or methods, e.g. tourniquets ([A61B 18/00](#) takes precedence; contraceptive devices, pessaries, or applicators therefor [A61F 6/00](#); eye surgery [A61F 9/007](#); ear surgery [A61F 11/00](#))**
- U A61B 2017/00017
- {Electrical control of surgical instruments}
- A61B 2017/00221
- {with wireless transmission of data-, e.g. by infrared radiation or radiowaves}

Project: RP0155 (A61B)

- C A61B 17/14
- Surgical saws (~~{[A61B 17/1637](#) takes precedence-};~~) tooth saws [A61C 3/12](#) ; ~~{saws for jaw bone [A61C 8/0089](#) ; cast-cutting saws [A61F 15/02](#)};~~ ~~{Accessories therefor}~~

WARNING

New subgroups of A61B 17/14 are not complete, pending a reorganisation. See provisionally also group A61B 17/14

Group [A61B 17/14](#) is impacted by reclassification into groups [A61B 17/147](#) and [A61B 17/149](#).

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

- D A61B 17/141
- {Saw blades}
- Q A61B 17/142
- {with reciprocating saw blades, e.g. with cutting edges at the distal end of the saw blades}

WARNING

Group [A61B 17/142](#) is impacted by reclassification into group [A61B 17/144](#). Groups [A61B 17/142](#) and [A61B 17/144](#) should be considered in order to perform a complete search.

- D A61B 2017/143
- {Chain-saws}
- N A61B 17/144
- {with cutting edges at the side of the saw blades}

WARNING

Group [A61B 17/144](#) incomplete pending reclassification of documents from group [A61B 17/142](#).

Groups [A61B 17/142](#) and [A61B 17/144](#) should be considered in order to perform a complete search.

- D A61B 2017/145
- {Wire or band-saws}
- D A61B 2017/146
- {Circular saw}
- N A61B 17/147
- {with circularly moving saw blades, i.e. non-reciprocating saw blades}

WARNING

Group [A61B 17/147](#) is incomplete pending reclassification of documents from group [A61B 17/14](#).

Groups [A61B 17/147](#) and [A61B 17/14](#) should be considered in order to perform a complete search.

- D A61B 17/148
- {reciprocating}

- N A61B 17/149
- • {Chain, wire or band saws}
- WARNING
 Group [A61B 17/149](#) is incomplete pending reclassification of documents group [A61B 17/14](#).
 Groups [A61B 17/149](#) and [A61B 17/14](#) should be considered in order to perform a complete search.

Project: MP0139 (A61B)

- M A61B 17/16
- {Bone cutting, breaking or removal means other than saws, e.g.} Osteoclasts; Drills or chisels for bones; Trepanns {(arthroscopic bone cutters [A61B 17/320016](#); dental implant drills potentially for other surgical use [A61C 8/0089](#); bone grinders [A61F 2/4644](#), [A22C 17/06](#); [A61B 17/1662](#) takes precedence over all other subgroups except [A61B 17/17](#))}

WARNING

New groups [A61B 17/1679](#), [A61B 17/1682](#), [A61B 17/1684](#), [A61B 17/1686](#), [A61B 17/1688](#), [A61B 17/1691](#) and [A61B 17/1693](#) are not complete, pending a reorganisation. See provisionally also group [A61B 17/16](#) and subgroups

- M A61B 17/1662
- • {for particular parts of the body}

WARNING

Subgroups [A61B 17/1679](#), [A61B 17/1682](#), [A61B 17/1684](#), [A61B 17/1686](#), [A61B 17/1688](#), [A61B 17/1691](#) and [A61B 17/1693](#) are not complete pending a reorganisation. See also [A61B 17/16](#) and subgroups thereof especially [A61B 17/1662](#)

Project: RP0155 (A61B)

- M A61B 17/17
- • Guides {or aligning means} for drills; {, mills, pins or wires}
- C A61B 17/1739
- • • {specially **designed** **adapted** for particular parts of the body ([A61B 17/1703](#) takes precedence)}

WARNING

Group [A61B 17/1739](#) is impacted by reclassification into groups [A61B 17/1771](#), [A61B 17/1775](#), [A61B 17/1778](#), [A61B 17/1782](#), [A61B 17/1785](#), [A61B 17/1789](#) and [A61B 17/1792](#).
 All groups listed in this Warning should be considered in order to perform a complete search.

- U A61B 17/1764
- • • • {for the knee}
- U A61B 17/1767
- • • • {for the patella}
- D A61B 2017/1771
- • • • {for the ear}
- N A61B 17/1771
- • • • {for the ear}

WARNING

Group [A61B 17/1771](#) is incomplete pending reclassification of documents from group [A61B 17/1739](#).
 Groups [A61B 17/1771](#) and [A61B 17/1739](#) should be considered in order to perform a complete search.

- D A61B 2017/1775
- • • • {for the foot or ankle}
- N A61B 17/1775
- • • • {for the foot or ankle}

WARNING

Group [A61B 17/1775](#) is incomplete pending reclassification of documents from group [A61B 17/1739](#).

Groups [A61B 17/1775](#) and [A61B 17/1739](#) should be considered in order to perform a complete search.

- D A61B 2017/1778 {for the shoulder}
- N A61B 17/1778 {for the shoulder}

WARNING

Group [A61B 17/1778](#) is incomplete pending reclassification of documents from group [A61B 17/1739](#).
Groups [A61B 17/1778](#) and [A61B 17/1739](#) should be considered in order to perform a complete search.

- D A61B 2017/1782 {for the hand or wrist}
- N A61B 17/1782 {for the hand or wrist}

WARNING

Group [A61B 17/1782](#) is incomplete pending reclassification of documents from group [A61B 17/1739](#).
Groups [A61B 17/1782](#) and [A61B 17/1739](#) should be considered in order to perform a complete search.

- D A61B 2017/1785 {for the sinus or nose}
- N A61B 17/1785 {for the sinus or nose}

WARNING

Group [A61B 17/1785](#) is incomplete pending reclassification of documents from group [A61B 17/1739](#).
Groups [A61B 17/1785](#) and [A61B 17/1739](#) should be considered in order to perform a complete search.

- D A61B 2017/1789 {for the sternum}
- N A61B 17/1789 {for the sternum}

WARNING

Group [A61B 17/1789](#) is incomplete pending reclassification of documents from group [A61B 17/1739](#).
Groups [A61B 17/1789](#) and [A61B 17/1739](#) should be considered in order to perform a complete search.

- D A61B 2017/1792 {for the ribs}
- N A61B 17/1792 {for the ribs}

WARNING

Group [A61B 17/1792](#) is incomplete pending reclassification of documents from group [A61B 17/1739](#).
Groups [A61B 17/1792](#) and [A61B 17/1739](#) should be considered in order to perform a complete search.

Project: N/A (A61B)

- U A61B 17/32 . Surgical cutting instruments {([A61B 18/042](#) takes precedence; suture cutters [A61B 17/0467](#); instruments for ligaturing or cutting [A61B 17/128](#); instruments for rupturing the amniotic membrane [A61B 17/4208](#); specially adapted knives for eye surgery [A61F 9/0133](#))}
- U A61B 17/3209 . . Incision instruments
- A61B 2017/32096 . . . {for slowly cutting through tissue, e.g. stent like temporary implants having sharp edges}

- U A61B 17/34 · Trocars; Puncturing needles {(pointed biopsy instruments [A61B 10/0233](#); devices for piercing the ear-lobes [A44C 7/001](#); seals or hemostasis valves [A61M 39/06](#)}
- U A61B 17/3417 · {Details of tips or shafts, e.g. grooves, expandable, bendable; Multiple coaxial sliding cannulas, e.g. for dilating (syringe needles [A61M 5/32](#); dilators [A61M 29/00](#)}
- U A61B 17/3421 · · · {Cannulas}
- U A61B 17/3423 · · · · {Access ports, e.g. toroid shape introducers for instruments or hands (access sites for liquids [A61M 39/0247](#))}
- A61B 2017/3429 · · · · · {having a unitary compressible body, e.g. made of silicone or foam}

Project: MP0139 (A61B)

- U A61B 17/56 · Surgical instruments or methods for treatment of bones or joints; Devices specially adapted therefor {(orthopaedic methods or devices for non-surgical treatment of bones or joints [A61F 5/00](#))}

NOTES

1. Documents concerning exclusively surgical methods are classified only in this group.
2. Surgical instruments or devices are classified only in the relevant subgroups

- U A61B 17/58 · · for osteosynthesis, e.g. bone plates, screws, {setting implements} or the like ([A61B 17/14](#), [A61B 17/16](#) take precedence; {splints [A61B 5/01](#); traction bandages [A61F 13/10](#))}
- M A61B 17/68 · · · Internal fixation devices, {including fasteners and spinal fixators, even if a part thereof projects from the skin (bone staples [A61B 17/0642](#); dental regeneration membranes [A61C 8/0006](#))}

WARNING

~~Subgroups A61B-17/686 and A61B-17/688 are not complete pending a reorganisation. See also A61B-17/68, A61B-17/683 and A61B-17/86~~

Project: N/A (A61B)

- U A61B 17/70 · · · · Spinal positioners or stabilisers; {Bone stabilisers comprising fluid filler in an implant}
- U A61B 17/7001 · · · · · {Screws or hooks combined with longitudinal elements which do not contact vertebrae ([A61B 17/7058](#) takes precedence)}
- A61B 17/7002 · · · · · · {Longitudinal elements, ~~e.g. rods~~ *e.g. rods*}

Project: MP0139 (A61B)

- U A61B 17/72 · · · · Intramedullary {pins, nails or other} devices {([A61B 17/744](#) takes precedence)}
 - U A61B 17/7216 · · · · · {for bone lengthening or compression ([A61B 17/7258](#) takes precedence)}
 - M A61B 17/7225 · · · · · · {for bone compression}
- WARNING
~~Not complete, see also A61B-17/7216~~
- U A61B 17/82 · · · · for bone cerclage {(apparatus for manipulating wires or straps [A61B 17/8861](#); wires, bands or straps other than cerclage [A61B 17/842](#))}

- M A61B 17/826 {Nets or webs}
- WARNING
Not complete, see also A61B 17/68 and A61B 17/82
- U A61B 17/84 Fasteners therefor {or fasteners being internal fixation devices}
- M A61B 17/86 {Threaded wires}, pins or screws; {Nuts therefor ([A61B 17/72](#), [A61B 17/74](#), [A61F 2/4455](#) take precedence)}
- WARNING
Groups A61B 17/861, A61B 17/865, A61B 17/8665, A61B 17/869 and A61B 17/8695 are incomplete pending reclassification of documents from groups A61B 17/68, A61B 17/86, A61B 17/8605 and A61B 50/30. Groups A61B 17/68, A61B 17/86, A61B 17/8605 and A61B 50/30 should be considered in order to perform a complete search.
- U A61B 17/88 . . . {Osteosynthesis instruments;} Methods or means for implanting or extracting internal {or external} fixation devices {([A61B 17/7074](#) takes precedence)}
- M A61B 17/8897 {Guide wires or guide pins}
- WARNING
Not complete, see also A61B 17/88

Project: N/A (A61B)

- U A61B 34/00 **Computer-aided surgery; Manipulators or robots specially adapted for use in surgery**
- U A61B 34/10 . Computer-aided planning, simulation or modelling of surgical operations
- U A61B 2034/101 . {Computer-aided simulation of surgical operations}
- A61B 2034/105 . . . {Modelling of the patient-, e.g. for ligaments or bones}

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~A61C 5/09 covered by A61C 5/08~~

~~A61C 5/11 covered by A61C 5/08~~

~~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~~

A61C 5/09 covered by A61C 5/08
A61C 5/11 covered by A61C 5/08
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

U A61C 13/00 Dental prostheses; Making same (tooth crowns for capping teeth A61C 5/08; dental implants A61C 8/00)

- U A61C 13/225 • Fastening prostheses in the mouth {(A61C 8/0048 takes precedence)}
- A61C 13/26 • • {Dentures without palates; {Partial dentures, e.g. bridges}}

U A61C 17/00

Devices for cleaning, polishing, rinsing or drying teeth, teeth cavities or prostheses (instruments acting like a sandblast machine [A61C 3/025](#); tooth polishing discs or holders therefor [A61C 3/06](#); devices for cleaning between the teeth [A61C 15/00](#)); Saliva removers; Dental appliances for receiving spittle

NOTE

Cleaning of prostheses using ultrasonic techniques similar to those used for natural teeth is classified in this group. Other ultrasonic cleaning of prostheses is classified in group [B08B 3/12](#)

- A61C 17/036 · ~~{Cleaning devices for {dental} prostheses {removed from the oral cavity (using ultrasonics [B08B 3/12](#))}}~~
- A61C 17/04 · ~~{Spittoons or saliva removers for dental use}~~

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

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

Project: MP0139 (A61F)

M A61F 2/00

Filters implantable into blood vessels; Prostheses, i.e. artificial substitutes or replacements for parts of the body; Appliances for connecting them with the body; Devices providing patency to, or preventing collapsing of, tubular structures of the body, e.g. stents (as cosmetic articles, see the relevant subclasses, e.g. wigs, hair pieces, [A41G 3/00](#), [A41G 5/00](#), artificial nails [A45D 31/00](#); dental prostheses [A61C 13/00](#); materials for prostheses [A61L 27/00](#); artificial hearts [A61M 1/10](#); artificial kidneys [A61M 1/14](#))

WARNING

Groups A61F 2/07, A61F 2/844 – A61F 2/97 correspond to IPC2013.01

Project: N/A (A61F)

- U A61F 2/02
 - Prostheses implantable into the body {(closure means for urethra or rectum or for artificial body openings therefor [A61F 2/0004](#))}
- U A61F 2/30
 - • Joints
- U A61F 2002/30001
 - • • {Additional features of subject-matter classified in [A61F 2/28](#), [A61F 2/30](#) and subgroups thereof}
- U A61F 2002/30667
 - • • • {Features concerning an interaction with the environment or a particular use of the prosthesis}
- A61F 2002/30695
 - • • • • {Sound-damping or noise-reducing **meanSmeans**}
- U A61F 2/30767
 - • • {Special external and/or bone-contacting surfaces, e.g. coating for improving bone ingrowth (materials for coating prostheses [A61L 27/28](#))}
- U A61F 2/30771
 - • • • {applied in original prostheses, e.g. holes, grooves (etching the surface [A61F 2/30767](#))}
- U A61F 2002/30772
 - • • • • {Apertures or holes, e.g. of circular cross section}
- U A61F 2002/30784
 - • • • • • {Plurality of holes}
- A61F 2002/30787
 - • • • • • • {inclined obliquely **w.r.t.with respect to** each other}
- A61F 2002/30789
 - • • • • • • {perpendicular **w.r.t.with respect to** each other}
- U A61F 2002/30795
 - • • • • • {Blind bores, e.g. of circular cross-section}
- A61F 2002/30805
 - • • • • • • {Recesses of comparatively large area **w.r.t.with respect to** their low depth}
- U A61F 2002/30807
 - • • • • • • {Plurality of blind bores}
- A61F 2002/3081
 - • • • • • • {inclined obliquely **w.r.t.with respect to** each other}
- A61F 2002/30812
 - • • • • • • {perpendicular **w.r.t.with respect to** each other}
- U A61F 2002/30878
 - • • • • • {with non-sharp protrusions, for instance contacting the bone for anchoring, e.g. keels, pegs, pins, posts, shanks, stems, struts}
- U A61F 2002/30891
 - • • • • • • {Plurality of protrusions}

- A61F 2002/30894 {inclined obliquely **w.r.t.with respect to** each other}
- A61F 2002/30896 {perpendicular **w.r.t.with respect to** each other}
- U A61F 2/32 . . . for the hip
- NOTE**
Documents, which are of interest for more than one of the following subgroups, are classified in the hierarchically higher group only
- U A61F 2/34 Acetabular cups
- U A61F 2002/3412 {with pins or protrusions, e.g. non-sharp pins or protrusions projecting from a shell surface}
- A61F 2002/3425 {the outer shell having non-meridian protrusions, e.g. fins or wings, located in planes inclined or perpendicular **w.r.t.with respect to** the equatorial plane}
- A61F 2002/3427 {Non-meridian ribs, e.g. parallel ribs, inclined or perpendicular **w.r.t.with respect to** the equatorial plane}
- A61F 2002/3441 {the outer shell having an outer surface and an inner insert receiving cavity being angularly inclined **w.r.t.with respect to** the longitudinal axis of the outer surface}
- U A61F 2/36 Femoral heads; {Femoral endoprotheses}
- U A61F 2/3609 {Femoral heads or necks; Connections of endoprosthetic heads or necks to endoprosthetic femoral shafts ([A61F 2/3601](#) takes precedence)}
- U A61F 2002/3625 {Necks}
- U A61F 2002/3631 {with an integral complete or partial peripheral collar or bearing shoulder at its base}
- A61F 2002/3643 {pierced with apertures parallel or oblique **w.r.t.with respect to** the collar longitudinal axis}
- U A61F 2/3662 {Femoral shafts}
- U A61F 2002/3678 {Geometrical features}
- U A61F 2002/368 {with lateral apertures, bores, holes or openings, e.g. for reducing the mass, for receiving fixation screws or for communicating with the inside of a hollow shaft}
- A61F 2002/3684 {inclined obliquely **w.r.t.with respect to** the shaft longitudinal axis, e.g. along the neck axis}
- U A61F 6/00** **Contraceptive devices; Pessaries; Applicators therefor (chemical aspects of contraception [A61K](#))**
- U A61F 6/02 . . . for use by males ([A61F 6/20](#) takes precedence)
- U A61F 6/04 Condoms, sheaths or the like, {e.g. combined with devices protecting against contagion}
- U A61F 2006/041 . . . {combined with a protective garment, e.g. underpants or mask}
- A61F 2006/042 {covering the mouth-, e.g. oral condom}
- U A61F 6/06 . . . for use by females ([A61F 6/20](#) takes precedence)
- U A61F 6/14 intra-uterine type
- A61F 6/142 {Wirelike structures, **e.g.loops e.g. loops**, rings, spirals}
- U A61F 7/00** **Heating or cooling appliances for medical or therapeutic treatment of the human body (heating or cooling means in connection with bedsteads or mattresses [A47C 21/00](#); {massage, therapeutic baths [A61H](#)}; hyperthermia using electric or magnetic fields or ultrasound [A61N](#); electric heating elements [H05B](#))**

- U A61F 7/02 · Compresses or poultices for effecting heating or cooling
- U A61F 2007/0225 · · {connected to the body or a part thereof}
- U A61F 2007/0233 · · · {connected to or incorporated in clothing or garments ([A61F 2007/023](#) takes precedence)}
- A61F 2007/0234 · · · · {for the upper part of the trunk, **eg.e.g.** bodice}
- A61F 2007/0236 · · · · {for the lower part of the **trnktrunk**, e.g. panty}

Project: MP0139 (A61F)

- M A61F 7/08 · Warming pads, pans or mats ([A61F 7/02](#) takes precedence); Hot-water bottles
- WARNING**
Not complete, see also [A61F 7/02](#)

Project: N/A (A61F)

- U A61F 9/00 **Method or devices for treatment of the eyes; Devices for putting-in contact lenses; Devices to correct squinting; Apparatus to guide the blind; Protective devices for the eyes, carried on the body or in the hand (caps with means for protecting the eyes [A42B 1/06](#); visors for helmets [A42B 3/22](#); {retractors [A61B 17/02](#); manipulators specially adapted for use in surgery [A61B 34/70](#)}; appliances to aid invalids to move about [A61H 3/00](#); {exercisers for the eyes [A61H 5/00](#)}; eye baths [A61H 35/02](#); sunglasses or goggles having the same features as spectacles [G02C](#))**
 - A61F 2009/0035 · {Devices for immobilising a patient's head with respect to the **intrumentinstrument**}
- U A61F 11/00 **Methods or devices for treatment of the ears, e.g. surgical; Protective devices for the ears, carried on the body or in the hand; {Non-electric hearing aids}**
- U A61F 11/06 · Protective devices for the ears
- A61F 11/14 · · external, e.g. earcaps or earmuffs (headwear, e.g. caps or helmets, with means for protecting the ears [A42B 1/06](#), [A42B 3/16](#), {for hairdresser's rooms [A45D 44/12](#); for sports [A63B 71/10](#); headphones [H04R 1/10](#))}

NOTE
{Group [A61F 11/14](#) contains only acoustic protection (other external protectors, see [A61F 11/06](#))}
- U A61F 13/00 **Bandages or dressings (suspensory bandages [A61F 5/40](#); {contact-avoiding wound protectors [A61F 15/008](#); bandages or dressings with incorporated medicaments [A61L 15/44](#), [A61M 35/006](#); radioactive dressings [A61N 5/1029](#)}); Absorbent pads (chemical aspects of, or use of materials for, bandages, dressings or absorbent pads [A61L 15/00](#); {absorbent pads for tracheostomy [A61M 16/047](#)})**
- U A61F 13/02 · Adhesive plasters or dressings ([A61F 13/06](#) - [A61F 13/15](#) take precedence; {for diagnosis, e.g. allergy test patches, [A61B 10/0035](#)}; surgical adhesives or cements [A61L 24/00](#); {for transdermal drug administration [A61M 35/00](#)})
- U A61F 13/0203 · · {having a fluid handling member}
- A61F 13/0206 · · · {the fluid handling member being absorbent fibrous layer-, e.g. woven or nonwoven absorbent pad, island dressings}

Project: MP0139 (A61F)

- U A61F 13/15 · Absorbent pads, e.g. sanitary towels, swabs or tampons for external or internal application to the body (non-absorbent catamenial receptacles [A61F](#)); Supporting or fastening means therefor; Tampon applicators
- M A61F 2013/16 · {Sanitary towels; Means for supporting or fastening them}
- WARNING**
For group **A61F13/16** and subgroups see warning after A61F-13/00
- M A61F 13/20 · Tampons, e.g. catamenial tampons; Accessories therefor
- WARNING**
For group A61F 13/20 and subgroups see warning after A61F-13/00
- M A61F 13/36 · Surgical swabs, e.g. for absorbency or packing body cavities during surgery ([A61F 13/38](#) takes precedence)
- WARNING**
See warning after A61F-13/00
- M A61F 13/42 · with wetness indicator or alarm
- WARNING**
See warning after A61F-13/00
- M A61F 13/44 · with radio-opaque material or signalling means for residual material
- WARNING**
See warning after A61F-13/00

Project: N/A (A61F)

- U A61F 13/45 · characterised by the shape (cup-shaped type tampons [A61F 13/2045](#))
- U A61F 13/49 · Absorbent articles specially adapted to be worn around the waist, e.g. diapers
- U A61F 13/49007 · {Form-fitting, self-adjusting disposable diapers}
- U A61F 13/49009 · {with elastic means}
- A61F 13/49017 · {the elastic means **being** located at the crotch region}
- A61F 2013/49042 · {with only stretchable part, i.e. part being not elastic but only extensible with not a full recovery of its original length}
- U A61F 13/51 · characterised by the outer layers {(wicking or transfer layers [A61F 13/537](#))}
- U A61F 13/511 · Topsheet, i.e. the permeable cover or layer facing the skin
- U A61F 13/512 · characterised by its apertures, e.g. perforations
- A61F 13/5121 · {characterised by the vertical shape of the apertures, e.g. three dimensional apertures, e.g. macro-apertures}

Project: MP0139 (A61F)

- U A61F 13/56 · Supporting or fastening means
- U A61F 13/58 · Adhesive tab fastener elements ({[A61F 13/5611](#), [A61F 13/5616](#)}, [A61F 13/66](#) take precedence)
- M A61F 13/60 · with release means associated with tab fasteners

WARNING
See warning after A61F-13/00

- M A61F 13/62 . . . {Mechanical fastening means, ([A61F 13/5611](#), [A61F 13/5616](#), [A61F 13/581](#), [A61F 13/66](#) take precedence);} Fabric strip fastener elements, e.g. hook and loop

WARNING

See warning after A61F 13/00

- M A61F 13/66 . . . Garments, holders or supports not integral with absorbent pads

WARNING

For group A61F 13/66 and subgroups see warning after A61F 13/00

Project: RP0007 (A61G)

- M 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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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 7/16~~ — 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~~

[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](#)

U A61G 1/00**Stretchers**

- U A61G 1/04 . . . Parts, details or accessories, e.g. head-, foot-, or like rests specially adapted for stretchers
- D A61G 2001/042 . . . {Suspension means}
- N A61G 1/042 . . . {Suspension means}

U A61G 3/00**Ambulance aspects of vehicles; Vehicles with special provisions for transporting patients or disabled persons, or their personal conveyances, e.g. for facilitating access of, or for loading, wheelchairs**

- U A61G 3/02 . . . Loading or unloading personal conveyances; Facilitating access of patients or disabled persons to, or exit from, vehicles
- U A61G 3/06 . . . Transfer using ramps, lifts or the like
- D A61G 2003/067 . . . {with compartment for horizontally storing the ramp or lift (load transporting vehicles with a ramp being stored under the loading floor when not in use [B60P 1/431](#))}
- N A61G 3/067 . . . {with compartment for horizontally storing the ramp or lift}

- D A61G 2003/068 . . . {in combination with folding stairs (retractable steps or ladders facilitating access to or on a vehicle B60R 3/02; folding steps for railway vehicles B61D 23/02; collapsible stairs in buildings E04F 11/06)}
- N A61G 3/068 . . . {in combination with folding stairs}
- U A61G 5/00** **Chairs or personal conveyances specially adapted for patients or disabled persons, e.g. wheelchairs ({chairs with toilet conveniences [A47K 11/04](#); } devices enabling patients or disabled persons to operate an apparatus or device not forming part of the body [A61F 4/00](#); {running gear or propulsion features [B60K](#);} bicycles specially adapted for disabled riders [B62K 3/16](#); {Invalid chairs having removable seats specially adapted to be transferred with the invalid to a vehicle and support the invalid during use of the vehicle [A61G 3/02](#)})**
- NOTE
Invalid chairs having removable seats specially adapted to be transferred with the invalid to a vehicle and support the invalid during use of the vehicle are classified in group [A61G 3/00](#)
- U A61G 5/04 . motor-driven ([A61G 5/06](#) takes precedence; motor-operated rests [A61G 5/12](#); for vehicles with handlebars, equipped with three or more wheels [B62K 5/003](#), [B62K 5/023](#))
- D A61G 2005/048 . . {Power-assistance activated by pushing on hand rim or on handlebar}
- N A61G 5/048 . . {Power-assistance activated by pushing on hand rim or on handlebar}
- U A61G 5/08 . foldable
- D A61G 2005/0808 . . {characterised by a particular folding direction}
- N A61G 5/0808 . . {characterised by a particular folding direction}
- D A61G 2005/0816 . . . {folding left – right, e.g. reducing the overall width of the wheelchair}
- N A61G 5/0816 . . . {folding side to side, e.g. reducing or expanding the overall width of the wheelchair}
- D A61G 2005/0825 {comprising a scissor-type frame, e.g. having pivoting cross bars for enabling folding (scissor-type frame for folding front-back A61G 2005/0841; scissor-type frame for folding up-down A61G 2005/0858)}
- N A61G 5/0825 {comprising a scissor-type frame, e.g. having pivoting cross bars for enabling folding}
- D A61G 2005/0833 . . . {folding front – back, e.g. reducing the overall depth of the wheelchair}
- N A61G 5/0833 . . . {folding front to back, e.g. reducing or expanding the overall depth of the wheelchair}
- D A61G 2005/0841 {comprising a scissor-type frame, e.g. having pivoting cross bars for enabling folding (scissor-type frame for folding left-right A61G 2005/0825; scissor-type frame for folding up-down A61G 2005/0858)}
- N A61G 5/0841 {comprising a scissor-type frame, e.g. having pivoting cross bars for enabling folding}
- D A61G 2005/085 . . . {folding up – down, e.g. reducing the overall height of the wheelchair}
- N A61G 5/085 . . . {folding up and down, e.g. reducing or expanding the overall height of the wheelchair}
- D A61G 2005/0858 {comprising a scissor-type frame, e.g. having pivoting cross bars for enabling folding (scissor-type frame for folding left-right A61G 2005/0825; scissor-type frame for folding front-back A61G 2005/0841)}
- N A61G 5/0858 {comprising a scissor-type frame, e.g. having pivoting cross bars for enabling folding}

- D A61G 2005/0866 . . {~~folding down backrest, e.g. where the backrest folds down onto the seat support~~}
- N A61G 5/0866 . . {*folding down backrest, e.g. where the backrest folds down onto the seat support*}
- D A61G 2005/0875 . . {~~dismountable, e.g. where the wheelchair can be disassembled for transportation or storage~~}
- N A61G 5/0875 . . {*dismountable, e.g. where the wheelchair can be disassembled for transportation or storage*}
- D A61G 2005/0883 . . {~~having locking means for maintaining a folded or unfolded condition~~}
- N A61G 5/0883 . . {*having locking means for maintaining a folded or unfolded condition*}
- D A61G 2005/0891 . . {~~having rigid supports, e.g. seat or back supports which retain their shape after folding of the wheelchair~~}
- N A61G 5/0891 . . {*having rigid supports, e.g. seat or back supports which retain their shape after folding of the wheelchair*}
- U A61G 5/10 . . Parts, details or accessories
- U A61G 5/1043 . . {Cushions specially adapted for wheelchairs}
- D A61G 2005/1045 . . . {~~for the seat portion~~}
- N A61G 5/1045 . . . {*for the seat portion*}
- D A61G 2005/1048 . . . {~~for the back-rest~~}
- N A61G 5/1048 . . . {*for the back-rest*}
- D A61G 2005/1051 . . {~~Arrangements for steering~~}
- N A61G 5/1051 . . {*Arrangements for steering*}
- D A61G 2005/1054 . . {~~Large wheels, e.g. higher than the seat portion~~}
- N A61G 5/1054 . . {*Large wheels, e.g. higher than the seat portion*}
- D A61G 2005/1078 . . {~~with shock absorbers or other suspension arrangements between wheels and frame~~}
- N A61G 5/1078 . . {*with shock absorbers or other suspension arrangements between wheels and frame*}
- D A61G 2005/1081 . . {~~with shock absorbers or other suspension arrangements between frame and seat~~}
- N A61G 5/1081 . . {*with shock absorbers or other suspension arrangements between frame and seat*}
- D A61G 2005/1083 . . {~~Quickly-removable wheels~~}
- N A61G 5/1083 . . {*Quickly-removable wheels*}
- D A61G 2005/1086 . . {~~Anti-roll-back devices~~}
- N A61G 5/1086 . . {*Anti-roll-back devices*}
- D A61G 2005/1089 . . {~~Anti-tip devices~~}
- N A61G 5/1089 . . {*Anti-tip devices*}
- D A61G 2005/1091 . . {~~Cushions, seats or abduction devices~~}
- N A61G 5/1091 . . {*Cushions, seats or abduction devices*}
- D A61G 2005/1094 . . {~~Tables, working plates, trays~~}
- N A61G 5/1094 . . {*Tables, working plates or trays*}
- D A61G 2005/1097 . . {~~Camber- or toe-adjusting means for the drive wheels~~}
- N A61G 5/1097 . . {*Camber- or toe-adjusting means for the drive wheels*}
- U A61G 5/12 . . Rests specially adapted therefor, e.g. for the head or the feet
- D A61G 2005/121 . . . {~~for head or neck~~}
- N A61G 5/121 . . . {*for head or neck*}

D	A61G 2005/122	. . . {for the back}
N	A61G 5/122	. . . {for the back}
D	A61G 2005/124	. . . {for pelvis or buttocks}
N	A61G 5/124	. . . {for pelvis or buttocks}
D	A61G 2005/125	. . . {for arms}
N	A61G 5/125	. . . {for arms}
D	A61G 2005/127	. . . {for lower legs}
N	A61G 5/127	. . . {for lower legs}
D	A61G 2005/128	. . . {for feet}
N	A61G 5/128	. . . {for feet}
U	A61G 7/00	Beds specially adapted for nursing; Devices for lifting patients or disabled persons (equipment for beds, treatment tables, floor frames or the like for extending or stretching A61F5/045 {takes precedence} ; stretchers with facilities for picking up patients or disabled persons A61G 1/003)
M	A61G 7/05	. Parts, details or accessories of beds (devices for prevention against falling out A47C 21/08 , A47D 7/00 ; {mattresses A47C 27/00 })
M	A61G 7/0507	. . {Side-rails (side-bolsters A61G 7/0525; non-medical devices for prevention against falling-out A47C 21/08)}
D	A61G 2007/0508	. . . {characterised by a particular connection mechanism}
N	A61G 7/0508	. . . {characterised by a particular connection mechanism}
D	A61G 2007/0509	. . . . {sliding or pivoting downwards}
N	A61G 7/0509	. . . . {sliding or pivoting downwards}
D	A61G 2007/051	. . . . {pivoting sideward}
N	A61G 7/051	. . . . {pivoting sideward}
D	A61G 2007/0512	. . . {characterised by customised length}
N	A61G 7/0512	. . . {characterised by customised length}
D	A61G 2007/0513	. . . . {covering particular sections of the bed, e.g. one or more partial side-rail sections along the bed}
N	A61G 7/0513	. . . . {covering particular sections of the bed, e.g. one or more partial side-rail sections along the bed}
D	A61G 2007/0514	. . . . . {mounted to individual mattress supporting frame sections}
N	A61G 7/0514	. . . . . {mounted to individual mattress supporting frame sections}
D	A61G 2007/0515	. . . . {covering the full bed length, e.g. from head board to foot board}
N	A61G 7/0515	. . . . {covering the full bed length, e.g. from head board to foot board}
D	A61G 2007/0516	. . . {with height adjustability}
N	A61G 7/0516	. . . {with height adjustability}
D	A61G 2007/0518	. . . {quickly removable}
N	A61G 7/0518	. . . {quickly removable}
D	A61G 2007/0519	. . . {stowable, e.g. underneath mattress}
N	A61G 7/0519	. . . {stowable, e.g. underneath mattress}
D	A61G 2007/052	. . . {characterised by safety means, e.g. to avoid injuries to patient or caregiver}
N	A61G 7/052	. . . {characterised by safety means, e.g. to avoid injuries to patient or caregiver}
D	A61G 2007/0521	. . . . {Anti-pinching means to avoid injuries to body parts when moving side-rails or mattress supports, e.g. gap and grid covers, side-rail parts with special shape or electronic means for warning}

- N A61G 7/0521 {Anti-pinching means to avoid injuries to body parts when moving side-rails or mattress supports, e.g. gap and grid covers, side-rail parts with special shape or electronic means for warning}
- D A61G 2007/0522 {Padding means to soften side-rail surfaces}
- N A61G 7/0522 {Padding means to soften side-rail surfaces}
- D A61G 2007/0524 . . . {characterised by integrated accessories, e.g. bed control means, nurse call or reading lights}
- N A61G 7/0524 . . . {characterised by integrated accessories, e.g. bed control means, nurse call or reading lights}
- M A61G 7/0525 . . {Side-bolsters (~~side-rails A61G 7/0507~~; rests specially adapted for beds [A61G 7/065](#); ~~non-medical devices for prevention against falling-out A47C 21/08~~; ~~non-medical devices for prevention against falling-out A47C 21/08~~)}
- D A61G 2007/0527 . . {Weighing devices}
- N A61G 7/0527 . . {Weighing devices}
- D A61G 2007/0528 . . {Steering or braking devices for castor wheels}
- N A61G 7/0528 . . {Steering or braking devices for castor wheels}
- U A61G 7/057 . . Arrangements for preventing bed-sores or for supporting patients with burns, e.g. mattresses specially adapted therefor {(ventilation openings in mattresses [A47C 21/042](#); pneumatic or hydraulic mattresses [A47C 27/08](#))}
- D A61G 2007/05784 . . . {with ventilating means, e.g. mattress or cushion with ventilating holes or ventilators}
- N A61G 7/05784 . . . {with ventilating means, e.g. mattress or cushion with ventilating holes or ventilators}
- D A61G 2007/05792 {with low air loss function, e.g. in mattresses, overlays or beds}
- N A61G 7/05792 {with low air loss function, e.g. in mattresses, overlays or beds}
- U A61G 7/10 . . Devices for lifting patients or disabled persons, e.g. special adaptations of hoists thereto
- U A61G 7/16 . . converting a lying surface into a chair
- D A61G 2007/165 . . . {Chair detachable from bed}
- N A61G 7/165 . . . {Chair detachable from bed}
- U A61G 13/00** **Operating tables; Auxiliary appliances therefor (illumination of operating tables [F21L](#), [F21S](#) or [F21V](#) {adjustability of tables in general [A47B 9/00](#); tables for radiation diagnosis [A61B 6/04](#), drainage or irrigation pans, bags, or attachments [A61G 7/02](#), [A61G 7/0503](#)})**
- U A61G 13/0036 . . {Orthopaedic operating tables (devices for stretching fractured limbs [A61F 5/04](#))}
- D A61G 2013/0045 . . {specially adapted for hand or wrist surgeries}
- N A61G 13/0045 . . {specially adapted for hand or wrist surgeries}
- D A61G 2013/0054 . . {specially adapted for back or spinal surgeries}
- N A61G 13/0054 . . {specially adapted for back or spinal surgeries}
- D A61G 2013/0063 . . {specially adapted for knee surgeries}
- N A61G 13/0063 . . {specially adapted for knee surgeries}
- D A61G 2013/0072 . . {specially adapted for shoulder surgeries}
- N A61G 13/0072 . . {specially adapted for shoulder surgeries}
- D A61G 2013/0081 . . {specially adapted for hip surgeries}
- N A61G 13/0081 . . {specially adapted for hip surgeries}
- U A61G 17/00** **Coffins; Funeral wrappings; Funeral urns**

- D A61G 2017/004 · ~~{specially adapted to be cremated}~~
- N A61G 17/004 · ~~{specially adapted to be cremated}~~
- U A61G 17/04 · Fittings for coffins
- D A61G 2017/041 · · ~~{Handles}~~
- N A61G 17/041 · · ~~{Handles}~~
- D A61G 2017/042 · · ~~{Linings}~~
- N A61G 17/042 · · ~~{Linings and veneer}~~
- D A61G 2017/044 · · ~~{Corpse supports}~~
- N A61G 17/044 · · ~~{Corpse supports}~~
- D A61G 2017/045 · · ~~{Rack for flowers}~~
- N A61G 17/045 · · ~~{Rack for flowers}~~
- D A61G 2017/047 · · ~~{Absorption devices for decomposition liquid}~~
- N A61G 17/047 · · ~~{Devices for absorbing decomposition liquid}~~
- D A61G 2017/048 · · ~~{Adaption for decomposing gas}~~
- N A61G 17/048 · · ~~{Adaptations or accessories specially adapted for decomposing gas}~~

Project: MP0199 (A61H)

- U A61H 33/00 **Bathing devices for special therapeutic or hygienic purposes ([A61H 35/00](#) takes precedence; {sprays acting on a body or body part not immersed in water [A61H 9/00](#); means for washing bed-ridden persons [A61G 7/0005](#);} for sub aquatic intestinal cleaning [A61M 9/00](#); {isolation chambers [A61M 21/0094](#); } electric or magnetic baths, applying ionised fluids [A61N 1/44](#) {; heater for bath tubs [F24H 1/0081](#)})**
- M A61H 33/04 · Appliances for sand, mud {, wax} or foam baths; Appliances for metal baths, e.g. using metal salt solutions
- M A61H 2033/041 · · {Baths with dry sand or other dry particles}
- M A61H 2033/042 · · · {gas-fluidised or gas-heated during use}
- M A61H 2033/043 · · {Foam baths}
- M A61H 2033/044 · · {Baths with herbs, e.g. infusions}
- M A61H 2033/045 · · {Liquid-metal baths}
- M A61H 2033/046 · · {Mud baths; Baths using sand or other particles in water}
- M A61H 2033/047 · · {Paraffin or wax baths}
- M A61H 2033/048 · · {Baths using solutions, e.g. salts}

Project: N/A (A61J)

- U A61J 2200/00 **General characteristics or adaptations**
- U A61J 2200/40 · Heating or cooling means; Combinations thereof
- A61J 2200/42 · · Heating ~~meansf~~means

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](#); {micro-organisms *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 micro-organisms [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 used in the CPC scheme. Subject matter covered by these 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 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,~~
~~G09J 9/02~~

The following IPC indexing codes are not used in the CPC scheme:-
A61K 101/00 - A61K 135/00

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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 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

Project: MP0139 (A61K)

M A61K 8/00

Cosmetic or similar toilet preparations (casings or accessories for storing or handling of solid or pasty toilet or cosmetic substances [A45D 40/00](#))

NOTES

1. Use of cosmetics or similar toilet preparations is further classified in subclass [A61Q](#).
2. Use of cosmetics or similar toilet preparations is mandatorily further classified in subclass [A61Q](#).
3. Attention is drawn to the Notes in class [C07](#), for example the notes following the title of 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 group [A61K 8/00](#).
4. Salts or complexes of organic compounds are classified according to the base compounds. If a complex is formed between two or more compounds, classification is made for each compound.

WARNING

Group [A61K 8/00](#) and subgroups are incomplete. See provisionally also [A61K7/00](#) and subgroups.

Project: N/A (A61K)

U A61K 8/18

- characterised by the composition

NOTE

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.

U A61K 8/72

- • containing organic macromolecular compounds

A61K 8/84

- • • ~~obtained~~*obtained* by reactions otherwise than those involving only carbon-carbon unsaturated bonds

Project: MP0115 (A61K)

U A61K 31/00

Medicinal preparations containing organic active ingredients

NOTES

1. When classifying in groups [A61K 31/00](#) - [A61K 41/00](#) the symbol [A61K 2300/00](#) may be added, using Combination Sets, to indicate a mixture of active ingredients.
2. In the preparation of new organic compounds and their use in medicinal preparations, classification is only made in the relevant subclasses [C07C](#) - [C07J](#) according to the type of compound. However, the inventions dealing with medicinal preparations containing at least two active organic ingredients are

always classified in this group in addition to the classification for the type of compounds in [C07C](#) - [C07J](#).

3. Attention is drawn to the notes in class [C07](#), particularly to the definition of steroids given in Note (1) following the title of [C07J](#) and to the definition of carbohydrates and sugars given in the notes following the title of [C07H](#).

4. Salts and complexes of organic active compounds are always classified according to the free active compounds. If a complex is formed between two or more active compounds, then they are classified according to all compounds forming the salts or complexes followed by the symbol [A61K 2300/00](#) (i.e. as a mixture of active organic compounds). According to the last place rule, organic active compounds forming salts with heavy metals should be classified in [A61K 33/24](#) - [A61K 33/38](#) and not in subgroups [A61K 31/28](#) - [A61K 31/32](#), [A61K 31/555](#) or [A61K 31/714](#).

This does not apply to complexes, as apparent from the [A61K 31/00](#) scheme, wherein the complexes hemin and hematin are classified in [A61K 31/555](#) and cyanocobalamin in [A61K 31/714](#).

5. From January 2003 onwards, the EPO copies into CPC the IPC classification of the first document received (family representative). However, blends of active ingredients receive the additional symbol [A61K 2300/00](#) as Combination Set.

- U A61K 31/33
 - Heterocyclic compounds
- U A61K 31/395
 - • having nitrogen as a ring hetero atom, e.g. guanethidine, rifamycins (rifampin [A61K 31/496](#))
- M A61K 31/396
 - • • having ~~three~~three-membered rings, e.g. aziridine

Project: N/A (A61K)

- U A61K 31/435
 - • • having six-membered rings with one nitrogen as the only ring hetero atom
- U A61K 31/4353
 - • • • ortho- or peri-condensed with heterocyclic ring systems
- A61K 31/436
 - • • • the heterocyclic ring system containing a six-membered ring having oxygen as a ring hetero atom, e.g. rapamycin

Project: MP0115 (A61K)

- U A61K 47/00 **Medicinal preparations characterised by the non-active ingredients used, e.g. carriers, inert additives**
- U A61K 47/48
 - the non-active ingredient being chemically bound to the active ingredient, e.g. polymer drug conjugates
- U A61K 47/48769
 - • {the conjugate being characterized by a special physical or galenical form}

NOTE

The conjugates in the [A61K 47/48769](#) subgroups correspond (i) either to a pharmacologically or therapeutically active agent complexed/covalently linked to the special physical or galenical form, e.g. on the surface of a polymeric nanoparticle or liposome, or to polymeric chains in the matrix of a polymeric gel, (ii) or to a special physical or galenical form encapsulating the pharmacologically or therapeutically active agent and modified on its surface or matrix by a modifying agent. In case (i), classification being made according to the nature of the special physical or galenical form in the appropriate [A61K 47/48769](#) subgroup and may be completed by the appropriate [A61K 47/48](#) subgroup defining the compound to which the pharmacologically or therapeutically active agent being linked, e.g. [A61K 47/48053](#) in case of a drug linked to a phospholipid and inserted in the bilayer surface of a liposome. In case (ii), classification being made according to the nature of the modifying agent. Physical or galenical forms not modified by a modifying agent and/or wherein the pharmacologically or therapeutically

active agent being not complexed/covalently linked to said forms, are not classified in [A61K 47/48](#), but in [A61K 9/00](#) and its subgroups

- U A61K 47/48853 . . . {the form being a particulate, powder, adsorbate, bead, sphere}
- M A61K 47/48876 {the form being a solid **microparticle** *micro- or nanoparticle* having no hollow or gas-filled core}

NOTE

~~{Note Its size or diameter being higher or equal to 1 micrometer }~~

{In this group the following terms are used with the meaning indicated:

- *microparticle indicates a particle whose size or diameter is higher or equal to 1 micrometre;*
- *nanoparticle indicates a particle whose size or diameter is lower than 1 micrometre*

}

- M A61K 47/48884 {the form being a nanoparticle, e.g. an immuno-nanoparticle}

NOTE

~~{Note Its size or diameter being smaller than 1 micrometer:~~

Classification being ~~When classifying in this group, classification is~~ also made ~~according to the nature of the antibody with the appropriate in group~~ [A61K 47/48515](#) ~~subgroup~~ *according to the nature of the antibody}*

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 used in the CPC system. Subject matter covered by these 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 33/10 covered by [A61L 33/0011](#)

A61L 33/14 covered by [A61L 33/0011](#)

A61L 33/16 covered by [A61L 33/0047](#)

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

- U 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](#), 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](#)

- U A61L 27/36
- containing ingredients of undetermined constitution or reaction products thereof, {e.g. transplant tissue, natural bone, extracellular matrix (isolated natural compounds, e.g. collagen [A61L 27/24](#))}
- A61L 27/3637
- {characterised by the origin of the biological material other than human or animal, e.g. plant extracts, algae}
- U A61L 27/50
- Materials characterised by their function or physical properties, {e.g. injectable or lubricating compositions, shape-memory materials, surface modified materials}
- A61L 27/54
- • Biologically active materials, e.g. therapeutic substances {([A61L 27/227](#) takes precedence-)}

- U 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](#)}, 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](#)

- U A61L 29/14
- Materials characterised by their function or physical properties, {e.g. lubricating compositions}
- A61L 29/16
- • Biologically active materials, e.g. therapeutic substances {([A61L 29/048](#) takes precedence-)}

U 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](#)}, 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](#)

U A61L 31/12 • Composite materials, i.e. containing one material dispersed in a matrix of the same or different material

U A61L 31/121 • • {having an inorganic matrix}

A61L 31/123 • • • {of phosphorus-containing materials-, e.g. apatite}

U A61L 2300/00 **Biologically active materials used in bandages, wound dressings, absorbent pads or medical devices**

U A61L 2300/10 • containing or releasing inorganic materials

A61L 2300/108 • • Elemental carbon-, e.g. charcoal

U A61L 2300/40 • characterised by a specific therapeutic activity or mode of action

A61L 2300/402 • • Anaesthetics-, analgesics, e.g. lidocaine

Project: N/A (A61M)**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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~
~~A61M 23/00 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 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~~

A61M 1/18	covered by	<u>B01D 63/02, B01D 63/04</u>
A61M 1/20	covered by	<u>B01D 63/06</u>
A61M 1/22	covered by	<u>B01D 63/08</u>
A61M 1/24	covered by	<u>B01D 63/10</u>
A61M 3/04	covered by	<u>A61M 3/02</u>
A61M 5/175	covered by	<u>A61M 5/168</u>
A61M 5/303	covered by	<u>A61M 5/30</u>
A61M 5/307	covered by	<u>A61M 5/30</u>
A61M 23/00	covered by	<u>A61M 25/01, A61M 29/00</u>
A61M 25/08	covered by	<u>A61M 25/0105</u>
A61M 25/082	covered by	<u>A61M 25/0116</u>
A61M 25/085	covered by	<u>A61M 25/0122</u>
A61M 25/088	covered by	<u>A61M 25/01</u>
A61M 25/092	covered by	<u>A61M 25/0133</u>
A61M 25/095	covered by	<u>A61M 25/01, A61B 5/00, A61N 1/056</u>
A61M 25/098	covered by	<u>A61M 25/0108</u>
A61M 25/12	covered by	<u>A61M 25/10, A61M 29/02</u>
A61M 25/14	covered by	<u>A61M 25/0021</u>
A61M 25/16	covered by	<u>A61M 25/0009</u>
A61M 25/18	covered by	<u>A61M 25/0014</u>
A61M 29/04	covered by	<u>A61M 29/02</u>
A61M 36/00	covered by	<u>A61M 37/0069, A61N 5/10</u>
A61M 36/02	covered by	<u>A61M 37/0069, A61N 5/10</u>
A61M 36/04	covered by	<u>A61M 37/0069, A61N 5/10, A61M 15/02</u>

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

Project: MP0199 (A61M)

U A61M 1/00

Suction or pumping devices for medical purposes; Devices for carrying-off, for treatment of, or for carrying-over, body-liquids; Drainage systems ([A61M 3/00](#) - [A61M 5/00](#), [A61M 11/00](#) - [A61M 16/00](#), [A61M 27/00](#) - [A61M 35/00](#) take precedence) ; catheters [A61M 25/00](#); tube connectors, tube couplings, valves or branch units specially adapted for medical use [A61M 39/00](#); devices for taking samples of blood [A61B 5/14](#); implements for holding wounds open [A61B 17/02](#); {saliva removers for dentists [A61C 17/04](#) } ; filters implantable into blood vessels [A61F 2/01](#); pumps in general [F04](#))

WARNING

Groups [A61M 1/0007](#), [A61M 1/0015](#), [A61M 1/0017](#), [A61M 1/0025](#) - [A61M 1/0029](#), [A61M 1/0033](#), [A61M 1/0035](#), [A61M 1/0045](#), [A61M 1/005](#) - [A61M 1/0054](#), [A61M 1/006](#), [A61M 1/0068](#) - [A61M 1/0072](#), [A61M 1/0082](#), [A61M 1/0086](#), [A61M 1/009](#) - [A61M 1/0098](#), [A61M 1/0204](#), [A61M 1/0213](#) - [A61M 1/0236](#), [A61M 1/0254](#), [A61M 1/0277](#), [A61M 1/0286](#), [A61M 1/0295](#), [A61M 1/062](#) - [A61M 1/068](#), [A61M 1/1001](#) - [A61M 1/1008](#), [A61M 1/1012](#) - [A61M 1/1036](#), [A61M 1/1039](#) - [A61M 1/1044](#), [A61M 1/1048](#) - [A61M 1/1051](#), [A61M 1/1055](#) - [A61M 1/1058](#), [A61M 1/1062](#) - [A61M 1/1065](#), [A61M 1/1074](#) - [A61M 1/1075](#), [A61M 1/1082](#), [A61M 1/1084](#), [A61M 1/1087](#) - [A61M 1/1089](#), [A61M 1/1096](#) - [A61M 1/1098](#), [A61M 1/122](#) - [A61M 1/125](#), [A61M 1/1601](#) - [A61M 1/1652](#), [A61M 1/166](#) - [A61M 1/1676](#), [A61M 1/1682](#) - [A61M 1/1684](#), [A61M 1/1688](#), [A61M 1/262](#) - [A61M 1/267](#), [A61M 1/281](#) - [A61M 1/284](#), [A61M 1/288](#), [A61M 1/301](#) - [A61M 1/309](#), [A61M 1/322](#) - [A61M 1/327](#), [A61M 1/3403](#) - [A61M 1/341](#), [A61M 1/3417](#), [A61M 1/3424](#) - [A61M 1/3437](#), [A61M 1/3444](#) - [A61M 1/3451](#), [A61M 1/3458](#), [A61M 1/3465](#), [A61M 1/3468](#), [A61M 1/3475](#) - [A61M 1/3493](#), [A61M 1/3601](#) - [A61M 1/362](#), [A61M 1/3629](#) - [A61M 1/3632](#), [A61M 1/3635](#) - [A61M 1/3638](#), [A61M 1/3641](#), [A61M 1/3644](#) - [A61M 1/3652](#), [A61M 1/3656](#) - [A61M 1/3661](#), [A61M 1/3667](#), [A61M 1/3673](#), [A61M 1/3676](#), [A61M 1/3678](#), [A61M 1/3683](#), [A61M 1/3686](#), [A61M 1/3689](#), [A61M 1/3692](#), [A61M 1/3695](#) - [A61M 1/3698](#) are incomplete pending reclassification of documents from group [A61M 1/00](#) or respective subgroup.

Until reclassification is complete, groups [A61M 1/00](#) or respective subgroup and [A61M 1/0007](#), [A61M 1/0015](#), [A61M 1/0017](#), [A61M 1/0025](#) - [A61M 1/0029](#), [A61M 1/0033](#), [A61M 1/0035](#), [A61M 1/0045](#), [A61M 1/005](#) - [A61M 1/0054](#), [A61M 1/006](#), [A61M 1/0068](#) - [A61M 1/0072](#), [A61M 1/0082](#), [A61M 1/0086](#), [A61M 1/009](#) - [A61M 1/0098](#), [A61M 1/0204](#), [A61M 1/0213](#) - [A61M 1/0236](#), [A61M 1/0254](#), [A61M 1/0277](#), [A61M 1/0286](#), [A61M 1/0295](#), [A61M 1/062](#) - [A61M 1/068](#), [A61M 1/1001](#) - [A61M 1/1008](#), [A61M 1/1012](#) - [A61M 1/1036](#), [A61M 1/1039](#) - [A61M 1/1044](#), [A61M 1/1048](#) - [A61M 1/1051](#), [A61M 1/1055](#) - [A61M 1/1058](#), [A61M 1/1062](#) - [A61M 1/1065](#), [A61M 1/1074](#) - [A61M 1/1075](#), [A61M 1/1082](#), [A61M 1/1084](#), [A61M 1/1087](#) - [A61M 1/1089](#), [A61M 1/1096](#) - [A61M 1/1098](#), [A61M 1/122](#) - [A61M 1/125](#), [A61M 1/1601](#) - [A61M 1/1652](#), [A61M 1/166](#) - [A61M 1/1676](#), [A61M 1/1682](#) - [A61M 1/1684](#), [A61M 1/1688](#), [A61M 1/262](#) - [A61M 1/267](#), [A61M 1/281](#) - [A61M 1/284](#), [A61M 1/288](#), [A61M 1/301](#) - [A61M 1/309](#), [A61M 1/322](#) - [A61M 1/327](#), [A61M 1/3403](#) - [A61M 1/341](#), [A61M 1/3417](#), [A61M 1/3424](#) - [A61M 1/3437](#), [A61M 1/3444](#) - [A61M 1/3451](#), [A61M 1/3458](#), [A61M 1/3465](#), [A61M 1/3468](#), [A61M 1/3475](#) - [A61M 1/3493](#),

[A61M 1/3601](#) - [A61M 1/362](#), [A61M 1/3629](#) - [A61M 1/3632](#), [A61M 1/3635](#) - [A61M 1/3638](#), [A61M 1/3641](#), [A61M 1/3644](#) - [A61M 1/3652](#), [A61M 1/3656](#) - [A61M 1/3661](#), [A61M 1/3667](#), [A61M 1/3673](#), [A61M 1/3676](#), [A61M 1/3678](#), [A61M 1/3683](#), [A61M 1/3686](#), [A61M 1/3689](#), [A61M 1/3692](#), [A61M 1/3695](#) - [A61M 1/3698](#) should be considered in order to perform a complete search.

- U A61M 1/10 · Blood pumps; Artificial hearts; Devices for mechanical circulatory assistance, e.g. intra-aortic balloon pumps (artificial heart valves [A61F 2/24](#); heart stimulation [A61H 31/00](#))
- U A61M 1/101 · {Non-positive displacement pumps, e.g. impeller, centrifugal, vane pumps}
- U A61M 1/1029 · · · {Drive systems therefor}
- M A61M 1/1031 · · · ¶ {using a motor with canned rotor, i.e. a motor enclosed within a casing along with the rotor so that the motor bearings are lubricated by the blood that is being pumped}
- M A61M 1/1032 · · · · ¶ {with hydraulic or pneumatic driving means}
- M A61M 1/1034 · · · · ¶ {using rotating cables for driving}
- M A61M 1/1036 · · · · ¶ {using rotating magnets for driving}

Project: RP0157 (A61M)

- U A61M 5/00 **Devices for bringing media into the body in a subcutaneous, intra-vascular or intramuscular way; Accessories therefor, e.g. filling or cleaning devices, arm-rests (vaccination appliances for veterinary use [A61D 1/025](#)); tube connectors, tube couplings, valves or branch units specially adapted for medical use [A61M 39/00](#); containers specially adapted for medical or pharmaceutical purposes [A61J 1/00](#); combinations of vial and syringe for mixing or transferring their contents [A61J 1/20](#); holders for containers for collecting, storing or administering blood or medical fluids [A61J 1/16](#))**
- U A61M 5/14 · Infusion devices, e.g. infusing by gravity; Blood infusion; Accessories therefor (suction in pumping blood transfusion [A61M 1/02](#); {infusion containers [A61J 1/05](#)})
- U A61M 5/168 · · Means for controlling media flow to the body or for metering media to the body, e.g. drip meters, counters; {Monitoring media flow to the body (flow control in general [G05D 7/00](#))}
- M A61M 5/172 · · · electrical or electronic {([A61M 5/16804](#) and, [A61M 5/16831](#) take precedence)}
- U A61M 5/178 · Syringes
- M A61M 5/24 · · Ampoule syringes, i.e. syringes with needle for use in combination with replaceable ampoules or carpules, e.g. automatic {(ampoules or carpules [A61J 1/06](#))}
- M A61M 5/2422 · · · {*not used using emptying means to expel or eject media, see subgroups and e.g. pistons, deformation [A61M 5/24](#) of the ampoule, or telescoping of the ampoule*}
- M A61M 5/2425 · · · · {emptied by compression of deformable ampoule or carpule wall}
- M A61M 5/2429 · · · · {emptied by telescoping of ampoules or carpules with the syringe body}
- U A61M 5/28 · · Syringe ampoules or carpules, i.e. ampoules or carpules provided with a needle
- M A61M 5/281 · · · {*Not used using emptying means to expel or eject media, see subgroups and e.g. pistons, deformation [A61M 5/28](#) of the ampoule, or telescoping of the ampoule*}
- M A61M 5/282 · · · · {emptied by compression of deformable ampoule or carpule wall}

- M A61M 5/283 · · · {emptied by sliding the *telescoping of* ampoules or carpules *relative to with* the *needle holding base syringe body*}
- M A61M 5/285 · · · {with sealing means to be broken or opened ~~(not used, see subgroups)~~}
- M A61M 5/42 · having means for desensitising skin, for protruding skin to facilitate piercing, or for locating point where body is to be pierced ~~(not used, see subgroups)~~}

Project: N/A (A61M)

U A61M 2202/00

Special media to be introduced, removed or treated (applying radioactive material [A61N 5/1028](#))NOTE

The classification symbols [A61M 2202/0007](#) - [A61M 2202/0092](#) are not listed first when assigned to patent documents.

They are used only when associated to other subgroups of [A61M 2202/00](#) in combination sets

Example:

[A61M 2202/0417](#), [A61M 2202/0057](#)

A61M 2202/04

- Liquids

NOTE

The codes can be followed by additional symbols. The symbols have the meaning as listed below:

~~+A fluid entering a filter;~~
~~+B fluid leaving the cross flow filter without having~~
~~passed through the filtering element ;~~
~~+C filtrate, i.e. the fluid passing through the filter;~~
~~+D residue retained by the filter due to size;~~
~~+E retained by adsorption;~~
~~+F changed by biological action;~~
~~+H product to be retained or harvested, e.g. by pheresis;~~
~~+K changed by chemical action;~~
~~+W product washed out;~~
~~+Z starting product created by centrifuging.~~

+A fluid entering a filter;
+B fluid leaving the cross-flow filter without having passed through the filtering element ;
+C filtrate, i.e. the fluid passing through the filter;
+D residue retained by the filter due to size;
+E retained by adsorption;
+F changed by biological action;
+H product to be retained or harvested, e.g. by pheresis;
+K changed by chemical action;
+W product washed out;
+Z starting product created by centrifuging.

A61M 2230/00

Measuring parameters of the user

NOTE

~~+A following the symbol means that the parameter is used for controlling an apparatus~~

+A following the symbol means that the parameter is used for controlling an apparatus

The classification symbol [A61M 2230/005](#) is not listed first when assigned to patent documents.

It is used only when associated to other subgroups of [A61M 2230/00](#).

Example:

[A61M 2230/06](#) + [A61M 2230/005](#)

Project: RP0157 (A61M)

E A61M 2240/00

Specially adapted for neonatal use

D A61M 2240/02

~~To be deleted with administrative transfer to parent group~~

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

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](#)

Project: MP0139 (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. Since subclass **A61P** is not activated in ECLA, relevant IPC Note (2) is not applicable.

WARNING

The groups of subclass A61Q are incomplete. See provisionally also **A61K7/00** and subgroups

Project: N/A (A62C)

U A62C 3/00 Fire prevention, containment or extinguishing specially adapted for particular objects or places (in oil wells [E21B 29/08](#), [A62C 35/00](#); in mines or tunnels [E21F 5/00](#)); for nuclear reactors [G21C 9/04](#))

- A62C 3/14
- {in connection with doors, windows, ventilators, partitions, or shutters, e.g. automatic closing}

Project: MP0139 (A62C)

M A62C 37/00 Control of fire-fighting equipment (heat-sensitive devices [G01K](#))

WARNING

Groups A62C 37/04 and A62C 37/28 are no longer used for the classification of new documents. Documents of these groups will be systematically transferred to groups A62C 37/36 - A62C 37/48

Project: N/A (A62C)

- A62C 37/04
- {with electrically-controlled release}

U A62C 37/08 · comprising an outlet device containing a sensor, or itself being the sensor, i.e. self-contained sprinklers

- A62C 37/28
- · {with an explosive charge}

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

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

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 harmful chemical substance as its fundamental goal, and this subset is in itself novel and unobvious, this subset is ~~covered~~covered by group [A62D 3/00](#).
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.
3. In this group, 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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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 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~~

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 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

Project: MP0139 (A63B)**M A63B 9/00**

Climbing poles, frames, or stages {(climbing walls for mountaineering training [A63B 69/0048](#); endless loop ladders [A63B 22/04](#))}

WARNING

Documents are being reclassified to [A63B 21/072](#); [A63B 21/0728](#) is complete

M A63B 15/00

Clubs for gymnastics or the like {, e.g. for swinging exercises}

WARNING

Documents are being reclassified to [A63B 21/072](#)

Project: N/A (A63B)**U A63B 29/00**

Apparatus for mountaineering (helmets [A42B 3/00](#); non-skid devices or attachments for footwear, e.g. mountain climbing irons [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](#))

- U 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](#)
- A63B 29/025
- • {Ice screws}
- U A63B 37/00** **Solid balls; {Rigid hollow balls}; Marbles (heavy throwing balls [A63B 65/06](#))**
- U A63B 37/02
- Special cores {([A63B 37/0001](#), [A63B 37/0003](#) take precedence)}
- U A63B 37/08
- • Liquid cores; Plastic cores
- A63B 2037/082
- • • {Granular, **eg e.g.** comprising beads}

Project: MP0139 (A63B)

- U A63B 53/00** **Golf clubs**
- NOTE**
When classifying in group [A63B 53/00](#) and subgroups, 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 53/00](#) is impacted by reclassification into groups [A63B 60/00](#) and [A63B 60/46](#).
Groups [A63B 53/00](#) and [A63B 60/00](#), [A63B 60/46](#) should be considered in order to perform a complete search.
- U A63B 53/04
- Heads
- WARNING**
Group [A63B 53/04](#) is impacted by reclassification into groups [A63B 60/00](#) and [A63B 60/46](#).
Groups [A63B 53/04](#), [A63B 60/00](#), and [A63B 60/46](#) should be considered in order to perform a complete search.
- U A63B 2053/0433
- • {with special sole configurations}
- M A63B 2053/0437
- • • {with special crown configurations}

WARNING**not complete, pending the completion of a reclassification****Project: N/A (A63B)**

- U A63B 59/00** **Bats, rackets or the like, not covered by groups [A63B 49/00](#) - [A63B 57/00](#) {(details [A63B 60/00](#))}**

NOTES

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

- "ball" covers also pucks or other objects to be hit during the game.
2. When classifying in group [A63B 59/00](#) and subgroups, 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 59/00](#) is impacted by reclassification into groups [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.

- A63B 59/30
- forming hand-held **throwignthrowing** or catching aids for use with rings, discs, wheels or cylindrical **throwignthrowing**-bodies, or for use with balls having a central bore
- A63B 59/40
- Rackets or the like with flat striking surfaces for hitting a ball **int he in the** air, e.g. for table tennis

WARNING

Group [A63B 59/40](#) is impacted by reclassification into groups [A63B 59/42](#), [A63B 59/45](#), [A63B 60/00](#), [A63B 60/46](#), and [A63B 2102/16](#).

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

- U A63B 63/00** **Targets or goals for ball games (golf cups [A63B 57/40](#))**
A63B 63/003
- {non-electronic means for locating the point of impact on a target or the point of entry in the goal}
- U A63B 67/00** **Sporting games or accessories therefor, not provided for in groups [A63B 1/00](#) - [A63B 65/00](#)**
- U A63B 67/06
- Ring or disc tossing games, {e.g. quoits; Throwing or tossing games, e.g. using balls; Games for manually rolling balls, e.g. marbles}
- A63B 2067/063
- • {tossing, e.g. rings or horseshoes around or on, e.g. posts, hooks}
- U A63B 69/00** **Training appliances or apparatus for special sports (training of parachutists [B64D 23/00](#))**
- U A63B 69/0028
- {for running, jogging or speed-walking (movable endless bands [A63B 22/02](#))}
- A63B 2069/0037
- • {safety devices, **ege.g.** warning bells, rear-view mirrors}

Project: MP0139 (A63B)

- U A63B 69/36
- for golf
- U A63B 69/3623
- • {for driving ([A63B 69/3608](#), [A63B 69/3658](#), [A63B 69/3661](#), [A63B 69/3667](#) and [A63B 69/3691](#) take precedence)}
- M A63B 69/3641
- • • {with guides for guiding the swing}

WARNING

Not complete, pending the reclassification; see also other subgroups of [A63B-69/00](#)

- 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 71/08
- Body-protectors for players or sportsmen, {i.e. body-protecting accessories affording protection of body parts against blows or collisions}(protective clothing or garments for sporting purposes [A41D 13/00](#))
- U A63B 71/14
- • for the hands, e.g. baseball, boxing or golfing gloves (archer's finger tabs [F41B 5/1473](#))

- U A63B 71/141 . . . {in the form of gloves (gloves in general [A41D 19/00](#))}
- M A63B 71/146 {Golf gloves}

WARNING

not complete, see A63B 71/148

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~A63C 5/025 covered by A63C 5/00~~~~A63C 5/14 covered by A63C 5/12~~A63C 5/025 covered by [A63C 5/00](#)A63C 5/14 covered by [A63C 5/12](#)**Project: N/A (A63F)**

- U **A63F 3/00** **Board games; Raffle games (racing games, traffic games, or obstacle games characterised by figures moved by action of the players [A63F 9/14](#))**
- U A63F 3/00173 . {Characteristics of game boards, alone or in relation to supporting structures or playing piece}
- U A63F 3/0052 . . {with a plurality of boards used during one game, i.e. separate game boards or playing areas}
- A63F 2003/00526 . . . {for playing different games, **e.g. g.** with playing surfaces on opposite sides of the board ([A63F 2003/00968](#) takes precedence)}
- U **A63F 13/00** **Video games, i.e. games using an electronically generated display having two or more dimensions {(Gaming systems which provide a financial reward [G07F 17/32](#))}**
- U A63F 13/40 . Processing input control signals of video game devices, e.g. signals generated by the player or derived from the environment
- U A63F 13/42 . . by mapping the input signals into game commands, e.g. mapping the displacement of a stylus on a touch screen to the steering angle of a virtual vehicle
- A63F 13/428 . . . involving motion or position input signals, e.g. signals representing the rotation of **an input an input** controller or a player's arm motions sensed by accelerometers or gyroscopes
- U **A63F 2300/00** **Features of games using an electronically generated display having two or more dimensions, e.g. on a television screen, showing representations related to the game**
- U A63F 2300/80 . specially adapted for executing a specific type of game
- A63F 2300/8058 . . Virtual breeding, **e.g.g.** tamagotchi

Project: MP0139 (A63G)

- U **A63G 31/00** **Amusement arrangements {(hoop exercising apparatus driven by the user [A63B 19/00](#))}**

M A63G 31/007 · {involving water}

WARNING

Not complete pending a reorganisation. See also A63G 31/00 and subgroups

Project: N/A (A63H)

A63H

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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
A63H 3/33	covered by	<u>A63H 3/28</u>
A63H 17/267	covered by	<u>A63H 17/262</u>
A63H 17/273	covered by	<u>A63H 17/26</u>
A63H 17/385	covered by	<u>A63H 17/36</u>
A63H 17/39	covered by	<u>A63H 17/36</u>
A63H 17/41	covered by	<u>A63H 17/40</u>
A63H 25/00	covered by	<u>A63H 29/16, A63H 31/00</u>
A63H 25/02	covered by	<u>A63H 29/16, A63H 31/00</u>
A63H 27/01	covered by	<u>A63H 27/007</u>
A63H 27/127	covered by	<u>A63H 27/12</u>
A63H 27/133	covered by	<u>A63H 27/12</u>
A63H 27/16	covered by	<u>A63H 27/001, A63H 33/16</u>
A63H 27/18	covered by	<u>A63H 27/00, A63H 27/02</u>
A63H 27/20	covered by	<u>A63H 27/00</u>
A63H 27/22	covered by	<u>A63H 27/00, A63H 29/18</u>
A63H 27/24	covered by	<u>A63H 27/02, A63H 29/00, A63H 29/22</u>
A63H 27/26	covered by	<u>A63H 27/06</u>
A63H 27/28	covered by	<u>A63H 27/008</u>
A63H 27/30	covered by	<u>A63H 27/02</u>
A63H 27/32	covered by	<u>A63H 27/00</u>

- U A63H 27/00** Toy aircraft; Other flying toys (toys with parachutes [A63H 33/20](#)); {Starting or launching devices therefor}
- A63H 27/06 · {Jet-propelled flying toys, e.g. aeroplanes ([A63H 27/04](#), [A63H 27/12](#) take precedence)}
- U A63H 27/10** · Balloons (connection of valves to inflatable elastic bodies [B60C 29/00](#); {other than toy aspects [B64B 1/40](#)})
- A63H 2027/1091 · · {~~with~~objectwith object inserted within; Means or methods for insertion of objects}

Project: N/A (B01D)**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

- 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).
- 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.
- For apparatus used in drying or evaporation, [F26](#) takes precedence over [B01D](#).
- Group [B01D 59/00](#) takes precedence over the other groups of this subclass and over other subclasses in class [B01](#)

WARNINGS

- The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following groups:

~~B01D 19/0454 covered by B01D 9/00~~
~~B01D 15/04 covered by B01J 39/00~~
~~B01J 49/02~~
~~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 29/76~~
~~B01D 29/37 covered by B01D 29/336,~~
~~B01D 29/356~~
~~B01D 33/052 covered by B01D 33/64~~
~~B01D 35/01 covered by~~
~~B01D 36/001~~
~~B01D 61/26 covered by A61M 1/1656~~
~~B01D 61/34 covered by A61M 1/16~~

B01D 19/0454 covered by B01D 9/00
B01D 15/04 covered by B01J 39/00 - B01J 49/02
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 29/76
B01D 29/37 covered by B01D 29/336, B01D 29/356
B01D 33/052 covered by B01D 33/64
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](#).
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.

B01D 23/00

{Gravity filters (with moving filtering elements [B01D 33/0035](#))}

B01D 23/02

- {with fixed filter bodies}

B01D 23/04

- • {with filter bags filtering from the inside}

B01D 23/06

- • {with rigid tubular bodies}

B01D 23/08

- • {with saucer-shaped filtering elements}

B01D 23/10

- {with loose filter material}

B01D 23/12

- • {with filtering material supported on louvred sides}

B01D 23/14

- • {carbon filters}

B01D 23/16

- • {Sand or gravel filters {(filterbed-basin filters, small bed filters, e.g. in closed housing [B01D 23/10](#))}

B01D 23/18

- • {Bottoms of filter beds}

B01D 23/20

- {Feed or discharge devices (nozzles [B05B](#))}

B01D 23/24

- {Regeneration of the filter material in the filter}

B01D 23/26

- {integrally combined with devices for controlling the filtration {(shutting-off elements, changing over from one element to another [B01D 35/12](#), [B01D 35/14](#); control of filtration processes [B01D 37/04](#))}

B01D 23/28

- {Filter funnels; Holders therefor (funnels in general [B67C](#); {funnels for laboratory use [B01L](#); coffee or tea strainers or apparatus [A47J 31/00](#) - [A47J 31/06](#))}

U 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)

- B01D 25/04 · {with screens or sheets, e.g. cloths, paper ([B01D 25/12](#) takes precedence)}
- B01D 25/06 · {with loose, granular or fibrous filtering material}
- B01D 25/10 · {in which the suspended particles form the filtering medium}
- U B01D 25/12 · Filter presses, i.e. of the plate and frame type {(filter presses in which the liquid is removed by pressing-out solid matter [B30B](#))}
- B01D 25/14 · · {Clamping means {clamping of filter cloth or similar securing means}}
- U B01D 25/16 · {Edge filtering elements, i.e. using contiguous impervious surfaces}
- B01D 25/20 · · {of spirally or helically wound bodies}
- U **B01D 35/00** **Other filtering devices; Auxiliary devices for filtration; Filter housing constructions**
WARNING
See WARNING after subclass title, particularly item (14)
- B01D 35/08 · {Filters with tipping buckets or trays}

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following groups:

~~B01F 17/02 - B01F 17/56 covered by B01F 17/00 - B01F 17/0092~~

B01F 17/02-B01F 17/56 covered by B01F 17/00-B01F 17/0092

- U **B01F 5/00** **Flow mixers (sprayers, atomisers [B05B](#)); Mixers for falling materials, e.g. solid particles ([B01F 13/04](#) takes precedence; centrifugal mixers [B04](#))**
- U B01F 2005/0002 · {Direction of flow or arrangement of feed and discharge openings}
- U B01F 2005/0028 · · {Laminar or parallel flow, i.e. every point of the flow moves in layers which do not intermix}
- B01F 2005/0031 · · · {Parallel flow, i.e. every point of the flow moves in parallel layers where intermixing can occur by diffusion or which do not intermix; Focusing-, i.e. compressing parallel layers without intermixing them}
- U B01F 5/06 · Mixers in which the components are pressed together through slits, orifices, or screens; {Static mixers; Mixers of the fractal type}{([B01F 7/164](#), [B01F 7/225](#) take precedence; } turbo-mixers [B01F 5/16](#); colloid-mills [B02C](#); mixing valves [F16K 11/00](#)}
- U B01F 5/0602 · · {Static mixers, i.e. mixers in which the mixing is effected by moving the components jointly in changing directions, e.g. in tubes provided with baffles or obstructions ([B01F 5/0661](#), [B01F 5/0682](#) take precedence)}
- U B01F 5/0609 · · · {Mixing tubes, e.g. the material being submitted to a substantially radial movement or to a movement partially in reverse direction}
- U B01F 5/061 · · · · {Straight mixing tubes, e.g. with smooth walls, having baffles or obstructions therein without substantial pressure drop; Baffles therefor (for falling-particle mixers [B01F 5/246](#))}

- B01F 5/0616 {the baffles being made by deforming flat pieces of material, e.g. by bonding, folding, deep drawing ([B01F 5/0614](#) takes precedence)}
- U B01F 7/00 Mixers with rotary stirring devices in fixed receptacles, {i.e. movement of the receptacle not being meant to effect the mixing ([B01F 13/08](#) takes precedence)}; Kneaders ([B01F 13/04](#) takes precedence; {devices especially adapted for mixing foundry sand [B22C 5/04](#))}**
- U B01F 7/02 . with stirrers rotating about a horizontal or inclined axis
- U B01F 7/08 . . with helices {or sections of helices (with a housing closely surrounding the helices, i.e. extruders, [B29C 47/38](#))}
- B01F 7/087 . . . {with two or more helices in respective separate casings, e.g. one casing inside the other}

Project: N/A (B01J)

B01J

CHEMICAL OR PHYSICAL PROCESSES, e.g. CATALYSIS, COLLOID CHEMISTRY; THEIR RELEVANT APPARATUS (processes or apparatus for specific applications, see the relevant places for these processes or apparatus, e.g. [F26B 3/08](#))

NOTES

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

- "solid particles" includes such particles whether catalysts, reactants or inert in solid, semi-solid or pasty state;
- "fluidised particles" means finely divided solid particles lifted and agitated by a stream of fluid;
- "fluidised bed-technique" means fluid-solid contacting technique in which finely divided particles are lifted and agitated by a rising stream of fluid, said stream having such a speed as to form a lower dense phase (the "bed") and an upper dilute fluidised phase of "fluidised particles";
- "processes conducted in the presence of solid particles" does not include processes wherein the only solid particles present are formed during the reaction.

2. 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

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

[B01J 37/025](#) covered by [B01J 37/02](#)

[B01J 37/025](#) covered by [B01J 37/02](#)

- U B01J 2219/00 Chemical, physical or physico-chemical processes in general; Their relevant apparatus**
- U B01J 2219/00781 . Aspects relating to microreactors
- U B01J 2219/00819 . . Materials of construction
- U B01J 2219/00837 . . . comprising coatings other than catalytically active coatings
- B01J 2219/00842 For protection channel surface, *ee.g.* ~~g~~-corrosion protection
- B01J 2219/00846 . . . comprising nano-structures, *ee.g.* ~~g~~-nano-tubes
- B01J 2219/00849 . . . comprising packing elements, *ee.g.* ~~g~~-glass beads
- U B01J 2231/00 Catalytic reactions performed with catalysts classified in [B01J 31/00](#)**

NOTE

In this group indexing is done according to the specific catalytic reaction. In case of multiple catalytic activities only those are indexed which are specifically

exemplified, i.e. by ways of worked examples, specific claims or explicit alternatives therein.

- U B01J 2231/40
 - Substitution reactions at carbon centres, e.g. C-C or C-X, i.e. carbon-hetero atom, cross-coupling, C-H activation or ring-opening reactions
- U B01J 2231/42
 - • Catalytic cross-coupling, i.e. connection of previously not connected C-atoms or C- and X-atoms without rearrangement
- U B01J 2231/4205
 - • • C-C cross-coupling, e.g. metal catalyzed or Friedel-Crafts type
- B01J 2231/4272
 - • • • via enolates or aza-analogues, added as such or made in-situ, e.g. $\text{ArY} + \text{R}_2\text{C}=\text{C}(\text{OM})\text{Z} \rightarrow \text{ArR}_2\text{C}-\text{C}(\text{O})\text{Z}$, in which R is H or alkyl, M is Na, K or SiMe_3 , Y is the leaving group, Z is Ar or OR' and R' is alkyl

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~-B01L 3/14 covered by B01L 3/50~~

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

Project: N/A (B05B)

- U B05B 5/00 **Electrostatic spraying apparatus; Spraying apparatus with means for charging the spray electrically; Apparatus for spraying liquids or other fluent materials by other electric means**
- U B05B 5/025
 - Discharge apparatus, e.g. electrostatic spray guns
- U B05B 5/053
 - • Arrangements for supplying power, e.g. charging power
- B05B 5/0537
 - • • {comprising a charge return path between the target and the spraying apparatus which is not the "true" earth, i.e. using a direct charge return path like a wire or the like, e.g. "floating earth"}[—]
- B05B 12/00 Arrangements or special adaptations of delivery controlling means in spraying systems (controlling in general [G05](#) {; valves in spray head or nozzles [B05B 1/30](#) and sub-groups-})**

Project: MP0115 (B05B)

- U B05B 15/00 **Details of spraying plant or apparatus not otherwise provided for; Accessories (accessories applicable to other methods of applying liquids or other fluent materials to surfaces [B05C](#))**

- M B05B 15/002 · {Means for stirring, mixing or homogenising the material ~~to be sprayed~~ in a container *to be sprayed*}
- U B05B 15/06 · Mountings, supporting or holding means, or rests for spray heads or other outlets {or for the whole spraying apparatus} when in use or out of use {(B05B 13/005, B05B 15/1225 take precedence)}
- M B05B 15/065 · · {Mounting arrangements for fluidically connecting the spray apparatus, spray heads or other outlets to a flow conduit (~~Joints in general F16L 13/00 - F16L 37/00~~*joints in general F16L 13/00 - F16L 37/00*)}

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~B05C 5/04~~ — covered by — ~~B05C 5/001, B05C 11/1042~~
B05C 5/04 covered by *B05C 5/001, B05C 11/1042*

Project: N/A (B05D)

- U B05D 2425/00 **Indexing scheme corresponding to the position of each layer within a multilayer coating relative to the surface**
- B05D 2425/01 · top layer/ last layer-, i.e. first layer from the top surface

Project: N/A (B07C)

- U B07C 5/00 **Sorting according to a characteristic or feature of the articles of material being sorted, e.g. by control effected by devices which detect or measure such characteristic or feature; Sorting by manually actuated devices, e.g. switches (sorting by hand only [B07C 7/00](#); separating solids from solids by sieving, screening, or sifting or by using gas currents or other separating by dry methods applicable to bulk material [B07B](#))**
- U B07C 5/34 · Sorting according to other particular properties {(material testing per se [G01N](#); quality control [G07C 3/14](#))}
- B07C 5/3412 · · {according to a code applied to the object which indicates a property of the object, e.g. quality class, contents or incorrect indication {(sorting according to size measured by light-responsive means [B07C 5/10](#); sorting according to optical properties [B07C 5/342](#); for packages [B65D 79/02](#); for information carriers [G06K 7/00](#))}

B07C 9/00

{Sorting, with or without orientating, not otherwise provided for, e.g. sorting of table equipment (washing and rinsing machines for tableware [A47L 15/00](#), [A47L 15/02](#); machines for polishing table equipment [A47L 21/02](#))}

Project: N/A (B09B)

B09B

DISPOSAL OF SOLID WASTENOTES

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 or 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 15/04 — 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
<u>A23J 1/16</u>	<i>Obtaining proteins from waste water of starch manufacturing plants of like wastes</i>
<u>A23K 10/38</u>	<i>Animal feeding-stuffs from distillers' or brewers' waste</i>
<u>A23K 10/28</u>	<i>Animal feeding-stuffs from waste products of dairy</i>
<u>A23K 10/20</u>	<i>Animal feeding-stuffs from kitchen waste</i>
<u>A43B 1/12</u>	<i>Footwear made of rubber waste</i>
<u>A61L 11/00</u>	<i>Disinfection or sterilisation methods specially adapted for refuse</i>
<u>A62D 3/00</u>	<i>Chemical means for combatting harmful chemical agents; processes for making harmful chemical agents harmless</i>
<u>B01D 53/34</u>	<i>Chemical purification of smoke or fumes, e.g. flue gas</i>
<u>B02C 18/0084</u>	<i>Disintegrating by knives or other cutting or tearing members, which chop material into fragments, specially adapted for disintegrating garbage, waste or sewage</i>
<u>B03B 7/00</u>	<i>Combinations of wet processes or apparatus with other processes or apparatus, e.g. for dressing ores or garbage</i>
<u>B03B 9/06</u>	<i>General arrangement of separating plant, e.g. flow sheets, specially adapted for refuse</i>
<u>B05B 15/04</u>	<i>Control of spray area of spraying plant, e.g. masking, side shields; Means for collection or re-use of excess material</i>

<u>B08B 15/00</u>	<i>Prevent escape of dirt or fumes from the area where they are produced; Collecting or removing dirt or fumes from that area</i>
<u>B23D 25/14</u>	<i>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</i>
<u>B27B 33/20</u>	<i>Edge trimming saw blades or tools combined with means to disintegrate waste</i>
<u>B29B 17/00</u>	<i>Recovery of plastics or other constituents of waste material containing plastics</i>
<u>B30B 9/32</u>	<i>Presses for consolidating scrap metal or for compacting used cars</i>
<u>B63B 17/06</u>	<i>Refuse discharge from vessels, e.g. for ash {B63J 4/006} Arrangements of installation for treating waste water or sewage on vessels</i>
<u>B65F 1/00</u>	<i>Refuse receptacles</i>
<u>B65F 3/00</u>	<i>Vehicles particularly adapted for collecting refuse</i>
<u>B65F 5/00</u>	<i>Gathering or removal of refuse otherwise than by receptacles or vehicles</i>
<u>B65F 7/00</u>	<i>Cleaning or disinfecting devices combined with refuse receptacles or refuse vehicles</i>
<u>C03C 1/00</u>	<i>Ingredients generally applicable to manufacture of glasses, glazes or vitreous enamels</i>
<u>C04B 7/24</u>	<i>Hydraulic cements from oil shales, residues or waste other than slag</i>
<u>C04B 11/26</u>	<i>Calcium sulfate cements from phosphogypsum or from waste, e.g. purification products of smoke</i>
<u>C04B 18/04</u>	<i>Waste materials or refuse used as fillers for mortars, concrete, artificial stone or the like</i>
<u>C04B 22/0006</u>	<i>Waste inorganic materials used as active ingredients for mortars, concrete, artificial stone or the like</i>
<u>C04B 24/001</u>	<i>Waste organic materials used as active ingredients for mortars, concrete, artificial stone or the like</i>
<u>C05F 9/00</u>	<i>Fertilisers made from household or town refuse</i>
<u>C08J 11/00</u>	<i>Recovery of waste materials of macromolecular substances</i>
<u>C08L 17/00</u>	<i>Compositions of reclaimed rubber</i>
<u>C10B 53/00</u>	<i>Destructive distillation, specially adapted for particular solid raw materials or solid raw materials in special form</i>
<u>C10B 57/00</u>	<i>Other processes not covered before; Features of destructive distillation processes in general</i>
<u>C10G 1/10</u>	<i>Production of liquid hydrocarbon mixtures from rubber or rubber waste</i>
<u>C10L 5/46</u>	<i>Solid fuels essentially based on sewage, house or town refuse</i>
<u>C10L 5/48</u>	<i>Solid fuels essentially based on industrial residues and waste materials</i>
<u>C10M 175/02</u>	<i>Working-up used lubricants based on mineral oils</i>
<u>C11B 13/00</u>	<i>Recovery of fats, fatty oils, or fatty acids from waste materials</i>
<u>C11D 19/00</u>	<i>Recovery of glycerol from a saponification liquor</i>
<u>C12F 3/00</u>	<i>Recovery of by-products</i>
<u>C12F 3/08</u>	<i>Recovery of alcohol from press residues or other waste material</i>

<u>C12P 7/08</u>	Biochemical production of ethanol from waste
<u>C22B 7/00</u>	Working-up raw materials other than ores, e.g. scrap, to produce non-ferrous metals or compounds thereof
<u>C22B 19/28</u>	Obtaining zinc or zinc oxide from muffle furnace residues
<u>C22B 19/30</u>	Obtaining zinc or zinc oxide from metallic residues or scrap
<u>C22B 25/06</u>	Obtaining tin from scrap
<u>D01B</u>	Mechanical treatment of natural fibrous or filamentary material to obtain fibres or filaments, e.g. for spinning
<u>D01C 5/00</u>	Carbonising rags to recover animal fibres
<u>D01F 13/00</u>	Recovery of starting material, waste material or solvents during the manufacture of artificial filaments or the like
<u>D01G 11/00</u>	Disintegrating fibre-containing articles to obtain fibres for re-use
<u>D01H 11/00</u>	Arrangements for confining or removing dust, fly, or the like
<u>D06L 1/10</u>	Regeneration of used chemical baths used for dry-cleaning or washing fibres, fabrics or the like
<u>D21B 1/08</u>	Dry treatment of waste paper or rags for making paper or for the production of cellulose
<u>D21B 1/32</u>	Defibrating waste paper
<u>D21C 5/02</u>	Processes for obtaining cellulose by working-up waste paper
<u>D21C 11/14</u>	Regeneration of pulp liquors by wet combustion
<u>D21F 1/66</u>	Re-use of pulp-water in wet end machines for making continuous webs of paper
<u>D21H 17/01</u>	Waste products added to the pulp or used in paper-impregnating material
<u>E03F</u>	Sewers, Cesspools
<u>E04F 17/10</u>	Arrangements in building for the disposal of refuse
<u>F23B 5/00</u>	Combustion apparatus arrangements for burning uncombusted material from primary combustion
<u>F23G</u>	Consuming waste products by combustion
<u>F23J</u>	Removal or treatment of combustion products or combustion residues
<u>G03C 11/24</u>	Removing emulsion from waste photographic material
<u>H01B 15/00</u>	Apparatus or processes for salvaging material from electric cables
<u>H01M 6/52</u>	Reclaiming serviceable parts of waste cells or batteries
<u>H01M 10/54</u>	Reclaiming serviceable parts of waste accumulators

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~B09C 1/04 covered by B09C 1/02~~

B09C 1/04 covered by B09C 1/02

Project: N/A (B21B)

U B21B 13/00

Metal-rolling stands, i.e. an assembly composed of a stand frame, rolls, and accessories (B21B 17/00 - B21B 23/00 take precedence; details, component parts, accessories, auxiliary means, procedures in connection with metal rolling, see the relevant groups)

U B21B 13/14

- having counter-pressure devices acting on rolls to inhibit deflection of same under load; {Back-up rolls}(counter-pressure devices as such [B21B 29/00](#))

B21B 13/147

- {Cluster mills, e.g. Sendzimir mills, Rohn mills, i.e. each work roll being supported by two rolls only arranged symmetrically with respect to the plane passing through the working rolls}

Project: N/A (B21C)

U B21C 37/00

Manufacture of metal sheets, bars, wire, tubes or like semi-manufactured products, not otherwise provided for (by rolling [B21B](#); by working or processing semi-finished sheet metal, profiles, tubes, or wire [B21D](#) or [B21F](#); by casting [B22](#); by material-removing machine tools [B23](#); by welding, e.g. cladding or plating [B23K](#); by grinding or polishing [B24](#); by electroforming [C25D 1/00](#); by drawing or extruding, see the relevant groups); Manufacture of tubes of special shape

U B21C 37/06

- of tubes or metal hoses; Combined procedures for making tubes, e.g. for making multi-wall tubes (bending sheets for making tubes [B21D 5/00](#); seaming by folding [B21D 39/02](#))

U B21C 37/15

- Making tubes of special shape; Making tube fittings {([B21C 37/0803](#), [B21C 37/104](#), [B21C 37/124](#), take precedence)}

B21C 37/155

- {Making} tubes with non circular section ([B21C 37/151](#), [B21C 37/154](#) take precedence)}

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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	covered by	B22C 15/23
B22C 19/01	covered by	B22C 19/00
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

Project: N/A (B22F)

B22F

WORKING METALLIC POWDER; MANUFACTURE OF ARTICLES FROM METALLIC POWDER; MAKING METALLIC POWDER (processes or devices for granulating materials in general [B01J 2/00](#); making ceramics by compacting or sintering [C04B](#), e.g. [C04B 35/64](#); for the production of metals as such, see class [C22](#); reduction or decomposition of metal compounds in general [C22B](#); making alloys by powder metallurgy [C22C](#); electrolytic production of metal powder [C25C 5/00](#))

NOTES

1. This subclass covers the making of metallic powder only insofar as powder with specific physical characteristics is made;
2. In this subclass, the following terms or expressions are used with the meanings indicated:
 - "metallic powder" covers powders containing a substantial proportion of non-metallic material;
 - "powder" includes somewhat larger particles which are worked, obtained or behave in a manner similar to powder, e.g. fibres.

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~B22F 3/035 covered by B22F 3/03~~

B22F 3/035	covered by	B22F 3/03
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U B22F 1/00

Special treatment of metallic powder, e.g. to facilitate working, to improve properties {(treatment of powder by mechanical means, e.g. by grinding, milling, rolling [B22F 9/04](#)); Metallic powders per se, e.g. mixtures of particles of different composition ([C04](#), [C08](#) take precedence; {amorphous powder [B22F 9/002](#))}

U B22F 1/0003

• {Metallic powders per se; Mixtures of metallic powders; Metallic powders mixed with a lubricating or binding agent (making ferrous alloys using a mixture of prealloyed powders [C22C 33/0207](#))}

U B22F 1/0007

• • {Metallic powder characterised by its shape or structure, e.g. fibre structure}

U B22F 1/0011

• • • {Metallic powder characterised by size or surface area only}

U B22F 1/0018

• • • • {Nanometer sized particles}

B22F 2001/0037

• • • • • {Complex form nanoparticles-, e.g.. prism, pyramid, octahedron}

U B22F 9/00

Making metallic powder or suspensions thereof

U B22F 9/02

• using physical processes

U B22F 9/04

• • starting from solid material, e.g. by crushing, grinding or milling ({[C22C 1/1084](#) takes precedence); crushing, grinding or milling, in general, see the relevant subclasses, e.g. [B02C](#))

- B22F 2009/041 . . . {by mechanical alloying-, e.g. blending, milling}
- U B22F 9/06 . . . starting from liquid material
- U B22F 9/08 . . . by casting, e.g. through sieves or in water, by atomising or spraying (using electric discharge [B22F 9/14](#))
- U B22F 9/082 {atomising using a fluid (using centrifugal force [B22F 9/10](#))}
- B22F 2009/088 {Fluid nozzles-, e.g. angle, distance}
- B22F 2302/00 Metal Compound-, non-Metallic compound or non-metal composition of the powder or its coating**

Project: N/A (B23B)

B23B

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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
B23B 3/18	covered by	<u>B23B 3/16</u>
B23B 3/20	covered by	<u>B23B 3/16</u>
B23B 3/28	covered by	<u>B23B 3/00</u>
B23B 5/22	covered by	<u>B23B 31/00</u>
B23B 5/24	covered by	<u>B23Q 27/00</u> ; <u>B23B 35/00</u>
B23B 5/30	covered by	<u>B23Q 35/00</u>
B23B 5/34	covered by	<u>B23B 31/00</u> ; <u>B23B 33/00</u>
B23B 5/42	covered by	<u>B23Q 35/00</u>
B23B 5/44	covered by	<u>B23Q 27/00</u>
B23B 7/08	covered by	<u>B23B 7/04</u>
B23B 7/14	covered by	<u>B23B 7/12</u>
B23B 7/16	covered by	<u>B23B 7/12</u>
B23B 9/04	covered by	<u>B23B 9/02</u>
B23B 9/06	covered by	<u>B23B 9/02</u>
B23B 9/10	covered by	<u>B23B 9/08</u>
B23B 9/12	covered by	<u>B23B 9/08</u>
B23B 15/00	covered by	<u>B23Q 7/00</u>
B23B 17/00	covered by	<u>B23Q 1/01</u> ; <u>B23Q 1/03</u> ; <u>B23Q 1/25</u>
B23B 19/00	covered by	<u>B23Q 1/70</u>
B23B 19/02	covered by	<u>B23Q 1/70</u>
B23B 21/00	covered by	<u>B23Q 1/00</u>
B23B 29/30	covered by	<u>B23B 29/28</u>
B23B 31/163	covered by	<u>B23B 31/16004</u>
B23B 31/165	covered by	<u>B23B 31/16045</u>
B23B 31/167	covered by	<u>B23B 31/16045</u>
B23B 31/169	covered by	<u>B23B 31/16083</u>
B23B 31/171	covered by	<u>B23B 31/1612</u>
B23B 31/173	covered by	<u>B23B 31/16158</u>
B23B 31/175	covered by	<u>B23B 31/16195</u>
B23B 31/177	covered by	<u>B23B 31/16233</u>
B23B 41/08	covered by	<u>F16L 41/04</u>
B23B 45/14	covered by	<u>B25H 1/002 1</u>
B23B 45/16	covered by	<u>B25D 16/00</u>
B23B 47/02	covered by	<u>B23Q 5/00</u>
B23B 47/04	covered by	<u>B23Q 5/00</u>
B23B 47/06	covered by	<u>B23Q 5/00</u>
B23B 47/08	covered by	<u>B23Q 5/00</u>
B23B 47/10	covered by	<u>B23Q 5/00</u>
B23B 47/12	covered by	<u>B23Q 5/00</u>
B23B 47/14	covered by	<u>B23Q 5/00</u>
B23B 47/16	covered by	<u>B23Q 5/00</u>
B23B 47/18	covered by	<u>B23Q 5/00</u>
B23B 47/20	covered by	<u>B23Q 5/00</u>
B23B 47/22	covered by	<u>B23Q 5/00</u>

B23B 47/24 covered by B23Q 16/00

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~ — " — ~~B23K 35/3601~~ —

~~B23K 35/3618~~

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](#)

Project: RP0200 (B23Q)

M 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](#).

- M B23Q 1/00** Members which are comprised in the general build-up of a form of machine, particularly relatively large fixed members ([B23Q 37/00](#) takes precedence {; *positioning supports for measuring arrangements G01B 5/0004; motorised alignment for optical elements G02B 7/005; handling of mask or wafer G03F 7/70691; adjusting or compensating devices for optical apparatuses G12B 5/00; piezoelectric or electrostrictive positioners H01L 41/09*})
- M B23Q 3/00** Devices holding, supporting, or positioning work or tools, of a kind normally removable from the machine (work-tables or other parts, e.g. faceplates, normally not incorporating means for securing work [B23Q 1/00](#); automatic position control [B23Q 15/00](#) {; *food cutting boards A47J 47/00; workpiece support for dies B21D 37/02*}; rotary tool heads for turning-machines [B23B 3/24](#), [B23B 3/26](#); non-driven tool holders [B23B 29/00](#); general features of turrets [B23B 29/24](#) {; *drawbars in spindles B23B 31/261; for electrical discharge machining B23H 11/003; for welding B23K 37/04; means for securing grinding wheels B24B 45/00; mountings for abrasive wheels B24D 5/16*}; tools or bench devices for fastening, connecting, disengaging or holding [B25B](#) {; *chucks for percussive tools B25D 17/084; work benches for manual work B25H 1/00; devices for securing circular saw blades B27B 5/32; for assembling or manufacturing aircrafts B64F 5/0009; for holding semiconductors or wafers H01L 21/67; devices for holding circuit boards H05K 13/0061*})
- M B23Q 3/155** • Arrangements for automatic insertion or removal of tools; {; e.g. combined with manual handling ([B23Q 7/046](#) takes precedence)}
- N B23Q 3/15503** • • {Processes characterized by special sequencing of operations or the like, e.g. for optimizing tool changing time or capacity in tool storage}
- U B23Q 3/1552** • • {parts of devices for automatically inserting or removing tools}
- C B23Q 3/15526** • • • {Storage devices; Drive mechanisms therefor}

NOTE

When classifying in this group or one of its subgroups the usage of indexing codes [B23Q 2003/15527](#) – [B23Q 2003/15532](#), [B23Q 2003/15537](#) is obligatory.

WARNING

Group [B23Q 3/15526](#) is impacted by reclassification into groups [B23Q 2003/15527](#), [B23Q 2003/15528](#), [B23Q 2003/1553](#), [B23Q 2003/15531](#), [B23Q 2003/15532](#), [B23Q 3/15534](#), [B23Q 3/15536](#), [B23Q 2003/15537](#) and [B23Q 3/15539](#).

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

- N B23Q 2003/15527** • • • • {the storage device including means to latch tools}

WARNING

Group [B23Q 2003/15527](#) is incomplete pending reclassification of documents from group [B23Q 3/15526](#).

Groups [B23Q 3/15526](#) and [B23Q 2003/15527](#) should be considered in order to perform a complete search.

- N B23Q 2003/15528 {the storage device including means to project tools therefrom, e.g. for transferring them}
- WARNING
Group [B23Q 2003/15528](#) is incomplete pending reclassification of documents from group [B23Q 3/15526](#).
Groups [B23Q 3/15526](#) and [B23Q 2003/15528](#) should be considered in order to perform a complete search.
- N B23Q 2003/1553 {by rectilinear projection}
- WARNING
Group [B23Q 2003/1553](#) is incomplete pending reclassification of documents from group [B23Q 3/15526](#).
Groups [B23Q 3/15526](#) and [B23Q 2003/1553](#) should be considered in order to perform a complete search.
- N B23Q 2003/15531 {by pivoting projection movement}
- WARNING
Group [B23Q 2003/15531](#) is incomplete pending reclassification of documents from group [B23Q 3/15526](#).
Groups [B23Q 3/15526](#) and [B23Q 2003/15531](#) should be considered in order to perform a complete search.
- N B23Q 2003/15532 {the storage device including tool pots, adaptors or the like}
- WARNING
Group [B23Q 2003/15532](#) is incomplete pending reclassification of documents from group [B23Q 3/15526](#).
Groups [B23Q 3/15526](#) and [B23Q 2003/15532](#) should be considered in order to perform a complete search.
- U B23Q 3/15533 {combined with manual tool transfers}
- N B23Q 3/15534 {Magazines mounted on the spindle}
- WARNING
Group [B23Q 3/15534](#) is incomplete pending reclassification of documents from group [B23Q 3/15526](#).
Groups [B23Q 3/15526](#) and [B23Q 3/15534](#) should be considered in order to perform a complete search.
- N B23Q 3/15536 {Non-rotary fixed racks}
- WARNING
Group [B23Q 3/15536](#) is incomplete pending reclassification of documents from group [B23Q 3/15526](#).
Groups [B23Q 3/15526](#) and [B23Q 3/15536](#) should be considered in order to perform a complete search.
- N B23Q 2003/15537 {Linearly moving storage devices}
- WARNING
Group [B23Q 2003/15537](#) is incomplete pending reclassification of documents from group [B23Q 3/15526](#).
Groups [B23Q 3/15526](#) and [B23Q 2003/15537](#) should be considered in order to perform a complete search.

- N B23Q 3/15539 {Plural magazines, e.g. involving tool transfer from one magazine to another (involving manual operation [B23Q 3/15533](#))}
- WARNING
Group [B23Q 3/15539](#) is incomplete pending reclassification of documents from group [B23Q 3/15526](#).
Groups [B23Q 3/15526](#) and [B23Q 3/15539](#) should be considered in order to perform a complete search.
- C B23Q 3/1554 {Transfer mechanisms ~~and their drive mechanism~~, e.g. tool gripping arms; Drive mechanisms therefore}
- NOTE
When classifying in this group the usage of indexing codes [B23Q 2003/155404](#) – [B23Q 2003/155456](#) is obligatory.
- WARNING
Group [B23Q 3/1554](#) is impacted by reclassification into groups [B23Q 2003/155404](#), [B23Q 2003/155407](#), [B23Q 2003/155411](#), [B23Q 2003/155414](#), [B23Q 2003/155418](#), [B23Q 2003/155421](#), [B23Q 2003/155425](#), [B23Q 2003/155428](#), [B23Q 2003/155432](#), [B23Q 2003/155435](#), [B23Q 2003/155439](#), [B23Q 2003/155442](#), [B23Q 2003/155446](#), [B23Q 2003/155449](#), [B23Q 2003/155453](#) and [B23Q 2003/155456](#).
All groups listed in this Warning should be considered in order to perform a complete search.
- N B23Q 2003/155404 {the transfer mechanism comprising a single gripper}
- WARNING
Group [B23Q 2003/155404](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
Groups [B23Q 3/1554](#) and [B23Q 2003/155404](#) should be considered in order to perform a complete search.
- N B23Q 2003/155407 {linearly movable}
- WARNING
Group [B23Q 2003/155407](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
Groups [B23Q 3/1554](#) and [B23Q 2003/155407](#) should be considered in order to perform a complete search.
- N B23Q 2003/155411 {pivotable}
- WARNING
Group [B23Q 2003/155411](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
Groups [B23Q 3/1554](#) and [B23Q 2003/155411](#) should be considered in order to perform a complete search.
- N B23Q 2003/155414 {the transfer mechanism comprising two or more grippers}
- WARNING
Group [B23Q 2003/155414](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
Groups [B23Q 3/1554](#) and [B23Q 2003/155414](#) should be considered in order to perform a complete search.

- N B23Q 2003/155418 {the grippers moving together}
WARNING
 Group [B23Q 2003/155418](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
 Groups [B23Q 3/1554](#) and [B23Q 2003/155418](#) should be considered in order to perform a complete search.
- N B23Q 2003/155421 {the grippers moving independently from each other}
WARNING
 Group [B23Q 2003/155421](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
 Groups [B23Q 3/1554](#) and [B23Q 2003/155421](#) should be considered in order to perform a complete search.
- N B23Q 2003/155425 {pivotable}
WARNING
 Group [B23Q 2003/155425](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
 Groups [B23Q 3/1554](#) and [B23Q 2003/155425](#) should be considered in order to perform a complete search.
- N B23Q 2003/155428 {about a common axis}
WARNING
 Group [B23Q 2003/155428](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
 Groups [B23Q 3/1554](#) and [B23Q 2003/155428](#) should be considered in order to perform a complete search.
- N B23Q 2003/155432 {about different axes}
WARNING
 Group [B23Q 2003/155432](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
 Groups [B23Q 3/1554](#) and [B23Q 2003/155432](#) should be considered in order to perform a complete search.
- N B23Q 2003/155435 {and linearly movable}
WARNING
 Group [B23Q 2003/155435](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
 Groups [B23Q 3/1554](#) and [B23Q 2003/155435](#) should be considered in order to perform a complete search.
- N B23Q 2003/155439 {along the pivoting axis}
WARNING
 Group [B23Q 2003/155439](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
 Groups [B23Q 3/1554](#) and [B23Q 2003/155439](#) should be considered in order to perform a complete search.
- N B23Q 2003/155442 {radially to the pivoting axis}
WARNING
 Group [B23Q 2003/155442](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).

Groups [B23Q 3/1554](#) and [B23Q 2003/155442](#) should be considered in order to perform a complete search.

N B23Q 2003/155446 {with translation of the pivoting axis}

WARNING

Group [B23Q 2003/155446](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
Groups [B23Q 3/1554](#) and [B23Q 2003/155446](#) should be considered in order to perform a complete search.

N B23Q 2003/155449 {linearly movable only}

WARNING

Group [B23Q 2003/155449](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
Groups [B23Q 3/1554](#) and [B23Q 2003/155449](#) should be considered in order to perform a complete search.

N B23Q 2003/155453 {including different gripper configurations for holding differently-configured tools}

WARNING

Group [B23Q 2003/155453](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
Groups [B23Q 3/1554](#) and [B23Q 2003/155453](#) should be considered in order to perform a complete search.

N B23Q 2003/155456 {using separate transfer mechanisms for each tool in the magazine}

WARNING

Group [B23Q 2003/155456](#) is incomplete pending reclassification of documents from group [B23Q 3/1554](#).
Groups [B23Q 3/1554](#) and [B23Q 2003/155456](#) should be considered in order to perform a complete search.

M B23Q 3/15553 {~~Tool holder and tensioning device therefor~~ *Tensioning devices or tool holders, e.g. grippers (also bringing the spindle in a given angular position [B23Q 5/20](#), [B23C 5/26](#) driving working-spindles and adjusting or stopping them in a predetermined angular position [B23Q 5/20](#); securing milling cutters to the driving spindle in a given angular position [B23C 5/26](#))*}

U B23Q 3/1556 {of non-rotary tools (in combination with rotary tools: [B23Q 3/15506](#), [B23Q 3/15513](#))}

U B23Q 3/15573 {the tool being taken from a storage device and transferred to a tool holder by means of transfer devices}

M B23Q 2003/1558 {*involving insertion or removal of multi-spindles other machine components together with the removal or insertion of tools or tool holders*}

D B23Q 2003/15593 {Optimising tool-changing time or capacity in tool storage}

U B23Q 3/157 {of rotary tools {(in combination with non-rotary tools [B23Q 3/15506](#), [B23Q 3/15513](#))}

U B23Q 3/15713 {a transfer device taking a single tool from a storage device and inserting it in a spindle ([B23Q 3/15793](#) takes precedence)}

C B23Q 3/1572 {the storage device comprising rotating or circulating *storage storing* means, e.g. discs, tables, drums, chains, belts}

WARNING

Group [B23Q 3/1572](#) is impacted by reclassification into groups [B23Q 3/15722](#) and [B23Q 3/15724](#).

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

N B23Q 3/15722 {Rotary discs or drums}

WARNING

Group [B23Q 3/15722](#) is incomplete pending reclassification of documents from group [B23Q 3/1572](#).

Groups [B23Q 3/1572](#) and [B23Q 3/15722](#) should be considered in order to perform a complete search.

N B23Q 3/15724 {Chains or belts}

WARNING

Group [B23Q 3/15724](#) is incomplete pending reclassification of documents from group [B23Q 3/1572](#).

Groups [B23Q 3/1572](#) and [B23Q 3/15724](#) should be considered in order to perform a complete search.

U B23Q 3/15726 {the storage means rotating or circulating in a plane parallel to the axis of the spindle}

M B23Q 9/00 Arrangements for supporting or guiding portable metal-working machines or apparatus (~~{turning machine for reconditioning wheel sets without removing same from vehicle B23B 5/32 ;}~~ for tapping pipes {~~B23B 41/00~~, [F16L 41/04](#)}; specially designed for drilling {~~B23B 45/00~~, [B25H 1/0021](#)})

Project: N/A (B24B)

B24B 9/00

Machines or devices designed for grinding edges or bevels on work or for removing burrs; Accessories therefor ([B24B 21/00](#) takes precedence; for sharpening cutting edges on tools [B24B 3/00](#); removing burrs by loose abrasive material [B24B 31/00](#))

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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

Project: N/A (B25D)

B25D

PERCUSSIVE TOOLS {(percussive machines for forging [B21J](#); hand-held drilling machines, in general [B23B 45/00](#), for wood [B27C 3/08](#); drilling machines, used for mining or quarrying, with reciprocating tool which is turned intermittently when out of contact with the working face [E21B 1/00](#))}

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~[B25D 13/00](#) covered by [B25D 11/064](#)~~
~~[B25D 15/00](#) covered by [B25D 11/066](#)~~
~~[B25D 15/02](#) covered by [B25D 11/068](#)~~
~~[B25D 17/10](#) covered by [B25D 17/00](#), [F16P](#)~~
~~[B25D 17/14](#) covered by [B23Q 11/0042](#)~~
~~[B25D 17/16](#) covered by [B23Q 11/0042](#)~~
~~[B25D 17/18](#) covered by [B23Q 11/0042](#)~~

B25D 13/00	covered by	B25D 11/064
B25D 15/00	covered by	B25D 11/066
B25D 15/02	covered by	B25D 11/068
B25D 17/10	covered by	B25D 17/00 , F16P
B25D 17/14	covered by	B23Q 11/0042
B25D 17/16	covered by	B23Q 11/0042
B25D 17/18	covered by	B23Q 11/0042

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

B25J 9/18	covered by	B25J 9/16
B25J 9/22	" "	B25J 9/1656, G05B 19/42
<i>B25J 9/18</i>	<i>covered by</i>	<i><u>B25J 9/16</u></i>
<i>B25J 9/22</i>	<i>covered by</i>	<i><u>B25J 9/1656, G05B 19/42</u></i>

Project: N/A (B27G)

B27G

ACCESSORY MACHINES OR APPARATUS; TOOLS; SAFETY DEVICES, e.g. THOSE FOR SAWS (clamping devices for mitre joints, presses for producing frames, press frames, or cages equipped with clamping devices [B25B](#); woodworkers' benches [B25H](#))

WARNING

~~The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:~~

~~B27G 17/08 covered by B25D 3/00~~

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

B27G 17/08 covered by B25D 3/00

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

The following IPC group(s) are not used in the CPC scheme. Subject matter covered by these groups is classified in the following groups:

~~B28B 23/08 covered by B28B 21/60, B28B 23/06~~

B28B 23/08 covered by B28B 21/60, B28B 23/06

Project: N/A (B29C)

U B29C 33/00

B29C 33/44

Moulds or cores; Details thereof or accessories therefor

- with means for-, or specially constructed to facilitate, the removal of articles, e.g. of undercut articles

U B29C 37/00

Component parts, details, accessories or auxiliary operations, not covered by group [B29C 33/00](#) or [B29C 35/00](#)

- U B29C 37/0025 · {Applying surface layers, e.g. coatings, decorative layers, printed layers, to articles during shaping, e.g. in-mould printing (moulding on preformed layers as inserts [B29C 70/68](#); applying fluent material to surfaces in general [B05](#))}
- U B29C 37/0028 · · {In-mould coating, e.g. by introducing the coating material into the mould after forming the article}
- B29C 37/0032 · · · {the coating being applied upon the mould surface before introducing the moulding compound-, e.g. applying a gelcoat ([B29C 44/14](#) and [B29C 44/32](#) take precedence)}

Project: RP0172 (B29C)

B29C 44/00

Shaping by internal pressure generated in the material, e.g. swelling, foaming ; **{Producing porous or cellular expanded plastics articles}**

WARNING

Group [B29C 44/00](#) and subgroups are not complete, see also [B29C 67/22](#) and subgroups

Project: N/A (B29C)

- U B29C 44/02 · for articles of definite length, i.e. discrete articles
- B29C 44/12 · · Incorporating or moulding on preformed parts, e.g. inserts, reinforcements

Project: RP0172 (B29C)

- U B29C 44/20 · for articles of indefinite length
- B29C 44/32 · · Incorporating or moulding on preformed parts, e.g. linings, inserts, reinforcements

WARNING

Group [B29C 44/32](#) is impacted by reclassification into groups [B29C 44/32](#), [B29C 44/321](#), [B29C 44/3215](#), [B29C 44/329](#), [B29C 44/332](#), and [B29C 44/334](#).

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

Project: N/A (B29C)

- N B29C 44/321 · · · {the preformed part being a lining, e.g. a film or a support lining}
- WARNING**
Group [B29C 44/321](#) is incomplete pending reclassification of documents from group [B29C 44/32](#).
Groups [B29C 44/32](#) and [B29C 44/321](#) should be considered in order to perform a complete search.
- N B29C 44/3215 · · · · {Folding devices for the lining}
 - N B29C 44/329 · · · {the preformed parts being partially embedded}
- WARNING**
Group [B29C 44/329](#) is incomplete pending reclassification of documents from group [B29C 44/32](#).
Groups [B29C 44/32](#) and [B29C 44/321](#) should be considered in order to perform a complete search.
- N B29C 44/332 · · · {the preformed parts being three-dimensional structures}
- WARNING**
Group [B29C 44/332](#) is incomplete pending reclassification of documents from group [B29C 44/32](#).

Groups [B29C 44/32](#) and [B29C 44/332](#) should be considered in order to perform a complete search.

N B29C 44/334

- • • {Filling the preformed spaces or cavities}

WARNING

Group [B29C 44/334](#) is incomplete pending reclassification of documents from group [B29C 44/32](#).

Groups [B29C 44/32](#) and [B29C 44/334](#) should be considered in order to perform a complete search.

Project: RP0172 (B29C)

B29C 44/34

- Auxiliary operations

WARNING

Group [B29C 44/34](#) is impacted by reclassification into groups [B29C 44/34](#) and [B29C 44/3402](#).

Groups [B29C 44/34](#) and [B29C 44/3402](#) should be considered in order to perform a complete search.

Project: N/A (B29C)

N B29C 44/3402

- • {Details of processes or apparatus for reducing environmental damage or for working-up compositions comprising inert blowing agents or biodegradable components}

WARNING

Group [B29C 44/3402](#) is incomplete pending reclassification of documents from group [B29C 44/34](#).

Group [B29C 44/32](#) and [B29C 44/3402](#) should be considered in order to perform a complete search.

Project: RP0172 (B29C)

U B29C 44/36

- • Feeding the material to be shaped {([B29C 44/0492](#) takes precedence)}

U B29C 44/46

- • • into an open space or onto moving surfaces, i.e. to make articles of indefinite length {([B29C 44/365](#), [B29C 44/367](#) take precedence)}

B29C 44/50

- • • • using pressure difference, e.g. by extrusion, by spraying {([B29C 44/468](#) takes precedence)}

WARNING

Group [B29C 44/50](#) is impacted by reclassification into groups [B29C 44/50](#), [B29C 44/505](#), and [B29C 44/507](#).

Groups [B29C 44/50](#), [B29C 44/505](#), and [B29C 44/507](#) should be considered in order to perform a complete search.

Project: N/A (B29C)

N B29C 44/505

- • • • • {extruding the compound through a flat die (in general [B29C 47/0009](#))}

WARNING

Group [B29C 44/505](#) is incomplete pending reclassification of documents from group [B29C 44/50](#).

Groups [B29C 44/505](#) and [B29C 44/50](#) should be considered in order to perform a complete search.

- N B29C 44/507 {extruding the compound through an annular die (in general [B29C 47/0009](#))}
- WARNING
Group [B29C 44/507](#) is incomplete pending reclassification of documents from group [B29C 44/50](#).
Groups [B29C 44/507](#) and [B29C 44/50](#) should be considered in order to perform a complete search.

Project: RP0172 (B29C)

- U B29C 67/00 **Shaping techniques not covered by groups [B29C 39/00](#) - [B29C 65/00](#), [B29C 70/00](#) or [B29C 73/00](#)**
- U B29C 67/20 . for porous or cellular articles, e.g. of foam plastics, coarse-pored {(chemical aspects of working up macro-molecular substances to porous or cellular articles [C08J 9/00](#))}

Project: N/A (B29C)

- D B29C 67/22 . . by internal pressure generated in the material, e.g. swelling, foaming {not used}
- WARNING
From 1st April 1995 on the groups B29C 67/22 - B29C 67/2295 are no longer used for the classification of new documents. Documents from the backlog of these groups are in the process of being systematically transferred to B29C 44/00
- D B29C 67/2205 . . . {for articles of definite length, i.e. discrete articles (contains no documents)}
- D B29C 67/221 {Applying counter pressure during foaming}
- D B29C 67/2215 {upon or incorporating preformed parts, e.g. linings, inserts, reinforcements}
- D B29C 67/222 {using expandable particles or beads as starting material}
- D B29C 67/2225 {using high frequency heating (in general [B29C 33/06](#))}
- D B29C 67/223 . . . {for articles of indefinite length (not used, see [B29C 44/20](#))}
- D B29C 67/2235 {comprising extruding the compounds before foaming}
- D B29C 67/224 {extruding the compound through a flat die (in general [B29C 47/0009](#))}
- D B29C 67/2245 {extruding the compound through an annular die (in general [B29C 47/0009](#))}
- D B29C 67/225 {on preformed parts (not used, see [B29C 44/32](#))}
- D B29C 67/2255 {the preformed part being a lining, e.g. film, sheet, support lining}
- D B29C 67/226 {Folding devices for the lining}
- D B29C 67/2265 {the preformed parts being partially embedded ([B29C 67/227](#) takes precedence)}
- D B29C 67/227 {the preformed parts being three-dimensional structures ([B29C 67/2255](#) takes precedence)}
- D B29C 67/2275 {Filling the preformed spaces, cavities}
- D B29C 67/228 . . . {Component parts, details or accessories; auxiliary operations (not used, see [B29C 44/34](#))}
- D B29C 67/2285 {Details of processes or apparatus for reducing environmental damage or for working-up compositions comprising inert blowing agents or biodegradable components}
- D B29C 67/229 {Dosing or filling a mould with expandable beads}

- D B29C 67/2295 {after treatment of shaped foamed articles, e.g. altering the shape}
- U B29C 71/00 **After-treatment of articles without altering their shape; Apparatus therefor (B29C 73/00 takes precedence; surface shaping B29C 59/00; {for joined or sealed parts B29C 66/03; after-treatment specially adapted for vulcanising tyres B29D 30/0633} ; chemical aspects C08J 7/00)**
- B29C 71/0081 . {using an electric field, *e.g.* ~~g.~~ for electrostatic charging (electrostatic pinning of extruded material B29C 47/887; fixing linings by electrostatic charges B29C 63/0043)}

Project: N/A (B29D)

- U B29D 30/00 **Producing pneumatic or solid tyres or parts thereof (producing inner tubes B29D 23/24; constructional form of tyres or parts thereof B60C; connection of valves to inflatable elastic bodies B60C 29/00; testing of tyres G01M 17/02)**
- U B29D 30/0016 . {Handling tyres or parts thereof, e.g. supplying, storing, conveying (B29D 30/2607 takes precedence; loading and unloading vulcanizing presses B29D 30/0603)}
- B29D 2030/0033 . . {Rotating tyres or their components, e.g. carcasses, belt-tread packages, beads and the like, around their axis, *i.e.* ~~e.~~ for preventing deformation}
- U B29D 30/06 . Pneumatic tyres or parts thereof {(e.g. produced by casting, moulding, compression moulding, injection moulding, centrifugal casting)}
- U B29D 30/0601 . . {Vulcanising tyres; Vulcanising presses for tyres}
- U B29D 30/0606 . . . {Vulcanising moulds not integral with vulcanising presses (for solid tyres B29D 30/02)}
- U B29D 2030/0607 {Constructional features of the moulds (moulds or cores in general B29C 33/00)}
- U B29D 2030/062 {Means for sealing the tyre against the mould in the bead areas}
- B29D 2030/0621 {to seal the bead portions against the mould *i.e.* ~~e.~~ by using pressing devices}
- U B29D 30/08 . . Building tyres
- U B29D 30/10 . . . on round cores, i.e. the shape of the core is approximately identical with the shape of the completed tyre
- U B29D 30/16 Applying the layers; Guiding or stretching the layers during application {(applying tread bands to carcasses B29D 30/58; retreading B29D 30/54)}
- U B29D 2030/1664 {Details, accessories or auxiliary operations not provided for in the other subgroups of B29D 30/00}
- B29D 2030/1678 {the layers being applied being substantially continuous, *i.e.* ~~e.~~ not being cut before the application step}
- U B29D 30/20 . . . by the flat-tyre method, i.e. building on cylindrical drums
- U B29D 30/30 Applying the layers; Guiding or stretching the layers during application {(applying tread bands to carcasses B29D 30/58; retreading B29D 30/54)}
- U B29D 2030/3064 {Details, accessories and auxiliary operations not otherwise provided for}
- B29D 2030/3078 {the layers being applied being substantially continuous, *i.e.* ~~e.~~ not being cut before the application step}
- U B29D 30/72 . . Side-walls
- B29D 2030/726 . . . {Decorating or marking the sidewalls before tyre vulcanization (protecting, decorating, marking tyre sidewalls B60C 13/00)}
- B29D 2030/728 . . . {Decorating or marking the sidewalls after tyre vulcanization (protecting, decorating, marking tyre sidewalls B60C 13/00)}

Project: N/A (B29K)

- U B29K 2075/00** Use of {PU, i.e.} polyureas or polyurethanes {or derivatives thereof} as moulding material {(as such [C08L 75/00](#))}
- B29K 2075/02 · {Polyureas {(as such [C08L 75/02](#))}}
- U B29K 2105/00** Condition, form or state of moulded material {or of the material to be shaped}
- U B29K 2105/06 · containing reinforcements, fillers or inserts
- U B29K 2105/08 · · of continuous length, e.g. cords, rovings, mats, fabrics, strands, yarns
- U B29K 2105/10 · · · {Cords, strands or rovings, e.g.} oriented {cords, strands or rovings}
- B29K 2105/101 · · · · {oriented}
- B29K 2855/00** {Use of specific polymers obtained by polymerisation reactions only involving carbon-to-carbon unsaturated bonds, not provided for in a single one of main groups [B29K 2823/00](#) - [B29K 2849/00](#), e.g. having a vinyl group, as mould material (as such [C08L 55/00](#))}
- B29K 2859/00** {Use of polyacetals, e.g. POM, i.e. polyoxymethylene; or derivatives thereof, as mould material (as such [C08L 59/00](#))}

Project: N/A (B30B)

- U B30B 15/00** Details of, or accessories for, presses; Auxiliary measures in connection with pressing (safety devices [F16P](#))
- U B30B 15/30 · Feeding material to presses
- U B30B 15/302 · · {Feeding material in particulate or plastic state to moulding presses}
- B30B 15/304 · · · {by using feed frames or shoes with relative movement} with regard to the mould or moulds}

Project: N/A (B31B)**B31B****MAKING BOXES, CARTONS, ENVELOPES OR BAGS OF PAPER OR CARDBOARD (incising, scoring, in general [B26D 3/08](#); combined making and filling [B65B](#))**NOTES

- In this subclass, envelopes or bags are regarded as being essentially flexible containers, the final shape of which is determined by their contents.
- In this subclass, the following expression is used with the meaning indicated:
 - "boxes or cartons" includes bags formed similarly to cartons, trays with upstanding side-walls, barrels, tubes and cups, other than articles formed by winding.
- In this subclass, it is desirable to add the indexing codes of [B31B 2201/00](#) - [B31B 2247/00](#)

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

B31B 7/02	covered by	B31B 1/02
B31B 7/14	covered by	B31B 1/14
B31B 7/60	covered by	B31B 1/60
B31B 7/74	covered by	B31B 1/74
B31B 9/00	covered by	B31B 3/00
B31B 9/02	covered by	B31B 3/02
B31B 9/14	covered by	B31B 3/14
B31B 9/26	covered by	B31B 3/26

<i>B31B 9/60</i>	<i>covered by</i>	<i><u>B31B 3/60</u></i>
<i>B31B 9/74</i>	<i>covered by</i>	<i><u>B31B 3/74</u></i>
<i>B31B 11/02</i>	<i>covered by</i>	<i><u>B31B 1/02</u></i>
<i>B31B 11/14</i>	<i>covered by</i>	<i><u>B31B 1/14</u></i>
<i>B31B 11/26</i>	<i>covered by</i>	<i><u>B31B 1/26</u></i>
<i>B31B 11/60</i>	<i>covered by</i>	<i><u>B31B 1/60</u></i>
<i>B31B 11/74</i>	<i>covered by</i>	<i><u>B31B 1/74</u></i>
<i>B31B 13/02</i>	<i>covered by</i>	<i><u>B31B 1/02</u></i>
<i>B31B 13/14</i>	<i>covered by</i>	<i><u>B31B 1/14</u></i>
<i>B31B 13/60</i>	<i>covered by</i>	<i><u>B31B 1/60</u></i>
<i>B31B 13/74</i>	<i>covered by</i>	<i><u>B31B 1/74</u></i>
<i>B31B 15/14</i>	<i>covered by</i>	<i><u>B31B 1/14</u></i>
<i>B31B 15/26</i>	<i>covered by</i>	<i><u>B31B 1/26</u></i>
<i>B31B 15/60</i>	<i>covered by</i>	<i><u>B31B 1/60</u></i>
<i>B31B 15/74</i>	<i>covered by</i>	<i><u>B31B 1/74</u></i>
<i>B31B 21/02</i>	<i>covered by</i>	<i><u>B31B 19/02</u></i>
<i>B31B 21/14</i>	<i>covered by</i>	<i><u>B31B 19/14</u></i>
<i>B31B 21/26</i>	<i>covered by</i>	<i><u>B31B 19/26</u></i>
<i>B31B 21/60</i>	<i>covered by</i>	<i><u>B31B 19/60</u></i>
<i>B31B 21/74</i>	<i>covered by</i>	<i><u>B31B 19/74</u></i>
<i>B31B 23/02</i>	<i>covered by</i>	<i><u>B31B 19/02, B31B 23/00</u></i>
<i>B31B 23/14</i>	<i>covered by</i>	<i><u>B31B 19/14, B31B 23/00</u></i>
<i>B31B 23/26</i>	<i>covered by</i>	<i><u>B31B 19/26, B31B 23/00</u></i>
<i>B31B 23/60</i>	<i>covered by</i>	<i><u>B31B 19/60, B31B 23/00</u></i>
<i>B31B 23/74</i>	<i>covered by</i>	<i><u>B31B 19/74, B31B 23/00</u></i>
<i>B31B 25/02</i>	<i>covered by</i>	<i><u>B31B 19/02, B31B 25/00</u></i>
<i>B31B 25/14</i>	<i>covered by</i>	<i><u>B31B 19/14, B31B 25/00</u></i>
<i>B31B 25/26</i>	<i>covered by</i>	<i><u>B31B 19/26, B31B 25/00</u></i>
<i>B31B 25/60</i>	<i>covered by</i>	<i><u>B31B 19/60, B31B 25/00</u></i>
<i>B31B 25/74</i>	<i>covered by</i>	<i><u>B31B 19/74, B31B 25/00</u></i>
<i>B31B 27/02</i>	<i>covered by</i>	<i><u>B31B 19/02, B31B 27/00</u></i>
<i>B31B 27/14</i>	<i>covered by</i>	<i><u>B31B 19/14, B31B 27/00</u></i>
<i>B31B 27/26</i>	<i>covered by</i>	<i><u>B31B 19/26, B31B 27/00</u></i>
<i>B31B 27/60</i>	<i>covered by</i>	<i><u>B31B 19/60, B31B 27/00</u></i>
<i>B31B 27/74</i>	<i>covered by</i>	<i><u>B31B 19/74, B31B 27/00</u></i>
<i>B31B 29/02</i>	<i>covered by</i>	<i><u>B31B 19/02, B31B 29/00</u></i>
<i>B31B 29/14</i>	<i>covered by</i>	<i><u>B31B 19/14, B31B 29/00</u></i>
<i>B31B 29/26</i>	<i>covered by</i>	<i><u>B31B 19/26, B31B 29/00</u></i>
<i>B31B 31/00</i>	<i>covered by</i>	<i><u>B31B 29/00</u></i>
<i>B31B 31/02</i>	<i>covered by</i>	<i><u>B31B 19/02, B31B 29/00</u></i>
<i>B31B 31/14</i>	<i>covered by</i>	<i><u>B31B 19/14, B31B 29/00</u></i>
<i>B31B 31/26</i>	<i>covered by</i>	<i><u>B31B 19/26, B31B 29/00</u></i>
<i>B31B 31/60</i>	<i>covered by</i>	<i><u>B31B 29/60</u></i>
<i>B31B 31/74</i>	<i>covered by</i>	<i><u>B31B 29/74</u></i>
<i>B31B 33/00</i>	<i>covered by</i>	<i><u>B31B 29/00</u></i>
<i>B31B 33/02</i>	<i>covered by</i>	<i><u>B31B 19/02, B31B 29/00</u></i>
<i>B31B 33/14</i>	<i>covered by</i>	<i><u>B31B 19/14, B31B 29/00</u></i>
<i>B31B 33/26</i>	<i>covered by</i>	<i><u>B31B 19/26, B31B 29/00</u></i>
<i>B31B 33/60</i>	<i>covered by</i>	<i><u>B31B 29/60</u></i>
<i>B31B 33/74</i>	<i>covered by</i>	<i><u>B31B 29/74</u></i>
<i>B31B 35/00</i>	<i>covered by</i>	<i><u>B31B 29/00</u></i>

<i>B31B 35/02</i>	<i>covered by</i>	<i><u>B31B 19/02, B31B 29/00</u></i>
<i>B31B 35/14</i>	<i>covered by</i>	<i><u>B31B 19/14, B31B 29/00</u></i>
<i>B31B 35/26</i>	<i>covered by</i>	<i><u>B31B 19/26, B31B 29/00</u></i>
<i>B31B 35/60</i>	<i>covered by</i>	<i><u>B31B 29/60</u></i>
<i>B31B 35/74</i>	<i>covered by</i>	<i><u>B31B 29/74</u></i>
<i>B31B 37/02</i>	<i>covered by</i>	<i><u>B31B 19/02, B31B 37/00</u></i>
<i>B31B 37/14</i>	<i>covered by</i>	<i><u>B31B 19/14, B31B 37/00</u></i>
<i>B31B 37/26</i>	<i>covered by</i>	<i><u>B31B 19/26, B31B 37/00</u></i>
<i>B31B 37/60</i>	<i>covered by</i>	<i><u>B31B 19/60, B31B 37/00</u></i>
<i>B31B 37/74</i>	<i>covered by</i>	<i><u>B31B 19/74, B31B 37/00</u></i>
<i>B31B 39/02</i>	<i>covered by</i>	<i><u>B31B 19/02, B31B 39/00</u></i>
<i>B31B 39/14</i>	<i>covered by</i>	<i><u>B31B 19/14, B31B 39/00</u></i>
<i>B31B 39/26</i>	<i>covered by</i>	<i><u>B31B 19/26, B31B 39/00</u></i>
<i>B31B 39/60</i>	<i>covered by</i>	<i><u>B31B 19/60, B31B 39/00</u></i>
<i>B31B 41/02</i>	<i>covered by</i>	<i><u>B31B 19/02, B31B 41/00</u></i>
<i>B31B 41/14</i>	<i>covered by</i>	<i><u>B31B 19/14, B31B 41/00</u></i>
<i>B31B 41/26</i>	<i>covered by</i>	<i><u>B31B 19/26, B31B 41/00</u></i>
<i>B31B 41/60</i>	<i>covered by</i>	<i><u>B31B 19/60, B31B 41/00</u></i>
<i>B31B 41/74</i>	<i>covered by</i>	<i><u>B31B 19/74, B31B 41/00</u></i>

~~B31B 7/02 covered by B31B 1/02~~
~~B31B 7/14 covered by B31B 1/14~~
~~B31B 7/60 covered by B31B 1/60~~
~~B31B 7/74 covered by B31B 1/74~~
~~B31B 9/00 covered by B31B 3/00~~
~~B31B 9/02 covered by B31B 3/02~~
~~B31B 9/14 covered by B31B 3/14~~
~~B31B 9/26 covered by B31B 3/26~~
~~B31B 9/60 covered by B31B 3/60~~
~~B31B 9/74 covered by B31B 3/74~~
~~B31B 11/02 covered by B31B 1/02~~
~~B31B 11/14 covered by B31B 1/14~~
~~B31B 11/26 covered by B31B 1/26~~
~~B31B 11/60 covered by B31B 1/60~~
~~B31B 11/74 covered by B31B 1/74~~
~~B31B 13/02 covered by B31B 1/02~~
~~B31B 13/14 covered by B31B 1/14~~
~~B31B 13/60 covered by B31B 1/60~~
~~B31B 13/74 covered by B31B 1/74~~
~~B31B 15/14 covered by B31B 1/14~~
~~B31B 15/26 covered by B31B 1/26~~
~~B31B 15/60 covered by B31B 1/60~~
~~B31B 15/74 covered by B31B 1/74~~
~~B31B 21/02 covered by B31B 19/02~~
~~B31B 21/14 covered by B31B 19/14~~
~~B31B 21/26 covered by B31B 19/26~~
~~B31B 21/60 covered by B31B 19/60~~
~~B31B 21/74 covered by B31B 19/74~~
~~B31B 23/02 covered by B31B 19/02, B31B 23/00~~
~~B31B 23/14 covered by B31B 19/14, B31B 23/00~~
~~B31B 23/26 covered by B31B 19/26, B31B 23/00~~
~~B31B 23/60 covered by B31B 19/60, B31B 23/00~~
~~B31B 23/74 covered by B31B 19/74, B31B 23/00~~
~~B31B 25/02 covered by B31B 19/02, B31B 25/00~~
~~B31B 25/14 covered by B31B 19/14, B31B 25/00~~
~~B31B 25/26 covered by B31B 19/26, B31B 25/00~~
~~B31B 25/60 covered by B31B 19/60, B31B 25/00~~

~~B31B 25/74 covered by B31B 19/74, B31B 25/00~~
~~B31B 27/02 covered by B31B 19/02, B31B 27/00~~
~~B31B 27/14 covered by B31B 19/14, B31B 27/00~~
~~B31B 27/26 covered by B31B 19/26, B31B 27/00~~
~~B31B 27/60 covered by B31B 19/60, B31B 27/00~~
~~B31B 27/74 covered by B31B 19/74, B31B 27/00~~
~~B31B 29/02 covered by B31B 19/02, B31B 29/00~~
~~B31B 29/14 covered by B31B 19/14, B31B 29/00~~
~~B31B 29/26 covered by B31B 19/26, B31B 29/00~~
~~B31B 31/00 covered by B31B 29/00~~
~~B31B 31/02 covered by B31B 19/02, B31B 29/00~~
~~B31B 31/14 covered by B31B 19/14, B31B 29/00~~
~~B31B 31/26 covered by B31B 19/26, B31B 29/00~~
~~B31B 31/60 covered by B31B 29/60~~
~~B31B 31/74 covered by B31B 29/74~~
~~B31B 33/00 covered by B31B 29/00~~
~~B31B 33/02 covered by B31B 19/02, B31B 29/00~~
~~B31B 33/14 covered by B31B 19/14, B31B 29/00~~
~~B31B 33/26 covered by B31B 19/26, B31B 29/00~~
~~B31B 33/60 covered by B31B 29/60~~
~~B31B 33/74 covered by B31B 29/74~~
~~B31B 35/00 covered by B31B 29/00~~
~~B31B 35/02 covered by B31B 19/02, B31B 29/00~~
~~B31B 35/14 covered by B31B 19/14, B31B 29/00~~
~~B31B 35/26 covered by B31B 19/26, B31B 29/00~~
~~B31B 35/60 covered by B31B 29/60~~
~~B31B 35/74 covered by B31B 29/74~~
~~B31B 37/02 covered by B31B 19/02, B31B 37/00~~
~~B31B 37/14 covered by B31B 19/14, B31B 37/00~~
~~B31B 37/26 covered by B31B 19/26, B31B 37/00~~
~~B31B 37/60 covered by B31B 19/60, B31B 37/00~~
~~B31B 37/74 covered by B31B 19/74, B31B 37/00~~
~~B31B 39/02 covered by B31B 19/02, B31B 39/00~~
~~B31B 39/14 covered by B31B 19/14, B31B 39/00~~
~~B31B 39/26 covered by B31B 19/26, B31B 39/00~~
~~B31B 39/60 covered by B31B 19/60, B31B 39/00~~
~~B31B 41/02 covered by B31B 19/02, B31B 41/00~~
~~B31B 41/14 covered by B31B 19/14, B31B 41/00~~
~~B31B 41/26 covered by B31B 19/26, B31B 41/00~~
~~B31B 41/60 covered by B31B 19/60, B31B 41/00~~
~~B31B 41/74 covered by B31B 19/74, B31B 41/00~~

Project: N/A (B31C)

B31C 13/00

{Making wound articles not otherwise provided for}

Project: N/A (B32B)

B32B

LAYERED PRODUCTS, i.e. PRODUCTS BUILT-UP OF STRATA OF FLAT OR NON-FLAT, e.g. CELLULAR OR HONEYCOMB, FORM

NOTES

1. This subclass covers:

- layered products comprising different kinds of material or layered products not characterised by the particular kind of material used;
- a product similar to a layered product but comprising only material in the form of a sheet or network embedded in a mass of plastics or of physically-similar substances which mass penetrates the said sheet or network and lies on both sides of the latter (e.g. so that the sheet

or network reinforces the plastics substance) PROVIDED THAT the embedded sheet or network extends coherently or connectedly over substantially the whole area of the product; thus the embedded sheet or network may be a fabric or a series of rods connected by cross wires. The manner of making such a product is, however, classified in this subclass only if it is essentially a process of building-up an assembly of layers of which at least one outer layer is preformed. If the embedded material comprises only a series of unconnected rods, the product is not classified in this subclass.

2. This subclass does not cover:

- processes or apparatus used in, or in connection with, the production or treatment of any product, if the process or apparatus is fully classifiable in a single other class or subclass for processes or apparatus, e.g. [B05](#), [B29](#), [B44D](#), [C08J](#), [C09J](#), [C23](#);
- compositions or preparation or treatment thereof, unless they are essentially restricted to layered products and cannot be fully classified in another class without ignoring this restriction;
- etched metallic pattern on the surface of a printed circuit board.

3. In this subclass:

- a film formed on a layer by spreading a substance thereon is not considered to constitute a layer itself if it serves only as an adhesive or its purpose is merely to finish a surface of a product;
- groups designating products cover also methods or apparatus specially adapted for producing such products.

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

- "layer" is a sheet or strip or anything else having a small thickness relatively to its other dimensions which, together with at least one other layer, exists in a product, whether it pre-existed, e.g. as a separate sheet or strip, or was formed during the production of the layered product. It may or may not be homogeneous or cohesive; it may be an assembly of fibres or pieces of material. It may be discontinuous, e.g. in the form of a grating, honeycomb, or frame. It may or may not be in complete contact with the next layer, e.g. a corrugated layer against a flat layer;
- "layered product" comprises at least two layers secured together. The term "secured" includes any method of uniting layers, e.g. needling, stitching, gluing, nailing, dovetailing or the interposition of an adhesive or adhesive impregnated support. It may also be an intermediate stage in the production of an article which is not layered in its final form, e.g. a panel with a protective layer which is stripped off when the panel is placed in its position of use. The layers are preformed layers or layers formed IN SITU on a preformed layer and may consist of coherent solid materials, including honeycombs and other cellular materials or of non-coherent solid materials composed of assemblies of strands, strips, fibres, tiles or the like;
- "filamentary layer" means a layer of threads or filaments of any substance (e.g. wires) of more or less unlimited length placed in an orderly arrangement and secured together; it may be woven, knitted, braided, or netted, or formed of threads crossed or laid side by side and bonded together;
- "fibrous layer" means a random assembly of fibres of limited length, e.g. felt, fleece; the fibres {being} interengaged or connected, e.g. by adhesive.

5. In this subclass,

- "First place rule" is used in the following groups [B32B 9/04](#), [B32B 11/04](#), [B32B 13/04](#), [B32B 15/04](#), [B32B 19/04](#), [B32B 21/04](#), [B32B 23/046](#) - [B32B 23/12](#), [B32B 25/04](#), [B32B 27/06](#), [B32B 29/002](#).

However, when these groups are not characterised by the specific material adjacency to be classified, then, multiple classification is given, e.g. a layered

product having a stone layer next to a bituminous layer would be classified in [B32B 9/04](#) and in [B32B 11/04](#). For a cellulosic plastic layer next to a metal layer or to a wood layer [B32B 23/042](#) or [B32B 23/044](#), respectively, take precedence (i.e. first rule does not apply). For layered products comprising at least two ceramic layers, products comprising only ceramic layers are classified in group [B32B 18/00](#) and products comprising two ceramics layers and at least one layer of another material are classified in [B32B 18/00](#) and [B32B 9/04](#).

WARNING

The following IPC are not used in the CPC scheme Subject matter covered by these groups is classified in the following CPC groups

B32B 1/04	covered by	B32B 3/02 - B32B 3/08
B32B 1/06	covered by	B32B 13/02
B32B 3/08 - B32B 3/22	covered by	B32B 3/08 - B32B 3/22
B32B 3/24	covered by	B32B 3/266
B32B 5/28	covered by	B32B 2260/021 - B32B 2260/023
B32B 17/02	covered by	B32B 2262/101
B32B 17/04	covered by	B32B 2262/101 and B32B 2260/04
B32B 17/12	covered by	B32B 17/067
B32B 23/02	covered by	B32B 2262/04 and B32B 5/02 - B32B 5/12
B32B 27/02	covered by	B32B 2262/02 - B32B 2262/0292 and B32B 5/02 - B32B 5/12
B32B 27/04	covered by	B32B 2260/048

- [B32B 1/04](#) covered by [B32B 3/02](#) - [B32B 3/08](#)
- [B32B 1/06](#) covered by [B32B 13/02](#)
- [B32B 3/08](#) - [B32B 3/22](#) covered by [B32B 3/08](#) - [B32B 3/22](#)
- [B32B 3/24](#) covered by [B32B 3/266](#)
- [B32B 5/28](#) covered by [B32B 2260/021](#) - [B32B 2260/023](#)
- [B32B 17/02](#) covered by [B32B 2262/101](#)
- [B32B 17/04](#) covered by [B32B 2262/101](#) and [B32B 2260/04](#)
- [B32B 17/12](#) covered by [B32B 17/067](#)
- [B32B 23/02](#) covered by [B32B 2262/04](#) and [B32B 5/02](#) - [B32B 5/12](#)
- [B32B 27/02](#) covered by [B32B 2262/02](#) - [B32B 2262/0292](#) and [B32B 5/02](#) - [B32B 5/12](#)
- [B32B 27/04](#) covered by [B32B 2260/048](#)

Project: MP0251 (B32B)

U B32B 5/00

Layered products characterised by the non- homogeneity or physical structure {, i.e. comprising a fibrous, filamentary, particulate or foam layer; Layered products characterised by having a layer differing constitutionally or physically in different parts}

NOTE

In this group, fibres, filaments, granules, or powder forming or included in a layer may be impregnated, bonded together, or embedded in a substance such as synthetic resin. If the substance of the fibres, or the like, or the impregnating, bonding, or embedding substance, is important it is classified in the relevant group for the substance.

- M B32B 5/02
- characterised by structural features of a {fibrous or filamentary layer ([B32B 15/02](#), [B32B 21/02](#) take precedence; layer formed of particles [B32B 5/16](#); layers formed of natural mineral fibres [B32B 19/00](#); coated or impregnated fibrous or filamentary layers [B32B 2255/02](#) or [B32B 2260/021](#))}

NOTES

1. This group covers, in addition to filamentary and fibrous layers as defined in Note (4) following the title of this subclass, layers of substances having an intrinsic fibrous nature (e.g. paper, wood), if the fibrous nature is important and the particular substance is not important.
2. {When classifying in group [B32B 5/02](#), the chemical composition of the fibres is further classified by using the indexing codes [B32B 2262/00](#) - [B32B 2262/14](#), whenever appropriate.}

Project: N/A (B32B)

- U B32B 17/00 **Layered products essentially comprising sheet glass, or glass, slag, or like fibres**

- U B32B 17/06
- comprising glass as the main or only constituent of a layer, next to another layer of a specific {material (coating on glass [C03C 17/00](#); safety glazings [B32B 17/08](#) or [B32B 17/10](#); fire protective glazing with intumescent layers [B32B 17/069](#))}
- U B32B 17/10
- of synthetic resin {(producing optical elements from plastics [B29D 11/00](#); constructional form of optical elements [G02B](#))}

NOTES

1. In this group a layer of organic glass is not considered as a glass layer but as a synthetic resin layer];
2. [N: Inventions related to safety glazings (laminated glazings) are classified in all appropriate subgroups [B32B 17/10009](#) - [B32B 17/10807](#), whereby transparent polymeric layers other than the interlayer ([B32B 17/1055](#)) are classified using indexing codes

- U B32B 17/10165
- • • {particular functional features of the laminated glazing}
- U B32B 17/10431
- • • • {Devices for the modulation of light incorporated into the laminated glazing (metallic or dielectric coatings [B32B 17/10174](#); coating on glass in general [C03C 17/00](#))}
- U B32B 17/10467
- • • • • {Variable transmission}
- B32B 17/10495
- • • • • • {optoelectronic-, i.e. optical valve}
- B32B 17/10541
- • • • • {The laminated glazing acting as an illumination device-, i.e. comprising a light source or a light guide (light guides in general [G02B 6/00](#); structural combinations of lighting devices with other articles [F21V 33/00](#); lighting devices for vehicle interior [B60Q 3/02](#))}
- B32B 17/1055
- • • {characterized by the resin layer-, i.e. interlayer}
- U B32B 17/10651
- • • • {comprising colorants, e.g. dyes or pigments}
- B32B 17/1066
- • • • • {imparting a tint in certain regions only-, i.e. shade band}
- B32B 17/10678
- • • • • {comprising UV absorbers or stabilizers-, e.g. antioxidants}
- U B32B 2262/00 **Composition of fibres which form a fibrous or filamentary layer or are present as additives**
- B32B 2262/08
- Animal fibres-, e.g. hair, wool, silk
- U B32B 2264/00 **Composition of particles which form a particulate layer or are present as additives**
- U B32B 2264/06
- Vegetal particles

- U B32B 2264/062
 - B32B 2264/065
 - B32B 2264/08
- Cellulose particles, e.g. cotton
 - • Lignocellulosic particles, e.g. jute, sisal, hemp, flax, bamboo
 - Animal particles, e.g. leather

Project: RP0136 (B32B)**C B32B 2266/00 Composition of foam****WARNING**

Group [B32B 2266/00](#) is impacted by reclassification into groups [B32B 2266/10](#), [B32B 2266/102](#), [B32B 2266/104](#), [B32B 2266/106](#), [B32B 2266/108](#), [B32B 2266/12](#), [B32B 2266/122](#), [B32B 2266/124](#), [B32B 2266/126](#), [B32B 2266/128](#), and [B32B 2266/14](#).

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

- C B32B 2266/02
- Organic

WARNING

Group [B32B 2266/02](#) is impacted by reclassification into group [B32B 2266/031](#). Groups [B32B 2266/02](#) and [B32B 2266/031](#) should be considered in order to perform a complete search.

- U B32B 2266/0214
 - U B32B 2266/0292
 - N [B32B 2266/031](#)
- • Materials belonging to [B32B 27/00](#)
 - • • Thermoplastic elastomer
 - • Bituminous or tarry material

WARNING

Group [B32B 2266/031](#) is incomplete pending reclassification of documents from group [B32B 2266/02](#).

Groups [B32B 2266/031](#) and [B32B 2266/02](#) should be considered in order to perform a complete search.

- C B32B 2266/04
- Inorganic

WARNING

Group [B32B 2266/04](#) is impacted by reclassification into groups [B32B 2266/049](#), [B32B 2266/053](#), and [B32B 2266/057](#).

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

- U B32B 2266/045
 - N [B32B 2266/049](#)
- • Metal
 - • Water-setting material, e.g. concrete, plaster or asbestos cement

WARNING

Groups [B32B 2266/049](#), [B32B 2266/053](#), and [B32B 2266/057](#) are incomplete pending reclassification of documents from [B32B 2266/04](#).

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

- N [B32B 2266/053](#)
 - N [B32B 2266/057](#)
 - U B32B 2266/08
 - N [B32B 2266/10](#)
- • Mineral element, e.g. asbestos or mica
 - • Silicon-containing material, e.g. glass
 - Closed cell foam
 - characterised by the foam pores

WARNING

Groups [B32B 2266/10](#), [B32B 2266/102](#), [B32B 2266/104](#), [B32B 2266/106](#), and [B32B 2266/108](#) are incomplete pending reclassification of documents from group [B32B 2266/00](#).

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

- N B32B 2266/102
 - • Nanopores, i.e. with average diameter smaller than 0.1 μm
- N B32B 2266/104
 - • Micropores, i.e. with average diameter in the range from 0.1 μm to 0.1 mm
- N B32B 2266/106
 - • Unimodal pore distribution
- N B32B 2266/108
 - • Bimodal pore distribution
- N B32B 2266/12
 - Gel

WARNING

Groups [B32B 2266/12](#), [B32B 2266/122](#), [B32B 2266/124](#), [B32B 2266/126](#), and [B32B 2266/128](#) are incomplete pending reclassification of documents from group [B32B 2266/00](#).

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

- N B32B 2266/122
 - • Hydrogel, i.e. a gel containing an aqueous composition
- N B32B 2266/124
 - • Organogel, i.e. a gel containing an organic composition
- N B32B 2266/126
 - • Aerogel, i.e. a supercritically dried gel
- N B32B 2266/128
 - • Xerogel, i.e. an air dried gel
- N B32B 2266/14
 - Adhesive foam

WARNING

Group [B32B 2266/14](#) is incomplete pending reclassification of documents from group [B32B 2266/00](#).

Groups [B32B 2266/00](#) and [B32B 2266/14](#) should be considered in order to perform a complete search.

Project: RP0209 (B41C)

U B41C 1/00

Forme preparation

- U B41C 1/10
 - for lithographic printing; Master sheets for transferring a lithographic image to the forme {(chemical or electrical pretreatment [B41N 3/03](#))(neutralising or similar differentiation treatments of lithographic printing formes [B41N 3/08](#))
- C B41C 1/1008
 - • {by removal or destruction of lithographic material on the lithographic support, e.g. by laser or spark ablation; by the use of materials rendered soluble or insoluble by heat exposure, e.g. by heat produced from a light to heat transforming system; by on-the-press exposure or on-the-press development, e.g. by the fountain of photolithographic materials}

WARNING

Group [B41C 1/1008](#) is impacted by reclassification into group [B41C 2210/16](#). Groups [B41C 1/1008](#) and [B41C 2210/16](#) should be considered in order to perform a complete search.

- C B41C 1/1016
 - • • {characterised by structural details, e.g. protective layers, backcoat layers; or several imaging layers (~~B41N 3/036 takes precedence~~)}

WARNING

Group [B41C 1/1016](#) is impacted by reclassification into group [B41C 2210/16](#).

Groups [B41C 1/1016](#) and [B41C 2210/16](#) should be considered in order to perform a complete search.

U B41C 2210/00

Preparation or type or constituents of the imaging layers, in relation to lithographic printing forme preparation

- U B41C 2210/14
 - Multiple imaging layers

N B41C 2210/16

- *Waterless working, i.e. ink repelling exposed (imaged) or non-exposed (non-imaged) areas, not requiring fountain solution or water, e.g. dry lithography or driography*

WARNING

Group [B41C 2210/16](#) is incomplete pending reclassification of documents from groups [B41C 1/1008](#) and [B41C 1/1016](#).

Groups [B41C 1/1008](#), [B41C 1/1016](#) and [B41C 2210/16](#) should be considered in order to perform a complete search.

Project: N/A (B42D)

B42D 25/00

Information-bearing cards or sheet-like structures characterised by identification or security features; Manufacture thereof (printing processes to produce identification or security features [B41M 3/14](#))

WARNING

Groups [B42D 25/00](#) - [B42D 25/485](#) are incomplete pending reclassification of documents from groups [B42D 2033/00](#) - [B42D 2033/46](#) and [B42D 2035/00](#), [B42D 2035/02](#), [B42D 2035/06](#), [B42D 2035/08](#), [B42D 2035/12](#) - [B42D 2035/16](#), [B42D 2035/20](#), [B42D 2035/24](#), [B42D 2035/26](#), [B42D 2035/30](#), [B42D 2035/34](#), [B42D 2035/36](#), [B42D 2035/44](#), and [B42D 2035/50](#).

Until reclassification is complete, groups [B42D 2033/00](#) - [B42D 2033/46](#), [B42D 2035/00](#), [B42D 2035/02](#), [B42D 2035/06](#), [B42D 2035/08](#), [B42D 2035/12](#) - [B42D 2035/16](#), [B42D 2035/20](#), [B42D 2035/24](#), [B42D 2035/26](#), [B42D 2035/30](#), [B42D 2035/34](#), [B42D 2035/36](#), [B42D 2035/44](#), [B42D 2035/50](#) and [B42D 25/00](#) - [B42D 25/485](#) should be considered in order to perform a complete search.

B42D 2035/00
(Frozen)

Nature or shape of the markings provided on identity, credit, cheque or like information-bearing cards

WARNING

Groups [B42D 2035/00](#), [B42D 2035/02](#), [B42D 2035/06](#), [B42D 2035/08](#), [B42D 2035/12](#) - [B42D 2035/16](#), [B42D 2035/20](#), [B42D 2035/24](#), [B42D 2035/26](#), [B42D 2035/30](#), [B42D 2035/34](#), [B42D 2035/36](#), [B42D 2035/44](#), and [B42D 2035/50](#) are no longer used for the classification of documents as of October 1, 2014. The backfile of these groups is being reclassified into groups [B42D 25/00](#) - [B42D 25/485](#).

Until reclassification is complete, groups [B42D 2035/00](#), [B42D 2035/02](#), [B42D 2035/06](#), [B42D 2035/08](#), [B42D 2035/12](#) - [B42D 2035/16](#), [B42D 2035/20](#), [B42D 2035/24](#), [B42D 2035/26](#), [B42D 2035/30](#), [B42D 2035/34](#), [B42D 2035/36](#), [B42D 2035/44](#), [B42D 2035/50](#) and [B42D 25/00](#) - [B42D 25/485](#) should be considered in order to perform a complete search.

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~B60C 11/113~~ covered by [B60C 11/0311](#)
~~B60C 11/117~~ covered by [B60C 11/032](#)

Project: N/A (B60D)

B60D 7/00

{Other connections}

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

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

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

Project: N/A (B60H)

- U B60H 1/00 Heating, cooling or ventilating devices (heating, cooling or ventilating devices providing other air treatment, the other treatment being relevant, [B60H 3/00](#); ventilating solely by opening windows, doors, roof parts, or the like [B60J](#); heating or ventilating devices for vehicle seats [B60N 2/56](#); vehicle window or windscreen cleaners using air, e.g. defrosters, [B60S 1/54](#))
- NOTE
In this group and its subgroups, as well as in patent documents, the following abbreviation is used:
- HVAC Heating, Ventilating and Air Conditioning
- U B60H 1/00642 • {Control systems or circuits, control members or indication devices for heating, cooling or ventilating devices ([B60H 1/3201](#) - [B60H 1/3208](#), [B60H 1/3225](#) take precedence; dashboards [B60K 37/00](#); systems for controlling or regulating non-electric variables in general [G05D](#))}
- U B60H 1/00664 • • {Construction or arrangement of damper doors (control systems or circuits for damper doors [B60H 1/00835](#))}
- B60H 1/00671 • • • {Damper doors moved by rotation; Grilles}
- U B60H 1/32 • Cooling devices ({[B60H 1/00478](#), [B60H 1/005](#) take precedence;} vehicles adapted to transport refrigerated goods [B60P 3/20](#))
- U B60H 2001/3269 • • {output of a control signal}
- U B60H 2001/327 • • • {related to a compressing unit}
- B60H 2001/3273 • • • • {related to the operation of the vehicle-, e.g. the compressor driving torque}

Project: MP0115 (B60K)

- M B60K 1/00 Arrangement or mounting of electrical propulsion units ([B60K 7/00](#) takes precedence; arrangement or mounting of plural diverse prime-movers for mutual or common propulsion [B60K 6/00](#); electric transmission arrangements [B60K 17/12](#); electric equipment or ~~st~~*propulsion* propulsion of electrically-propelled vehicles per se [B60L](#); current-collectors for power supply lines of electrically-propelled vehicles [B60L 5/00](#))

Project: RP0251 (B60K)**B60K 6/00**

Arrangement or mounting of plural diverse prime-movers for mutual or common propulsion, e.g. hybrid propulsion systems comprising electric motors and internal combustion engines {; Control systems therefor, i.e. systems controlling two or more prime movers, or controlling one of these prime movers and any of the transmission, drive or drive units (arrangement or mounting in vehicles of electrical gearing, in which an electrical machine serves only as reduction gearing and not as the prime mover and in which no electrical storing means are used [B60K 17/12](#); control and regulation of purely electrical prime movers [B60L](#); prime-movers comprising electrical and internal combustion motors in a common engine block or housing *per se* [F02B 65/00](#); electric motors or motor-generators used for starting the combustion engine [F02N 11/04](#); electric motors for synchronising gearing [F16H 3/12](#))}{Informative references: mechanical gearings with secondary electric drive [F16H 3/72](#); arrangements for handling mechanical energy structurally associated with the dynamo-electric machine [H02K 7/00](#); machines comprising structurally interrelated motor and generator parts [H02K 51/00](#); dynamo-electric machines not otherwise provided for in [H02K](#) *see* [H02K 57/00](#)[H02K 99/00](#)}

NOTE

In this subgroup, the following expressions are used, with the meanings indicated :

- "energy storing means" means apparatus for storing propulsive energy and providing stored energy to drive the prime mover or the ultimate propulsive elements
- "hybrid electric vehicle" (HEV) means a vehicle with an electrical prime mover and a combustion engine, in which the electrical prime mover and the combustion engine either singly or in combination, drive the ultimate propulsive elements, e.g. wheels
- "motor-generator" means an electric motor, or an electric generator, or an electrical machine which can be used for both functions, as a motor or a generator
- "prime mover" means a propulsion unit or source of motive power providing a mechanical output, e.g. via a rotating shaft

Project: N/A (B60K)**U B60K 17/00**

Arrangement or mounting of transmissions in vehicles (clutches *per se*, e.g. construction thereof, [F16D](#); gearing *per se*, e.g. construction thereof, [F16H](#))

U B60K 17/34

• for driving both front and rear wheels, e.g. four wheel drive vehicles (arrangement or mounting of control devices for changing number of driven wheels [B60K 23/08](#))

U B60K 17/348

• • having differential means for driving one set of wheels, e.g. the front, at one speed and the other set, e.g. the rear, at a different speed ([B60K 17/346](#) takes precedence)

U B60K 17/35

• • • including arrangements for suppressing or influencing the power transfer, e.g. viscous clutches (differential gearing with locking devices [F16H 48/20](#))

B60K 17/352

• • • • {manually operated}

U B60K 23/00

Arrangement or mounting of control devices for vehicle transmissions, or parts thereof, not otherwise provided for (movable cabs having special adaptations of vehicle control devices [B62D 33/06](#); such control devices *per se* [F16D](#), [F16H](#))

- U B60K 23/08 · for changing number of driven wheels, {for switching from driving one axle to driving two or more axles ([B60K 17/3515](#) takes precedence)}
- U B60K 23/0808 · · {for varying torque distribution between driven axles, e.g. by transfer clutch}
- B60K 2023/0841 · · · {for locking a central differential, e.g. by using a lock-up clutch}

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](#).

- B60K 41/02 · {of propulsion unit and clutch}
- B60K 41/04 · {of propulsion unit and gearing}
- B60K 41/06 · · {the gearing being stepped}
- B60K 41/08 · · · {with interruption of the drive}
- B60K 41/10 · · · {without interruption of the drive}
- B60K 41/12 · · {the gearing being infinitely variable}
- B60K 41/14 · · · {of mechanical type}
- B60K 41/16 · · · {of fluid type}
- B60K 41/18 · · · {of electric type, e.g. electromagnetic}
- B60K 41/20 · {of propulsion unit and brake system}
- B60K 41/22 · {of clutch and gearing (control of torque converter lock-up clutches [F16H 61/14](#))}
- B60K 41/24 · {of clutch and brake system}
- B60K 41/26 · {of gearing and brake system}
- B60K 41/28 · {of three or more sub-units}

Project: N/A (B60L)

- U **B60L 3/00** **Electric devices on electrically-propelled vehicles for safety purposes; Monitoring operating variables, e.g. speed, deceleration, power consumption (measuring in general [G01](#))**
- U B60L 3/10 · Indicating wheel slip; {Correction of wheel slip}
- U B60L 3/106 · · {for maintaining or recovering the adhesion of the drive wheels}
- B60L 3/108 · · · {whilst braking, i.e. ABS}
- U **B60L 11/00** **Electric propulsion with power supplied within the vehicle ([B60L 8/00](#), [B60L 13/00](#) take precedence; arrangements or mounting of plural diverse prime-movers for mutual or common propulsion [B60K 6/20](#); control systems specially adapted for hybrid vehicles [B60W 20/00](#))**

- U B60L 11/02 · using engine-driven generators
- U B60L 11/12 · · with additional electric power supply, e.g. accumulator
- B60L 11/123 · · · {using range extenders, **e.e.g.** ~~g-~~series hybrid vehicles}

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

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](#)

Project: N/A (B60Q)**B60Q**

VEHICLE LIGHTING OR SIGNALLING (arrangement of signalling or lighting devices, the mounting or supporting thereof for rail vehicles [B61D](#), for cycles [B62J](#), for ships [B63B](#), for aircrafts [B64D](#); lighting in general, lighting devices per se [F21](#), [H05B](#); signalling in general [G08](#); electric switches per se [H01H](#))

NOTES

1. This subclass covers also:

- electric signalling of lighting circuits so far as specially arranged in vehicles;
- arrangements or adaptations of lighting switches or signal-initiating means

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

3. Attention is drawn to the following places :

B60K 28/00	Safety devices, e.g. sleeping driver
B60R 25/00	Anti theft
B62D	Driving assistance
B62D 15/02	Steering aids
B60K 31/0008	Cruise control
F21S 48/00	Lighting devices or systems specially adapted for vehicles
G01S	Infra red night vision
G01S 13/931	Anti Collision
G05D 1/00	Automatic pilot
G06K 9/00	Pattern recognition
G06T 3/00	Image transformation
G06T 5/00	Image enhancement
G06T 7/00	Image analysis
G08B 21/00	Alarms in general
G08G	Traffic control
G08G 1/16	Anti-collision systems
H04N	Television systems
<u>B60K 28/00</u>	<u>Safety devices, e.g. sleeping driver</u>
<u>B60R 25/00</u>	<u>Anti theft</u>
<u>B62D</u>	<u>Driving assistance</u>
<u>B62D 15/02</u>	<u>Steering aids</u>
<u>B60K 31/0008</u>	<u>Cruise control</u>
<u>F21S 48/00</u>	<u>Lighting devices or systems specially adapted for vehicles</u>
<u>G01S</u>	<u>Infra red night vision</u>
<u>G01S 13/931</u>	<u>Anti Collision</u>
<u>G05D 1/00</u>	<u>Automatic pilot</u>
<u>G06K 9/00</u>	<u>Pattern recognition</u>
<u>G06T 3/00</u>	<u>Image transformation</u>
<u>G06T 5/00</u>	<u>Image enhancement</u>
<u>G06T 7/00</u>	<u>Image analysis</u>
<u>G08B 21/00</u>	<u>Alarms in general</u>
<u>G08G</u>	<u>Traffic control</u>
<u>G08G 1/16</u>	<u>Anti-collision systems</u>
<u>H04N</u>	<u>Television systems</u>

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

B60Q 1/128	covered by	B60Q 1/124
B60Q 1/132	covered by	B60Q 1/124
B60Q 1/136	covered by	B60Q 1/124
<u>B60Q 1/128</u>	<u>covered by</u>	<u>B60Q 1/124</u>
<u>B60Q 1/132</u>	<u>covered by</u>	<u>B60Q 1/124</u>
<u>B60Q 1/136</u>	<u>covered by</u>	<u>B60Q 1/124</u>

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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

<i>B60T 8/20</i>	<i>covered by</i>	<i>B60T 8/18</i>
<i>B60T 8/22</i>	<i>covered by</i>	<i>B60T 8/18</i>
<i>B60T 8/60 - B60T 8/70</i>	<i>covered by</i>	<i>B60T 8/17</i>
<i>B60T 8/78 - B60T 8/84</i>	<i>covered by</i>	<i>B60T 8/17</i>
<i>B60T 13/122</i>	<i>covered by</i>	<i>B60T 13/147, B60T 13/167</i>
<i>B60T 13/125</i>	<i>covered by</i>	<i>B60T 13/141</i>
<i>B60T 13/128</i>	<i>covered by</i>	<i>B60T 13/145, B60T 13/165</i>
<i>B60T 13/13</i>	<i>covered by</i>	<i>B60T 13/146, B60T 13/166</i>
<i>B60T 13/132</i>	<i>covered by</i>	<i>B60T 13/143, B60T 13/162</i>
<i>B60T 13/135</i>	<i>covered by</i>	<i>B60T 13/144, B60T 13/163</i>
<i>B60T 13/138</i>	<i>covered by</i>	<i>B60T 13/148, B60T 13/168</i>
<i>B60T 13/60</i>	<i>covered by</i>	<i>B60T 13/58</i>
<i>B60T 15/06</i>	<i>covered by</i>	<i>B60T 15/04</i>
<i>B60T 15/08</i>	<i>covered by</i>	<i>B60T 15/04</i>

Project: N/A (B60W)**U B60W 40/00**

Estimation or calculation of {non-directly measurable} driving parameters for road vehicle drive control systems not related to the control of a particular sub unit, {e.g. by using mathematical models}

U B60W 40/02

• related to ambient conditions

B60W 40/04

• • Traffic conditions ~~{0605}~~

B60W 40/06

• • Road conditions ~~{0605}~~

- U B60W 2540/00** Input parameters relating to the driver
- U B60W 2540/10 · Accelerator pedal position
- B60W 2540/103 · Accelerator thresholds, e.g. kickdown

Project: N/A (B60Y)

- U B60Y 2300/00** Purposes or special features of road vehicle drive control systems (for systems using conjoint control of multiple vehicle sub-units [B60W 30/00](#))
- U B60Y 2300/70 · Control of gearings
- B60Y 2300/75 · Dither torque, e.g. to remove tooth butting

Project: N/A (B61D)

- U B61D 5/00** Tank wagons for carrying fluent materials
- B61D 5/04 · {with means for cooling, heating, or insulating}
- B61D 5/08 · {Covers or access openings; Arrangements thereof}

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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 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*

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~B62H 5/16~~ — covered by — ~~B62H 5/14~~

B62H 5/16 covered by **B62H 5/14**

Project: RP0028 (B62K)

U B62K 3/00

Bicycles

U B62K 3/005

- {Recumbent-type bicycles}

D B62K 3/007

- {Automatic balancing machines supporting a rider, e.g. "Segways"}

U B62K 11/00

Motorcycles, engine-assisted cycles or motor scooters with one or two wheels (fairings or streamlining parts not forming part of the frame [B62J](#); transmission of drive from engines to wheels [B62M](#))

N B62K 11/007

- {Automatic balancing machines with single main ground engaging wheel or coaxial wheels supporting a rider}

Project: N/A (B63B)

U B63B 27/00

Loading or unloading cargo or passengers (self-discharging barges or lighters [B63B 35/30](#); shore-based [B65G](#) {elevators, escalators or moving walkways per se [B66B](#); floating cranes [B66C 23/52](#); loading or unloading devices per se, see the relevant subclasses, e.g. [B65G](#), [B66C](#), [B67D](#)})

WARNING

The scope of this group is broader than the scope of the corresponding IPC group, and includes the scope of the IPC2 subgroups [B63B 27/02](#), [B63B 27/06](#), and [B63B 27/20](#)

U B63B 27/02

- {with intermittent action}

U B63B 27/04

- • Ships' derricks, i.e. employing ships' masts (derricks in general [B66C](#))

B63B 27/06

- • • {with slewing force exerted at pivoted end}

U B63B 27/30

- {Arrangement of ship-based loading or unloading equipment} for transfer at sea between ships or between ships and off-shore structures

WARNING

Not complete, pending a reorganisation, see [B63B 22/021](#), [B63B 35/44](#), and subgroups

B63B 27/34

- • using pipe-lines {(Anchoring arrangements for special vessels with mooring turrets [B63B 21/507](#); Buoys specially adapted for mooring a vessel and for transferring fluids, e.g. liquids [B63B 22/021](#))}

WARNING

Not complete, pending a reorganisation, see [B63B 21/507](#), [B63B 22/021](#), [B63B 35/44](#) and subgroups

Project: N/A (B63C)

- U B63C 9/00 **Life-saving in water (life-saving in general [A62B](#); arrangement or adaptation of signalling or lighting devices for ships, other waterborne vessels or for equipment for shipping [B63B 45/00](#); rescue equipment specially adapted for submarine personnel [B63G 8/40](#))**

NOTE

- in this group the following indexing code is used: [B63B 2729/00](#)

WARNING

this group is pending a reorganisation; also documents covered by group [B63C 9/065](#) are within this group

- U B63C 9/08
- Life-buoys, e.g. rings; Life-belts, jackets, suits, or the like ({non-sinkable swimsuits, drawers or trunks [A41D 7/001](#)} ; equipment for swimming [A63B](#), e.g. swimming aids {other than life-buoys or life-belts} [A63B 31/00](#), {teaching frames for swimming, swimming boards [A63B 69/14](#)})
- B63C 9/087
- · Body suits, i.e. substantially covering the user's body {Immersion suits, i.e. substantially completely covering the user} ({Professional, industrial, or sporting protective garments [A41D 13/00](#) for aquatic activities, e.g. with buoyancy aids [A41D 13/012](#)} diving suits [B63C 11/04](#), [B63C 11/10](#) {[B63C 9/081](#) takes precedence-})
- B63C 9/13
- · attachable to body member, e.g. arm, neck, head or waist ({[B63C 9/081](#) takes precedence-})
- B63C 9/21
- {Boats, rafts, buoys or the like, characterised by signalling means, e.g. lights, reflectors ([B63C 9/08](#) takes precedence)}

WARNING

Group [B63C 9/21](#) is no longer used for classification. Documents are in the process of being reorganised to [B63B 45/00](#) and subgroups, and to [B63C 9/20](#)

- B63C 9/24
- {Arrangements of inflating valves or of controls thereof (connecting inflating valves to elastic bodies [B60C 29/00](#))}

WARNING

this group is pending a reorganisation; also documents covered by group [B63C 9/18](#), and subgroups are within this group

- 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
- B63C 2011/026
- · {Diving harnesses, or the like, **e.e.g. g-** for carrying breathing air tanks}

Project: N/A (B63H)

- U B63H 9/00 **Propulsive devices directly acted on by wind; Arrangements thereof (air driven propellers driving underwater propulsive elements [B63H 13/00](#))**
- U B63H 9/04
- using sails or like wind-catching surfaces (sailing sledges or ice boats [B62B 15/00](#); {masts for sailing boats [B63B 15/0083](#); sail arrangements for wind-driven boards [B63B 35/7973](#)})
- U B63H 9/06
- · Construction or types of sails; Arrangements thereof on vessels
- U B63H 9/0657
- · · {Construction of sails (sails with detachable sections [B63B 35/7983](#))}
- B63H 2009/0671
- · · · {of molded sails, i.e. of sails manufactured by shaping deformable material on molds-, e.g. thermoplastic film on heatable molds; Methods of manufacturing molded sails}

U B63H 21/00

Use of propulsion power plant or units on vessels (use of outboard propulsion units [B63H 20/00](#); hull reinforcements for carrying propulsion power plant or units [B63B 3/70](#); {propulsion of submarines [B63G 8/08](#); } propulsion power plant or units per se, see the relevant classes)

NOTE

This group comprises arrangements of propulsion power plant or units on vessels and to some extent it includes adaptations of such plant or units to facilitate such arrangements

WARNING

this group is pending a reorganisation; also documents covered by group [B63H 21/36](#) are within this group

U B63H 21/24
B63H 21/26

- {the vessels being small craft, e.g. racing boats}
- • {of outboard type; Outboard propulsion power units movably installed for steering, reversing, tilting, or the like {(transom panels for outboard motors for inflatable boats [B63B 7/087](#); floating propeller units [B63B 35/665](#))}

WARNING

Group [B63H 21/26](#) and subgroups are no longer used for classification. Documents are in the process of being reorganised to [B63H 5/125](#), and subgroups, to [B63H 20/00](#), and subgroups, and to [B63H 25/42](#)

B63H 21/28

- • • {Arrangements of transmission between propulsion power unit and propulsive element}

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 used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

B64C 35/02	covered by	B64C 35/00
B64C 35/02	covered by	B64C 35/00

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 used in the CPC scheme. Subject matter covered by these 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 25/111	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~~

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

U B64D 33/00

Arrangements in aircraft of power plant parts or auxiliaries not otherwise provided for

U B64D 33/04

- of exhaust outlets or jet pipes (exhaust outlets for combustion engines in general [F01N](#); jet pipes or nozzles for jet-propulsion plants per se [F02K](#); plants characterised by the form or arrangement of the jet pipe or nozzle [F02K](#) {attitude, flight direction, or altitude control by jet reaction [B64C](#)})

B64D 33/06

- {Silencing exhaust or propulsion jets (ground installations [B64F](#))}

Project: N/A (B64G)

B64G 9/00

{Cosmonautics not otherwise provided for}

Project: N/A (B65B)

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](#), [B65B 13/00](#); nailing or stapling devices per se [B25C](#), [B27F](#); {cutting or severing in general [B26D](#), [B26F](#)}; inserting documents in envelopes and closing the latter [B43M 3/00](#), [B43M 5/00](#); 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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~B65B-51/09 covered by B65B-51/00~~

B65B 51/09 covered by B65B 51/00

Project: N/A (B65D)

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 (containers specially adapted for storing agricultural or horticultural products [A01F 25/14](#); containers specially adapted for use in dairies [A01J](#); travelling bags or baskets, suitcases [A45C](#); travelling or camp equipment [A45E](#); {linkable display containers [A47B87/00C](#)}; household or table equipment [A47G](#); letter-boxes for home use [A47G 29/12](#); kitchen equipment [A47J](#); associated with vehicles, see the appropriate subclass of [B60](#) - [B64](#); machines, apparatus, or devices for, or methods of, packaging articles or materials [B65B](#); sack holders [B65B 67/00](#); refuse receptacles [B65F 1/00](#); handling sheets, webs or filamentary material [B65H](#); load-engaging elements or devices attached to lifting or lowering gear of cranes or adapted for connection therewith for transmitting lifting forces [B66C](#); liquid handling [B67](#); storing gases [F17](#); {packaging for photosensitive or like materials [G03](#), e.g. [G03C 3/00](#)}; making containers, see subclasses dealing with the working of the material concerned)

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](#), [B65D30/00](#) 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 of 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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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	covered by	B65D 5/489
B65D 5/48002		
B65D 5/49	covered by	B65D 5/499
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 17/28 B65D 17/48, B65D 17/52~~
~~covered by B65D 17/16 B65D 17/26~~
~~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 47/22 covered by B65D 47/20~~
~~B65D 47/34 covered by B05B 11/00~~
~~B65D 50/06 covered by~~
~~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	covered by	B65D-85/90
H01L-21/00,	H05K-13/00	
B65D-91/00	covered by	A47G-29/12
<i>B65D 5/34</i>	<i>covered by</i>	<i><u>B65D 5/325</u></i>
<i>B65D 5/35</i>	<i>covered by</i>	<i><u>B65D 5/32</u></i>
<i>B65D 5/355</i>	<i>covered by</i>	<i><u>B65D 5/0005</u></i>
<i>B65D 5/43</i>	<i>covered by</i>	<i><u>B65D 5/42</u></i>
<i>B65D 5/462</i>	<i>covered by</i>	<i><u>B65D 5/46008 -</u></i> <i><u>B65D 5/46032</u></i>
<i>B65D 5/465</i>	<i>covered by</i>	<i><u>B65D 5/46008 -</u></i> <i><u>B65D 5/46032</u></i>
<i>B65D 5/468</i>	<i>covered by</i>	<i><u>B65D 5/4608</u></i>
<i>B65D 5/472</i>	<i>covered by</i>	<i><u>B65D 5/46048</u></i>
<i>B65D 5/475</i>	<i>covered by</i>	<i><u>B65D 5/46008</u></i>
<i>B65D 5/478</i>	<i>covered by</i>	<i><u>B65D 5/46056</u></i>
<i>B65D 5/4805 - B65D 5/489</i>	<i>covered by</i>	<i><u>B65D 5/48002</u></i>
<i>B65D 5/49 - B65D 5/499</i>	<i>covered by</i>	<i><u>B65D 5/48024</u></i>
<i>B65D 5/63</i>	<i>covered by</i>	<i><u>B65D 5/72</u></i>
<i>B65D 6/00 - B65D 6/40</i>	<i>covered by</i>	<i><u>B65D 7/00, B65D 9/00,</u></i> <i><u>B65D 11/00, B65D 15/00</u></i>
<i>B65D 8/00 - B65D 8/22</i>	<i>covered by</i>	<i><u>B65D 7/00, B65D 9/00,</u></i> <i><u>B65D 11/00, B65D 15/00</u></i>
<i>B65D 19/22</i>	<i>covered by</i>	<i><u>B65D 19/0004 & subgroups</u></i>
<i>B65D 19/24</i>	<i>covered by</i>	<i><u>B65D 19/0004 & subgroups</u></i>
<i>B65D 19/26</i>	<i>covered by</i>	<i><u>B65D 19/0004 & subgroups</u></i>
<i>B65D 19/28</i>	<i>covered by</i>	<i><u>B65D 19/0004 & subgroups</u></i>
<i>B65D 19/30</i>	<i>covered by</i>	<i><u>B65D 19/0004 & subgroups</u></i>
<i>B65D 19/31</i>	<i>covered by</i>	<i><u>B65D 19/0004 & subgroups</u></i>
<i>B65D 19/34</i>	<i>covered by</i>	<i><u>B65D 19/0004 & subgroups</u></i>
<i>B65D 17/28 - B65D 17/48,</i> <i>B65D 17/52</i>	<i>covered by</i>	<i><u>B65D 17/16 - B65D 17/26</u></i>
<i>B65D 19/32</i>	<i>covered by</i>	<i><u>B65D 19/0002,</u></i> <i><u>B65D 19/0004</u></i>
<i>B65D 21/024</i>	<i>covered by</i>	<i><u>B65D 21/0201</u></i>
<i>B65D 21/028</i>	<i>covered by</i>	<i><u>B65D 21/0204</u></i>
<i>B65D 21/032</i>	<i>covered by</i>	<i><u>B65D 21/0211</u></i>
<i>B65D 21/036</i>	<i>covered by</i>	<i><u>B65D 21/0217</u></i>
<i>B65D 25/26</i>	<i>covered by</i>	<i><u>B65D 81/02</u></i>
<i>B65D 30/00 - B65D 30/28</i>	<i>covered by</i>	<i><u>B65D 29/00, B65D 31/00</u></i>
<i>B65D 33/17</i>	<i>covered by</i>	<i><u>B65D 33/1633</u></i>
<i>B65D 33/36</i>	<i>covered by</i>	<i><u>B65D 75/58</u></i>
<i>B65D 33/38</i>	<i>covered by</i>	<i><u>B65D 75/5861</u></i>
<i>B65D 35/48 - B65D 35/54</i>	<i>covered by</i>	<i><u>B65D 47/2018</u></i>
<i>B65D 39/18</i>	<i>covered by</i>	<i><u>B65D 39/00 +s.gr.</u></i>
<i>B65D 41/01</i>	<i>covered by</i>	<i><u>B65D 41/00</u></i>
<i>B65D 43/03</i>	<i>covered by</i>	<i><u>B65D 43/00 +</u></i> <i><u>B65D 2543/00027</u></i>
<i>B65D 47/22</i>	<i>covered by</i>	<i><u>B65D 47/20</u></i>

<i>B65D 47/34</i>	<i>covered by</i>	<i><u>B05B 11/00</u></i>
<i>B65D 50/06</i>	<i>covered by</i>	
<i>B65D 50/08</i>	<i>covered by</i>	<i><u>B65D 55/02</u></i>
<i>B65D 50/10</i>	<i>covered by</i>	<i><u>B65D 55/02</u></i>
<i>B65D 50/12</i>	<i>covered by</i>	<i><u>B65D 55/02</u></i>
<i>B65D 50/14</i>	<i>covered by</i>	<i><u>B65D 55/02</u></i>
<i>B65D 65/26 - B65D 65/32</i>	<i>covered by</i>	<i><u>B65D 75/58</u></i>
<i>B65D 65/34</i>	<i>covered by</i>	<i><u>B65D 75/66</u></i>
<i>B65D 65/36</i>	<i>covered by</i>	<i><u>B65D 75/58</u></i>
<i>B65D 71/52 - B65D 71/68</i>	<i>covered by</i>	<i><u>B65D 71/0003 -</u> <i><u>B65D 71/0077</u></i></i>
<i>B65D 75/60 - B65D 75/64</i>	<i>covered by</i>	<i><u>B65D 75/58</u></i>
<i>B65D 81/15</i>	<i>covered by</i>	<i><u>B65D 81/05</u></i>
<i>B65D 81/17</i>	<i>covered by</i>	<i><u>B65D 81/02</u></i>
<i>B65D 83/18 - B65D 83/74</i>	<i>covered by</i>	<i><u>B65D 83/14</u>, <u>B65D 83/16</u></i>
<i>B65D 83/18</i>	<i>covered by</i>	<i><u>B65D 83/201</u></i>
<i>B65D 83/58</i>	<i>covered by</i>	<i><u>B65D 83/44</u></i>
<i>B65D 83/76</i>	<i>covered by</i>	<i><u>B65D 83/0005</u></i>
<i>B65D 85/57</i>	<i>covered by</i>	<i><u>G11B 23/00</u></i>
<i>B65D 85/575</i>	<i>covered by</i>	<i><u>G11B 23/00</u></i>
<i>B65D 85/86 - B65D 85/90</i>	<i>covered by</i>	<i><u>H01L 21/00</u>, <u>H05K 13/00</u></i>
<i>B65D 91/00</i>	<i>covered by</i>	<i><u>A47G 29/12</u></i>

B65D 1/00

Containers having bodies formed in one piece, e.g. by casting metallic material, by moulding plastics, by blowing vitreous material, by throwing ceramic material, by moulding pulped fibrous material, by deep-drawing operations performed on sheet material (by winding, bending, or folding paper [B65D 3/00](#), [B65D 5/00](#); specially constructed to be opened by cutting, piercing, or tearing of wall portions [B65D 17/00](#); pallets [B65D 19/00](#); details of bottles or of jars [B65D 23/00](#); bundles of articles held together by packaging elements for convenience of storage or transport, e e.g. g- portable segregating carriers for plural receptacles such as beer cans, pop bottles, [B65D 71/00](#))

B65D 7/00

{Containers having bodies formed by interconnecting or uniting two or more rigid, or substantially rigid, components made wholly or mainly of metal (specially constructed to be opened by cutting, piercing, or tearing of wall portions [B65D 17/00](#); pallets [B65D 19/00](#); tanks for domestic water storage heaters [F24H 1/181](#))}

B65D 7/02

· {characterised by shape}

B65D 7/04

· · {of curved cross-section, e.g. cans of circular or elliptical cross-section
{(thermally insulated [B65D 81/3813](#), [B65D 81/3837](#))}

B65D 7/06

· · {of polygonal cross-section, e.g. tins, boxes}

B65D 7/08

· · · {Trays or like containers without lids}

B65D 7/10

· · · {of drawer-and-shell type}

B65D 7/12

· {characterised by wall construction or by connections between walls}

B65D 7/14

· · {of skeleton or like apertured construction, e.g. baskets or carriers formed of wire mesh, of interconnected bands, bars, or rods, or of perforated sheet metal}

B65D 7/16

· · · {made of apertured or perforated sheet metal components}

B65D 7/18

· · · {made up of interconnected spaced bands}

B65D 7/20

· · · {made of wire}

- B65D 7/22
 - • {with double walls, e.g. double end walls {(for thermal insulating purposes [B65D 81/3806](#), [B65D 81/3818](#), [B65D 81/383](#))}}
- B65D 7/24
 - • {collapsible, e.g. with all parts detachable}
- B65D 7/26
 - • • {with all parts hinged together}
- B65D 7/28
 - • • {with some parts detachable and other parts hinged together}
- B65D 7/30
 - • • {Fastening devices for holding collapsible containers in erected state, e.g. integral with container walls}
- B65D 7/32
 - • • • {separate from container walls}
- B65D 7/34
 - • {with permanent connections between walls (permanent connections between walls for closing containers after filling [B65D 17/06](#))}
- B65D 7/36
 - • • {formed by rolling, or by rolling and pressing}
- B65D 7/38
 - • • {formed by soldering, welding, or otherwise uniting opposed surfaces}
- B65D 7/40
 - • {with walls formed with filling or emptying apertures}
- B65D 7/42
 - {Details of metal walls ({casks, barrels or drums in their entirety [B65D 7/045](#)}; other container details [B65D 23/00](#), [B65D 25/00](#))}
- B65D 7/44
 - • {Reinforcing or strengthening parts or members}
- B65D 7/46
 - • • {Corrugations}
- B65D 7/48
 - • {Local reinforcements, e.g. adjacent closures}
- B65D 9/00**
 - {Containers having bodies formed by interconnecting or uniting two or more rigid, or substantially rigid, components made wholly or mainly of wood or substitutes therefor}**
- B65D 9/02
 - {Containers of curved cross-section, e.g. cylindrical boxes {(thermally insulated [B65D 81/3813](#), [B65D 81/3837](#))}
- B65D 9/04
 - • {made up of staves, e.g. barrels for liquids {(thermally insulated barrels, [B65D 81/3802](#))}
- B65D 9/06
 - {Boxes or crates of polygonal cross-section}
- B65D 9/08
 - • {of drawer-and-shell type}
- B65D 9/10
 - {Baskets or like containers made in interwoven or intermeshing flexible wooden material or by attaching thin wooden strips to a supporting framework}
- B65D 9/12
 - {collapsible, e.g. with all parts detachable}
- B65D 9/14
 - • {with all parts hinged together}
- B65D 9/16
 - • • {wire-bound boxes}
- B65D 9/18
 - • {with some parts detachable and other parts hinged together}
- B65D 9/20
 - • • {wire-bound boxes}
- B65D 9/22
 - • {Fastening devices for holding collapsible containers in erected state, e.g. integral with container walls}
- B65D 9/24
 - • • {separate from container walls}
- B65D 9/26
 - {with double end walls, e.g. double bottoms {(for thermal insulating purposes [B65D 81/3806](#), [B65D 81/3818](#), [B65D 81/383](#))}
- B65D 9/28
 - • {with bottoms movable under influence of contents}
- B65D 9/30
 - {Applications of laminates as wall material, e.g. plywood}
- B65D 9/32
 - {Details of wooden walls; Connections between walls (other container details [B65D 23/00](#), [B65D 25/00](#); connections between walls and non-removable lids or covers [B65D 43/14](#))}
- B65D 9/34
 - • {Joints; Local reinforcements}
- B65D 9/36
 - • • {Battens}
- B65D 9/38
 - • • {Metal bands or strips}

- B65D 11/00** **{Containers having bodies formed by interconnecting or uniting two or more rigid, or substantially rigid, components made wholly or mainly of plastics material (specially constructed to be opened by cutting, piercing, or tearing of wall portions [B65D 17/00](#); pallets [B65D 19/00](#))}**
- B65D 11/02 · {of curved cross-section {(thermally insulated [B65D 81/3813](#))}
- B65D 11/04 · · {Bottles or similar containers with necks or like restricted apertures designed for pouring contents {(thermally insulated [B65D 81/3837](#))}
- B65D 11/06 · · {Drums or barrels {(thermally insulated [B65D 81/3802](#))}
- B65D 11/08 · · · {Arrangements of filling or discharging apertures}
- B65D 11/10 · {of polygonal cross-section {and all parts being permanently connected to each other ([B65D 11/18](#) takes precedence)}
- B65D 11/12 · · {of drawer-and-shell type}
- B65D 11/14 · {of skeleton or apertured construction, e.g. baskets or carriers made up of interconnected spaced bands, rods, or strips}
- B65D 11/16 · {with double walls}
- B65D 11/18 · {collapsible, i.e. with walls hinged together or detachably connected}
- B65D 11/20 · {Details of walls made of plastics material}
- B65D 11/22 · · {Reinforcing for strengthening parts of members}
- B65D 11/24 · · · {Corrugations}
- B65D 11/26 · · · {Local reinforcements, e.g. adjacent to closures}
- B65D 11/28 · · · {Metal reinforcements, e.g. metal frames}
- U B65D 13/00** **Containers having bodies formed by interconnecting two or more rigid, or substantially rigid, components made wholly or mainly of the same material, other than metal, plastics, wood, or substitutes therefor (pallets [B65D 19/00](#))**
- B65D 13/04 · {of paper (by winding, bending, or folding paper [B65D 3/00](#), [B65D 5/00](#))}
- B65D 15/00** **{Containers having bodies formed by interconnecting or uniting two or more rigid, or substantially rigid, sections made of different materials (specially constructed to be opened by cutting, piercing, or tearing, of wall portions [B65D 17/00](#); pallets [B65D 19/00](#))}**
- B65D 15/02 · {of curved, or partially curved, cross-section, e.g. cans, drums}
- B65D 15/04 · · {with curved, or partially curved, walls made by winding or bending paper}
- B65D 15/06 · · · {with end walls made of metal}
- B65D 15/08 · · · {with end walls made of plastics material}
- B65D 15/10 · · {with curved, or partially curved, walls made of metal}
- B65D 15/12 · · · {with end walls made of paper}
- B65D 15/14 · · · {with end walls made of plastics material}
- B65D 15/16 · · {with curved, or partially curved, walls made of plastics material}
- B65D 15/18 · · · {with end walls made of metal}
- B65D 15/20 · · · {with end walls made of paper}
- B65D 15/22 · {of polygonal cross-section}
- B65D 15/24 · {Connections between walls}

- U B65D 17/00** Containers specially constructed to be opened by cutting or piercing, or by tearing of frangible member or portion (opening devices for containers made by winding, bending, or folding paper [B65D 3/00](#), [B65D 5/00](#); frangible inner closure members associated with caps, lids, or covers [B65D 51/20](#); opening devices added or incorporated during filling or closing of containers [B65D 77/30](#); separate devices for opening closed containers [B67B 7/00](#))
- B65D 17/16 · {Opening arrangements or devices incorporated in or attached to, containers
{([B65D 17/50](#) takes precedence)}
- B65D 29/00** {Sacks or like containers made of fabrics; Flexible containers of open-work, e.g. net-like construction}
- B65D 29/02 · {Sacks with laminated or multiple walls}
- B65D 29/04 · {Net-like containers made of plastics material}
- B65D 31/00** {Bags or like containers made of paper and having structural provision for thickness of contents {(with shock-absorbing properties [B65D 81/03](#))}
- B65D 31/02 · {with laminated walls}
- B65D 31/04 · {with multiple walls {([B65D 81/3881](#) takes precedence; for shock absorbing purposes [B65D 81/03](#))}
- B65D 31/06 · {with rigid end walls}
- B65D 31/08 · {with block bottoms}
- B65D 31/10 · {with gusseted sides}
- B65D 31/12 · {with two or more compartments}
- B65D 31/14 · {Valve bags, {i.e. with valves for filling}
- B65D 31/16 · {of special shape}
- B65D 31/18 · · {Triangular or conical bags}
- U B65D 65/00** Wrappers or flexible covers; Packaging materials of special type or form (wrappers or envelopes with shock-absorbing properties [B65D 81/03](#); layered products per se [B32B](#); materials per se, see the relevant classes)
- NOTE
Attention is drawn to the definition of "packaging element" in Note (5) following the title of this subclass
- U B65D 65/38 · Packaging materials of special type or form
- B65D 65/44 · · {Applications of resilient shock-absorbing materials, e.g. foamed plastics material, honeycomb material}
- U B65D 2517/00** Containers specially constructed to be opened by cutting, piercing or tearing of wall portions, e.g. preserving cans or tins (not used)
- U B65D 2517/0001 · Details (not used)
- U B65D 2517/0026 · · Means for preventing loss of removable element
- B65D 2517/0029 · · · the element being ~~part~~part of the pull-out panel
- U B65D 2583/00** Containers or packages with special means for dispensing contents
- U B65D 2583/04 · For dispensing annular, disc-shaped or spherical or like small articles or tablets
- B65D 2583/0404 · · Indications, ~~e.g.~~ ~~g.~~ directions for use
- B65D 2583/0413 · · · Tactile indication, ~~e.g.~~ ~~g.~~ Braille
- U B65D 2583/0445 · · characterised by the shape of the container
- B65D 2583/0454 · · · Flat container with slide cover, ~~i.e.~~ ~~e.~~ the thickness of the container is slightly more than the thickness of one article

- B65D 2583/0463 . . . of special configuration, ~~ee.g. g.~~-simulating an animal
- U B65D 2583/0472 . . characterised by the dispensing action
- U B65D 2583/0477 . . . the container is maintained in the same position during the dispensing of several successive articles or doses
- B65D 2583/0481 One reciprocating action, ~~ee.g. g.~~-to or from
- B65D 2583/049 One rotational action of a cylindrical, disc-like or sphere-like element around its own axis, ~~ee.g. g.~~-step-by-step, reciprocating

Project: N/A (B65G)

B65G

TRANSPORT OR STORAGE DEVICES, e.g. CONVEYORS FOR LOADING OR TIPPING; SHOP CONVEYOR SYSTEMS; 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 [B65H](#); hoisting, lifting, hauling, e.g. truck loaders [B66](#); handling liquids [B67](#); transport or storage containers for preparing or distributing road building materials [E01C](#); construction or assembling of bulk storage containers employing civil engineering techniques in site or off the site [E04H 7/00](#); specially adapted to underground conditions in mines [E21F 13/00](#); storing or distributing gases or liquids [F17](#); in handling radioactive materials [G21C 19/00](#))

WARNING

~~The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following groups:~~

~~B65G 33/28 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~~

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following groups:

B65G 33/28 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](#)

- U 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](#))**

B65G 17/16

- comprising individual load-carriers which are pivotally mounted, e.g. for free-swinging movement (guides inverting or tilting load-carriers for emptying {[B65G 47/38](#); [B65G 17/20](#) takes precedence-})

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~~

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*

<u>B21D 43/00</u>	<i>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</i>
<u>B23K 9/12</u>	<i>Means for automatic feeding of electrodes for spot or seam welding or cutting</i>
<u>B29C 31/00</u>	<i>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</i>
<u>B41B 15/32</u>	<i>, Film-handling mechanisms in photographic</i>
<u>B41B 21/32</u>	<i>composing machines</i>
<u>B41F 13/02</u>	<i>Conveying or guiding webs through rotary printing presses or machines</i>
<u>B41J 11/00</u>	<i>to Handling of copy- or impression-transfer material</i>
<u>B41J 17/00</u>	<i>in typewriters or selective printing mechanisms</i>
<u>B41K 3/44</u>	<i>Means for handling copy matter in stamping or numbering apparatus or devices</i>
<u>B41L</u>	<i>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</i>
<u>B42B</u>	<i>Handling relating to permanently attaching together sheets, quires, or signatures</i>
<u>B42C</u>	<i>Handling sheets in book-binding</i>
<u>B65B</u>	<i>Handling of sheets or webs in apparatus for, or methods of, packaging articles, not of interest apart from their application in packaging machines</i>
<u>B65C</u>	<i>Handling of labels in labelling or tagging apparatus</i>
<u>C14B 1/62</u>	<i>Winding or stacking hides or leather in machines or devices for manufacturing leather</i>
<u>D01- D07</u>	<i>Spinning, weaving, braiding, lace-making, knitting, sewing, making ropes or cables</i>
<u>D21F 2/00</u>	<i>Transferring webs from wet ends to press sections in paper-making</i>
<u>F26B 13/00</u>	<i>Handling fabrics, fibres, yarns or other material in long lengths in drying apparatus</i>
<u>G03B</u>	<i>Film-strip handling or handling of pictures in apparatus for taking photographs or for projecting or viewing them</i>
<u>G06K 13/00</u>	<i>Conveying record carriers from one station to another</i>
<u>G06M 7/00</u>	<i>Counting of flat articles, e.g. sheets, carried by a conveyor</i>
<u>G11B 15/00</u>	<i>to Information storage based on relative movement</i>
<u>G11B 19/00</u>	<i>, between record carrier and transducer,</i>
<u>G11B 23/00</u>	<i>, involving handling record carriers for</i>
<u>G11B 25/00</u>	<i>recording or reproducing</i>
<u>H01F 41/06</u>	<i>Manufacturing coils for magnets, inductances, transformers, by winding</i>
<u>H01G 13/02</u>	<i>Machines for winding capacitors</i>
<u>H04N 1/00</u>	<i>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</i>

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

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	
<i>B65H 35/07</i>	<i>covered by</i>	<i>B65H 35/0006</i>
<i>B65H 77/00</i>	<i>covered by</i>	<i>B65H 23/00, B65H 59/00</i>
<i>B65H 83/00, B65H 83/02</i>	<i>covered by</i>	<i>B07C 1/025, G07D 11/00 and s.gr</i>
<i>B65H 85/00</i>	<i>covered by</i>	<i>G03B 27/62, G03B 27/6264, G03B 27/6257</i>

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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
<i>B66C 23/61</i>	<i>covered by</i>	<i>B66C 23/60</i>
<i>B66C 23/683</i>	<i>covered by</i>	<i>B66C 23/68</i>
<i>B66C 23/687</i>	<i>covered by</i>	<i>B66C 23/701</i>

<i>B66C 23/69</i>	<i>covered by</i>	<i><u>B66C 23/701</u></i>
<i>B66C 23/693</i>	<i>covered by</i>	<i><u>B66C 23/705</u></i>
<i>B66C 23/697</i>	<i>covered by</i>	<i><u>B66C 23/707</u></i>

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~B66D 1/395 covered by B66D 1/36, B66D 1/50~~

B66D 1/395 covered by B66D 1/36, B66D 1/50

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~B66F 19/02 covered by B66F 19/00~~

B66F 19/02 covered by B66F 19/00

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

The following IPC groups are not used in the CPC scheme. Subject-matter covered by these 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~~

B67B 7/46 covered by B67B 7/30, B67B 7/385

<i>B67B 7/48-B67B 7/52</i>	<i>covered by</i>	<i>B67B 7/24, B67B 7/26, B67B 7/28</i>
<i>B67B 7/54-B67B 7/90</i>	<i>covered by</i>	<i>B67B 7/30-B67B 7/385</i>

U B67B 7/00

Hand- or power-operated devices for opening closed containers (nail pullers or extractors [B25C 11/00](#); attached to, or incorporated in, containers or container closures {[B65D 75/58](#), [B65D 77/30](#)})

B67B 7/30
B67B 7/32
B67B 7/34
B67B 7/36

- {Hand-operated cutting devices}
- · {propelled by rotary gears or wheels around periphery of container}
- · {with rotatable cutters}
- · {adapted to be mounted on walls}

Project: N/A (B81B)

B81B

MICRO-STRUCTURAL DEVICES OR SYSTEMS, e.g. MICRO-MECHANICAL DEVICES (piezo-electric, electrostrictive or magnetostrictive elements per se [H01L 41/00](#))

NOTES

1. This subclass does not cover:

- purely electrical or electronic devices per se which are covered by section [H](#), e.g. subclass [H01L](#);
- purely optical devices per se which are covered by subclasses [G02B](#) or [G02F](#);
- essentially two-dimensional structures, e.g. layered products which are covered by subclass [B32B](#);
- chemical or biological structures per se which are covered by section [C](#);
- structures in atomic scale produced by manipulation of single atoms or molecules, which are covered by group [B82B 1/00](#).

2. Devices or systems classified in this subclass are also classified in appropriate subclasses providing for their structural or functional features, if such features are of interest.

3. Attention is drawn to the following places:-

~~[A61K 9/50](#) — Microcapsules for medicinal preparations — [B25J 7/00](#)
Micromanipulators — [G02B 21/32](#) — Micromanipulators combined with
microscopes — [G11B 5/127](#) — Magnetic heads — [H01P 3/08](#) — Waveguide
microstrips.~~

[A61K 9/50](#) *Microcapsules for medicinal preparations*
[B25J 7/00](#) *Micromanipulators*
[G02B 21/32](#) *Micromanipulators combined with microscopes*
[G11B 5/127](#) *Magnetic heads*
[H01P 3/08](#) *Waveguide microstrips.*

4. In this subclass, local "residual" subgroups, e.g. [B81B 7/0077](#), are used with the following purpose:

When classifying a document which does not fit in any of a set of subgroups with the same dot-level, the document should be classified in the residual group, if present, and not in the group at the hierarchical level one dot above.

In the example, the document shall be classified in [B81B 7/0077](#) and not in [B81B 7/0032](#) as [B81B 7/0077](#) is "residual" to [B81B 7/0035-B81B 7/0074](#)

Project: RP0251 (B81B)

U B81B 3/00

Devices comprising flexible or deformable elements, e.g. comprising elastic tongues or membranes ([B81B 5/00](#) takes precedence)

- U B81B 3/0018 · {Structures acting upon the moving or flexible element for transforming energy into mechanical movement or vice versa, i.e. actuators, sensors, generators}
- B81B 3/0021 · {Transducers for transforming electrical into mechanical energy or vice versa (dynamo-electric machines [H02K 57/00](#)[H02K 99/00](#); electrostatic machines [H02N 1/00](#); piezo-electric devices [H01L 41/00](#))}

Project: N/A (B82Y)

B82Y

**SPECIFIC USES OR APPLICATIONS OF NANO-STRUCTURES;
MEASUREMENT OR ANALYSIS OF NANO-STRUCTURES; MANUFACTURE
OR TREATMENT OF NANO-STRUCTURES**

NOTES

1. This subclass covers applications and aspects of nano-structures which are produced by any method, and is not restricted to those that are formed by manipulation of individual atoms or molecules.
2. Attention is drawn to the Note following the title of class [B82](#), which defines the meaning of the terms "nano-size", "nano-scale" and "nano-structure" in this subclass.
3. This subclass is intended to enable a comprehensive search of subject matter related to nano-structures by combination of classification symbols of this subclass with classification symbols from other subclasses. Therefore this subclass covers aspects of nano-structures that might also be entirely or partially covered elsewhere in the IPC.
4. This subclass is for secondary classification, i.e. obligatory supplementary classification of subject matter already classified as such in other classification places, e.g. :

~~B82B ——— Nanostructures formed by individual manipulation of atoms, molecules, or limited collections of atoms or molecules as discrete units; manufacture or treatment thereof~~

~~A61K 9/51 — Nano — capsules for medicinal preparations~~

~~B05D 1/20 — Langmuir-Blodgett films~~

~~G01B 31/02 — Carbon nano-structures, e.g. bucky-balls, nanotubes, nanocoils, nano-doughnuts or nano-onions~~

~~G01Q ——— Scanning probe techniques—~~

~~G02F 1/017 — Optical quantum wells or boxes—~~

~~H01F 10/32 — Nano-structured thin magnetic films~~

~~H01F 41/30 — Molecular beam epitaxy [MBE]—~~

~~H01L 29/775 — Quantum wire FETs~~

B82B Nanostructures formed by individual manipulation of atoms, molecules, or limited collections of atoms or molecules as discrete units; manufacture or treatment thereof

A61K 9/51 Nano - capsules for medicinal preparations

B05D 1/20 Langmuir-Blodgett films

C01B 31/02 Carbon nano-structures, e.g. bucky-balls, nanotubes, nanocoils, nano-doughnuts or nano-onions

G01Q Scanning probe techniques

G02F 1/017 Optical quantum wells or boxes

H01F 10/32 Nano-structured thin magnetic films

H01F 41/30 Molecular beam epitaxy [MBE]

H01L 29/775 *Quantum wire FETs*

5. The classification symbols of this subclass are not listed first when assigned to patent documents.
6. In this subclass, multi-aspects classification is applied, so that aspects of subject matter that are covered by more than one of its groups should be classified in each of those groups.

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 used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups:

~~C01B 31/16~~ — covered by — ~~B01J 39/24,~~
~~B01J 41/18~~ —
~~C01B 35/16,~~ — ~~C01B 35/18~~ — covered by
~~C01B 35/00~~ — + s.gr.

C01B 31/16 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](#)

U C01B 17/00

Sulfur; Compounds thereof

U C01B 17/64

• Thiosulfates; Dithionites; Polythionates

C01B 17/66

• • Dithionites {or hydrosulfites (~~S2O4~~-2-S₂O₄²⁻)}

Project: MP0256 (C01F)

U C01F 17/00

Compounds of the rare earth metals, i.e. scandium, yttrium, lanthanum, or the group of the lanthanides

NOTE

In this group "rare earth metals" means one single element or a combination of elements taken from the group as specified above

M C01F 17/0012

• {Compounds containing, besides rare earth metals, two or more other **elementelements** with the exception of oxygen or hydrogen, e.g. La₄S₃Br₆, or ternary oxides or hydroxides, e.g. NaCeO₂}

M C01F 17/0031

- {Halogen being the only anion (~~compounds containing besides rare earth metals only different halogens, e.g. Sc C01F 17/0056~~ *compounds containing besides rare earth metals only different halogens, e.g. ScCl₂F C01F 17/0056*)}

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

-The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups:

~~C02F 9/02 - C02F 9/14 covered by C02F 9/00 and subgroup~~

C02F 9/02-C02F 9/14 covered by C02F 9/00 and subgroup

U C02F 1/00

Treatment of water, waste water, or sewage ([C02F 3/00](#) - [C02F 9/00](#) take precedence)

C02F 1/50

- by addition or application of a germicide or by oligodynamic treatment {([C02F 1/4606](#), [C02F 1/467](#), [C02F 1/76](#) take precedence)}

Project: N/A (C03B)

C03B

MANUFACTURE, SHAPING, OR SUPPLEMENTARY PROCESSES

WARNING

The following IPC groups are not used in the CPC system. Subject matter covered by these 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~~

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

Project: N/A (C03C)

C03C

CHEMICAL COMPOSITION OF GLASSES, GLAZES, OR VITREOUS ENAMELS; SURFACE TREATMENT OF GLASS; SURFACE TREATMENT OF FIBRES OR FILAMENTS FROM GLASS, MINERALS OR SLAGS; JOINING GLASS TO GLASS OR OTHER MATERIALS

NOTES

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

C03C 6/00	covered by	C03C 1/00
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
C03C 6/00	covered by	C03C 1/00
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

C03C 15/00

Surface treatment of glass-, not in the form of fibres or filaments, by etching (etching or surface-brightening compositions, in general [C09K 13/00](#))

Project: RP0138 (C04B)

M 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 STONE

NOTES

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

The following IPC groups are not used in the CPC **system scheme**. Subject matter covered by these groups is classified in the following CPC groups:-

~~C04B 5/02~~ covered by ~~B01J 2/00,~~
~~C21B 3/06~~
~~C04B 33/132~~ ~~C04B 33/138~~ covered by
~~C04B 33/13~~
~~C04B 35/035~~ covered by ~~C04B 35/26~~
~~+s.gr.~~
~~C04B 35/567,~~ ~~C04B 35/569,~~ ~~C04B 35/576,~~
~~C04B 35/577~~ covered by ~~C04B 35/565,~~ ~~C04B 35/571~~
~~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 35/5935,~~ ~~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~~

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 35/567 , 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

U C04B 28/00 Compositions of mortars, concrete or artificial stone, containing inorganic binders or the reaction product of an inorganic and an organic binder, e.g. polycarboxylate cements

NOTE

While using Combination Sets in this main group, the presence of an organic binder is indicated with symbols chosen from group [C04B 24/00](#), and the presence of a supplementary inorganic binder with symbols chosen from groups [C04B 7/00](#) - [C04B 12/00](#)

U C04B 28/18 · containing mixtures of the silica-lime type

D C04B 28/20 · · Sand-lime

WARNING

Group C04B 28/20 is not complete, see also C04B 28/18

D C04B 28/22 · · Lime and pozzuolanas

WARNING

Group C04B 28/22 and subgroup are not complete, see also C04B 28/18

D C04B 28/225 · · · {artificial pozzuolanas}

Project: N/A (C05F)

C05F

ORGANIC FERTILISERS NOT COVERED BY SUBCLASSES [C05B](#), [C05C](#), e.g. FERTILISERS FROM WASTE OR REFUSE {(breeding of earthworms [A01K 67/0332](#))}

NOTE

Processes where the composting step is the characterising feature, or apparatus therefor, are classified in group [C05F 17/00](#).

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups (see also internal note after the title of class [C05](#)):-

~~C05F 15/00 covered by C05F 1/00-C05F 11/00~~

~~C05F 15/00~~ covered by ~~C05F 1/00-C05F 11/00~~

Project: MP0182 (C05F)

M C05F 7/00

Fertilisers from waste water, sewage sludge, sea slime, ooze or similar masses ~~(methods or installations for de-watering, drying or incineration of sludge C02F 11/00)~~

Project: N/A (C05G)

C05G

MIXTURES OF FERTILISERS COVERED INDIVIDUALLY BY DIFFERENT SUBCLASSES OF CLASS [C05](#); MIXTURES OF ONE OR MORE FERTILISERS WITH MATERIALS NOT HAVING A SPECIFIC FERTILISING ACTIVITY, e.g. PESTICIDES, SOIL-CONDITIONERS, WETTING AGENTS (organic fertilisers containing added bacterial cultures, mycelia, or the like [C05F 11/08](#); organic fertilisers containing plant vitamins or hormones [C05F 11/10](#)); FERTILISERS CHARACTERISED BY THEIR FORM

NOTES

1. This subclass covers mixtures of fertilisers with soil-conditioning or soil-stabilising materials characterised by their fertilising activity.
2. This subclass does not cover mixtures of fertilisers with soil-conditioning or soil-stabilising materials characterised by their soil-conditioning or soil-stabilising activity, which are covered by group [C09K 17/00](#).

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups (see internal note after the title of class [C05](#)):

~~C05G 1/02 - C05G 1/10 — covered by C05-~~

~~C05G 3/10 — covered by C05G 3/0088 —~~

~~C05G 5/00 — covered by C05G 3/0005~~

C05G 1/02 - C05G 1/10 covered by [C05](#)

C05G 3/10 covered by [C05G 3/0088](#)

C05G 5/00 covered by [C05G 3/0005](#)

Project: N/A (C07)

C07

ORGANIC CHEMISTRY (such compounds as the oxides, sulfides, or oxysulfides of carbon, cyanogen, phosgene, hydrocyanic acid or salts thereof [C01](#); products obtained from layered base-exchange silicates by ion-exchange with organic compounds such as ammonium, phosphonium or sulfonium compounds or by intercalation of organic compounds [C01B 33/44](#); macromolecular compounds [C08](#); dyes [C09](#); fermentation products [C12](#); fermentation or enzyme-using processes to synthesise a desired chemical compound or composition or to separate optical isomers from a racemic mixture [C12P](#); production of organic compounds by electrolysis or electrophoresis [C25B 3/00](#), [C25B 7/00](#))

NOTES

1. In this class, the following term is used with the meaning indicated:
 - "preparation" covers purification, separation, stabilisation or use of additives, unless a separate place is provided therefor.
2. {This IPC Note does not apply in CPC.}
3. In subclasses [C07C-C07K](#), the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, and with the exception referred to below, a compound is classified in the last appropriate place. For example, 2-butyl-pyridine, which contains an acyclic chain and a heterocyclic ring, is classified only as a heterocyclic compound, in subclass [C07D](#). In general, and in the absence of an indication to the contrary, the terms "acyclic" and "aliphatic" are used to describe compounds in which there is no ring; and, if a ring were present, the compound would be taken by the "last place" rule to a later group for cycloaliphatic or aromatic compounds, if such a group exists. Where a compound or an entire group of compounds exists in tautomeric forms, it is classified as though existing in the form which is classified

last in the system, unless the other form is specifically mentioned earlier in the system.

4. Chemical compounds and their preparation are classified in the groups for the type of compound prepared. The processes of preparation are also classified in the groups for the types of reaction employed, if of interest. Examples of such places outside this class are:-

~~C12P Fermentation or enzyme-using processes to synthesise a desired chemical compound or composition or to separate optical isomers from a racemic mixture~~

~~C25B 3/00 Electrolytic production of organic compounds~~

~~C25B 7/00 Electrophoretic production of compounds~~

C12P Fermentation or enzyme-using processes to synthesise a desired chemical compound or composition or to separate optical isomers from a racemic mixture

C25B 3/00 Electrolytic production of organic compounds

C25B 7/00 Electrophoretic production of compounds

5. General processes for the preparation of a class of compounds falling into more than one main group are classified in the groups for the processes employed, when such groups exist. The compounds prepared are also classified in the groups for the types of compound prepared, if of interest.

6. In this class, in the absence of an indication to the contrary, the compounds containing carboxyl or thiocarboxyl groups are classified as the relevant carboxylic or thiocarboxylic acids, unless the "last place rule" (see Note (3), above) dictates otherwise; a carboxyl group being a carbon atom having three bonds, and no more than three, to hetero atoms, other than nitrogen atoms of nitro or nitroso groups, with at least one multiple bond to the same hetero atom and a thiocarboxyl group being a carboxyl group having at least one bond to a sulfur atom, e.g. amides or nitriles of carboxylic acids, are classified with the corresponding acids {unless the "last place rule" (see Note (3), above) dictates otherwise}.

7. {Anhydrides and halides of carboxylic acids are classified as the relevant acids unless otherwise indicated.} Salts of a compound, unless specifically provided for, are classified as that compound, e.g. aniline hydrochloride is classified as containing carbon, hydrogen and nitrogen only (in [C07C 211/46](#)), sodium malonate is classified as malonic acid (in [C07C 55/08](#)), and a mercaptide is classified as the mercaptan. Metal chelates are dealt with in the same way. Similarly, metal alcoholates and metal phenates are {generally} classified in subclass [C07C](#) and not in subclass [C07F](#), the alcoholates {for instance} in groups [C07C 31/28](#) - [C07C 31/32](#) and the phenates as the corresponding phenols in group [C07C 39/235](#) or [C07C 39/44](#). Salts, adducts or complexes formed between two or more organic compounds are classified according to all compounds forming the salts, adducts or complexes.

Project: MP0255 (C07B)

M C07B

GENERAL METHODS OF ORGANIC CHEMISTRY; APPARATUS THEREFOR (preparation of carboxylic acid esters by telomerisation [C07C 67/47](#); telomerisation [C08F](#))

NOTES

1. In this subclass, the functional group which is present already in some residue being introduced and is not substantially involved in a chemical reaction, is not considered as the functional group which is formed or introduced as a result of the chemical reaction.

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

- "separation" means separation only for the purposes of recovering organic compounds.

3. 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

3-4. In this subclass, 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 according to the type of reaction employed, noting the bond or the functional group which is formed or introduced as a result of the chemical reaction.

~~4. 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.~~

5. ~~C07B 59/00~~{C07B 59/00 and subgroups thereof are used for the classification of individual labelled compounds as well as for general methods.}

6. {C07B 61/02 is used for the classification of individual free radicals as well as for general methods.}

Project: N/A (C07B)

U C07B 61/00
C07B 61/02

Other general methods

- {Generation of organic free radicals; {Organic free radicals per se}

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

~~The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

<i>C07C 27/02</i>	<i>covered by</i>	<i>C07C 29/00, C07C 51/00</i>
<i>C07C 47/042, C07C 47/045,</i>	<i>covered by</i>	<i>C07C 47/04</i>
<i>C07C 47/048, C07C 47/052,</i>		
<i>C07C 47/055, C07C 47/058</i>		
<i>C07C 47/07, C07C 47/09</i>	<i>covered by</i>	<i>C07C 47/06</i>

<i>C07C 53/04</i>	<i>covered by</i>	<i><u>C07C 53/02</u></i>
<i>C07C 57/045, C07C 57/05, C07C 57/055, C07C 57/065, C07C 57/07, C07C 57/075</i>	<i>covered by</i>	<i><u>C07C 57/04</u></i>
<i>C07C 69/025, C07C 69/03, C07C 69/035</i>	<i>covered by</i>	<i><u>C07C 69/003 - C07C 69/017</u> <i>and</i> <u>C07C 69/02</u></i>
<i>C07C 69/347, C07C 69/353</i>	<i>covered by</i>	<i><u>C07C 69/003 - C07C 69/017</u> <i>and</i> <u>C07C 69/34</u></i>
<i>C07C 69/527</i>	<i>covered by</i>	<i><u>C07C 69/003 - C07C 69/017</u> <i>and</i> <u>C07C 69/52</u></i>
<i>C07C 69/767, C07C 69/773</i>	<i>covered by</i>	<i><u>C07C 69/003 - C07C 69/017</u> <i>and</i> <u>C07C 69/76</u></i>
<i>C07C 69/83</i>	<i>covered by</i>	<i><u>C07C 69/003 - C07C 69/017</u> <i>and</i> <u>C07C 69/82</u></i>

Project: MP0115 (C07D)

- U C07D 233/00 Heterocyclic compounds containing 1,3-diazole or hydrogenated 1,3-diazole rings, not condensed with other rings**
- U C07D 233/04 · having one double bond between ring members or between a ring member and a non-ring member
- U C07D 233/28 · · with hetero atoms or with carbon atoms having three bonds to hetero atoms with at the most one bond to halogen, e.g. ester or nitrile radicals, directly attached to ring carbon atoms
- U C07D 233/44 · · · Nitrogen atoms not forming part of a nitro radical
- M C07D 233/50 · · · with ~~acyclic hydrocarbon or substituted acyclic hydrocarbon radicals~~, *carbocyclic radicals directly* attached to said nitrogen atoms

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

~~The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups are classified in the following CPC groups: [C07F 9/6593](#)—covered by—[C07F 9/65815](#)~~

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups are classified in the following CPC groups:
C07F 9/6593 covered by C07F 9/65815

Project: RP0261 (C07F)

- M C07F 1/00 Compounds containing elements of **the 1st Group** **Groups 1 or 11** of the Periodic System
- M C07F 3/00 Compounds containing elements of **the 2nd Group** **Groups 2 or 12** of the Periodic System
- M C07F 5/00 Compounds containing elements of **the 3rd Group** **Groups 3 or 13** of the Periodic System
- M C07F 7/00 Compounds containing elements of **the 4th Group** **Groups 4 or 14** of the Periodic System
- U C07F 7/003 · {without C-Metal linkages}
- M C07F 7/006 · · {of **group 4B** **Group 4** of the Periodic System}

Project: N/A (C07F)

- U C07F 7/02 · Silicon compounds
- U C07F 7/08 · · Compounds having one or more C-Si linkages
- U C07F 7/0834 · · · {Compounds having one or more O-Si linkage (for compounds with C-O-Si linkages see [C07F 7/18](#))}
- U C07F 7/0838 · · · · {Compounds with one or more Si-O-Si sequences}
- 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](#))}

Project: RP0261 (C07F)

- M C07F 9/00 Compounds containing elements of **the 5th Group** **Groups 5 or 15** of the Periodic System
- M C07F 9/005 · {Compounds of elements of **group 5B** **Group 5 of the Periodic System** without metal-carbon linkages}

Project: N/A (C07F)

- 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 9/547 · · Heterocyclic compounds, e.g. containing phosphorus as a ring hetero atom
- U C07F 9/6564 · · · having phosphorus atoms, with or without nitrogen, oxygen, sulfur, selenium or tellurium atoms, as ring hetero atoms
- U C07F 9/6578 · · · · having phosphorus and sulfur atoms with or without oxygen atoms, as ring hetero atoms
- C07F 9/65785 · · · · {the ring phosphorus atom and, at least, one ring sulfur atom being part of a thiophosphonic acid derivative}

Project: RP0261 (C07F)

- M C07F 11/00 Compounds containing elements of **the 6th Group** **Groups 6 or 16** of the Periodic System
- M C07F 13/00 Compounds containing elements of **the 7th Group** **Groups 7 or 17** of the Periodic System

- M C07F 15/00** Compounds containing elements of **the 8th-Group** **Groups 8, 9, 10 or 18** of the Periodic System; **{General methods of preparation}**
- U C07F 17/00** **Metallocenes**
- M C07F 17/02** · of metals of **the iron-group** **Groups 8, 9** or **10** of the **platinum-group** **Periodic System**
- M C07F 19/00** Metal compounds according to more than one of **the preceding** main groups **C07F 1/00 - C07F 17/00**

Project: N/A (C07G)

C07G 17/00 **{Other compounds of unknown constitution}**

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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
C07K 5/023	covered by	<u>C07K 5/0202</u>
C07K 5/027	covered by	<u>C07K 5/0205</u>
C07K 5/03	covered by	<u>C07K 5/0207</u>
C07K 5/033	covered by	<u>C07K 5/021</u>
C07K 5/037	covered by	<u>C07K 5/0215</u>
C07K 5/062	covered by	<u>C07K 5/06017</u>
C07K 5/065	covered by	<u>C07K 5/06078</u>
C07K 5/068	covered by	<u>C07K 5/06086</u>
C07K 5/072	covered by	<u>C07K 5/06104</u>
C07K 5/075	covered by	<u>C07K 5/0613</u>
C07K 5/078	covered by	<u>C07K 5/06139</u>
C07K 5/083	covered by	<u>C07K 5/0804</u>
C07K 5/087	covered by	<u>C07K 5/0812</u>
C07K 5/09	covered by	<u>C07K 5/0815</u>
C07K 5/093	covered by	<u>C07K 5/0819</u>
C07K 5/097	covered by	<u>C07K 5/0821</u>
C07K 5/103	covered by	<u>C07K 5/1005</u>
C07K 5/107	covered by	<u>C07K 5/1016</u>
C07K 5/11	covered by	<u>C07K 5/1019</u>
C07K 5/113	covered by	<u>C07K 5/1021</u>
C07K 5/117	covered by	<u>C07K 5/1024</u>
C07K 14/185	covered by	<u>C07K 14/1816</u>
C07K 14/725	covered by	<u>C07K 14/705</u>
C07K 14/73	covered by	<u>C07K 14/70514</u>
C07K 14/735	covered by	<u>C07K 14/70535</u>
C07K 14/74	covered by	<u>C07K 14/70539</u>

U C07K 2317/00

Immunoglobulins specific features

U C07K 2317/50
C07K 2317/56

- characterized by immunoglobulin fragments
- • variable (Fv) region-, i.e. VH and/or VL

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

C08B 37/06	covered by	C08B 37/0045
C08B 37/10	covered by	C08B 37/0075
C08B 37/12	covered by	C08B 37/0039
C08B 37/06	covered by	<u>C08B 37/0045</u>
C08B 37/10	covered by	<u>C08B 37/0075</u>
C08B 37/12	covered by	<u>C08B 37/0039</u>

U C08B 37/00

Preparation of polysaccharides not provided for in groups [C08B 1/00](#) - [C08B 35/00](#); Derivatives thereof (cellulose [D21](#); {microbiological processes [C12P](#)})

- U C08B 37/006
- {Heteroglycans, i.e. polysaccharides having more than one sugar residue in the main chain in either alternating or less regular sequence; Gellans; Succinoglycans; Arabinogalactans; Tragacanth or gum tragacanth or traganth from Astragalus; Gum Karaya from Sterculia urens; Gum Ghatti from Anogeissus latifolia; Derivatives thereof}
- U C08B 37/0063
- • {Glycosaminoglycans or mucopolysaccharides, e.g. keratan sulfate; Derivatives thereof, e.g. fucoidan}
- C08B 37/0069
- • • {Chondroitin-4-sulfate, i.e. chondroitin sulfate A⁻; Dermatan sulfate, i.e. chondroitin sulfate B or beta-heparin⁻; Chondroitin-6-sulfate, i.e. chondroitin sulfate C; Derivatives thereof}
- U C08B 37/12
- Agar-agar; Derivatives thereof (not used)
- C08B 37/125
- • {Other polysaccharides of algae such as carragenan (not used)}(not used)
- U C08B 37/14
- Hemicellulose; Derivatives thereof (not used)
- C08B 37/143
- • {composed by pentose units, e.g. xylose, xylan, pentosans, arabinose (not used)}(not used)
- C08B 37/146
- • {composed by gluco and/or galactomannans, for example guar gum, locust bean gum (not used)}(not used)

Project: N/A (C08C)**C08C****TREATMENT OR CHEMICAL MODIFICATION OF RUBBERS**NOTE

This subclass includes:

- processes directed to natural rubber or to conjugated diene rubber (synthesis thereof [C08F](#))
- processes directed to rubbers in general (to a specified rubber, other than provided for by (a) above, [C08F](#) - [C08H](#))

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~C08C 1/16~~—covered by—~~C08C 1/14~~

[C08C 1/16](#) covered by [C08C 1/14](#)

Project: N/A (C08F)**U C08F 4/00****Polymerisation catalysts (catalysts in general [B01J](#))**NOTES

1. Group [C08F 4/00](#) and subgroups can be incomplete according to the following classification rules:

- if a catalyst is specifically used for only one type of polymer, it is not classified in [C08F 4/00](#);
- in such a case, the classification symbol of [C08F 4/00](#) providing for the catalyst may be used as a symbol for a C-Set in the groups providing for the polymer, e.g. ([C08F 12/04](#), [C08F 4/62](#))
- this method of classification is applied only when a note after the group providing for the polymer explicitly indicates which symbols of [C08F 4/00](#) may be used for forming the C-set.

2. When classifying in group [C08F 4/00](#), the type of catalyst can be further indexed by using indexing codes chosen from [C08F 2410/00](#), [C08F 2420/00](#) or their subgroups

- U C08F 4/42
- Metals; Metal hydrides; Metallo-organic compounds; Use thereof as catalyst precursors

- U C08F 4/44 . . selected from light metals, zinc, cadmium, mercury, copper, silver, gold, boron, gallium, indium, thallium, rare earths or actinides
- U C08F 4/60 . . . together with refractory metals, iron group metals, platinum group metals, manganese, rhenium {technetium} or compounds thereof
- NOTES
1. In groups [C08F 4/60](#) - [C08F 4/64](#), the term "component" comprises the transition metal or a compound thereof, pretreated or not { (pretreating per [C08F 4/61](#), [C08F 4/63](#) and [C08F 4/65](#)) }
2. Group [C08F 4/60003](#) takes precedence over groups [C08F 4/602](#) - [C08F 4/619](#)
- C08F 4/60003 . . . {the metallic compound containing a multidentate ligand, i.e. a ligand capable of donating two or more pairs of electrons to form a coordinate or ionic bond (*not used*)}(~~not used~~)
- NOTE
- For monoanionic compounds, the charge is on the last mentioned atom; for dianionic compounds, the charge is on the first and the last mentioned atoms except for compounds marked with * where the charge is on the marked atom
- U C08F 4/62 . . . Refractory metals or compounds thereof
- NOTE
- Group [C08F 4/62003](#) takes precedence over groups [C08F 4/622](#) - [C08F 4/639](#)
- C08F 4/62003 . . . {the metallic compound containing a multidentate ligand, i.e. a ligand capable of donating two or more pairs of electrons to form a coordinate or ionic bond (*not used*)}(~~not used~~)
- NOTE
- For monoanionic compounds, the charge is on the last mentioned atom; for dianionic compounds, the charge is on the first and the last mentioned atoms except for compounds marked with * where the charge is on the marked atom
- U C08F 4/64 . . . Titanium, zirconium, hafnium or compounds thereof
- NOTE
- Group [C08F 4/64003](#) takes precedence over groups [C08F 4/642](#) - [C08F 4/659](#)
- C08F 4/64003 . . . {the metallic compound containing a multidentate ligand, i.e. a ligand capable of donating two or more pairs of electrons to form a coordinate or ionic bond (*not used*)}(~~not used~~)
- NOTE
- For monoanionic compounds, the charge is on the last mentioned atom; for dianionic compounds, the charge is on the first and the last mentioned atoms except for compounds marked with * where the charge is on the marked atom
- U C08F 4/68 . . . Vanadium, niobium, tantalum or compounds thereof

- C08F 4/68008 {the metallic compound containing a multidentate ligand, i.e. a ligand capable of donating two or more pairs of electrons to form a coordinate or ionic bond (not used)}(not used)

NOTE

For monoanionic compounds, the charge is on the last mentioned atom; for dianionic compounds, the charge is on the first and the last mentioned atoms except for compounds marked with * where the charge is on the marked atom

- U C08F 4/69 Chromium, molybdenum, tungsten or compounds thereof
C08F 4/69008 {the metallic compound containing a multidentate ligand, i.e. a ligand capable of donating two or more pairs of electrons to form a coordinate or ionic bond (not used)}(not used)

NOTE

For monoanionic compounds, the charge is on the last mentioned atom; for dianionic compounds, the charge is on the first and the last mentioned atoms except for compounds marked with * where the charge is on the marked atom

- U C08F 4/70 Iron group metals, platinum group metals or compounds thereof
C08F 4/7001 {the metallic compound containing a multidentate ligand, i.e. a ligand capable of donating two or more pairs of electrons to form a coordinate or ionic bond (not used)}(not used)

NOTE

For monoanionic compounds, the charge is on the last mentioned atom; for dianionic compounds, the charge is on the first and the last mentioned atoms except for compounds marked with * where the charge is on the marked atom

- U **C08F 2438/00** **Living radical polymerisation**
C08F 2438/03 . Use of a di- or tri-thiocarbonylthio compound, e.g. di- or tri-thioester, di- or tri-thiocarbamate, or a xanthate as chain transfer agent, e.g. Reversible Addition Fragmentation chain Transfer [RAFT] or Macromolecular Design via Interchange of Xanthates [MADIX]

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

C08G 14/067, C08G 14/073, C08G 14/09	covered by	C08G 14/06
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
C08G 14/067, C08G 14/073, C08G 14/09	covered by	C08G 14/06
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

Project: N/A (C08H)

C08H 6/00

{Macromolecular compounds derived from lignin, {e.g. tannins, humic acids}}

NOTE

Attention is drawn to the following place, which could be of interest for search:

- Lignin or lignin derivatives, [C07G 1/00](#)

Project: MP0115 (C08J)

M 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~~; *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

The following IPC groups are not used in the CPC system. Subject matter covered by these 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](#)

C08J 5/14	covered by	B24D 3/20 , F16D 69/02
C08J 5/16	covered by	C10M

U C08J 3/00

M C08J 3/02

U C08J 3/20

U C08J 3/22

M C08J 3/226

Processes of treating or compounding macromolecular substances

- Making solutions, dispersions or [lattices/lattices](#) by other methods than by solution, emulsion or suspension polymerisation techniques
- Compounding polymers with additives, e.g. colouring
- • using masterbatch techniques
- • • {using a polymer as a carrier-[\(see remark 2\)](#)}

Project: N/A (C08J)

U C08J 7/00

Chemical treatment or coating of shaped articles made of macromolecular substances (coating with metallic material [C23C](#); electrolytic deposition of metals [C25](#))

C08J 7/08

- [{Heat treatment}](#)

Project: N/A (C08K)

C08K

USE OF INORGANIC OR NON-MACROMOLECULAR ORGANIC SUBSTANCES AS COMPOUNDING INGREDIENTS (pesticides, herbicides [A01N](#); pharmaceuticals, cosmetics [A61K](#); explosives [C06B](#); paints, inks, varnishes, dyes, polishes, adhesives [C09](#); lubricants [C10M](#); detergents [C11D](#); artificial filaments or fibres [D01F](#); textile treating compositions [D06](#))

NOTES

1. The use of an ingredient for a specific polymer is classified by adding, in a C-set, to the group symbol of [C08K](#), the subdivision of [C08L 1/00](#) - [C08L 99/00](#).
Example: Polystyrene containing a carboxylic amide is classified in ([C08K 5/20](#), [C08L 25/06](#)).
 2. From April 2012, the use of an ingredient for a specific polymer is classified by adding, in a C-set, to the group symbol of [C08K](#), the subdivision of [C08L 1/00](#) - [C08L 99/00](#). Example: Polystyrene containing a carboxylic amide is classified in ([C08K 5/20](#), [C08L 25/06](#)).
 3. In this subclass, in the absence of an indication to the contrary, an ingredient is classified in the last appropriate place.
 4. In this subclass:
 - a mixture of ingredients is classified in the most indented group covering all the essential ingredients of the mixture, e.g.:

a mixture of a monohydric and a polyhydric alcohol	C08K 5/05
a mixture of two polyhydric alcohols	C08K 5/053
a mixture of an alcohol and an ether	C08K 5/04
a mixture of an ether and an amine	C08K 5/00
a mixture of an amine and a metal	C08K 13/02

{ This note is applied only for mixtures with more than three essential ingredients. Mixtures with two or three ingredients are classified in the appropriate groups of [C08K](#), e.g. a mixture of Al₂O₃, an ether and an amine is classified in [C08K 3/22](#), [C08K 5/06](#) and [C08K 5/17](#)}

 - ammonium salts are classified in the same way as metal salts
 5. In this subclass, organic acid salts, alcoholates, phenolates or mercaptides are classified in the groups or subgroups of the parent compounds
 6. The use of an ingredient for a specific polymer is classified by adding to the group symbol of [C08K](#) and separated therefrom by a "+" sign, the subdivision of [C08L 1/00](#) - [C08L 99/00](#).
Example: Polystyrene containing a carboxylic amide is classified in [C08K 5/20](#) + [C08L 25/06](#)
 7. In this subclass are considered as compounding ingredients:
 - inert additives
 - radical crosslinking agents, e.g. peroxides, S-containing vulcanisation agents
 - coupling agents, i.e. compounds able to improve the adhesion between filler and macromolecule
- Are not considered as compounding ingredients:
- chemical modifying or crosslinking agents which react via a condensation or addition mechanism (for [C08B](#) polymers [C08B](#), for diene rubbers [C08C 19/30](#), for other vinyl polymers [C08F 8/00](#), for polysiloxanes [C08L 83/00](#), for other [C08G](#) polymers [C08G](#))
 - solvents or dispersion agents for making polymer solutions, emulsions or dispersions ([C08J 3/02](#))
 - blowing agents ([C08J 9/04](#))

WARNING

The following IPC group is not used in the CPC system. Subject matter covered by this group is classified in the following CPC groups:

~~C08K 5/5445~~ — covered by — ~~C08K 5/544~~

C08K 5/5445 covered by C08K 5/544

Project: MP0199 (C08K)

- U C08K 3/00 Use of inorganic ingredients**
- U C08K 3/18 · Oxygen-containing compounds, e.g. metal carbonyls
 - U C08K 3/20 · · Oxides; Hydroxides
 - U C08K 3/22 · · · of metals
 - M C08K 2003/2244 · · · · {of zirconium}

Project: N/A (C09B)

C09B

ORGANIC DYES OR CLOSELY-RELATED COMPOUNDS FOR PRODUCING DYES {, e.g. PIGMENTS}; MORDANTS; LAKES (fermentation or enzyme using processes to synthesise a desired chemical compound [C12P](#))

NOTE

In this subclass, in the absence of an indication to the contrary, a compound is classified in the last appropriate place

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~C09B 23/01 covered by C09B 23/0008~~
~~C09B 23/0091~~
~~C09B 29/01 " " C09B 29/0003~~
~~C09B 29/0022~~
~~C09B 29/03 " " C09B 29/0007~~
~~C09B 29/033 " " C09B 29/0025~~
~~C09B 29/036 " " C09B 29/0029~~
~~C09B 29/039 " " C09B 29/0074~~
~~C09B 29/0081~~
~~C09B 29/042 " " C09B 29/0085~~
~~C09B 29/045 " " C09B 29/0088~~
~~C09B 29/048 " " C09B 29/0092~~
~~C09B 29/085 " " C09B 29/0003, C09B 29/0801~~
~~C09B 29/0848~~
~~C09B 29/09 " " C09B 29/0025, C09B 29/0801~~
~~C09B 29/0848~~
~~C09B 29/15 " " C09B 29/103~~
~~C09B 29/40 " " C09B 29/3608~~
~~C09B 29/3613~~
~~C09B 29/42 " " C09B 29/3617~~
~~C09B 29/3639~~
~~C09B 29/44 " " C09B 29/3643~~
~~C09B 29/46 " " C09B 29/3652~~
~~C09B 29/48 " " C09B 29/3656~~
~~C09B 29/50 " " C09B 29/366~~
~~C09B 29/52 " " C09B 29/3665~~
~~C09B 33/13 " " C09B 33/12~~
~~C09B 46/00 " " C09B 27/00 C09B 45/00~~
~~C09B 67/02 " " C09B 67/0097~~
~~C09B 67/04 " " C09B 67/0001~~
~~C09B 67/06 " " C09B 67/0003~~
~~C09B 67/08 " " C09B 67/0004~~
~~C09B 67/10 " " C09B 67/0014~~
~~C09B 67/12 " " C09B 67/0016~~

C09B 67/14	" "	C09B 67/0017
C09B 67/16	" "	C09B 67/0019
C09B 67/18	" "	C09B 67/002
C09B 67/20	" "	C09B 67/006
C09B 67/22	" "	C09B 67/0033
C09B 67/24	" "	C09B 67/0072
C09B 67/26	" "	C09B 67/0073
C09B 67/28	" "	C09B 67/0077
C09B 67/30	" "	C09B 67/0078
C09B 67/32	" "	C09B 67/0075
C09B 67/34	" "	C09B 67/0076
C09B 67/36	" "	C09B 67/0079
C09B 67/38	" "	C09B 67/008
C09B 67/40	" "	C09B 67/0082
C09B 67/42	" "	C09B 67/0071
C09B 67/44	" "	C09B 67/0083
C09B 67/46	" "	C09B 67/0084
C09B 67/48	" "	C09B 67/0025
C09B 67/50	" "	C09B 67/0026
C09B 67/52	" "	C09B 67/0027
C09B 67/54	" "	C09B 67/0096
<i>C09B 23/01</i>	<i>covered by</i>	<i><u>C09B 23/0008 -</u></i> <i><u>C09B 23/0091</u></i>
<i>C09B 29/01</i>	<i>covered by</i>	<i><u>C09B 29/0003 -</u></i> <i><u>C09B 29/0022</u></i>
<i>C09B 29/03</i>	<i>covered by</i>	<i><u>C09B 29/0007</u></i>
<i>C09B 29/033</i>	<i>covered by</i>	<i><u>C09B 29/0025</u></i>
<i>C09B 29/036</i>	<i>covered by</i>	<i><u>C09B 29/0029</u></i>
<i>C09B 29/039</i>	<i>covered by</i>	<i><u>C09B 29/0074 -</u></i> <i><u>C09B 29/0081</u></i>
<i>C09B 29/042</i>	<i>covered by</i>	<i><u>C09B 29/0085</u></i>
<i>C09B 29/045</i>	<i>covered by</i>	<i><u>C09B 29/0088</u></i>
<i>C09B 29/048</i>	<i>covered by</i>	<i><u>C09B 29/0092</u></i>
<i>C09B 29/085</i>	<i>covered by</i>	<i><u>C09B 29/0003,</u></i> <i><u>C09B 29/0801 -</u></i> <i><u>C09B 29/0848</u></i>
<i>C09B 29/09</i>	<i>covered by</i>	<i><u>C09B 29/0025,</u></i> <i><u>C09B 29/0801 -</u></i> <i><u>C09B 29/0848</u></i>
<i>C09B 29/15</i>	<i>covered by</i>	<i><u>C09B 29/103</u></i>
<i>C09B 29/40</i>	<i>covered by</i>	<i><u>C09B 29/3608 -</u></i> <i><u>C09B 29/3613</u></i>
<i>C09B 29/42</i>	<i>covered by</i>	<i><u>C09B 29/3617 -</u></i> <i><u>C09B 29/3639</u></i>
<i>C09B 29/44</i>	<i>covered by</i>	<i><u>C09B 29/3643</u></i>
<i>C09B 29/46</i>	<i>covered by</i>	<i><u>C09B 29/3652</u></i>
<i>C09B 29/48</i>	<i>covered by</i>	<i><u>C09B 29/3656</u></i>
<i>C09B 29/50</i>	<i>covered by</i>	<i><u>C09B 29/366</u></i>
<i>C09B 29/52</i>	<i>covered by</i>	<i><u>C09B 29/3665</u></i>
<i>C09B 33/13</i>	<i>covered by</i>	<i><u>C09B 33/12</u></i>
<i>C09B 46/00</i>	<i>covered by</i>	<i><u>C09B 27/00 - C09B 45/00</u></i>
<i>C09B 67/02</i>	<i>covered by</i>	<i><u>C09B 67/0097</u></i>
<i>C09B 67/04</i>	<i>covered by</i>	<i><u>C09B 67/0001</u></i>
<i>C09B 67/06</i>	<i>covered by</i>	<i><u>C09B 67/0003</u></i>
<i>C09B 67/08</i>	<i>covered by</i>	<i><u>C09B 67/0004</u></i>

C09B 67/10	covered by	C09B 67/0014
C09B 67/12	covered by	C09B 67/0016
C09B 67/14	covered by	C09B 67/0017
C09B 67/16	covered by	C09B 67/0019
C09B 67/18	covered by	C09B 67/002
C09B 67/20	covered by	C09B 67/006
C09B 67/22	covered by	C09B 67/0033
C09B 67/24	covered by	C09B 67/0072
C09B 67/26	covered by	C09B 67/0073
C09B 67/28	covered by	C09B 67/0077
C09B 67/30	covered by	C09B 67/0078
C09B 67/32	covered by	C09B 67/0075
C09B 67/34	covered by	C09B 67/0076
C09B 67/36	covered by	C09B 67/0079
C09B 67/38	covered by	C09B 67/008
C09B 67/40	covered by	C09B 67/0082
C09B 67/42	covered by	C09B 67/0071
C09B 67/44	covered by	C09B 67/0083
C09B 67/46	covered by	C09B 67/0084
C09B 67/48	covered by	C09B 67/0025
C09B 67/50	covered by	C09B 67/0026
C09B 67/52	covered by	C09B 67/0027
C09B 67/54	covered by	C09B 67/0096

U C09B 1/00

U C09B 1/56
C09B 1/58

Dyes with anthracene nucleus not condensed with any other ring

- Mercapto-anthraquinones {([C09B 1/007](#) takes precedence)}
- with mercapto groups substituted by aliphatic, cycloaliphatic, araliphatic or aryl radicals

NOTE

After the notation of groups [C09B 1/58](#), [C09B 1/585](#), [C09B 1/60](#) and separated therefrom by a + sign, notations concerning the nature of other substituents may be added. These notations are selected from the groups:

[C09B 1/02](#) .
[C09B 1/16](#) .
[C09B 1/22](#) ..
[C09B 1/28](#) ...
[C09B 1/32](#) ...
[C09B 1/36](#) ..
[C09B 1/50](#) .

~~[C09B 1/02](#) .~~
~~[C09B 1/16](#) .~~
~~[C09B 1/22](#) ..~~
~~[C09B 1/28](#) ...~~
~~[C09B 1/32](#) ...~~
~~[C09B 1/36](#) ..~~
~~[C09B 1/50](#) .~~

and have the same meaning as the corresponding groups

U C09B 29/00

U C09B 29/06
U C09B 29/08

Monoazo dyes prepared by diazotising and coupling

- from coupling components containing amino as the only directing group
- Amino benzenes

- U C09B 29/0833 . . . {characterised by the substituent on the benzene ring excepted the substituents: CH₃, C₂H₅, O-alkyl, NHCO-alkyl, NHCOO-alkyl, NHCO-C₆H₅, NHCOO-C₆H₅}
- U C09B 29/0836 . . . {linked through -N= (for heterocyclic ring, [see C09B 29/0846](#))}
- C09B 29/084 {specific -NSO₂N-, NSO₂XR, -NSO₂R}

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~C09C 1/68~~ — covered by — ~~C09K 3/14~~

[C09C 1/68](#) covered by [C09K 3/14](#)

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

1. 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:
 - a. natural or conjugated diene rubbers;
 - b. 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.

2. 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.

3. 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 coating composition containing polyethylene and amino-propyltrimethoxysilane is classified in groups C09D 123/06 and C08K 5/544 (unlinked).
 - A coating composition containing 80 parts of polyethene and 20 parts of polyvinylchloride is classified in (C09D 123/06, C08L 27/06).
 - 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).
 - 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

The following IPC groups are not used in the CPC system. Subject matter covered by these 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		
<i>C09D 4/02</i>	<i>covered by</i>	<i><u>C09D 4/00, C08F 220/00</u></i>
<i>C09D 4/04</i>	<i>covered by</i>	<i><u>C09D 4/00, C08F 222/00</u></i>
<i>C09D 5/23</i>	<i>covered by</i>	<i><u>H01F 41/16</u></i>
<i>C09D 5/25</i>	<i>covered by</i>	<i><u>H01B 3/308</u></i>
<i>C09D 5/33</i>	<i>covered by</i>	<i><u>C09D 5/004</u></i>
<i>C09D 5/46</i>	<i>covered by</i>	<i><u>C09D 5/03</u></i>
<i>C09D 161/08, C09D 161/10</i>	<i>covered by</i>	<i><u>C09D 161/06</u></i>
<i>C09D 163/02</i>	<i>covered by</i>	<i><u>C09D 163/00</u></i>
<i>C09D 171/08</i>	<i>covered by</i>	<i><u>C09D 171/02</u></i>
<i>C09D 171/10</i>	<i>covered by</i>	<i><u>C09D 171/12</u></i>
<i>C09D 183/05</i>	<i>covered by</i>	<i><u>C09D 183/04</u></i>
<i>C09D 183/07</i>	<i>covered by</i>	<i><u>C09D 183/04, C09D 183/06</u></i>

U C09D 197/00

Coating compositions based on lignin-containing materials

C09D 197/002

- {Peat, lignite, coal (briquettes [C10L 5/00](#); working-up peat; ceramic products based on carbon or carbides)}

Project: N/A (C09H)

C09H 11/00

{Adhesives based on glue or gelatine}

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

1. 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:
 - a. natural or conjugated diene rubbers;
 - b. 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.

2. 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.

3. 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 polyethylene and 40 parts of polyvinylchloride is classified in groups [C09J 123/06](#) and [C09J 127/06](#).

4. An adhesive composition containing polyethylene and amino-propyltrimethoxysilane is classified in groups [C09J 123/06](#) and [C08K 5/544](#)

5. 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 polyethylene and 20 parts of polyvinylchloride is classified in group ([C09J 123/06](#), [C08L 27/06](#)).
- c. An adhesive containing 40 parts of polyethylene 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

The following IPC group is not used in the CPC system: Subject matter covered by these groups is classified in the following CPC group:

~~C09J 163/02 covered by C09J 163/00~~

[C09J 163/02](#) covered by [C09J 163/00](#)

C09J 177/00

Adhesives based on polyamides obtained by reactions forming a carboxylic amide link in the main chain (based on polyhydrazides [C09J 179/06](#); based on ~~C09Jn~~ polyamide-imides [C09J 179/08](#); based on polyamide-imides [C09J 179/08](#)); Adhesives based on derivatives of such polymers

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

The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups:

~~C10G 73/23~~ covered by ~~C10G 73/06~~
C10G 73/23 covered by **C10G 73/06**

Project: N/A (C10M)

- C10M 1/00** **{Liquid compositions essentially based on mineral lubricating oils or fatty oils; Their use as lubricants}**
- C10M 1/08 - {with additives}
- C10M 3/00** **{Liquid compositions essentially based on lubricating components other than mineral lubricating oils or fatty oils and their use as lubricants; Use as lubricants of single liquid substances (compositions in general essentially based on macromolecular compounds [C08L](#))}**
- C10M 5/00** **{Solid or semi-solid compositions containing as the essential lubricating ingredient mineral lubricating oils or fatty oils and their use}**
- C10M 7/00** **{Solid or semi-solid compositions essentially based on lubricating components other than mineral lubricating oils or fatty oils and their use as lubricants; Use as lubricants of single solid or semi-solid substances (compositions in general essentially based on macromolecular compounds [C08L](#))}**

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

The following IPC groups are not used in the CPC system. Subject matter covered by these 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 covered by	C11D 9/444
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
C11D 1/68	covered by	<u>C11D 3/2003</u>
C11D 1/70	covered by	<u>C11D 3/2003</u>
C11D 3/44	covered by	<u>C11D 3/43</u>
C11D 3/46	covered by	<u>C11D 3/2079, C11D 9/48</u>
C11D 3/60	covered by	<u>C11D 3/00</u>
C11D 7/18	covered by	<u>C11D 3/39</u>
C11D 7/38	covered by	<u>C11D 3/39</u>
C11D 7/42	covered by	<u>C11D 3/386</u>
C11D 7/52	covered by	<u>C11D 7/50</u>
C11D 7/54	covered by	<u>C11D 3/395</u>
C11D 7/56	covered by	<u>C11D 3/395</u>
C11D 7/60	covered by	<u>C11D 7/00</u>
C11D 9/20	covered by partly covered by	<u>C11D 9/444</u>
C11D 9/50	covered by	<u>C11D 3/48</u>
C11D 9/60	covered by	<u>C11D 9/00</u>
C11D 10/02	covered by	<u>C11D 3/00</u>
C11D 10/06	covered by	<u>C11D 9/00</u>

Project: N/A (C12C)

C12C 9/00

{Methods specially adapted for the making of beerwort}

C12C 9/02

· {Beerwort treatment; Boiling with hops; Hop extraction}

Project: N/A (C12N)

C12N

MICRO-ORGANISMS OR ENZYMES; COMPOSITIONS THEREOF (biocides, pest repellants or attractants, or plant growth regulators, containing micro-organisms, viruses, microbial fungi, enzymes, fermentates or substances produced by or extracted from micro-organisms 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 MICRO-ORGANISMS** (preservation of living parts of humans or animals [A01N 1/02](#)); **MUTATION OR GENETIC ENGINEERING; CULTURE MEDIA** (micro-biological 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

~~The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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 9/26 covered by C12N 9/2408~~
~~C12N 9/38 covered by C12N 9/2468~~
~~C12N 9/42 covered by C12N 9/2434~~
~~C12N 9/44 covered by C12N 9/2451~~
~~C12N 9/70 covered by C07K 14/3153~~
~~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 C12N 9/02~~
~~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~~

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

<i>C12N 1/11</i>	<i>covered by</i>	<i><u>C12N 15/79</u></i>
<i>C12N 1/13</i>	<i>covered by</i>	<i><u>C12N 15/79</u></i>
<i>C12N 1/15</i>	<i>covered by</i>	<i><u>C12N 15/80</u></i>
<i>C12N 1/19</i>	<i>covered by</i>	<i><u>C12N 15/81</u></i>
<i>C12N 1/21</i>	<i>covered by</i>	<i><u>C12N 15/74</u></i>
<i>C12N 5/02</i>	<i>covered by</i>	<i><u>C12N 5/00, C12N 5/04 - C12N 5/166</u></i>
<i>C12N 5/07 - C12N 5/095</i>	<i>covered by</i>	<i><u>C12N 5/06 and subgroups</u></i>
<i>C12N 5/18 - C12N 5/28</i>	<i>covered by</i>	<i><u>C12N 5/16 and subgroups</u></i>
<i>C12N 5/18</i>	<i>covered by</i>	<i><u>C12N 5/16</u></i>
<i>C12N 5/20</i>	<i>covered by</i>	<i><u>C12N 5/163</u></i>
<i>C12N 5/22</i>	<i>covered by</i>	<i><u>C12N 5/16</u></i>

C12N 5/24	covered by	<u>C12N 5/163</u>
C12N 5/26	covered by	<u>C12N 5/166</u>
C12N 5/28	covered by	<u>C12N 5/166</u>
C12N 7/01	covered by	<u>C12N 7/00</u>
C12N 9/26	covered by	<u>C12N 9/2408</u>
C12N 9/38	covered by	<u>C12N 9/2468</u>
C12N 9/42	covered by	<u>C12N 9/2434</u>
C12N 9/44	covered by	<u>C12N 9/2451</u>
C12N 9/70	covered by	<u>C07K 14/3153</u>
C12N 15/05	covered by	<u>C12N 5/14</u>
C12N 15/06	covered by	<u>C12N 5/16</u>
C12N 15/07	covered by	<u>C12N 5/16</u>
C12N 15/08	covered by	<u>C12N 5/166</u>
C12N 15/12	covered by	<u>C07K 14/435</u>
C12N 15/13	covered by	<u>C07K 16/00</u>
C12N 15/14	covered by	<u>C07K 14/765</u>
C12N 15/15	covered by	<u>C07K 14/81</u>
C12N 15/16	covered by	<u>C07K 14/575</u>
C12N 15/17	covered by	<u>C07K 14/62</u>
C12N 15/18	covered by	<u>C07K 14/61</u>
C12N 15/19	covered by	<u>C07K 14/52</u>
C12N 15/20	covered by	<u>C07K 14/555</u>
C12N 15/21	covered by	<u>C07K 14/56</u>
C12N 15/22	covered by	<u>C07K 14/565</u>
C12N 15/23	covered by	<u>C07K 14/57</u>
C12N 15/24	covered by	<u>C07K 14/54</u>
C12N 15/25	covered by	<u>C07K 14/545</u>
C12N 15/26	covered by	<u>C07K 14/55</u>
C12N 15/27	covered by	<u>C07K 14/53</u>
C12N 15/28	covered by	<u>C07K 14/525</u>
C12N 15/29	covered by	<u>C07K 14/415</u>
C12N 15/30	covered by	<u>C07K 14/44</u>
C12N 15/31	covered by	<u>C07K 14/195, C07K 14/005</u>
C12N 15/32	covered by	<u>C07K 14/325</u>
C12N 15/33	covered by	<u>C07K 14/005</u>
C12N 15/34	covered by	<u>C07K 14/01</u>
C12N 15/35	covered by	<u>C07K 14/015</u>
C12N 15/36	covered by	<u>C07K 14/02</u>
C12N 15/37	covered by	<u>C07K 14/025</u>
C12N 15/38	covered by	<u>C07K 14/03</u>
C12N 15/39	covered by	<u>C07K 14/065</u>
C12N 15/40	covered by	<u>C07K 14/08</u>
C12N 15/41	covered by	<u>C07K 14/085</u>
C12N 15/42	covered by	<u>C07K 14/09</u>
C12N 15/43	covered by	<u>C07K 14/105</u>
C12N 15/44	covered by	<u>C07K 14/11</u>
C12N 15/45	covered by	<u>C07K 14/115</u>
C12N 15/46	covered by	<u>C07K 14/14</u>
C12N 15/47	covered by	<u>C07K 14/145</u>
C12N 15/48	covered by	<u>C07K 14/15</u>
C12N 15/49	covered by	<u>C07K 14/155</u>

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	C12N 9/02
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

U C12N 5/00

Undifferentiated human, animal or plant cells, e.g. cell lines; Tissues; Cultivation or maintenance thereof; Culture media therefor; (plant reproduction by tissue culture techniques [A01H 4/00](#))

NOTE

In this group, the following words are used with the meanings indicated:

- a "totipotent" cell can differentiate into all somatic lineages (ectoderm, mesoderm, endoderm), the germ line and extra-embryonic tissues such as the placenta;
- a "pluripotent" cell is a somatic stem cell which can differentiate into cells of at least two of the three somatic lineages (ectoderm, mesoderm, endoderm);
- a "multipotent" cell is restricted to one lineage;
- "progenitor" and "precursor" cells are further restricted within the lineage. If not explicitly foreseen, totipotent cells are classified with pluripotent cells. Multipotent cells should not be classified with pluripotent cells. Unless provided for otherwise, committed progenitors are classified with their progeny.

C12N 5/06

- {Animal cells or tissues; {Human cells or tissues (preservation of living cells or tissues [A01N 1/02](#)); Not used, see subgroups}

NOTE

In this group, the following words are used with the meanings indicated:

- a "totipotent" cell can differentiate into all somatic lineages (ectoderm, mesoderm, endoderm), the germ line and extra-embryonic tissues such as the placenta;
- a "pluripotent" cell is a somatic stem cell which can differentiate into cells of at least two of the three somatic lineages (ectoderm, mesoderm, endoderm);
- a "multipotent" cell is restricted to one lineage.

"Progenitor" and "precursor" cells are further restricted within the lineage. If not explicitly foreseen, totipotent cells are classified with pluripotent cells. Multipotent cells should not be classified with pluripotent cells

- U C12N 15/00** Mutation or genetic engineering; DNA or RNA concerning genetic engineering, vectors, e.g. plasmids, or their isolation, preparation or purification; Use of hosts therefor (mutants or genetically engineered micro-organisms, per se [C12N 1/00](#), [C12N 5/00](#), [C12N 7/00](#); new plants per se [A01H](#); plant reproduction by tissue culture techniques [A01H 4/00](#); new animals per se [A01K 67/00](#); use of medicinal preparations containing genetic material which is inserted into cells of the living body to treat genetic diseases, gene therapy [A61K 48/00](#))
- U C12N 15/09 · Recombinant DNA-technology
- U C12N 15/10 · · Processes for the isolation, preparation or purification of DNA or RNA (chemical preparation of DNA or RNA [C07H 21/00](#); preparation of non-structural polynucleotides from micro-organisms or with enzymes [C12P 19/34](#))
- NOTE**
After the symbol [C12N 15/10](#) - [C12N 15/1096](#), and separated therefrom by a + sign, it is desirable to add the indexing codes selected from groups [C12Q 2500/00](#) - [C12Q 2565/634](#), relating to relevant technical features of the invention. When more than one indexing code is selected, the different codes are separated by a + sign. Example : [C12N 15/1037](#) + [C12Q 2537/125](#) + [C12Q 2521/537](#)
- U C12N 15/1034 · · · {Isolating an individual clone by screening libraries}
- C12N 15/1044 · · · · {Preparation or screening of libraries displayed on scaffold proteins}-s

Project: MP0199 (C12N)

- U C12N 2310/00** **Structure or type of the nucleic acid**
- U C12N 2310/30 · Chemical structure
- U C12N 2310/35 · · Nature of the modification
- U C12N 2310/353 · · · linked to the nucleic acid via an atom other than carbon
- M C12N 2310/3531 · · ·  Hydrogen
- M C12N 2310/3533 · · ·  Halogen
- M C12N 2310/3535 · · ·  Nitrogen

Project: N/A (C12N)

- U C12N 2502/00** **Coculture with; Conditioned medium produced by**
- U C12N 2502/24 · Genital tract cells, non-germinal cells from gonads
- C12N 2502/243 · · Cells of the female genital tract-, non-germinal ovarian cells

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 micro-organisms [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 micro-organisms, wherein micro-organisms 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

The following IPC groups are not used in the CPC scheme. Subject-matter covered by these groups is classified in the following CPC groups:

C12P 21/04	covered by	C07K 7/50
C12P 21/08	covered by	C07K 16/00
- C12P 21/04	covered by	C07K 7/50
- C12P 21/08	covered by	C07K 16/00

U C12P 13/00

C12P 13/02

Preparation of nitrogen-containing organic compounds

- Amides, e.g. chloramphenicol {or polyamides; Imides or polyimides; Urethanes, i.e. compounds comprising N-C=O structural element or polyurethanes (peptides [C12P 21/00](#) or [C07K](#))}

Project: N/A (C12Q)**U C12Q 2600/00**

C12Q 2600/106

Oligonucleotides characterized by their use (not used, see subgroups)

- Pharmacogenomics, i.e. genetic variability in individual responses to drugs and drug metabolism

Project: N/A (C21C)**U C21C 2300/00**

C21C 2300/06

Process aspects

- Modeling of the process, e.g. for control purposes; CII

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

**The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups:
~~C22B 3/26 — C22B 3/40 — covered by — C22B 3/0005~~**

The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups:

C22B 3/26 - C22B 3/40 covered by [C22B 3/0005](#)

U C22B 3/00**Extraction of metal compounds from ores or concentrates by wet processes****NOTE**

This group covers methods directed to the extraction of three or more metals. For the recovery of one or two metals, see the other groups of this subclass concerning these metals

C22B 3/0001

- {Leaching of ores}{ not used, see subgroups}

U C22B 11/00**Obtaining noble metals**

C22B 11/04

- {by wet processes {([C22B 3/16](#) takes precedence; treatment or purification of solutions by liquid-liquid extraction [C22B 3/0005](#), by ion exchange or by adsorption [C22B 3/00](#), [C01G](#); [C22B 3/16](#), [C22B 3/0005](#))}

U C22B 13/00**Obtaining lead**

C22B 13/04

- {by wet processes}

U C22B 17/00**Obtaining cadmium**

C22B 17/04

- {by wet processes}

U C22B 19/00**Obtaining zinc or zinc oxide**

U C22B 19/20

- Obtaining zinc otherwise than by distilling

C22B 19/22

- · {with leaching with acids}

C22B 19/24

- · {with leaching with alkaline solutions, e.g. ammonia}

C22B 19/26

- · {Refining solutions {containing zinc values, e.g.} obtained by leaching zinc ores {(treatment or purification of solutions by liquid-liquid extraction, by ion exchange or by adsorption [C22B 3/00](#))}

U C22B 23/00**Obtaining nickel or cobalt**

C22B 23/04

- {by wet processes {(recovery or separation of nickel or cobalt using organic agents [C22B 3/00](#))}

U C22B 25/00**Obtaining tin**

C22B 25/04 · {by wet processes}

Project: MP0115 (C22C)

U C22C 9/00 **Alloys based on copper**

M C22C 9/05 · with **Magnese****manganese** as the next major constituent

U C22C 21/00 **Alloys based on aluminium**

M C22C 21/003 · {containing at least 2.6% of one or more of the **following** elements: **Sn**: **tin**, **Pb****lead**, **Sb****antimony**, **Bi****bismuth**, **Cd****cadmium**, **T****and titanium**}

Project: N/A (C23C)

C23C

COATING METALLIC MATERIAL; COATING MATERIAL WITH METALLIC MATERIAL; SURFACE TREATMENT OF METALLIC MATERIAL BY DIFFUSION INTO THE SURFACE, BY CHEMICAL CONVERSION OR SUBSTITUTION; COATING BY VACUUM EVAPORATION, BY SPUTTERING, BY ION IMPLANTATION OR BY CHEMICAL VAPOUR DEPOSITION, IN GENERAL (applying liquids or other fluent materials to surfaces in general [B05](#); making metal-coated products by extrusion [B21C 23/22](#); covering with metal by connecting pre-existing layers to articles, see the relevant places, e.g. [B21D 39/00](#), [B23K](#); working of metal by the action of a high concentration of electric current on a workpiece using an electrode [B23H](#); metallising of glass [C03C](#); metallising mortars, concrete, artificial stone, ceramics or natural stone [C04B 41/00](#); paints varnishes, laquers [C09D](#); enamelling of, or applying a vitreous layer to, metals [C23D](#); inhibiting corrosion of metallic material or incrustation in general [C23F](#); single-crystal film growth [C30B](#); manufacture of semiconductor devices [H01L](#); manufacture of printed circuits [H05K](#))

NOTE

In this subclass, an operation is considered as pre-treatment or after-treatment when it is specially adapted for, but quite distinct from, the coating process concerned and constitutes an independent operation. If an operation results in the formation of a permanent sub- or upper layer, it is not considered as pre-treatment or after-treatment and is classified as a multi-coating process.

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

C23C 14/36 - C23C 14/44	covered by	C23C 14/34 and subgroups.
C23C 18/28	covered by	C23C 18/2006 - C23C 18/2093

- [C23C 14/36 - C23C 14/44](#) covered by [C23C 14/34 and subgroups.](#)
- [C23C 18/28](#) covered by [C23C 18/2006 - C23C 18/2093](#)

U C23C 18/00 **Chemical coating by decomposition of either liquid compounds or solutions of the coating forming compounds, without leaving reaction products of surface material in the coating (chemical surface reaction [C23C 8/00](#), [C23C 22/00](#)); Contact plating**

NOTE

This groups covers also suspensions containing reactive liquids and non-reactive solid particles.

U C23C 18/16 · by reduction or substitution, e.g. electroless plating ([C23C 18/54](#) takes precedence)

U C23C 18/1601 · · {Process or apparatus}

U C23C 18/1633 · · · {Process of electroless plating}

- U C23C 18/1655 {Process features}
- U C23C 18/1664 {with additional means during the plating process}
- C23C 18/1669 {Agitation, e.e.g. g- air introduction}

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

The following IPC groups are not used in the CPC system. Subject matter covered by these 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
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

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

The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups :

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

~~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~~

- U C25D 3/00 Electroplating: Baths therefor**
- U C25D 3/02 · from solutions ([C25D 5/34](#) - [C25D 5/46](#) take precedence)
 - U C25D 3/56 · · of alloys
 - C25D 3/562 · · · {containing more than 50% by weight of iron or nickel or cobalt-; NiP, FeP, CoP (Phosphatising [C25D 11/36](#))}
- U C25D 5/00 Electroplating characterised by the process; Pretreatment or after-treatment of work-pieces**
- C25D 5/006 · {Electroplating with applied electromagnetic field, not locally-, e.g. for plating magnetic layers}
 - U C25D 5/02 · Electroplating of selected surface areas
 - C25D 5/028 · · {one side electroplating-, e.g. substrate conveyed in a bath with inhibited background plating}

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 Al₂O₃ crystal material is classified in [C30B 13/00](#) + [C30B 29/20](#)

WARNING

The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups:

~~C30B 29/64, C30B 29/66 covered by C30B 29/60~~

C30B 29/64, C30B 29/66 covered by C30B 29/60

Project: MP0115 (C40B)

M C40B

COMBINATORIAL CHEMISTRY; LIBRARIES, e.g. CHEMICAL LIBRARIES, IN SILICO LIBRARIES

NOTES

1. In this subclass, the first place priority rule is applied, i.e. at each hierarchical level, classification is made in the first appropriate place.
2. When classifying in this subclass, subject matter of interest is also classified in other appropriate places:
 - library members are also classified in the appropriate places elsewhere in the IPC, (e.g. in section C) according to established procedure relating to "Markush"-type formulae (see paragraph 101 of the Guide);
 - methods or apparatus covered by this subclass are also classified for their biological, chemical, physical or other features in the appropriate places in the IPC, if such features are of interest, e.g.

A01N	Biocides
A61K	Preparations for medical, dental or toilet purposes
A61P	Therapeutic activity of compounds
B01D	Separation
B01J	Chemical or physical processes, e.g. catalysis; Apparatus therefor
B01L	Chemical or physical laboratory apparatus
B29	Shaped plastics
C01, C07, C08	Inorganic, organic or organic macromolecular compounds; Methods of preparation or separation thereof
C12	Biochemistry, microbiology, enzymology including micro-organisms or enzymes, preparing them, using them to synthesis compounds or compositions; Measuring or testing processes involving micro-organisms or enzymes; Mutation or genetic engineering
G22	Metal alloys
G01N	Chemical or physical analysis
G01R, G01T	Physical measurements methods; Apparatus thereof
G03F	Photomechanical methods
G06F	Electrical digital data processing
G06K	Data processing
G06T	Image data processing
G09F	Displaying; Advertising
<u>A01N</u>	<u>Biocides</u>
<u>A61K</u>	<u>Preparations for medical, dental or toilet purposes</u>
<u>A61P</u>	<u>Therapeutic activity of compounds</u>
<u>B01D</u>	<u>Separation</u>
<u>B01J</u>	<u>Chemical or physical processes, e.g. catalysis; Apparatus therefor</u>
<u>B01L</u>	<u>Chemical or physical laboratory apparatus</u>
<u>B29</u>	<u>Shaped plastics</u>

<u>C01, C07, C08</u>	<i>Inorganic, organic or organic macromolecular compounds; Methods of preparation or separation thereof</i>
<u>C12</u>	<i>Biochemistry. microbiology, enzymology including micro-organisms or enzymes, preparing them, using them to synthesis compounds or compositions; Measuring or testing processes involving micro-organisms or enzymes; Mutation or genetic engineering</i>
<u>C22</u>	<i>Metal alloys</i>
<u>G01N</u>	<i>Chemical or physical analysis</i>
<u>G01R, G01T</u>	<i>Physical measurements methods; Apparatus thereof</i>
<u>G03F</u>	<i>Photomechanical methods</i>
<u>G06F</u>	<i>Electrical digital data processing</i>
<u>G06K</u>	<i>Data processing</i>
<u>G06T</u>	<i>Image data processing</i>
<u>G09F</u>	<i>Displaying; Advertising</i>

3. {C12N 15/1034-C12N 15/1093 always take precedence over C40B}

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~D01D 5/10 covered by D01D 5/08 and subgroups~~

D01D 5/10 covered by D01D 5/08 and subgroups

Project: N/A (D03C)

D03C

SHEDDING MECHANISMS; PATTERN CARDS OR CHAINS; PUNCHING OF CARDS; DESIGNING PATTERNS

WARNING

The following IPC groups are not used in the CPC scheme. Subject-matter covered by these groups is classified in the following CPC groups:

~~D03C 9/04 covered by D03C 9/028~~

D03C 9/04 covered by D03C 9/028

Project: MP0142 (D03C)

U D03C 1/00

Dobbies

M D03C 1/005

· {Electronic dobbies}

WARNING

~~Not complete pending the completion of a reclassification, see also group D03C 1/00~~

U D03C 1/14

· Features common to dobbies of different types (stop motions acting on defective operation of shedding mechanisms [D03D 51/46](#))

- M D03C 1/142
- {Leveling mechanisms}
- WARNING**
Not complete pending the completion of a reclassification, see also group D03C-1/14
- M D03C 1/144
- {linking to the heald frame}
- WARNING**
Not complete pending the completion of a reclassification, see also group D03C-1/14
- M D03C 1/146
- {Independent drive motor}
- WARNING**
Not complete pending the completion of a reclassification, see also group D03C-1/14
- M D03C 1/148
- {Eccentrics}
- WARNING**
Not complete pending the completion of a reclassification, see also groups D03C-1/00 and D03C-1/14
- U D03C 3/00** **Jacquards (controlling jacquard by scanning design [D03C 17/06](#); for gripper Axminster looms [D03D 39/08](#))**
- U D03C 3/20
- Electrically-operated jacquards
- M D03C 3/205
- {Independently actuated lifting cords}
- WARNING**
Not complete pending the completion of a reclassification, see also group D03C-3/20
- U D03C 5/00** **Cam or other direct-acting shedding mechanisms, i.e. operating heald frames without intervening power-supplying devices**
- M D03C 5/005
- {Leveling mechanisms}
- WARNING**
Not complete pending the completion of a reclassification, see also groups D03C-5/00 and D03C-5/02
- U D03C 7/00** **Leno or similar shedding mechanisms**
- M D03C 7/005
- {Combined leno and patterned shedding motion}
- WARNING**
Not complete, classification to this group is a continuous process
- U D03C 9/00** **Healds; Heald frames (for leno shedding [D03C 7/00](#))**
- U D03C 9/02
- Healds
- M D03C 9/022
- {anti-buckling}
- WARNING**
Not complete pending the completion of a reclassification, see also group D03C-9/02

- M D03C 9/024
- • {Eyelets}
- WARNING
Not complete pending the completion of a reclassification, see also group D03C-9/02
- M D03C 9/026
- • {Material used}
- WARNING
Not complete pending the completion of a reclassification, see also group D03C-1/14
- U D03C 13/00** **Shedding mechanisms not otherwise provided for**
- M D03C 13/02
- {with independent drive motors ([D03C 1/146](#) and [D03C 3/205](#) take precedence)}
- WARNING
Not complete pending the completion of a reclassification, see also groups D03C-5/00 and D03C-13/00
- M D03C 13/025
- • {with independent frame drives}
- WARNING
Not complete pending the completion of a reclassification, see also groups D03C-5/00 and D03C-13/00

Project: MP0142 (D03D)

- U D03D 13/00** **Woven fabrics characterised by the special disposition of the warp or weft threads, e.g. with curved weft threads, with discontinuous warp threads, with diagonal warp or weft**
- M D03D 13/002
- {With diagonal warps or wefts}
- WARNING
Not complete pending the completion of a reclassification, see also group D03D-13/00
- U D03D 39/00** **Pile-fabric looms**
- U D03D 39/02
- Axminster looms, i.e. wherein pile tufts are inserted during weaving
- U D03D 39/08
- • Gripper Axminster looms
- M D03D 39/083
- • • {Selecting mechanisms}
- WARNING
Not complete pending the completion of a reclassification, see also group D03D-39/08
- M D03D 39/086
- • • {Gripper details}
- WARNING
Not complete pending the completion of a reclassification, see also group D03D-39/08
- U D03D 39/22
- Terry looms
- M D03D 39/223
- • {Cloth control}
- WARNING
Not complete pending the completion of a reclassification, see also group D03D-39/22

- M D03D 39/226
- · {Sley control}
- WARNING**
Not complete pending the completion of a reclassification, see also group D03D-39/22
- U D03D 41/00
- Looms not otherwise provided for, e.g. for weaving chenille yarn; Details peculiar to these looms**
- M D03D 41/008
- {Looms for weaving flat yarns}
- WARNING**
Not complete pending the completion of a reclassification, see also group D03D-41/00
- U D03D 47/00
- Looms in which bulk supply of weft does not pass through shed, e.g. shuttleless looms, gripper shuttle looms, dummy shuttle looms (circular looms [D03D 37/00](#))**
- U D03D 47/12
- wherein single picks of weft thread are inserted, i.e. with shedding between each pick
- M D03D 47/125
- · {Weft holding devices (If the weft is reinserted in the next shed [D03D 47/48](#); in jet looms [D03D 47/308](#))}
- WARNING**
Not complete pending the completion of a reclassification, see also groups D03D-47/00 and D03D-47/12
- U D03D 47/20
- · Constructional features of the thread-engaging device on the inserters
- U D03D 47/23
- · · Thread grippers (in dummy or gripper shuttles [D03J 5/06](#))
- M D03D 47/233
- · · · {Carrying grippers}
- WARNING**
Not complete pending the completion of a reclassification, see also group D03D-47/23
- M D03D 47/236
- · · · {Drawing grippers}
- WARNING**
Not complete pending the completion of a reclassification, see also group D03D-47/23
- U D03D 47/27
- Drive or guide mechanisms for weft inserting
- M D03D 47/271
- · {Rapiers}
- WARNING**
Not complete pending the completion of a reclassification, see also group D03D-47/27
- M D03D 47/272
- · · {Rapier bands}
- WARNING**
Not complete pending the completion of a reclassification, see also group D03D-47/27
- M D03D 47/273
- · · {Rapier rods}
- WARNING**
Not complete pending the completion of a reclassification, see also group D03D-47/27

- M D03D 47/275
 - • {Drive mechanisms}
 - WARNING
Not complete pending the completion of a reclassification, see also group D03D-47/27
- M D03D 47/276
 - • • {Details or arrangement of sprocket wheels}
 - WARNING
Not complete pending the completion of a reclassification, see also group D03D-47/27
- M D03D 47/277
 - • {Guide mechanisms (for shuttles [D03D 49/24](#))}
 - WARNING
Not complete pending the completion of a reclassification, see also group D03D-47/27
- M D03D 47/278
 - • • {for pneumatic looms}
 - WARNING
Not complete pending the completion of a reclassification, see also groups D03D-47/27 and D03D-49/62
- U D03D 47/28
 - wherein the weft itself is projected into the shed
- U D03D 47/30
 - • by gas jet
- U D03D 47/3026
 - • • {Air supply systems}
- U D03D 47/3033
 - • • • {Controlling the air supply}
- M D03D 47/3046
 - • • • • {Weft yarn selection}
 - WARNING
Not complete pending the completion of a reclassification, see also groups D03D-47/30, D03D-47/32 and D03D-47/38
- U D03D 47/34
 - Handling the weft between bulk storage and weft-inserting means
- M D03D 47/342
 - • {knot detection}
 - WARNING
Not complete pending the completion of a reclassification, see also groups D03D-47/34 and D03D-51/34
- M D03D 47/345
 - • {Rotating bobbins}
 - WARNING
Not complete pending the completion of a reclassification, see also group D03D-47/34
- U D03D 47/36
 - • Measuring and cutting the weft {; Devices for measuring and temporary storing the weft (cutting weft threads [D03D 49/70](#))}
- U D03D 47/361
 - • • {Drum-type weft feeding devices}
- U D03D 47/364
 - • • • {Yarn braking means acting on the drum}
- M D03D 47/366
 - • • • • {Conical}
 - WARNING
Not complete pending the completion of a reclassification, see also group D03D-47/364

M D03D 47/368 . . . {Air chamber storage devices}

WARNING

~~Not complete pending the completion of a reclassification; see also group D03D 47/36~~

M D03D 47/369 . . . {Communication systems}

WARNING

~~Not complete pending the completion of a reclassification; see also group D03D 47/36~~

Project: MP0142 (D03J)

U D03J 1/00 Auxiliary apparatus combined with or associated with looms

M D03J 1/008 . {Cooling systems}

WARNING

~~Not complete pending the completion of a reclassification; see also group D03J 1/00~~

Project: MP0142 (D05B)

M D05B 19/00 Programme-controlled sewing machines (with devices for automatically controlling movement of work-carrier [D05B 21/00](#); devices for stopping drive when sewing tools have reached a predetermined position [D05B 69/22](#))

WARNING

~~Group D05B 19/003 is no longer used for classification of new documents. The backlog of this group is being continuously reclassified to groups D05B 19/02 - D05B 19/16~~

Project: MP0135 (D06L)

M D06L BLEACHING, e.g. OPTICAL BLEACHING, DRY-CLEANING, OR WASHING FIBRES, THREADS, YARNS, FABRICS, FEATHERS OR MADE-UP FIBROUS GOODS; BLEACHING LEATHER OR FURS (~~treatment of fibres of filaments of glass, mineral wool, or slag wool C03; {softening compositions for textiles, cleaning compositions for carpets, upholstery, fur or leather C11D;}~~ chemical treatment of fibrous ~~material~~ materials to obtain fibres for spinning [D01](#); ~~for mechanical matters D06C, D06F; for mechanical matters D06B, D06C, D06F~~; bleaching paper pulp or cotton linters [D21](#); ~~{softening compositions for textiles, cleaning compositions for carpets, upholstery, fur or leather C11D}~~)

M D06L 3/00 Bleaching fibres, threads, yarns, fabrics, feathers, or made-up fibrous goods, leather, or furs ~~{(dyeing and bleaching [D06P 1/0024](#))}~~

Project: N/A (D06M)

D06M 7/00 ~~{Treating fibres, threads, yarns, fabrics, or fibrous goods made of other substances with subsequent freeing of the treated goods from the treating medium, e.g. swelling, {e.g. polyolefins} ([D06M 10/00](#) takes precedence; treating fibres or filaments made of glass, mineral -, or slag wool [C03C](#); {carbon fibres [D01F 11/10](#))}~~

Project: MP0136 (D06M)

- M D06M 10/00** Physical treatment of fibres, threads, yarns, fabrics, or fibrous goods made from such materials, e.g. ultrasonic, corona discharge, irradiation, electric currents, **or** magnetic fields; Physical treatment combined with treatment with chemical compounds or elements
- U D06M 11/00** Treating fibres, threads, yarns, fabrics, or fibrous goods made from such materials, with inorganic substances or complexes thereof; Such treatment combined with mechanical treatment, e.g. mercerising ([D06M 10/00](#) takes precedence; decorating textiles by local treatment [D06Q 1/00](#))

NOTES

1. If a compound used in the treatment is characterised by its cation, it is classified in group [D06M 11/00](#); metallisation by treatment with a metal salt, followed by reduction, is classified in group [D06M 11/83](#).
2. In this group, the following term is used with the meaning indicated:
 - "treatment" means, in the absence of an indication to the contrary, the treatment which leads to the end product, e.g. treatment with barium sulfate can mean treatment with barium chloride and with sulfuric acid in two separate steps

- U D06M 11/07** . with halogens; with halogen acids or salts thereof; with oxides or oxyacids of halogens or salts thereof
- U D06M 11/11** . . with halogen acids or salts thereof
- M D06M 11/13** . . . Ammonium halides or halides of elements of **the first Group Groups 1 or 11** of the Periodic System
- M D06M 11/155** . . . Halides of elements of **the second Group Groups 2 or 12** of the Periodic System
- M D06M 11/17** . . . Halides of elements of **the third Group Groups 3 or 13** of the Periodic System
- M D06M 11/20** . . . Halides of elements of **the fourth Group Groups 4 or 14** of the Periodic System, e.g. zirconyl chloride
- M D06M 11/22** . . . Halides of elements of **the fifth Group Groups 5 or 15** of the Periodic System
- M D06M 11/24** . . . Halides of elements of **the sixth Group Groups 6 or 16** of the Periodic System, e.g. chromyl chloride
- M D06M 11/26** . . . Halides of elements of **the seventh Group 7** of the Periodic System (interhalogen compounds [D06M 11/09](#))
- M D06M 11/28** . . . Halides of elements of **the eighth Group Groups 8, 9, 10 or 18** of the Periodic System
- U D06M 11/32** . with oxygen, ozone, ozonides, oxides, hydroxides or percompounds; Salts derived from anions with an amphoteric element-oxygen bond (with water or heavy water [D06M 11/05](#); with oxides or oxyacids of halogens [D06M 11/30](#); bleaching [D06L](#))
- U D06M 11/36** . . with oxides, hydroxides or mixed oxides; with salts derived from anions with an amphoteric element-oxygen bond
- M D06M 11/38** . . . Oxides or hydroxides of elements of **the first Group Groups 1 or 11** of the Periodic System (producing patterns by locally destroying or modifying the fibres by chemical action [D06Q 1/02](#))
- M D06M 11/44** . . . Oxides or hydroxides of elements of **the second Group Groups 2 or 12** of the Periodic System; Zincates; Cadmates
- M D06M 11/45** . . . Oxides or hydroxides of elements of **the third Group Groups 3 or 13** of the Periodic System; Aluminates
- M D06M 11/46** . . . Oxides or hydroxides of elements of **the fourth Group Groups 4 or 14** of the Periodic System; Titanates; Zirconates; Stannates; Plumbates

- M D06M 11/47 . . . Oxides or hydroxides of elements of ~~the fifth Group~~ **Groups 5 or 15** of the Periodic System; Vanadates; Niobates; Tantalates; Arsenates; ~~Antimonates;~~ **Antimonates**; Bismuthates
- M D06M 11/49 . . . Oxides or hydroxides of elements of ~~the eighth Group~~ **Groups 8, 9, 10 or 18** of the Periodic System; Ferrates; Cobaltates; Nickelates; Ruthenates; Osmates; Rhodates; Iridates; Palladates; Platinates
- U D06M 11/51 . with sulfur, selenium, tellurium, polonium or compounds thereof (with persulfuric acids or their salts [D06M 11/50](#))
- U D06M 11/55 . . with sulfur trioxide; with sulfuric acid or thiosulfuric acid or their salts
- M D06M 11/56 . . . Sulfates or thiosulfates other than of elements of ~~the third Group~~ **Groups 3 or 13** of the Periodic System
- M D06M 11/57 . . . Sulfates or thiosulfates of elements of ~~the third Group~~ **Groups 3 or 13** of the Periodic System, e.g. alums
- U D06M 13/00** **Treating fibres, threads, yarns, fabrics or fibrous goods made from such materials, with non-macromolecular organic compounds ([D06M 10/00](#), [D06M 14/00](#) take precedence; treatment with complexes of organic amines with inorganic substances [D06M 11/59](#)); Such treatment combined with mechanical treatment**
- NOTE
- In this group the following term is used with the meaning indicated:
- "treatment" means, in the absence of an indication to the contrary, the treatment which leads to the end product, e.g. treatment with chloroacetic acid can mean treatment with chloroacetylchloride and saponification in two separate steps
- U D06M 13/02 . with hydrocarbons
- M D06M 13/03 . . with unsaturated hydrocarbons, e.g. alkenes, **or** alkynes
- U D06M 13/10 . with compounds containing oxygen
- M D06M 13/137 . . Acetals, e.g. formals, **or** ketals
- U D06M 14/00** **Graft polymerisation of monomers containing carbon-to-carbon unsaturated bonds on to fibres, threads, yarns, fabrics, or fibrous goods made from such materials (on to unshaped polymers [C08F 251/00](#) - [C08F 292/00](#))**
- U D06M 14/18 . using wave energy or particle radiation
- U D06M 14/20 . . on to materials of natural origin
- U D06M 14/22 . . . of vegetal origin, e.g. cellulose or derivatives thereof
- M D06M 14/24 . . . of animal origin, e.g. wool; **or** silk
- M D06M 16/00** **Biochemical treatment of fibres, threads, yarns, fabrics, or fibrous goods made from such materials, e.g. enzymatic**

Project: N/A (D06N)**D06N**

WALL, FLOOR OR LIKE COVERING MATERIALS, e.g. LINOLEUM, OILCLOTH, ARTIFICIAL LEATHER, ROOFING FELT, CONSISTING OF A FIBROUS WEB COATED WITH A LAYER OF MACROMOLECULAR MATERIAL; FLEXIBLE SHEET MATERIAL NOT OTHERWISE PROVIDED FOR (laminates in general [B32B](#); coated webs which retain the character of paper or cardboard [D21](#))

NOTE

Layered products classified in this subclass are also classified in subclass [B32B](#).

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~D06N 7/02 — covered by — D06M, D06N~~

~~D06N 7/04 — " — " — D06M, D06N~~

~~D06N 7/06 — " — " — D06M, D06N~~

D06N 7/02 covered by [D06M](#), [D06N](#)

D06N 7/04 covered by [D06M](#), [D06N](#)

D06N 7/06 covered by [D06M](#), [D06N](#)

Project: MP0142 (D06N)**U D06N 3/00**

Artificial leather, oilcloth or {other} material obtained by covering fibrous webs with macromolecular material, e.g. resins, rubber or derivatives thereof

U D06N 3/0002

- {characterised by the substrate}

U D06N 3/0015

- · {using fibres of specified chemical or physical nature, e.g. natural silk}

U D06N 3/0025

- · · {Rubber threads; Elastomeric fibres; Stretchable, bulked or crimped fibres; Retractable, crimpable fibres; Shrinking or stretching of fibres during manufacture; Obliquely threaded fabrics}

M D06N 3/0027

- · · · {Rubber or elastomeric fibres}

WARNING

~~Groups D06N 3/0027-D06N 3/0031 are not complete, pending reorganisation. See also D06N 3/0025~~

U D06N 3/18

- with two layers of different macromolecular materials ([D06N 3/08](#) takes precedence); {(with two layers of the same kind of macromolecular material [D06N 2213/03](#))}

M D06N 3/183

- · {the layers are one next to the other}

WARNING

~~Groups D06N 3/183 and D06N 3/186 are not complete, pending reorganisation. See also D06N 3/18~~

Project: N/A (D06N)**U D06N 2201/00**

Chemical constitution of the fibres, threads or yarns

D06N 2201/06

- Animal fibres, e.g. hair, wool, silk

D06N 2201/10

- Conjugate fibres, e.g. core-sheath, side-by-side

Project: N/A (D06P)

D06P

DYEING OR PRINTING TEXTILES; DYEING LEATHER, FURS, OR SOLID MACROMOLECULAR SUBSTANCES IN ANY FORM (for mechanical matters, see [B41F](#), [D06B](#), [D06C](#); printing on surfaces of materials other than textiles [B41M](#); surface treatment of fibres or filaments from glass, mineral, or slags [C03C 25/00](#); mordanting [D06M](#); dyeing paper [D21H](#))

WARNING

The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups:-

D06P 3/84	covered by	D06P 3/82
D06P 3/85	" "	D06P 3/82
D06P 3/852	" "	D06P 3/82
D06P 3/86	" "	D06P 3/82
D06P 3/87	" "	D06P 3/82
D06P 3/872	" "	D06P 3/82
D06P 3/874	" "	D06P 3/82
D06P 5/24 - D06P 5/28	" "	D06P 5/003 and s.gr.
<i>D06P 3/84</i>	<i>covered by</i>	<i>D06P 3/82</i>
<i>D06P 3/85</i>	<i>covered by</i>	<i>D06P 3/82</i>
<i>D06P 3/852</i>	<i>covered by</i>	<i>D06P 3/82</i>
<i>D06P 3/86</i>	<i>covered by</i>	<i>D06P 3/82</i>
<i>D06P 3/87</i>	<i>covered by</i>	<i>D06P 3/82</i>
<i>D06P 3/872</i>	<i>covered by</i>	<i>D06P 3/82</i>
<i>D06P 3/874</i>	<i>covered by</i>	<i>D06P 3/82</i>
<i>D06P 5/24 - D06P 5/28</i>	<i>covered by</i>	<i>D06P 5/003 and s.gr.</i>

Project: N/A (D07B)**U D07B 2207/00****Rope or cable making machines**

U D07B 2207/20

• Type of machine

U D07B 2207/204

• • Double twist winding

D07B 2207/206

• • • with means for providing less than double twist, ~~e.g. g-~~counter rotating means**U D07B 2301/00****Controls**

U D07B 2301/55

• Sensors

U D07B 2301/5531

• • using electric means or elements

D07B 2301/5563

• • • for measuring temperature, ~~i.e. e-~~thermocouples**Project: MP0127 (D21B)****M D21B 1/00**

Fibrous raw materials or their mechanical treatment (*pretreatment of the finely-divided materials before digesting [D21C 1/00](#); methods of beating or refining pulp [D21D 1/00](#); purification of the pulp suspension by mechanical means [D21D 5/00](#)*)

M D21B 1/04

• by dividing raw materials into small particles, e.g. fibres (breaking-up or cutting wood or the like by dry methods [B27L](#); ~~disintegrating peat [C10F 7/02](#); obtaining fibres mechanically for spinning from rags, peat, or the like [D01B](#); mechanical separation of fibres from plant material [D01B 1/00](#); hackling or heckling machines [D01B 5/00](#))~~

U D21B 1/12

• • by wet methods, by the use of steam (beaters [D21D 1/00](#))

M D21B 1/14

• • • Disintegrating in mills (~~in general [B02C](#)~~)

Project: N/A (D21H)**D21H 1/00****{Paper; Cardboard (fibreboard [D21J](#))}**NOTELayered products classified in this group are also classified in subclass [B32B](#)

D21H 1/02

• {Multi-ply material {finished plies}}

D21H 1/04

• • {by using an adhesive}

D21H 1/06

• • {Apparatus}

D21H 1/08

• • {with incorporated laminae of threads or fabric}

D21H 3/00**{Paper or cardboard prepared by adding substances to the pulp or to the formed web on the paper-making machine {and by applying substances to finished paper or cardboard (on the paper-making machine), also when the intention is to impregnate at least a part of the paper body}**NOTE

A compound is always classified in the last appropriate place.

D21H 3/82

• {by adding insoluble coloured substances, e.g. powders, fibres, pieces of metal, for obtaining different colours in the paper {fancy papers; substances characterised by their physical appearance, e.g. form, rather than by their chemical constitution}}

D21H 5/00**{Special paper or cardboard not otherwise provided for (duplicating or recording paper [B41M](#))}**

D21H 5/02

• {Patterned paper}

D21H 5/04

• • {marbled}

D21H 5/06

• • {Apparatus}

D21H 5/08

• {Vegetable parchment}

D21H 5/12

• {characterised by the use of special fibrous materials (felts or other non-woven fabrics [D04](#))}

D21H 5/14

• • {of cellulose fibres only}

D21H 5/16

• • • {Tobacco or cigarette paper}

D21H 5/18

• • {of inorganic fibres with or without cellulose fibres}

D21H 5/20

• • {of organic non-cellulosic fibres too short for spinning, with or without cellulose fibres}

D21H 5/22

• {Fungicidal, bactericidal, insecticidal, disinfecting, antiseptic, or corrosion-inhibiting paper {antistatic, antioxygenic paper (toilet paper [A47K 10/16](#))}}

D21H 5/24

• {having enhanced flexibility or extensibility produced by mechanical treatment of the unfinished paper (crêping paper [B31F 1/12](#); {making patterned paper [D21F 11/006](#), apertured paper [D21F 11/008](#)})}

D21H 5/26

• {Special paper or cardboard manufactured by dry method; {Apparatus or processes for forming webs by dry method from mainly short-fibre or particle material, e.g. paper pulp (making board from wood, e.g. lignocellulosic, particles or fibres [B27N 1/00](#) and subgroups; making non-woven fabrics from textile fibres [D04H 1/72](#); machines for forming diapers [A61F 13/15585](#); lap-forming devices in preliminary treatment of fibres, e.g. for spinning [D01G 25/00](#))}}

U D21H 17/00 Non-fibrous material added to the pulp, characterised by its constitution; Paper-impregnating material characterised by its constitution

NOTES

1. In this group, in the absence of an indication to the contrary, a material is classified in the last appropriate place.
2. In this group, it is desirable to classify the individual constituents of fibres used in the pulp or paper using Combination Sets with symbols chosen from groups [D21H 11/00](#) - [D21H 15/00](#).

D21H 17/71

- ~~{Mixtures of material (D21H 17/69 takes precedence); Mixtures of material (D21H 17/69 takes precedence)}~~ Pulp or paper comprising several different materials not incorporated by special processes ([D21H 23/10](#), [D21H 23/70](#), [D21H 23/76](#) take precedence)

NOTE

In this group, it is desirable to classify the individual components of the mixtures using Combination Sets with symbols chosen from groups [D21H 17/00](#) or [D21H 21/00](#).

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following groups:

~~E01F 15/10 covered by E01F 15/02~~

[E01F 15/10](#) covered by [E01F 15/02](#)

Project: MP0206 (E02B)

U E02B 8/00

Details of barrages or weirs (cleaning or keeping clear the surface of open water [E02B 15/00](#)); {Energy dissipating devices carried by lock or dry-dock gates}

M E02B 8/04

- Valves, slides, or the like; ~~{Arrangements therefor;}~~ Submerged sluice gates

Project: N/A (E02D)

E02D

FOUNDATIONS; EXCAVATIONS, EMBANKMENTS (specially adapted for hydraulic engineering [E02B](#)); UNDERGROUND OR UNDERWATER STRUCTURE (tunnels, tunnelling, mining [E21](#))

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~E02D 29/09 covered by E02D 29/06~~

[E02D 29/09](#) covered by [E02D 29/06](#)

U E02D 29/00

{Independent} underground or underwater structures (underground tanks [B65D 88/76](#); hydraulic engineering, e.g. sealings or joints, [E02B](#); underground garages [E04H 6/00](#); underground air-raid shelters [E04H 9/12](#); burial vaults [E04H 13/00](#)); Retaining walls

- E02D 29/04
- {Making large underground spaces, e.g. for underground plants, {e.g. stations of underground railways}; Construction or layout thereof ([E02D 29/10](#) takes precedence; {water-supply or sewerage plants [E03](#); layout of water power plants [E02B 9/00](#); making large underground chambers by underground methods only [E21D 13/00](#)}}
- E02D 29/06
- {Constructions, or methods of constructing, in water {([E02D 15/00](#) takes precedence; submerged foundations [E02D 27/52](#))}
- E02D 29/08
- {Siphons (for sewerage [E03F 5/20](#); siphon weirs [E02B 7/18](#); {siphons in general [F04F 10/00](#)}}
- E02D 29/10
- {Tunnels or galleries specially adapted to house conduits, e.g. oil pipe-lines, sewer pipes (for pressure water conduits [E02B 9/06](#); {for cables [H02G 9/02](#); layout of tunnels or galleries in general [E21D 9/14](#); road kerbs with housings for pipes or the like [E01C 11/222](#)}); Making conduits *in situ*, e.g. of concrete (combined with digging of trenches or ditches [E02F 5/10](#); {making or lining tunnels or galleries [E21D](#); constructing tunnels or galleries in open excavations [E02D 29/045](#); in open water [E02D 29/063](#)}); Casings, {i.e. manhole shafts, access or inspection chambers} or coverings of boreholes or narrow wells (wells for drinking water [E03B 3/08](#); boreholes or wells formed by deep drilling [E21B](#); shafts [E21D](#)}}

Project: N/A (E02F)

E02F

DREDGING; SOIL-SHIFTING (winning peat [E21C 49/00](#))NOTEThis 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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

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](#)

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 the underside of the load-carrying ceiling structure or roof structure.

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

E04B 1/682 covered by E04B 1/68
E04B 1/684 covered by E04B 1/68
E04B 1/686 covered by E04B 1/68

E04B 1/00

Constructions in general; Structures which are not restricted either to walls, e.g. partitions, or floors or ceilings or roofs (scaffolds, shutterings [E04G](#); structures specially adapted for buildings for special purposes, general layout of buildings, e.g. modular co-ordination, [E04H](#); the particular parts of buildings, see the relevant groups for those parts)

U E04B 1/38

- Connections for building structures in general

NOTE

Connections specially adapted for particular building parts or for particular building structures are classified in the groups for those parts or structures, e.g. in groups [E04B 1/21](#), [E04B 2/00](#), [E04B 5/00](#), [E04B 7/00](#) or [E04B 9/00](#). Joints not specially adapted for building construction, or of more general application, are classified in the appropriate subclasses, e.g. [F16B](#).

E04B 1/40

- {Separate connecting elements (for forms, falsework, or shutterings [E04G 17/00](#); releasable clips or clamps, hooks, wedges, wall-dowels, nails, bolts, rivets, screws, wood-screws [F16B](#))}

E04B 1/54

- {Joints substantially without separate connecting elements, e.g. jointing by inter-engagement (welded, glued, or the like joints, in general [F16B](#))}

Project: N/A (E04C)

U E04C 1/00

Building elements of block or other shape for the construction of parts of buildings (of relatively thin form [E04C 2/00](#); structural elongated elements designed for load-supporting [E04C 3/00](#), e.g. columns or pillars [E04C 3/30](#); manufacture or material of building bricks, stones, or the like [B28](#), [C03](#), [C04](#); paving elements [E01C](#); general building constructions [E04B](#), e.g. walls [E04B 2/00](#), floors [E04B 5/00](#), roofs [E04B 7/00](#), ceilings [E04B 9/00](#); {roof coverings [E04D](#); coverings for walls or ceilings [E04F 13/00](#); floorings [E04F 15/00](#)} structural elements specially designed for built-in conduit shafts [E04F 17/00](#); {elements for buildings for particular purposes [E04H 7/00](#)}; special elements for building ovens or furnaces [F24B](#), [F27D](#))

E04C 1/24

- {Elements for building-up floors, ceilings, roofs, arches, or beams ([E04C 1/39](#) - [E04C 1/42](#) take precedence; flooring [E04F 15/00](#))}

E04C 1/34

- {designed for use as filling elements}

E04C 1/36

- • {between joists or girders}

E04C 1/38

- • {in ribbed or cross-ribbed floors, ceilings, or roofs consisting of reinforced concrete}

U E04C 2/00

Building elements of relatively thin form for the construction of parts of buildings, e.g. sheet materials, slabs, or panels (materials or manufacture, see the relevant subclasses, e.g. [B27N](#), [D21J](#); made in situ [E04B](#); specially designed for insulation or other protection [E04B 1/62](#); load-carrying floor structures [E04B 5/02](#), [E04B 5/16](#); roofs consisting of self-supporting slabs [E04B 7/20](#); roof or like covering elements [E04D 3/00](#); for lining or finishing [E04F 13/00](#))

E04C 2/44

- {characterised by the purpose}

- E04C 2/46
- {specially adapted for making walls ([E04C 2/52](#), [E04C 2/54](#) take precedence; structure of slab-shaped elements [E04B 1/02](#); walls of elements of relatively thin form [E04B 2/72](#))}
- E04C 2/48
- {as high as or higher than the room, i.e. having provisions concerning the connection with at least two floors ([E04C 2/52](#) and [E04C 2/54](#) take precedence)}
- E04C 2/50
- {Self-supporting slabs specially adapted for making floors ceilings, or roofs, e.g. able to be loaded ([E04C 2/52](#), [E04C 2/54](#) take precedence; structures of slab-shaped elements [E04B 1/02](#); floor structures [E04B 5/00](#); {roofs consisting of self-supporting slabs [E04B 7/20](#);} ceilings [E04B 9/00](#); roof coverings [E04D](#); floor coverings [E04F 15/00](#))}

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

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	" "	E04D 3/364
E04D 13/18	" "	F24J 2/00, H02S 20/23
<i>E04D 3/3645</i>	<i>covered by</i>	<i>E04D 3/363</i>
<i>E04D 3/367</i>	<i>covered by</i>	<i>E04D 3/364</i>
<i>E04D 13/18</i>	<i>covered by</i>	<i>F24J 2/00, H02S 20/23</i>

U E04D 3/00**Roof covering by making use of flat or curved slabs or stiff sheets ([E04D 1/00](#) takes precedence; built-up roofs [E04D 11/02](#))**

U E04D 3/36

- Connecting; Fastening

U E04D 3/361

- • by specially-profiled marginal portions of the slabs or sheets

E04D 3/364

- • • {by folding of the edges}

Project: N/A (E04F)**E04F****FINISHING WORK ON BUILDINGS, e.g. STAIRS, FLOORS (windows, doors [E06B](#))**WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

E04F 11/09	covered by	E04F 11/02
E04F 11/17	covered by	E04F 11/16
<i>E04F 11/09</i>	<i>covered by</i>	<i>E04F 11/02</i>
<i>E04F 11/17</i>	<i>covered by</i>	<i>E04F 11/16</i>

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

E04H 4/02 covered by *E04H 4/0018, E04H 4/0075*

E04H 4/04 covered by *E04H 4/0018, E04H 4/0075*

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

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*

U E05D 13/00

Accessories for sliding or lifting wings, e.g. pulleys, safety catches (**{closers or openers for horizontally sliding wings [E05F 1/02](#), [E05F 1/08](#)}; counterbalance devices {for swinging wings} [E05F 1/00](#), [E05F 3/00](#))**

E05D 13/04

- **{Fasteners specially adapted for holding sliding wings open (for holding wings closed [E05C](#))}**

E05D 13/06

- **{with notches {for vertically sliding wings}}**

E05D 13/08

- **{acting by friction {for vertically sliding wings}}**

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~E06B 11/06~~ — covered by — ~~E05B 65/0007~~

[E06B 11/06](#) covered by [E05B 65/0007](#)

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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 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*

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

E21B 3/02	covered by	E21B 3/02
E21B 3/035	" "	E21B 3/035
E21B 3/025	" "	E21B 3/025
E21B 3/03	" "	E21B 3/03
E21B 6/00	" "	E21B 6/00
E21C 3/08	" "	B25D 9/06, B25D15/00
E21C 3/10	" "	B25D15/02
E21C 3/12	" "	B25D 11/00
E21C 3/14	" "	B25D 11/00
E21C 3/20	" "	B25D 9/12
E21C 3/22	" "	B25D 9/125
B25D 11/005	" "	B25D 9/265
E21C 3/34	" "	B25D 17/08
E21B 19/081	" "	E21B 19/081
E21B 19/083	" "	E21B 19/083
E21B 19/084	" "	E21B 19/084
E21B 19/089	" "	E21B 19/089
E21B 44/08	" "	E21B 44/08
E21B 44/00	" "	E21B 44/00
E21B 21/14	" "	E21B 21/14
E21B 7/02	" "	E21B 7/02
E21C 37/24	" "	B25D
E21C 37/26	" "	B25D
E21C 41/18	" "	E21C 41/16
E21C 41/20	" "	E21C 41/16
E21C 41/22	" "	E21C 41/16
E21C 41/24	" "	E21C 41/16
E21C 41/28	" "	E21C 41/26
E21C 41/30	" "	E21C 41/26
E21C 45/02	" "	E21C 25/60, E21C 45/00
E21C 45/04	" "	E21C 25/60, E21C 45/00
E21C 45/06	" "	E21C 25/60, E21C 45/00
E21C 45/08	" "	E21C 25/60, E21C 45/00
E21C 50/00	" "	E02F 3/88
E21C 50/02	" "	E02F 3/88
<i>E21B 3/02</i>	<i>covered by</i>	<i>E21B 3/02</i>
<i>E21B 3/035</i>	<i>covered by</i>	<i>E21B 3/035</i>
<i>E21B 3/025</i>	<i>covered by</i>	<i>E21B 3/025</i>
<i>E21B 3/03</i>	<i>covered by</i>	<i>E21B 3/03</i>
<i>E21B 6/00</i>	<i>covered by</i>	<i>E21B 6/00</i>

E21C 3/08	covered by	<u>B25D 9/06</u> , B25D15/00
E21C 3/10	covered by	B25D15/02
E21C 3/12	covered by	<u>B25D 11/00</u>
E21C 3/14	covered by	<u>B25D 11/00</u>
E21C 3/20	covered by	<u>B25D 9/12</u>
E21C 3/22	covered by	<u>B25D 9/125</u>
B25D 11/005	covered by	<u>B25D 9/265</u>
E21C 3/34	covered by	<u>B25D 17/08</u>
E21B 19/081	covered by	<u>E21B 19/081</u>
E21B 19/083	covered by	<u>E21B 19/083</u>
E21B 19/084	covered by	<u>E21B 19/084</u>
E21B 19/089	covered by	<u>E21B 19/089</u>
E21B 44/08	covered by	<u>E21B 44/08</u>
E21B 44/00	covered by	<u>E21B 44/00</u>
E21B 21/14	covered by	<u>E21B 21/14</u>
E21B 7/02	covered by	<u>E21B 7/02</u>
E21C 37/24	covered by	<u>B25D</u>
E21C 37/26	covered by	<u>B25D</u>
E21C 41/18	covered by	<u>E21C 41/16</u>
E21C 41/20	covered by	<u>E21C 41/16</u>
E21C 41/22	covered by	<u>E21C 41/16</u>
E21C 41/24	covered by	<u>E21C 41/16</u>
E21C 41/28	covered by	<u>E21C 41/26</u>
E21C 41/30	covered by	<u>E21C 41/26</u>
E21C 45/02	covered by	<u>E21C 25/60</u> , <u>E21C 45/00</u>
E21C 45/04	covered by	<u>E21C 25/60</u> , <u>E21C 45/00</u>
E21C 45/06	covered by	<u>E21C 25/60</u> , <u>E21C 45/00</u>
E21C 45/08	covered by	<u>E21C 25/60</u> , <u>E21C 45/00</u>
E21C 50/00	covered by	<u>E02F 3/88</u>
E21C 50/02	covered by	<u>E02F 3/88</u>

- E21C 1/00** {Rotary-drilling machines (rotary-drilling machines in general [B23B](#); rotary earth drilling [E21B 3/00](#); driving of shafts, galleries or tunnels [E21D](#) {not used, see subgroup and [E21B 3/00](#)})}
- E21C 1/10
- {with a built-in feeding device (feeding devices [E21C 5/00](#))}
- E21C 3/00** {Drilling machines with reciprocating tool that is intermittently turned when out of contact with the working face (portable percussion tools in general [B25D](#))}
- E21C 3/02
- {Machines in which the tool is connected to an impulse member}
- E21C 3/04
- {Hammer drilling machines in which the tool is hit by an impulse member}
- E21C 3/06
- {Means for driving the impulse member {(not used, see subgroups and [B25D](#))}
- E21C 3/16
- • {by electromagnets}
- E21C 3/18
- • {directly by a piston of an internal-combustion engine}
- E21C 3/24
- • {directly by air, steam, or gas pressure}
- E21C 3/26
- • • {working with pulses}
- E21C 5/00** {Devices for feeding tool to working face (feeding devices for metal-boring machines [B23B](#) {not used, see subgroups and [E21B 19/08](#)})}
- E21C 5/08
- {Means for driving feed mechanism {(not used, see subgroups and [E21B 19/08](#))}

- E21C 5/10 · · {Separate motor, e.g. compressed-air motor or cylinder}
- E21C 7/00** **{Dust eliminating or dust removing while drilling ({see also [E21B 21/00](#)}; equipment for preventing the formation of dust by slitting or dislodging machines [E21C 35/22](#); {by foam [E21B 21/14](#)}; exhausting dust from mines [E21F 5/20](#))}**
- E21C 7/04 · {using exhaust air from the drill motor for blowing-off the dust}
- E21C 7/08 · {by liquids}
- E21C 7/10 · · {Liquid flushing installations}
- E21C 7/12 · {Preventing exhaust air from the drill motor from blowing-off towards the working face}
- E21C 11/00** **{Supports or guides for drilling machines; Columns to which the machine is clamped (feed legs [E21C5/11](#); slitting machines mounted on supports [E21C 25/64](#); guiding, slitting, or dislodging machines [E21C 35/08](#))}**
- U E21C 41/00** **Methods of underground or surface mining ([E21C 45/00](#) takes precedence); Lay-outs therefor (for peat [E21C 49/00](#))**
- WARNING
- Groups [E21C 41/28](#) - [E21C 41/14](#) are no longer used for classification. Documents are reclassified to groups [E21C 41/16](#), [E21C 41/26](#) and [E21C 41/32](#)
- E21C 41/04 · {for hard coal}
- E21C 41/10 · {for oil-bearing deposits}
- E21C 43/00** **{Methods for preparing for the gasification of coal underground (methods for generating gas [C10B](#))}**

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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*

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

The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups:-

~~F01D 5/32~~ covered by ~~F01D 5/30~~

F01D 5/32 covered by *F01D 5/30*

Project: MP0175 (F01M)

U F01M 13/00

Crankcase ventilating or breathing

U F01M 13/02

• by means of additional source of positive or negative pressure

U F01M 13/021

• • {of negative pressure}

U F01M 13/022

• • • {using engine inlet suction}

U F01M 13/025

• • • • {with an inlet-conduit via an air-filter}

M F01M 2013/026

• • • {with **a pump pumps** sucking air or **elowby gas blow-by gases** from the **carter crankcase**}

Project: N/A (F02B)

U F02B 23/00

Other engines characterised by special shape or construction of combustion chambers to improve operation (engines with incandescent chambers [F02B 9/08](#))

NOTE

- in this group the following indexing codes are used:

[F02B 2700/02](#) - [F02B 2720/30](#)

U F02B 23/02

• with compression ignition

U F02B 23/06

• • the combustion space being arranged in working piston ([F02B 23/04](#) takes precedence)

F02B 23/0675

• • • {the combustion space being **sunstantially****substantially** spherical, hemispherical, ellipsoid or parabolic}

Project: N/A (F02D)

U F02D 19/00

Controlling engines characterised by their use of non-liquid fuels, pluralities of fuels, or non-fuel substances added to the combustible mixtures (the non-fuel substances being gaseous [F02D 21/00](#))

- U F02D 19/06
 - peculiar to engines working with pluralities of fuels, e.g. alternatively with light and heavy fuel oil, other than engines indifferent to the fuel consumed
- U F02D 19/08
 - • simultaneously using pluralities of fuels ([F02D 19/12](#) takes precedence)
- U F02D 19/10
 - • • peculiar to compression-ignition engines in which the main fuel is gaseous
- F02D 19/105
 - • • • {operating in a special mode, e.g. g. in a liquid fuel only mode for starting}

Project: N/A (F02G)

- U F02G 1/00
 - **Hot gas positive-displacement engine plants (positive-displacement engine plants characterised by the working gas being generated by combustion in the plant [F02G 3/00](#))**
- U F02G 1/04
 - of closed-cycle type
- F02G 1/043
 - • the engine being operated by expansion and contraction of a mass of working gas which is heated and ~~colled~~cooled in one of a plurality of constantly communicating expansible chambers, e.g. Stirling cycle type engine

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~F02M 7/23~~ covered by ~~F02M 7/103~~

~~F02M 51/08~~ " " ~~F02M 51/06~~

F02M 7/23 covered by *F02M 7/103*

F02M 51/08 covered by *F02M 51/06*

- U F02M 5/00
 - **Float-controlled apparatus for maintaining a constant fuel level**
- U F02M 5/12
 - Other details, e.g. floats, valves, setting devices or tools (floats in general [F16K 33/00](#))
- F02M 5/14
 - • {Float chambers, e.g. adjustable in position {(float chamber with a built-in intermediate reservoir [F02M 7/06](#))}}
- U F02M 26/00
 - **Engine-pertinent apparatus for adding exhaust gases to combustion-air, main fuel or fuel-air mixture, e.g. by exhaust gas recirculation [EGR] systems**

- U F02M 26/13
 - Arrangement or layout of EGR passages, e.g. in relation to specific engine parts or for incorporation of accessories
- U F02M 26/22
 - • with coolers in the recirculation passage
- U F02M 26/29
 - • • Constructional details of the coolers, e.g. pipes, plates, ribs, insulation or materials
- F02M 26/30
 - • • • Connections of coolers to other devices, ~~e.g. g.~~ to valves, heaters, compressors or filters; Coolers characterised by their location on the engine

Project: RP0301-F (F02M)

- M F02M 26/52
 - Systems for actuating EGR valves

WARNING
~~Group F02M 26/52 is impacted by reclassification into groups F02M 26/53-F02M 26/64.~~
~~Groups F02M 26/52 and F02M 26/53-F02M 26/64 should be considered in order to perform a complete search.~~
- M F02M 26/53
 - • using electric actuators, e.g. solenoids

WARNING
~~Group F02M 26/53 is incomplete pending reclassification of documents from group F02M 26/52.~~
~~Groups F02M 26/53 and F02M 26/52 should be considered in order to perform a complete search.~~
- M F02M 26/54
 - • • Rotary actuators, e.g. step motors

WARNING
~~Group F02M 26/54 is incomplete pending reclassification of documents from group F02M 26/52.~~
~~Groups F02M 26/54 and F02M 26/52 should be considered in order to perform a complete search.~~
- M F02M 26/55
 - • using vacuum actuators

WARNING
~~Group F02M 26/55 is incomplete pending reclassification of documents from group F02M 26/52.~~
~~Groups F02M 26/55 and F02M 26/52 should be considered in order to perform a complete search.~~
- M F02M 26/56
 - • • having pressure modulation valves

WARNING
~~Group F02M 26/56 is incomplete pending reclassification of documents from group F02M 26/52.~~
~~Groups F02M 26/56 and F02M 26/52 should be considered in order to perform a complete search.~~
- M F02M 26/57
 - • • • using electronic means, e.g. electromagnetic valves

WARNING
~~Group F02M 26/57 is incomplete pending reclassification of documents from group F02M 26/52.~~
~~Groups F02M 26/57 and F02M 26/52 should be considered in order to perform a complete search.~~

- M F02M 26/58
- • • Constructional details of the actuator; Mounting thereof
- WARNING
Group F02M 26/58 is incomplete pending reclassification of documents from group F02M 26/52.
Groups F02M 26/58 and F02M 26/52 should be considered in order to perform a complete search.
- M F02M 26/59
- • • using positive pressure actuators; Check valves therefor
- WARNING
Group F02M 26/59 is incomplete pending reclassification of documents from group F02M 26/52.
Groups F02M 26/59 and F02M 26/52 should be considered in order to perform a complete search.
- M F02M 26/60
- • • in response to air intake pressure
- WARNING
Group F02M 26/60 is incomplete pending reclassification of documents from group F02M 26/52.
Groups F02M 26/60 and F02M 26/52 should be considered in order to perform a complete search.
- M F02M 26/61
- • • in response to exhaust pressure
- WARNING
Group F02M 26/61 is incomplete pending reclassification of documents from group F02M 26/52.
Groups F02M 26/61 and F02M 26/52 should be considered in order to perform a complete search.
- M F02M 26/615
- • • {the exhaust back pressure}
- WARNING
Group F02M 26/615 is incomplete pending reclassification of documents from group F02M 26/52.
Groups F02M 26/615 and F02M 26/52 should be considered in order to perform a complete search.
- M F02M 26/62
- • • in response to fuel pressure
- WARNING
Group F02M 26/62 is incomplete pending reclassification of documents from group F02M 26/52.
Groups F02M 26/62 and F02M 26/52 should be considered in order to perform a complete search.
- M F02M 26/63
- • the EGR valve being directly controlled by an operator ([F02M 26/64](#) takes precedence)
- WARNING
Group F02M 26/63 is incomplete pending reclassification of documents from group F02M 26/52.
Groups F02M 26/63 and F02M 26/52 should be considered in order to perform a complete search.
- M F02M 26/64
- • the EGR valve being operated together with an intake air throttle
- WARNING
Group F02M 26/64 is incomplete pending reclassification of documents from group F02M 26/52.

~~Groups F02M 26/64 and F02M 26/52 should be considered in order to perform a complete search.~~

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

~~The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:~~

~~F03C 1/253 covered by F03C
F03C 1/28 " " F03C 1/0406, F03C 1/0605
F03C 1/30 " " F03C 1/0409, F03C 1/0631,
F03C 1/0668
F03C 1/32 " " F03C 1/0415, F03C 1/0626,
F03C 1/0652
F03C 1/34 " " F03C 1/0435, F03C 1/0615,
F03C 1/0655
F03C 1/36 " " F03C 1/0435, F03C 1/0615,
F03C 1/0655
F03C 1/38 " " F03C 1/0435, F03C 1/0615,
F03C 1/0655
F03C 1/40 " " F03C 1/0447, F03C 1/0678~~

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

<i>F03C 1/253</i>	<i>covered by</i>	<i>F03C</i>
<i>F03C 1/28</i>	<i>covered by</i>	<i>F03C 1/0406, F03C 1/0605</i>
<i>F03C 1/30</i>	<i>covered by</i>	<i>F03C 1/0409, F03C 1/0631, F03C 1/0668</i>
<i>F03C 1/32</i>	<i>covered by</i>	<i>F03C 1/0415, F03C 1/0626, F03C 1/0652</i>
<i>F03C 1/34</i>	<i>covered by</i>	<i>F03C 1/0435, F03C 1/0615, F03C 1/0655</i>
<i>F03C 1/36</i>	<i>covered by</i>	<i>F03C 1/0435, F03C 1/0615, F03C 1/0655</i>
<i>F03C 1/38</i>	<i>covered by</i>	<i>F03C 1/0435, F03C 1/0615, F03C 1/0655</i>
<i>F03C 1/40</i>	<i>covered by</i>	<i>F03C 1/0447, F03C 1/0678</i>

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

~~The following IPC groups are not used in the CPC system. Subject matter covered by these 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~~

The following IPC groups are not used in the CPC system. Subject matter covered by these 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

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

~~The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:~~

~~F04B 35/02 covered by F04B 9/08~~

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

F04B 35/02 covered by F04B 9/08

F04B 29/00**{Other pumps with movable, e.g. rotatable cylinders}**

F04B 49/00

Control {, e.g. of pump delivery, or pump pressure} of, or safety measures for, machines, pumps, or pumping installations, not otherwise provided for, or of interest apart from, groups [F04B 1/00](#) - [F04B 47/00](#)

NOTE

The classification symbols in group [F04B 49/00](#) and subgroups can be followed by additional symbols preceded by the sign "+". The symbols are applied in subgroups [F04B 49/06](#), [F04B 49/08](#), [F04B 49/16](#) and [F04B 49/225](#). The symbols have the meanings as listed below:

+G+C specially adapted for pumps for elastic fluids, e.g. compressors

+P+P specially adapted for pumps for liquids

Project: N/A (F04F)

F04F

PUMPING OF FLUID BY DIRECT CONTACT OF ANOTHER FLUID OR BY USING INERTIA OF FLUID TO BE **PUMPES 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.

Project: N/A (F05B)

U F05B 2260/00

Function

U F05B 2260/42

- Storage of energy

F05B 2260/421

- • in the form of rotational kinetic energy, e.g. in flywheels

Project: N/A (F15B)

U F15B 11/00

Servomotor systems without provision for follow-up action; {Circuits therefor}([F15B 3/00](#) takes precedence)

U F15B 11/02

- Systems essentially incorporating special features for controlling the speed or actuating force of an output member

U F15B 11/04

- • for controlling the speed ([F15B 11/024](#) takes precedence)

F15B 11/05

- • • specially adapted to maintain constant speed, e.g. pressure-compensated, load-responsive {([F15B 11/161](#) takes precedence; counterbalance valves [F15B 11/0445](#); valves for load sensing [F15B 13/0416](#))}

Project: N/A (F16B)

F16B

DEVICES FOR FASTENING OR SECURING CONSTRUCTIONAL ELEMENTS OR MACHINE PARTS TOGETHER, e.g. NAILS, BOLTS, CIRCLIPS, CLAMPS, CLIPS, WEDGES, JOINTS OR JOINTING

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.~~

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](#).

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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 — " — F16B 7/105~~

F16B 7/16	" "	F16B 7/14
F16B 13/10	" "	F16B 13/08
F16B 13/13	" "	F16B 13/002, F16B 13/12
F16B 21/14	" "	F16B 21/12, F16B 21/125
F16B 25/02	" "	F16B 25/00
F16B 25/04	" "	F16B 25/00
F16B 25/06	" "	F16B 25/00
F16B 25/08	" "	F16B 25/00
F16B 33/04	" "	F16B 33/02
F16B 37/10	" "	F16B 37/0842, F16B 37/0871
<i>F16B 7/08</i>	<i>covered by</i>	<i><u>F16B 5/12, F16B 7/04, F16L 3/00</u></i>
<i>F16B 7/12</i>	<i>covered by</i>	<i><u>F16B 7/105</u></i>
<i>F16B 7/16</i>	<i>covered by</i>	<i><u>F16B 7/14</u></i>
<i>F16B 13/10</i>	<i>covered by</i>	<i><u>F16B 13/08</u></i>
<i>F16B 13/13</i>	<i>covered by</i>	<i><u>F16B 13/002, F16B 13/12</u></i>
<i>F16B 21/14</i>	<i>covered by</i>	<i><u>F16B 21/12, F16B 21/125</u></i>
<i>F16B 25/02</i>	<i>covered by</i>	<i><u>F16B 25/00</u></i>
<i>F16B 25/04</i>	<i>covered by</i>	<i><u>F16B 25/00</u></i>
<i>F16B 25/06</i>	<i>covered by</i>	<i><u>F16B 25/00</u></i>
<i>F16B 25/08</i>	<i>covered by</i>	<i><u>F16B 25/00</u></i>
<i>F16B 33/04</i>	<i>covered by</i>	<i><u>F16B 33/02</u></i>
<i>F16B 37/10</i>	<i>covered by</i>	<i><u>F16B 37/0842, F16B 37/0871</u></i>

Project: N/A (F16C)

F16C

SHAFTS; FLEXIBLE SHAFTS; ELEMENTS OR CRANKSHAFT MECHANISMS; ROTARY BODIES OTHER THAN GEARING ELEMENTS; BEARINGS

NOTES

- 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.
- 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.
<u>A01B 71/04</u>	<u>Bearings for agricultural machines</u>
<u>B21B 31/07</u>	<u>Adaptation of roll bearings for metal-rolling mills</u>
<u>B61C 17/10</u>	<u>Connecting-rods, bearings for driving wheels of railway locomotives</u>
<u>B61F 15/00</u>	<u>Axle-boxes for railway vehicles</u>
<u>B62K 21/06</u>	<u>Bearings for steering heads</u>
<u>E06B 9/174,</u> <u>E06B 9/50</u>	<u>Bearings specially adapted for roller shutters or for roller blinds</u>
<u>E21B 10/22</u>	<u>Bearings for drill bits</u>
<u>F01C 21/02</u>	<u>Arrangement of bearings in rotary-piston machines or engines</u>
<u>F01D 25/16</u>	<u>Arrangement of bearings in non-positive displacement machines or engines</u>
<u>F02C 7/06</u>	<u>Arrangement of bearings in gas-turbine plants</u>
<u>G01C 19/16</u>	<u>Bearings for gyroscopes</u>
<u>G01D 11/02</u>	<u>Bearings or suspensions for moving parts of measuring instruments</u>
<u>G01G 21/02</u>	<u>Arrangements of bearings in weighing apparatus</u>
<u>G01R 1/10</u>	<u>Arrangements of bearings in instruments for measuring electric variables</u>
<u>G01R 11/12</u>	<u>Arrangements of bearings for apparatus for measuring time integral of electric power or current</u>
<u>G02C 5/22</u>	<u>Hinges for spectacles</u>
<u>G04B 31/00</u>	<u>Bearings for clockwork</u>
<u>H02N 15/00</u>	<u>Magnetic levitation devices.</u>

Project: N/A (F16D)

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.
<u>A01D 69/08,</u> <u>A01D 69/10</u>	<u>Clutches or brakes of harvesting machines for grass or cereals;</u>
<u>A61C 1/18</u>	<u>Clutches in dental machines for boring or cutting;</u>
<u>B21B 35/14</u>	<u>Drive couplings for metal-rolling mills;</u>
<u>B30B 15/10</u>	<u>Brakes specially adapted for presses;</u>
<u>B30B 15/12</u>	<u>Clutches specially adapted for presses;</u>
<u>B41J 33/52</u>	<u>Braking devices for ribbon-feed devices in selective printing mechanisms;</u>
<u>B60K 17/00</u>	<u>Arrangement or location of clutches in vehicles;</u>
<u>B61H</u>	<u>Brakes peculiar to rail vehicles;</u>
<u>B62B 5/04</u>	<u>Braking mechanisms for hand carts;</u>
<u>B62B 9/08</u>	<u>Braking mechanisms for children's carriages or perambulators;</u>
<u>B62C 7/00</u>	<u>Braking mechanisms for animal-drawn vehicles;</u>
<u>B62L</u>	<u>Cycle brakes;</u>
<u>B66D 5/00</u>	<u>Braking devices for lifting or hoisting gear;</u>
<u>E21B 17/02</u>	<u>Couplings for drilling rods;</u>
<u>H02P 3/04</u>	<u>Brakes for electric motors, generators, dynamo-electric converters;</u>
<u>H04L 13/04</u>	<u>Clutches for apparatus for transmission of coded digital information.</u>

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

<u>F16D 3/19</u>	<u>covered by</u>	<u>F16D 3/50;</u>
<u>F16D 3/27</u>	<u>covered by</u>	<u>F16D 3/265;</u>
<u>F16D 27/07</u>	<u>covered by</u>	<u>F16D 27/06, F16D 27/14;</u>
<u>F16D 48/12</u>	<u>covered by</u>	<u>B60K 23/0808;</u>
<u>F16D 65/35</u>	<u>covered by</u>	<u>F16D 63/00.</u>

~~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;~~
~~F16D 65/35 covered by F16D 63/00.~~

- U F16D 25/00**
- U F16D 25/12
- F16D 25/14

Fluid-actuated clutches

- Details not specific to one of the before-mentioned types
- • {Fluid pressure control}

Project: N/A (F16F)

F16F

SPRINGS; SHOCK-ABSORBERS; MEANS FOR DAMPING VIBRATIONNOTES

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 - A47C 27/00 - Spring mattresses~~
~~{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}~~

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	<i>Mounting of bumpers on vehicles</i>
B61F	<i>Rail vehicle suspensions</i>
B61G 11/00	<i>Buffers for railway or tramway vehicles</i>
B62D 21/15	<i>Vehicle chassis frames having impact absorbing means</i>
B62J 1/02	<i>Resiliently mounted saddles on cycles</i>
B62K 21/08	<i>Steering dampers</i>
B63H 21/30	<i>Anti-vibration mounting of marine propulsion plant in ships</i>
B64C 25/58	<i>Arrangement of shock-absorbers or springs in aeroplane alighting gear</i>
B65D 81/02	<i>Containers, packing elements or packages with shock-absorbing means</i>
D06F 37/20	<i>Resilient mountings in washing machines</i>
D06F 49/06	<i>Resilient mountings in domestic spin-dryers</i>
{E04B 1/98}	<i>{Protection of buildings against vibrations or shocks}</i>
E05D 7/086	<i>Braking devices structurally combined with hinges</i>
F03G 1/00	<i>Spring motors</i>
{F16L 3/20}	<i>{Pipe or cable supports}</i>
F21V 15/04	<i>Resilient mounting of lighting devices</i>
F41A 25/00	<i>Gun cradles to permit recoil</i>
F41B 5/1426	<i>Vibration dampers for archery bows</i>
G01D 11/00	<i>Indicating or recording in connection with measuring</i>
G01G 21/10	<i>Weighing apparatus, e.g. arrangement of shock-absorbers in weighing apparatus</i>
G04B	<i>Clocks, watches</i>
G12B 3/08	<i>Damping of movements in instruments</i>
G21C 7/20	<i>Disposition of shock-absorbing devices for displaceable control elements innuclear reactors.</i>
{H02G 7/14}	<i>{Arrangements or devices for damping mechanical oscillations of power lines}</i>

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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
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

<i>F16F 11/00</i>	<i>covered by</i>	<i>F16F 7/00, F16F 9/00, F16F 15/00</i>
<i>F16F 13/12</i>	<i>covered by</i>	<i>F16F 13/08</i>

U F16F 9/00

Springs, vibration-dampers, shock-absorbers, or similarly-constructed movement-dampers using a fluid or the equivalent as damping medium ([F16F 5/00](#) takes precedence; connection of valves to inflatable elastic bodies [B60C 29/00](#); {braking devices, stops or buffers for wing-operating appliances [E05F 3/00](#), [E05F 5/00](#)})

**U F16F 9/10
F16F 9/12**

- using liquid only; using a fluid of which the nature is immaterial
- · Devices with one or more rotary vanes turning in the fluid any throttling effect being immaterial, {i.e. damping by viscous shear effect only ([F16F 9/53](#) takes precedence; pivoting supports for apparatus or articles placed on stands or trestles [F16M 11/06](#))}

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—~~

[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.

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-weel 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.
<u>A01D 69/06</u>	<u>Gearings in harvesting machines</u>
<u>A63H 31/00</u>	<u>Gearing for toys</u>
<u>B21B 35/12</u>	<u>Toothed-weel gearing for metal-rolling mills</u>
<u>B60K</u>	<u>Arrangement of transmissions in vehicles</u>
<u>B61C 9/00</u>	<u>Transmissions for railway locomotives</u>
<u>B62D 3/00</u>	<u>Vehicle steering gears</u>
<u>B62M</u>	<u>Transmissions for cycles</u>
<u>B63H 23/00</u>	<u>Transmissions for marine propulsions</u>
<u>B63H 25/00</u>	<u>Marine steering gears</u>
<u>{B64C 27/12, B64C 27/58}</u>	<u>{Transmissions for helicopters}</u>
<u>{B64D 35/00}</u>	<u>{Transmissions for aircraft}</u>

<u>F01-F04</u>	<i>Machines, engines, pumps</i>
<u>F15B 15/00</u>	<i>Gearings associated with fluid-actuated devices</i>
<u>G01D 5/04</u>	<i>Gearing used in indicating or recording apparatus in connection with measuring devices</i>
<u>H03J 1/00</u>	<i>Driving arrangements for tuning resonant circuits</i>
<u>H04L 13/04</u>	<i>Driving mechanisms for apparatus for transmission of coded digital information.</i>

- U F16H 35/00** **Gearings or mechanisms with other special functional features**
F16H 2035/001 · {Gearings with eccentric mounted gears, e.g. g. for cyclically varying ratio}
- U F16H 57/00** **General details of gearing (of screw-and-nut gearing [F16H 25/00](#); of fluid gearing [F16H 39/00](#) - [F16H 43/00](#))**
- U F16H 57/04** · Features relating to lubrication or cooling {or heating}{(in hydrokinetic gearing [F16H 41/30](#); } control of lubrication or cooling in hydrostatic gearing [F16H 61/4165](#))
- F16H 57/0458 · · {Oil-mist or spray lubrication; Means to reduce foam formation (lubrication by injection [F16H 57/0456](#); venting [F16H 57/027](#))}
- U F16H 59/00** **Control inputs to {control units of} change-speed-, or reversing-gearings for conveying rotary motion**
- U F16H 59/68** · Inputs being a function of gearing status
- U F16H 2059/6838** · · {Sensing gearing status of hydrostatic transmissions}
- F16H 2059/6846 · · · {the flow in hydrostatic transmissions circuits, e.g. high, low or differential pressures}

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.
<u>A47J 27/08</u>	<i>Pressure cookers</i>
<u>E04B 1/68</u>	<i>Sealing building joints</i>
<u>E05C 9/00</u>	<i>Multi-point fastening of wings in general</i>
<u>F01B</u>	<i>Machines or engines in general or of reciprocating type, e.g. cylinders peculiar to steam engines</i>
<u>F01B 31/28</u>	
<u>F02F 1/00</u>	<i>Cylinders for combustion engines</i>
<u>F02F 3/00</u>	<i>Pistons for combustion engines</i>
<u>F04D 29/08</u>	<i>Sealings of non-positive displacement pumps</i>

<u>F17B 1/04</u>	Sealing devices for sliding parts of gas holders of variable capacity
<u>F28F 9/04</u>	Arrangements for sealing elements into header boxes or end plates of heat-exchangers.

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~F16J 15/53~~ covered by ~~F16J 15/43~~

F16J 15/53 covered by F16J 15/43

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,~~
~~B63C 9/00~~ Arrangement of inflating valves for floatable life-saving equipment
~~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
<u>A47J 27/09</u>	<i>Safety devices for pressure cookers</i>
<u>A47J 31/46</u>	<i>Dispensing spouts, drain valves or like beverage-making apparatus</i>
<u>A61B 5/0235</u>	<i>Valves specially adapted for measuring pressure in heart or blood vessels</i>
<u>A61F 2/24</u>	<i>Heart valves</i>
<u>A61M 16/20</u>	<i>Valves specially adapted for medical respiratory devices</i>
<u>A61M 39/00</u>	<i>Tube connectors, tube couplings, valves or branch units specially adapted for medical use in general</i>
<u>A62B 9/02</u>	<i>Valves for respiratory apparatus</i>
<u>A62B 18/10</u>	<i>Valves for breathing masks or helmets</i>
<u>A62C</u>	<i>Fire extinguishers</i>
<u>{B01D 35/04}</u>	<i>{Plug, tap, or cock filters}</i>
<u>B05B</u>	<i>Nozzles, spray heads or other discharge apparatus for spraying or atomising</i>
<u>B60C 29/00</u>	<i>Arrangements of tyre-inflating valves relative to tyres or wheel rims; Connection of valves to wheel rims, tyres or other inflatable elastic bodies</i>
<u>B60G 17/048</u>	<i>Valves specially adapted for adjusting vehicle fluid-spring characteristics</i>
<u>B60T</u>	<i>Valves specially adapted for vehicle brake control systems</i>
<u>B62D 5/08</u>	<i>Vehicle power-assisted steering characterised by the type of valve used</i>
<u>B63B 7/00,</u> <u>B63C 9/00</u>	<i>Arrangement of inflating valves for floatable life-saving equipment</i>
<u>B65D 47/04</u>	<i>Container closures with discharging valves</i>
<u>B65D 90/32</u>	<i>Safety valves for large containers</i>
<u>B65D 90/54</u>	<i>Gates or closures on large containers</i>
<u>B67C 3/28</u>	<i>Flow control devices for bottling liquids</i>
<u>B67D</u>	<i>Dispensing, delivering or transferring liquids</i>
<u>{C21B 9/12}</u>	<i>{Hot-blast valves for blast furnaces}</i>
<u>E02B 8/00</u>	<i>Details, e.g. valves, of barrages or weirs</i>
<u>E02B 13/02</u>	<i>Closures for irrigation conduits</i>
<u>{E03C 1/04}</u>	<i>{Water-basin installations specially adapted for wash-basins or baths}</i>
<u>{E03C 1/05}</u>	<i>{Arrangements on wash-basins for the remote control of taps}</i>
<u>E03D</u>	<i>Flushing valves for water-closets or urinals</i>
<u>{E03F 7/04}</u>	<i>{Valves for preventing return flow in sewer systems}</i>
<u>E05F 3/12</u>	<i>Valve arrangements in door closers</i>
<u>E21B 21/10</u>	<i>Valve arrangements in drilling-fluid circulation systems</i>
<u>E21B 34/00</u>	<i>Valve arrangements for boreholes or wells</i>
<u>{E21D 15/51}</u>	<i>{Arrangement of relief valves in hydraulic mine props}</i>
<u>F01B 25/10</u>	<i>Working-fluid valves for controlling machines or engines in general or of positive-displacement type</i>
<u>F01D 17/10</u>	<i>Final actuators for controlling non-positive displacement machines or engines</i>

<u>F01L</u>	Cyclically operated valves for machines or engines
<u>F02D 9/08</u>	Throttle valves for controlling combustion engines
<u>F02K 9/58</u>	Propellant feed valves for rocket-engines
<u>F02M</u>	Carburettors, fuel injection
<u>F02M 59/46</u>	Valves for fuel injection pumps
<u>F04</u>	Pumps
<u>F16F 9/34</u>	Valves for shock absorbers
<u>F16L 29/00,</u> <u>F16L 37/28</u>	Pipe joints or quick-acting couplings with fluid cut-off means
<u>F16L 55/00</u>	Arrangement of valves in pipes
<u>F16L 55/055</u>	Valves specially adapted to prevent or minimise the effect of water hammer
<u>F16L 55/46</u>	Launching devices for pigs or moles
<u>F16N 23/00</u>	Check valves for lubrication systems
{F16T}	{Draining-off liquids from steam traps}
<u>F17C 13/04</u>	Arrangement of valves in pressure vessels
<u>F22B 37/44</u>	Arrangement of safety valves on steam boilers
<u>F22D 5/34</u>	Application of valves to automatic water-feed in boiler
<u>F23L 13/00</u>	Valves for air supply control to burners
{F23Q 2/16}	{Valves for lighters with gaseous fuel and adjustable flame}
<u>F24C 3/12,</u> <u>F24C 5/16</u>	Arrangement of valves on stoves or ranges
<u>F24F</u>	Air conditioning; Ventilation
<u>F25B 41/04</u>	Disposition of fluid circulation valves in refrigeration machines
<u>G05D</u>	Controlling non-electric variables
<u>G10B 3/06</u>	Valves for organs
<u>G10D 9/04</u>	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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

<u>F16K 31/11</u>	covered by	<u>F16K 31/06, F16K 31/08,</u> <u>F16K 31/10</u>
<u>F16K 31/64</u>	covered by	<u>G05D</u>
<u>F16K 31/66</u>	covered by	<u>F16K 31/06 ; H01F</u>
<u>F16K 31/68</u>	covered by	<u>G05D</u>
<u>F16K 31/70</u>	covered by	<u>F16K 31/002</u>
<u>F16K 31/72</u>	covered by	<u>F16K 31/00</u>
F16K 31/11	covered by	F16K 31/06, F16K 31/08, F16K 31/10
F16K 31/64	" "	G05D
F16K 31/66	" "	F16K 31/06; H01F
F16K 31/68	" "	G05D
F16K 31/70	" "	F16K 31/002
F16K 31/72	" "	F16K 31/00

U F16K 13/00

Other constructional types of cut-off apparatus (means for plugging pipes or hoses [F16L 55/10](#)); Arrangements for cutting-off

- F16K 13/04 • {with a breakable closure member}
- F16K 13/06 • • {constructed to be ruptured by an explosion}

F16K 19/00

{Arrangements of valves and flow lines specially adapted for mixing fluids (multiple-way valves [F16K 11/00](#))}

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.
<u>A61M 39/00</u>	Tube connectors, tube couplings or branch units, specially adapted for medical use
<u>B05B 1/20</u>	Perforated pipes
<u>{B60T 17/04}</u>	{Arrangement of piping or air hoses in brake systems}
<u>B63B 35/03</u>	Pipe-laying vessels
<u>B64D 39/04</u>	Adaptation of hose constructions for refuelling aircraft during flight
<u>{B65G 51/00}</u>	{Conveying articles through pipes or tubes by fluid flow or pressure}
<u>{B65G 53/00}</u>	{Conveying materials in bulk through pipes or tubes}
<u>B67D 7/38</u>	Arrangements of hoses in apparatus for transferring liquids, e.g. fuel, from bulk to vehicles or portable containers
<u>E01D 19/10</u>	Fastening of pipes or cables to bridges
<u>E03B</u>	Water supply installations
<u>E03D 11/17</u>	Means for connecting water-closet bowls to the flushing pipe
<u>E03D 11/18</u>	Siphons for water-closets
<u>E03F 3/04</u>	Pipes or fittings specially adapted to sewers
<u>E04D 13/08</u>	Down pipes for roof drainage; Clamping means therefor
<u>E04F 17/00</u>	Vertical ducts, channels in buildings, e.g. chimneys
<u>E21F 1/04</u>	Air ducts for ventilation of mines or tunnels; Connections therefor
<u>E21F 17/02</u>	Suspension devices for tubes or the like in mines or tunnels
<u>F01N</u>	Gas flow silencers or exhaust apparatus for machines or engines
<u>{F16B 7/00}</u>	{Connections of rods or tubes}
<u>F16N 21/00</u>	Conduits, junctions for lubrication systems
<u>F17C 3/02</u>	Thermal insulation of vessels not under pressure for storing liquefied or solidified gases, e.g. Dewar flask
<u>{F17D}</u>	{Pipe-line systems, pipe-lines}
<u>F22B 37/10</u>	Water tubes of steam boilers
<u>F23J 13/04</u>	Joints, connections for chimneys or flues
<u>F24H 9/12</u>	Connecting circulation pipes to heaters
<u>F28F 9/04</u>	Arrangements for sealing elements into header boxes or end plates of heat-exchangers
<u>G21C 15/22</u>	Structural association of coolant tubes with headers or other pipes in nuclear reactors
<u>H02G 3/04</u>	Protective tubing or conduits for electric cables
<u>H02G 3/26</u>	Installations of electric cables or lines, or protective tubing on or in walls, ceilings or floors.

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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.~~

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

<i>F16L 3/21</i>	<i>covered by</i>	<i>F16L 3/2053, F16L 3/2056 ;</i>
<i>F16L 13/013</i>	<i>covered by</i>	<i>F16L 13/007 ;</i>
<i>F16L 19/03</i>	<i>covered by</i>	<i>F16L 19/0212 ;</i>
<i>F16L 59/05</i>	<i>covered by</i>	<i>F16L 59/021 .</i>

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.
<u>B21B 31/02</u>	<u>Metal-rolling stand frames</u>
<u>G01D 11/30</u>	<u>Supports specially adapted for indicating or recording instruments.</u>

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.
<u>A01D 69/12</u>	<u>Lubrication of harvesters;</u>
<u>B21J 3/00</u>	<u>Lubricating during forging or pressing;</u>
<u>B25D 17/26</u>	<u>Lubricating of portable power-driven percussive tools;</u>
<u>B60R 17/00</u>	<u>Arrangements or adaptations of lubricating systems or devices in vehicles;</u>
<u>B61C 17/08</u>	<u>Lubrication systems for railway locomotives;</u>
<u>B62D 55/092</u>	<u>Vehicle endless-track units with lubrication means;</u>
<u>D04B 35/28</u>	<u>Devices for lubricating knitting machine parts;</u>
<u>E05B 17/08</u>	<u>Lubricating devices for locks;</u>
<u>E05D 11/02</u>	<u>Lubricating arrangements for hinges;</u>
<u>E21B 10/22</u>	<u>Lubricating details of roller drill bits for earth; drilling.</u>

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—.~~

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.

Project: N/A (F21H)**U F21H 1/00**

F21H 1/04

Incandescent mantles; Selection of imbibition liquids therefor

- {Suspension devices therefor (for attaching the mantle on the housing of a lamp [F21V 19/06](#))}

Project: N/A (F21K)

F21K

LIGHT SOURCES NOT OTHERWISE PROVIDED FORNOTE

In this subclass, it is desirable to add the indexing codes of subclasses [F21W](#) and [F21Y](#).

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

<i>F21K 5/04</i>	<i>covered by</i>	<i>G03B 15/0457;</i>
<i>F21K 5/06</i>	<i>covered by</i>	<i>G03B 15/0442;</i>
<i>F21K 5/08</i>	<i>covered by</i>	<i>F21K 5/02, G03B 15/0442;</i>
<i>F21K 5/10</i>	<i>covered by</i>	<i>G03B 15/0442;</i>
<i>F21K 5/12</i>	<i>covered by</i>	<i>F21K 5/023;</i>
<i>F21K 5/14</i>	<i>covered by</i>	<i>F21K 5/026, G03B 15/0489;</i>
<i>F21K 5/16</i>	<i>covered by</i>	<i>G03B 15/0452;</i>
<i>F21K 5/18</i>	<i>covered by</i>	<i>G03B 15/0452;</i>
<i>F21K 5/20</i>	<i>covered by</i>	<i>G03B 15/0447;</i>
<i>F21K 5/22</i>	<i>covered by</i>	<i>G03B 15/0442.</i>

~~F21K 5/04 covered by G03B 15/0457;~~
~~F21K 5/06 covered by G03B 15/0442;~~
~~F21K 5/08 covered by F21K 5/02, G03B 15/0442;~~
~~F21K 5/10 covered by G03B 15/0442;~~
~~F21K 5/12 covered by F21K 5/023;~~
~~F21K 5/14 covered by F21K 5/026, G03B 15/0489;~~
~~F21K 5/16 covered by G03B 15/0452;~~
~~F21K 5/18 covered by G03B 15/0452;~~
~~F21K 5/20 covered by G03B 15/0447;~~
~~F21K 5/22 covered by G03B 15/0442.~~

U F21K 5/00**Light sources using a charge of combustible material, e.g. illuminating flash devices**

F21K 5/02

- {ignited in a non-disrupting container, e.g. photo-flash bulb}

Project: N/A (F21L)

F21L 2001/00

{Portable electric lighting devices employing point-like light sources; Portable lighting devices employing light sources of unspecified shape, e.g. inspection lamps for mains connection}

F21L 2003/00

{Portable electric lighting devices employing linear light sources}

F21L 2005/00

{Portable electric lighting devices employing light sources of shapes not covered by group [F21L 2001/00](#) or [F21L 2003/00](#)}

F21L 7/00

{Torches or pocket-lamps with built-in batteries ([F21L 4/00](#) takes precedence)}

F21L 11/00

{Portable lighting devices with built-in batteries or accumulators, not covered by group [F21L 4/00](#) or [F21L 7/00](#), e.g. miners' hand-lamps}

F21L 15/00

{Details of kinds solely applicable to the devices covered by groups [F21L 2/00](#) - [F21L 14/00](#)}

F21L 15/02

- {concerned with light emission or distribution}

F21L 15/04

- {Arrangements of coloured filters or screens}

- F21L 15/06 • {concerned with the fitting}
- F21L 15/08 • • {Supporting and suspending elements}
- F21L 15/10 • • • {without arrangements for adjustment}
- F21L 15/14 • • • • {Clips; Clamps; Head fittings (for medical purposes [A61B 1/06](#))}
- F21L 25/00** **{Details of kinds solely applicable to the devices covered by groups [F21L 17/00](#) - [F21L 23/00](#)}**

Project: N/A (F21V)**F21V****DETAILS OF LIGHTING DEVICES, OF GENERAL APPLICATION**NOTES

1. Groups [F21V 1/00-F21V 14/00](#) cover aspects related to light emission or distribution. Groups [F21V 15/00-F21V 31/00](#) cover aspects not related to light emission or distribution.
2. Details of non-electric lighting devices or systems are classified in groups [F21V 35/00-F21V 37/00](#) only if a special adaptation related to the use of a non-electric light source is of interest.
3. In this subclass, it is desirable to add the indexing codes of subclasses [F21W](#) and [F21Y](#)

WARNING

The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups:

F21V 8/00	covered by	G02B 6/00
F21V 8/00	covered by	G02B 6/00

Project: N/A (F23B)**F23B 1/00****{Combustion apparatus using only lump fuel}**

- F23B 1/02 • {for indirect heating of a medium in a vessel, e.g. for boiling water (steam generation [F22](#))}
- F23B 1/04 • • {External furnaces, i.e. with furnace in front of the vessel}
- F23B 1/06 • • • {for heating water-tube boilers, e.g. Tenbrink flue furnaces}
- F23B 1/08 • • {Internal furnaces, i.e. with furnaces inside the vessel}
- F23B 1/10 • • • {for heating locomotive boilers}
- F23B 1/12 • • {with a plurality of combustion chambers}
- F23B 1/16 • {the combustion apparatus being modified according to the form of grate or other fuel support {(for incinerators [F23G 5/002](#))}
- F23B 1/18 • • {using inclined grate}
- F23B 1/20 • • {using step-type grate}
- F23B 1/22 • • {using travelling grate}
- F23B 1/24 • • {using rotating grate}
- F23B 1/26 • • {using imperforate fuel supports}
- F23B 1/28 • • {using ridge-type grate, e.g. for combustion of peat, sawdust, or pulverulent fuel {(combustion of peat, sawdust [F23G 7/10](#))}
- F23B 1/30 • {characterised by the form of combustion chamber}
- F23B 1/32 • • {rotating}
- F23B 1/34 • • {annular}
- F23B 1/36 • • {shaft-type}

- F23B 1/38
- • {for combustion of peat, sawdust, or pulverulent fuel on a grate or other fuel support {(combustion of peat, sawdust [F23G 7/10](#))}}
- F23B 3/00** {Combustion apparatus which is portable or removable with respect to the boiler or other apparatus which is heated}
- F23B 5/00** {Combustion apparatus with arrangements for burning uncombusted material from primary combustion {(combustion apparatus characterised by the combination of two or more combustion chambers [F23C 6/00](#); the primary combustion being pulverulent fuel [F23C 9/003](#))}}
- F23B 5/02
- {in main combustion chamber}
- F23B 5/04
- {in separate combustion chamber; on separate grate}
- F23B 7/00** {Combustion techniques; Other solid-fuel combustion apparatus}

Project: MP0199 (F23G)

- U F23G 2900/00** **Special features of, or arrangements for incinerators**
- U F23G 2900/508
- Providing additional energy for combustion, e.g. by using supplementary heating
- M F23G 2900/50801
- using the heat from externally heated bodies, e.g. steel balls

Project: N/A (F23G)

- U F23G 2900/50802
- • using solid propellant
- U F23G 2900/50803
- • using solar energy
- U F23G 2900/50804
- • using thermit or other compositions of metal oxides as auxiliary fuel
- U F23G 2900/51001
- • using arc discharge electrodes to provide heat

Project: MP0115 (F24F)

- 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 13/0209
- • {characterised by their connecting **means**, e.g. flanges}

Project: N/A (F25B)

- U F25B 2341/00** **Details of ejectors not being used as compression device; Details of flow restrictors or expansion valves**
- U F25B 2341/06
- Details of flow restrictors or expansion valves
- U F25B 2341/065
- • Electric expansion valves
- F25B 2341/0652
- • • being opened and closed cyclically, **e.g.** with pulse width modulation
- U F25B 2700/00** **Sensing or detecting of parameters; Sensors therefor**
- U F25B 2700/11
- Sensor to detect if defrost is necessary
- F25B 2700/111
- • using an emitter and receiver, e.g. sensing by emitting light or other radiation and receiving reflection by a sensor

Project: N/A (F25D)

- U F25D 2303/00** **{Details of devices using other cold materials; Details of devices using cold-storage bodies}**
- U F25D 2303/08
- Devices using cold storage material, i.e. ice or other freezable liquid
- F25D 2303/082
- • disposed in a cold storage element not forming part of a container for products to be cooled, e.g. ice pack or gel accumulator

Project: N/A (F25J)

- U F25J 2205/00** **Processes or apparatus using other separation and/or other processing means (not used)**
- U F25J 2205/30
F25J 2205/34
- using a washing, e.g. "scrubbing" or bubble column for purification purposes
 - • as evaporative cooling tower to produce chilled water, e.g. evaporative water chiller [EWC]

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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
<i>F26B 11/06</i>	<i>covered by</i>	<i>F26B 11/0486</i>
<i>F26B 13/02</i>	<i>covered by</i>	<i>F26B 13/10</i>
<i>F26B 13/04</i>	<i>covered by</i>	<i>F26B 13/10</i>
<i>F26B 13/20</i>	<i>covered by</i>	<i>F26B 13/104</i>
<i>F26B 23/08</i>	<i>covered by</i>	<i>F26B 3/343, F26B 3/347</i>

- U F26B 17/00** **Machines or apparatus for drying materials in loose, plastic, or fluidised form, e.g. granules, staple fibres, with progressive movement ([F26B 13/00](#) takes precedence; {feed or discharge arrangements [F26B 25/002](#)})**
- U F26B 17/18
F26B 17/22
F26B 17/26
- with movement performed by rotating helical blades or other rotary conveyors {which may be heated} moving materials in stationary chambers, {e.g. troughs}
 - • the axis of rotation being vertical or steeply inclined {([F26B 17/003](#) takes precedence-)}
 - with movement performed by reciprocating or oscillating conveyors propelling materials over stationary surfaces; with movement performed by reciprocating or oscillating shelves, sieves, or trays {([F26B 17/006](#) takes precedence-)}
- U F26B 21/00** **Arrangements {or duct systems, e.g. in combination with pallet boxes,} for supplying and controlling air or gases for drying solid materials or objects ({[F26B 9/10](#) takes precedence; systems for vehicle body drying [B60S 3/002](#)}; air conditioning or ventilation in general [F24F](#))**
- U F26B 21/02
F26B 21/04
- Circulating air or gases in closed cycles, e.g. wholly within the drying enclosure ([F26B 21/08](#), [F26B 21/14](#), {[F26B 23/022](#) take precedence)
 - • partly outside the drying enclosure {([F26B 21/006](#) takes precedence-)}

Project: N/A (F27B)

F27B

FURNACES, KILNS, OVENS, OR RETORTS IN GENERAL; OPEN SINTERING OR LIKE APPARATUSNOTE

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

The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups:-

~~F27B 1/09~~ covered by ~~F27B 1/08~~
~~F27B 5/05~~ " " ~~F27B 5/04~~
~~F27B 14/16, F27B 14/18~~ " " ~~F27B 14/0806~~
~~F27B 21/08 - F27B 21/14~~ " " ~~F27D~~

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

Project: N/A (F41C)

U F41C 7/00

Shoulder-fired smallarms, e.g. rifles, carbines, shotguns (specially adapted for underwater use [F41C 9/06](#))

F41C 7/12

- {Gallery rifles; Parlour rifles}

Project: N/A (F41G)

U F41G 1/00

Sighting devices (for indirect laying of fire [F41G 3/16](#); bombsights [F41G 3/24](#); {structurally associated with laser telemeters [F41G 3/065](#); mounting tubular or beam shaped aiming devices on firearms [F41G 11/001](#)})

F41G 1/42

- Tube sights; Bar sights; {Combinations of tubular fore and rearsights}

F41G 1/44

- Spirit-level adjusting means, e.g. for correcting tilt; {Means for indicating or correcting tilt or cant}

Project: N/A (F41J)

U F41J 3/00

Targets for arrows or darts, e.g. for sporting or amusement purposes {(targets for shooting or hurling games [A63F 9/0204](#))}

U F41J 3/0009

- {Dartboards}

U F41J 3/0061

- • {Target faces}

U F41J 3/0071

- • • {Non-conventional target faces}

F41J 3/0076

- • • • {Target faces simulating a different sport or game, e.g. g-football, billiard or rugby}

Project: N/A (F42B)

F42B

EXPLOSIVE CHARGES, e.g. FOR BLASTING, FIREWORKS, AMMUNITION (explosive compositions [C06B](#); fuzes [F42C](#); blasting [F42D](#))

WARNING

~~The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:~~

~~F42B 5/14 covered by F42B 12/40, A01K 11/00~~
~~F42B 19/10 " " F41G 7/24~~

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

<i>F42B 5/14</i>	<i>covered by</i>	<i>F42B 12/40, A01K 11/00</i>
<i>F42B 19/10</i>	<i>covered by</i>	<i>F41G 7/24</i>

Project: N/A (F42C)

U F42C 19/00

Details of fuzes (except F42C 15/00)

U F42C 19/08

• Primers (initiators for blasting cartridges [F42B 3/10](#); ignition means for rocket engine plants [F02K 9/95](#)); Detonators

F42C 19/0807

• {characterised by the particular configuration of the transmission channels from the priming energy source to the charge to be ignited, *e.g.* ~~g~~-multiple channels, nozzles, diaphragms or filters}

Project: MP0145 (G01B)

U G01B 9/00

Instruments as specified in the subgroups and characterised by the use of optical measuring means (arrangements for measuring particular parameters [G01B 11/00](#))

M G01B 9/02

• Interferometers {for determining dimensional properties of, or relations between, measurement objects}

WARNING

The subgroups G01B 9/02001 - G01B 9/02097 are not complete pending completion of a reorganization, provisionally see G01B 9/02

Project: N/A (G01C)

G01C 11/00

Photogrammetry or videogrammetry, e.g. stereogrammetry; Photographic surveying (cameras combined with surveying instruments, e.g. with theodolites, [G01C 1/00](#), [G01C 3/00](#), [G01C 5/00](#), [G01C 9/00](#); surveying cameras [G03B 37/00](#))

WARNING

The following IPC group is not used in the CPC scheme: Subject-matter covered by this group is classified in the following CPC groups: ~~G01C 11/36 covered by G01C 11/00 - G01C 11/34~~

<i>G01C 11/36</i>	<i>covered by</i>	<i>G01C 11/00-G01C 11/34</i>
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Project: MP0145 (G01D)

- U G01D 5/00** Mechanical means for transferring the output of a sensing member; 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; Transducers not specially adapted for a specific variable ([G01D 3/00](#) takes precedence; specially adapted for apparatus giving results other than momentary value of variable [G01D 1/00](#); sensing members, see the relevant subclasses, e.g. of [G01](#), [H01](#); for converting a single current or a single voltage into a mechanical displacement [G01R 5/00](#); specially adapted for high-voltage or high-current measuring arrangements [G01R 15/04](#), [G01R 15/14](#); measuring currents or voltages using digital measurement techniques [G01R 19/25](#); transmission systems for measured values, control or similar signals [G08C](#), e.g. electrical signals [G08C 19/00](#))

NOTE

The subgroups of this main group are distinguished by the means which is of major importance. Thus the mere application of other means for giving a final indication does not affect the classification.

- U G01D 5/26 · characterised by optical transfer means, i.e. using infra-red, visible, or ultra-violet light
- U G01D 5/32 · · with attenuation or whole or partial obturation of beams of light ([G01D 5/40](#) takes precedence; {mechanical adjustment [G01D 5/264](#)})
- U G01D 5/34 · · · the beams of light being detected by photocells
- U G01D 5/353 · · · · influencing the transmission properties of an optical fibre
- M G01D 5/35306 · · · · · {using an interferometer arrangement}

WARNING

This group and its subgroups are not complete pending reclassification; see also G01D 5/35303

- M G01D 5/3537 · · · · · {Optical fibre sensor using a particular arrangement of the optical fibre itself}

WARNING

This group and its subgroups are not complete pending reclassification; see also G01D 5/35303

Project: N/A (G01J)

- U G01J 3/00** Spectrometry; Spectrophotometry; Monochromators; Measuring colour
- U G01J 3/02 · Details
- G01J 3/0205 · · {Optical elements not provided otherwise, **ee.g.** ~~g-~~optical manifolds, diffusers, windows}
- G01J 3/0275 · · {making use of sensor-related data, **ee.g.** ~~g-~~for identification of sensor parts or optical elements}

Project: MP0145 (G01J)

- U G01J 3/12 · Generating the spectrum; Monochromators
- U G01J 3/18 · · using diffraction elements, e.g. grating (gratings per se [G02B](#))
- M G01J 3/22 · · · Littrow mirror spectrometers

WARNING

material provisionally in G01J 3/18

Project: N/A (G01L)

- U G01L 9/00** Measuring steady or quasi-steady pressure of a fluid or a fluent solid material by electric or magnetic pressure-sensitive elements **{(G01L 11/004 takes precedence)}**; Transmitting or indicating the displacement of mechanical pressure-sensitive elements, used to measure the steady or quasi-steady pressure of a fluid or fluent solid material by electric or magnetic means (measuring differences of two or more pressure values [G01L 13/00](#); measuring two or more pressure values simultaneously [G01L 15/00](#); vacuum gauges [G01L 21/00](#); transferring the output of the sensing member to the indicating or recording part in general [G01D 5/00](#))
- U G01L 9/0001 · {Transmitting or indicating the displacement of elastically deformable gauges by electric, electro-mechanical, magnetic or electro-magnetic means ([G01L 9/0026](#), [G01L 9/0033](#), [G01L 9/0082](#), [G01L 9/0089](#), [G01L 9/0091](#) take precedence)}
- U G01L 9/0008 · · {using vibrations}
- G01L 9/001 · · · {of an element not provided for in the following subgroups of [G01L 9/0008](#) (*not used*)}{*not used*}

Project: MP0145 (G01N)

- U G01N 15/00** Investigating characteristics of particles; Investigating permeability, pore-volume, or surface-area of porous materials (identification of micro-organisms [C12Q](#))
- U G01N 15/10 · Investigating individual particles
- U G01N 15/14 · · Electro-optical investigation, e.g. flow cytometers
- M G01N 15/1484 · · · {micro-structural devices}

WARNING

This group is incomplete; see provisionally also groups G01N 15/14, G01N 15/1404, G01N 15/1456 and related indexing codes

- U G01N 21/00** Investigating or analysing materials by the use of optical means, i.e. using infra-red, visible or ultra-violet light ([G01N 3/00-G01N 19/00](#) take precedence)

NOTE

This group does not cover the investigation of spectral properties of light per se, or measurements of the properties of materials where spectral properties of light are sensed and primary emphasis is placed on creating, detecting or analysing the spectrum providing that the properties of the materials to be investigated are of minor importance (see also Note (4) after the title of class [G01](#)). Those subjects are covered by group [G01J 3/00](#).

- U G01N 21/17 · Systems in which incident light is modified in accordance with the properties of the material investigated (where the material investigated is optically excited causing a change in wavelength of the incident light [G01N 21/63](#))
- U G01N 21/25 · · Colour; Spectral properties, i.e. comparison of effect of material on the light at two or more different wavelengths or wavelength bands
- U G01N 21/31 · · · Investigating relative effect of material at wavelengths characteristic of specific elements or molecules, e.g. atomic absorption spectrometry **{(G01N 21/72 takes precedence)}**
- U G01N 21/35 · · · using infra-red light ([G01N 21/39](#) takes precedence)

- M G01N 21/3577 for analysing liquids, e.g. polluted water
- WARNING
Group G01N 21/3577 is incomplete pending reclassification of documents from group G01N 21/35.
- Until reclassification is complete, groups G01N 21/3577 and G01N 21/35 should be considered in order to perform a complete search.
- U G01N 21/3581 using far infra-red light; using Terahertz radiation
- M G01N 21/3586 by Terahertz time domain spectroscopy [THz-TDS]
- WARNING
Group G01N 21/3586 is incomplete pending reclassification of documents from group(s) G01N 21/3581.
- Until reclassification is complete, groups G01N 21/3586 and G01N 21/3581 should be considered in order to perform a complete search.
- U G01N 21/62 . Systems in which the material investigated is excited whereby it emits light or causes a change in wavelength of the incident light
- U G01N 21/63 . . optically excited
- U G01N 21/64 . . . Fluorescence; Phosphorescence
- U G01N 21/6428 {Measuring fluorescence of fluorescent products of reactions or of fluorochrome labelled reactive substances, e.g. measuring quenching effects, using measuring "optrodes" (in vivo [A61B 5/00](#); immunoassay [G01N 33/53](#))}
- M G01N 21/643 {non-biological material}
- WARNING
Not complete, see G01N 21/6428
- M G01N 21/645 {Specially adapted constructive features of fluorimeters}
- WARNING
Not complete, see also G01N 21/6428 - G01N 21/6447
- M G01N 21/6452 {Individual samples arranged in a regular 2D-array, e.g. multiwell plates}
- WARNING
Not complete, see also G01N 21/6428 - G01N 21/645 and G01N 21/253
- M G01N 21/6454 {using an integrated detector array}
- WARNING
Not complete, see G01N 21/645
- M G01N 21/6456 {Spatial resolved fluorescence measurements; Imaging}
- WARNING
Not complete, see also G01N 21/6428 - G01N 21/6447

- M G01N 21/6458 {Fluorescence microscopy (fluorescence microscopes per se [G02B 21/0076](#) and [G02B 21/16](#))}
- WARNING**
~~Not complete, see also G01N 21/6428 - G01N 21/6447~~
- M G01N 21/648 {using evanescent coupling or surface plasmon coupling for the excitation of fluorescence}
- WARNING**
~~Not complete, see also G01N 21/553 and G01N 21/6428~~
- M G01N 21/6486 {Measuring fluorescence of biological material, e.g. DNA, RNA, cells ([G01N 21/6428](#) takes precedence)}
- WARNING**
~~Not complete, see also G01N 21/6428 - G01N 21/6447~~
- U G01N 21/65 . . . Raman scattering
- M G01N 21/658 {enhancement Raman, e.g. surface plasmons}
- WARNING**
~~Not complete, see G01N 21/65~~
- U G01N 23/00** Investigating or analysing materials by the use of wave or particle radiation not covered by [G01N 21/00](#) or [G01N 22/00](#), e.g. X-rays or neutrons ([G01N 3/00](#) - [G01N 17/00](#) take precedence; measuring stress in general [G01L 1/00](#); measurement of nuclear or X-radiation [G01T](#); introducing objects or materials into nuclear reactors, or removing them therefrom, or storing them after treatment therein [G21C](#); construction or operation of X-ray apparatus or circuits therefor [H05G](#))
- U G01N 23/02 . . by transmitting the radiation through the material
- U G01N 23/06 . . . and measuring the absorption
- U G01N 23/08 using electric detection means
- M G01N 23/083 the radiation being X-rays ([G01N 23/10](#) - [G01N 23/18](#) take precedence)
- WARNING**
~~Not complete, see also G01N 23/08~~
- M G01N 23/087 using polyenergetic X-rays
- WARNING**
~~Not complete, see also G01N 23/08~~
- U G01N 24/00** Investigating or analyzing materials by the use of nuclear magnetic resonance, electron paramagnetic resonance or other spin effects (arrangements or instruments for measuring magnetic resonance effects [G01R 33/20](#))
- U G01N 24/08 . . by using nuclear magnetic resonance ([G01N 24/12](#) takes precedence)
- M G01N 24/087 . . {Structure determination of a chemical compound, e.g. of a biomolecule such as a protein}
- WARNING**
~~Not complete pending reclassification, see also G01R 33/44~~

- M G01N 24/088
- {Assessment or manipulation of a chemical or biochemical reaction, e.g. verification whether a chemical reaction occurred or whether a ligand binds to a receptor in drug screening or assessing reaction kinetics}

WARNING

~~Not complete, see also G01R 33/44 and its subgroups~~

- U G01N 30/00
- Investigating or analysing materials by separation into components using adsorption, absorption or similar phenomena or using ion-exchange, e.g. chromatography (G01N 3/00 - G01N 29/00 take precedence; separation for the preparation or production of components B01D 15/00, B01D 53/02, B01D 53/14; solid sorbent compositions in general B01J 20/00; ion-exchange in general B01J 39/00 - B01J 49/00){or field flow fractionation (for preparation or production of components B01D 21/00, B01D 43/00, B01D 45/00 or B03C)}**

NOTE

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

- "conditioning" refers to the adjustment or control of environmental parameters, e.g. temperature or pressure.

- U G01N 30/02
- Column chromatography
- M G01N 30/48
- {Sorbent materials therefor}

WARNING

~~Groups G01N 30/48 and G01N 30/482 are no longer used for the classification of new documents as from September 1st, 2004. The backlog of these groups is being continuously reclassified to B01J 20/281 and subgroups~~

Project: N/A (G01N)

G01N 2570/00

Omics, e.g. proteomics, glycomics or lipidomics; Methods of analysis focusing on the entire complement of classes of biological molecules or subsets thereof, i.e. focusing on proteomes, glycomes or lipidomes

Project: MP0145 (G01P)

- U G01P 1/00
- Details of instruments**

- M G01P 1/06
- {Indicating or recording devices, e.g. for remote indication {(indicating or recording in general G01D; registering or indicating working conditions of vehicles G07C 5/00)}

WARNING

~~This group is no longer used for the classification of new documents from April 1, 2005. The backlog of this group is being continuously reclassified to G01P 1/07, and G01P 1/12 and s.gr.~~

- U G01P 3/00
- Measuring linear or angular speed; Measuring differences of linear or angular speeds (G01P 5/00 - G01P 11/00 take precedence; {direction and speed indication G01P 13/045}; counting mechanisms G06M)**

NOTE

The sub-groups of this group are distinguished by the method of measurement which is of major importance. Thus the mere application of other methods for giving a final indication does not affect the classification.

- U G01P 3/36
- Devices characterised by the use of optical means, e.g. using infra-red, visible, or ultra-violet light ([G01P 3/68](#) takes precedence; gyrometers using the Sagnac effect, i.e. rotation-induced shifts between counter-rotating electromagnetic beams [G01C 19/64](#))

- M G01P 3/363
- {by using a ring laser (ring lasers in general [H01S 3/083](#))}

WARNING

This group is no longer used for the classification of new documents from April 1, 2005. The backlog of this group is being continuously reclassified to [G01C 19/64](#) and s.gr.

Project: N/A (G01P)

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](#) and s.gr.

G01P 9/02

- {using rotary gyroscopes}

Project: MP0145 (G01P)

M G01P 9/04

- {using turn-sensitive devices with vibrating masses, e.g. tuning-fork}

WARNING

This group is not used in ECLA; its scope is covered by [G01C 19/56](#) and s.gr.

Project: MP0145 (G01R)

U G01R 15/00

Details of measuring arrangements of the types provided for in groups [G01R 17/00](#) - [G01R 29/00](#) and [G01R 33/00](#) - [G01R 35/00](#) (details of instruments [G01R 1/00](#); overload protection arrangements [G01R 1/36](#))

U G01R 15/14

- Adaptations providing voltage or current isolation, e.g. for high-voltage or high-current networks (instrument transformers [H01F 38/20](#); voltage dividers [G01R 15/04](#); {means for converting the output of a sensing member to another variable [G01D 5/00](#); visible signalling arrangements or devices [G08B 5/00](#); transmission systems for measured values [G08C 17/00](#), [G08C 23/00](#))

U G01R 15/146

- {Measuring arrangements for current not covered by other subgroups of [G01R 15/14](#), e.g. using current dividers, shunts, or measuring a voltage drop (if no voltage isolation is involved [G01R 1/203](#) or [G01R 19/0092](#))}

M G01R 15/148

- {involving the measuring of a magnetic field or electric field ([G01R 15/18](#), [G01R 15/20](#), [G01R 15/24](#), [G01R 15/26](#) take precedence)}

WARNING

Not complete pending reorganization; see also [G01R 15/20](#)

U G01R 22/00

Arrangements for measuring time integral of electric power or current, e.g. by electricity meters {(electromechanical arrangements therefor [G01R 11/00](#); monitoring electric consumption of electrically-propelled vehicles [B60L 3/00](#); coin freed devices [G07F 15/00](#))}

NOTE

An arrangement for measuring time integral of electric power is classified in group [G01R 21/00](#) if the essential characteristic is the measuring of electric power.

- M G01R 22/06
- by electronic methods
- WARNING**
IPC8 group G01R 22/06 and subgroups, introduced in the CPC scheme in September 2004, might be temporarily incomplete as a number of documents presently classified in group G01R 22/00 needs reclassification to these IPC groups
- U G01R 22/061
- {Details of electronic electricity meters}
- M G01R 22/066
- • {Arrangements for avoiding or indicating fraudulent use}
- WARNING**
Not complete pending reorganization; see also G01R 11/24
- M G01R 22/068
- • {Arrangements for indicating or signaling faults}
- WARNING**
Not complete pending reorganization; see also G01R 11/25
- U G01R 29/00**
- Arrangements for measuring or indicating electric quantities not covered by groups [G01R 19/00](#) - [G01R 27/00](#)**
- U G01R 29/02
- Measuring characteristics of individual pulses, e.g. deviation from pulse flatness, rise time, duration (of amplitude [G01R 19/00](#); of repetition rate [G01R 23/00](#); of phase difference of two cyclic pulse trains [G01R 25/00](#); monitoring pattern of pulse trains [H03K 5/19](#))
- M G01R 29/023
- {Measuring pulse width}
- WARNING**
This group is incomplete pending a reorganisation. See also G01R 29/02 and G01R 29/0273

Project: N/A (G01R)

- U G01R 33/00**
- Arrangements or instruments for measuring magnetic variables**
- G01R 33/02
- Measuring direction or magnitude of magnetic fields or magnetic flux ([G01R 33/20](#) takes precedence; measuring direction or magnitude of the earth's field for navigation or surveying [G01C](#); for prospecting, for measuring the magnetic field of the earth [G01V 3/00](#))
- NOTE**
Groups [G01R 33/022](#), [G01R 33/10](#) take precedence over groups [G01R 33/025](#) - [G01R 33/09](#).

Project: MP0145 (G01R)

- U G01R 33/20
- involving magnetic resonance (medical aspects [A61B 5/055](#); magnetic resonance gyrometers [G01C 19/00](#) {investigating materials using NMR [G01N 24/00](#); prospecting or detecting using NMR [G01V 3/00](#)})
- U G01R 33/24
- • for measuring direction or magnitude of magnetic fields or magnetic flux
- M G01R 33/243
- • {Spatial mapping of the polarizing magnetic field}
- WARNING**
Not complete pending reclassification, see also G01R 33/44
- M G01R 33/246
- • {Spatial mapping of the RF magnetic field B1}
- WARNING**
Not complete pending reclassification, see also G01R 33/44

- M G01R 33/28
- Details of apparatus provided for in groups [G01R 33/44](#) - [G01R 33/64](#)
- WARNING**
Groups ~~G01R 33/281~~ - ~~G01R 33/288~~ are not complete pending reclassification. See also this group
- U G01R 33/32
- Excitation or detection systems, e.g. using radio frequency signals
- M G01R 33/323
- {Detection of MR without the use of RF or microwaves, e.g. force-detected MR, thermally detected MR, MR detection via electrical conductivity, optically detected MR}
- WARNING**
Not complete pending reclassification, see also [G01R 33/36](#)
- U G01R 33/36
- Electrical details, e.g. matching or coupling of the coil to the receiver
- M G01R 33/3607
- {RF waveform generators, e.g. frequency generators, amplitude-, frequency- or phase modulators or shifters, pulse programmers, digital to analog converters for the RF signal, means for filtering or attenuating of the RF signal}
- WARNING**
Not complete pending reclassification, see also [G01R 33/36](#)
- M G01R 33/3642
- {Mutual coupling or decoupling of multiple coils, e.g. decoupling of a receive coil from a transmission coil, or intentional coupling of RF coils, e.g. for RF magnetic field amplification}
- WARNING**
Not complete pending reclassification, see also [G01R 33/36](#)
- M G01R 33/3664
- {Switching for purposes other than coil coupling or decoupling, e.g. switching between a phased array mode and a quadrature mode, switching between surface coil modes of different geometrical shapes, switching from a whole body reception coil to a local reception coil or switching for automatic coil selection in moving table MR or for changing the field-of-view ([G01R 33/3671](#) takes precedence)}
- WARNING**
Not complete pending reclassification, see also [G01R 33/36](#)
- M G01R 33/3678
- {involving quadrature drive or detection, e.g. a circularly polarized RF magnetic field}
- WARNING**
Not complete pending reclassification, see also [G01R 33/36](#)
- M G01R 33/3685
- {Means for reducing sheath currents, e.g. RF traps, baluns}
- WARNING**
Not complete pending reclassification, see also [G01R 33/36](#)
- U G01R 33/38
- Systems for generation, homogenisation or stabilisation of the main or gradient magnetic field
- U G01R 33/385
- using gradient magnetic field coils
- M G01R 33/3852
- {Gradient amplifiers; means for controlling the application of a gradient magnetic field to the sample, e.g. a gradient signal synthesizer}
- WARNING**
Not complete pending reclassification, see also [G01R 33/385](#)

- M G01R 33/44
- • using nuclear magnetic resonance [NMR] ([G01R 33/24](#), [G01R 33/62](#) take precedence)
- WARNING**
Groups ~~G01R33/44B~~ – ~~G01R 33/443~~ are not complete pending reclassification. See also this group
- M G01R 33/443
- • • {Assessment of an electric or a magnetic field, e.g. spatial mapping, determination of a B0 drift or dosimetry}
- WARNING**
Groups ~~G01R 33/243~~ – ~~G01R 33/246~~ are not complete pending reclassification. See also this group
- M G01R 33/446
- • • {Multifrequency selective RF pulses, e.g. multinuclear acquisition mode (spatially selective RF pulses [G01R 33/4833](#))}
- WARNING**
~~Not complete pending reclassification, see also G01R 33/48~~
- M G01R 33/448
- • • {Relaxometry, i.e. quantification of relaxation times or spin density ([G01R 33/50](#) takes precedence)}
- WARNING**
~~Not complete pending reclassification, see also G01R 33/44 and G01R33/44A~~
- U G01R 33/48
- • • NMR imaging systems
- U G01R 33/4808
- • • • {Multimodal MR, e.g. MR combined with positron emission tomography [PET], MR combined with ultrasound or MR combined with computed tomography [CT]}
- M G01R 33/481
- • • • • {MR combined with positron emission tomography [PET] or single photon emission computed tomography [SPECT]}
- WARNING**
~~Not complete pending reclassification, see also G01R 33/4808~~
- M G01R 33/4812
- • • • • {MR combined with X-ray or computed tomography [CT]}
- WARNING**
~~Not complete pending reclassification, see also G01R 33/4808~~
- M G01R 33/4814
- • • • • {MR combined with ultrasound}
- WARNING**
~~Not complete pending reclassification, see also G01R 33/4808~~
- U G01R 33/4818
- • • • • {MR characterised by data acquisition along a specific k-space trajectory or by the temporal order of k-space coverage, e.g. centric or segmented coverage of k-space}
- U G01R 33/4824
- • • • • • {using a non-Cartesian trajectory}
- M G01R 33/4826
- • • • • • • {in three dimensions}
- WARNING**
~~Not complete pending reclassification, see also G01R 33/4818~~
- U G01R 33/483
- • • • • with selection of signals or spectra from particular regions of the volume, e.g. in vivo spectroscopy
- U G01R 33/4833
- • • • • • {using spatially selective excitation of the volume of interest, e.g. selecting non-orthogonal or inclined slices}

- M G01R 33/4836 {using an RF pulse being spatially selective in more than one spatial dimension, e.g. a 2D pencil-beam excitation pulse}
WARNING
 Not complete pending reclassification, see also G01R 33/4833
- U G01R 33/54 Signal processing systems, e.g. using pulse sequences, {Generation or control of pulse sequences (in general [H03K](#)); Operator Console}
- M G01R 33/543 {Control of the operation of the MR system, e.g. setting of acquisition parameters prior to or during MR data acquisition, dynamic shimming, use of one or more scout images for scan plane prescription ([G01R 33/546](#) takes precedence)}
WARNING
 Not complete pending reclassification, see also G01R 33/54
- U G01R 33/56 Image enhancement or correction, e.g. subtraction or averaging techniques, {e.g. improvement of signal-to-noise ratio and resolution (image data processing in general [G06T](#))}
- M G01R 33/5607 {by reducing the NMR signal of a particular spin species, e.g. of a chemical species for fat suppression, or of a moving spin species for black-blood imaging}
WARNING
 Not complete pending reclassification, see also G01R 33/56
- M G01R 33/5608 {Data processing and visualization specially adapted for MR, e.g. for feature analysis and pattern recognition on the basis of measured MR data, segmentation of measured MR data, edge contour detection on the basis of measured MR data, for enhancing measured MR data in terms of signal-to-noise ratio by means of noise filtering or apodization, for enhancing measured MR data in terms of resolution by means for deblurring, windowing, zero filling, or generation of gray-scaled images, colour-coded images or images displaying vectors instead of pixels (image data processing or generation, in general [G06T](#))}
WARNING
 Not complete pending reclassification, see also G01R 33/56
- U G01R 33/563 of moving material, e.g. flow contrast angiography
- U G01R 33/56375 {Intentional motion of the sample during MR, e.g. moving table imaging}
- M G01R 33/56383 {involving motion of the sample as a whole, e.g. multistation MR or MR with continuous table motion}
WARNING
 Not complete pending reclassification, see also G01R 33/56375
- M G01R 33/56391 {involving motion of a part of the sample with respect to another part of the sample, e.g. MRI of active joint motion}
WARNING
 Not complete pending reclassification, see also G01R 33/563
- U G01R 33/565 Correction of image distortions, e.g. due to magnetic field inhomogeneities

- M G01R 33/56545 {caused by finite or discrete sampling, e.g. Gibbs ringing, truncation artefacts, phase aliasing artefacts}
WARNING
~~Not complete pending reclassification, see also G01R 33/565~~
- M G01R 33/5659 {caused by a distortion of the RF magnetic field, e.g. spatial inhomogeneities of the RF magnetic field ([G01R 33/56509](#), [G01R 33/56518](#), [G01R 33/56536](#) take precedence)}
WARNING
~~Not complete pending reclassification, see also G01R 33/565~~
- U G01R 33/58 Calibration of imaging systems, e.g. using test probes {, Phantoms; Calibration objects or fiducial markers such as active or passive RF coils surrounding an MR active material}
- M G01R 33/583 {Calibration of signal excitation or detection systems, e.g. for optimal RF excitation power or frequency ([G01R 33/246](#) takes precedence)}
WARNING
~~Not complete pending reclassification, see also G01R 33/58~~
- M G01R 33/586 {for optimal flip angle of RF pulses}
WARNING
~~Not complete pending reclassification, see also G01R 33/58~~

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

- 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.
- Attention is drawn to the Notes following the title of class [G01](#) and to Note (1) following the title of subclass [G09B](#).

WARNING

-The following IPC group is not used in the CPC scheme. Subject matter covered by this group is classified in the following CPC groups:

~~G01S 7/26 covered by G01S 7/06~~

[G01S 7/26](#) covered by [G01S 7/06](#)

- U G01S 7/00** Details of systems according to groups [G01S 13/00](#), [G01S 15/00](#), [G01S 17/00](#) {(apparatus for measuring unknown time-intervals by electronic means, e.g. Vernier method [G04F 10/00](#))}
- U G01S 7/02
G01S 7/36
- of systems according to group [G01S 13/00](#)
 - • Means for anti-jamming (in general [H04K 3/00](#)){, e.g. ECCM, i.e. electronic counter-counter measures (for irregular PRF see also [G01S 13/22](#), [G01S 13/528](#); for frequency agility of carrier wave see also [G01S 13/24](#); [G01S 7/2813](#) takes precedence-; random interference pulse cancellers [G01S 7/2928](#); identification of radar jamming signals [G01S 7/021](#))}

Project: MP0145 (G01T)

- U G01T 1/00** Measuring X-radiation, gamma radiation, corpuscular radiation, or cosmic radiation ([G01T 3/00](#), [G01T 5/00](#) take precedence)
- U G01T 1/16
- Measuring radiation intensity ([G01T 1/29](#) takes precedence; {self-powered detectors [G01T 3/006](#); using an ionisation chamber filled with a liquid or solid, e.g. frozen liquid, dielectric [G01T 3/008](#)})
- U G01T 1/20
- • with scintillation detectors
- M G01T 1/201
- • • {using scintillating fibres}
- WARNING**
Not complete, see also [G01T 1/2992](#)
- M G01T 1/2012
- • • {using stimuable phosphors, e.g. stimuable phosphor sheets}
- WARNING**
This group and subgroups are not complete pending reclassification; see also group [G01T 1/2992](#)

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~[G01V 3/11](#)~~ covered by ~~[G01V 3/101](#)~~, ~~[G01V 3/104](#)~~
[G01V 3/11](#) covered by [G01V 3/101](#), [G01V 3/104](#)

Project: MP0145 (G01V)

M G01V 5/00 **Prospecting or detecting by the use of nuclear radiation, e.g. of natural or induced radioactivity (determining the properties of materials [G01N](#); measuring nuclear radiation [G01T](#))**

WARNING

Pending reclassification, the subgroups of this group are not complete; see also this group

Project: RP0148 (G01V)

U G01V 5/0008 • {Detecting hidden objects, e.g. weapons, explosives (sorting of materials or articles according to radioactive properties [B07C 5/342](#); investigating or analysing materials by the use of wave or particle radiation [G01N 23/00](#))}

C G01V 5/0016 • • {Active interrogation, i.e. using an external radiation source, e.g. using pulsed, continuous or cosmic rays}

WARNING

Group [G01V 5/0016](#) is impacted by reclassification into group [G01V 5/0069](#). Groups [G01V 5/0016](#) and [G01V 5/0069](#) should be considered in order to perform a complete search.

U G01V 5/0066 • • • {having relative motion between the source, detector and object other than by conveyor ([G01V 5/005](#) takes precedence)}

N G01V 5/0069 • • • {Measuring induced radiation, e.g. thermal neutron activation analysis (investigating or analysing materials by the use of neutrons [G01N 23/222](#))}

WARNING

Group [G01V 5/0069](#) is incomplete pending reclassification of documents from group [G01V 5/0016](#).

Groups [G01V 5/0016](#) and [G01V 5/0069](#) should be considered in order to perform a complete search.

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

The following IPC groups are not used in the CPC classification system. Subject matter covered by these groups is classified in the CPC groups:

~~G02B 11/00 – G02B 11/34 covered by G02B 9/00 and subgroups and G02B 13/00 and subgroups~~

G02B 11/00 - G02B 11/34 covered by G02B 9/00 and subgroups and G02B 13/00 and subgroups

- U G02B 5/00** **Optical elements other than lenses (light guides [G02B 6/00](#); optical logic elements [G02F 3/00](#))**
- U G02B 5/18
 - Diffraction gratings {(holographic optical elements [G02B 5/32](#), [G03H](#); integrally combined with optical fibres [G02B 6/02057](#); for coupling light guides [G02B 6/34](#); integrally combined with optical integrated light guides [G02B 6/12](#); grating systems [G02B 27/44](#)}
- U G02B 5/1847
 - {Manufacturing methods}
- G02B 5/1857
 - • {using exposure or etching means, *ee.g.* ~~g~~-holography, photolithography, exposure to electron or ion beams}
- G02B 5/32
 - ~~{Birefringent or phase-retarding Holograms used as optical elements (G02B 5/3008, G02B 5/3016 take precedence; systems for polarisation control G02B 27/286; manufacturing phase-modulating patterns by lithographic processes G03F 7/001)}~~
- U G02B 6/00** **Light guides**
- U G02B 6/10
 - of the optical waveguide type ([G02B 6/02](#), [G02B 6/24](#) take precedence; devices or arrangements for the control of light by electric, magnetic, electro-magnetic or acoustic means [G02F 1/00](#); transferring the modulation of modulated light [G02F 2/00](#); optical logic elements [G02F 3/00](#); optical analogue/digital converters [G02F 7/00](#); stores using opto-electronic devices [G11C 11/42](#), {using electro-optical elements [G11C 13/047](#)}; electric waveguides [H01P](#); transmission of information by optical means [H04B 10/00](#); multiplex systems [H04J 14/00](#))
- U G02B 6/12
 - • of the integrated circuit kind (production or processing of single crystals [C30B](#); electric integrated circuits [H01L 27/00](#) {coupling fibres and integrated optical circuits [G02B 6/30](#)})
- U G02B 2006/12035
 - • • {Materials}
- G02B 2006/12038
 - • • • {Glass (~~Si~~~~2~~~~Si~~~~O~~~~2~~ based materials)}
- G02B 2006/1204
 - • • • {Lithium niobate (~~Li~~~~Nb~~~~03~~~~Li~~~~Nb~~~~O~~~~3~~)}
- G02B 2006/12042
 - • • • {Potassium niobate (~~KNb~~~~03~~~~KNb~~~~O~~~~3~~)}
- G02B 2006/12054
 - • • • {Tantalum pentoxide (~~Ta~~~~205~~~~Ta~~~~2~~~~O~~~~5~~)}
- G02B 2006/12057
 - • • • {Niobium pentoxide (~~Nb~~~~205~~~~Nb~~~~2~~~~O~~~~5~~)}
- G02B 2006/12059
 - • • • {Titanium niobate (~~Ti~~~~Nb~~~~03~~~~Ti~~~~Nb~~~~PO~~~~3~~)}
- U G02B 6/13
 - • • Integrated optical circuits characterised by the manufacturing method
- G02B 6/131
 - • • • {by using epitaxial growth (epitaxial growth for semiconductors [H01L 21/02365](#))}
- U G02B 6/24
 - Coupling light guides (for electric waveguides [H01P 1/00](#))
- U G02B 6/26
 - • Optical coupling means ([G02B 6/36](#), [G02B 6/42](#) take precedence)
- U G02B 6/28
 - • • having data bus means, i.e. plural waveguides interconnected and providing an inherently bidirectional system by mixing and splitting signals

- U G02B 6/2804 {forming multipart couplers without wavelength selective elements, e.g. "T" couplers, star couplers}
- U G02B 6/2821 {using lateral coupling between contiguous fibres to split or combine optical signals}
- G02B 6/2826 {using mechanical machining means for shaping of the couplers, e.g. grinding or polishing (grinding-, polishing in general [B24](#))}

Project: MP0145 (G02B)

- U G02B 6/35 having switching means (optical switching in general [G02B 26/08](#); by changing the optical properties of the medium [G02F 1/00](#))
- M G02B 6/3586 {Control or adjustment details, e.g. calibrating (testing optical equipment [G01M 11/00](#))}

WARNING

The scope of this group has been changed: for rotating, tilting or pivoting the waveguides, or with the waveguides describing a curved path see [G02B 6/3504](#)

Project: N/A (G02B)

- U G02B 6/42 Coupling light guides with opto-electronic elements
- NOTE**
- In this group, the following expression is used with the meaning indicated:
- "opto-electronic elements" includes light emitting elements, e.g. lasers or LED's, as well as light receiving elements, e.g. photodiodes or phototransistors
- U G02B 6/4201 {Packages, e.g. shape, construction, internal or external details}
 - G02B 6/4248 {Feed-through connections for the hermetical passage of fibres through a package wall}; (see provisionally also [G02B 6/4428](#))}

Project: MP0145 (G02B)

- U G02B 17/00 **Systems with reflecting surfaces, with or without refracting elements (microscopes [G02B 21/00](#); telescopes, periscopes [G02B 23/00](#); for beam splitting or combining [G02B 27/10](#); for optical projection [G02B 27/18](#))**

- U G02B 17/02 Catoptric systems, e.g. image erecting and reversing system
- U G02B 17/06 using mirrors only {, i.e. having only one curved mirror (used in non-imaging applications [G02B 19/00](#))}
- M G02B 17/0668 {having non-imaging properties}

WARNING

This group and subgroups are no longer used for the classification of new documents as from May 1, 2012. The backlog is being continuously classified to [G02B 19/00](#) and subgroups

- U G02B 17/08 Catadioptric systems {(used in non-imaging applications [G02B 19/00](#))}
- M G02B 17/0864 {having non-imaging properties}

WARNING

This group and subgroups are no longer used for the classification of new documents as from May 1, 2012. The backlog is being continuously classified to [G02B 19/00](#) and subgroups

- M G02B 19/00** Condensers, {e.g. light collectors or similar non-imaging optics} (for microscopes [G02B 21/08](#))
- WARNING**
This group and subgroups are not complete pending reclassification, see [G02B 17/0668](#) and subgroups
- U G02B 21/00** Microscopes (eyepieces [G02B 25/00](#); polarising systems [G02B 27/28](#); measuring microscopes [G01B 9/04](#); microtomes [G01N 1/06](#); scanning-probe techniques or apparatus [G01Q](#))
- U G02B 21/0004 · {specially adapted for specific applications}
- M G02B 21/0092 · · {Polarisation microscopes}
- WARNING**
Not complete, see also other subgroups of [G02B 21/00](#)
- U G02B 27/00** Other optical systems; Other optical apparatus (means for bringing about special optical effects in shop-windows, show-cases [A47F](#), e.g. [A47F 11/06](#); optical toys [A63H 33/22](#); designs or pictures characterised by special light effects [B44F 1/00](#))
- U G02B 27/09 · Beam shaping, e.g. changing the cross-sectional area, not otherwise provided for {{adapting the beam shape of a laser diode [G02B 19/0052](#); adapting the beam shape of an LED [G02B 19/0061](#); coupling into light guides using intermediate optical elements [G02B 6/4204](#); beam shaping specially adapted for lasers [H01S 3/005](#)}}
- M G02B 27/0916 · · {Adapting the beam shape of a semiconductor light source such as a laser diode or an LED, e.g. for efficiently coupling into optical fibers (coupling into light guides using intermediate optical elements [G02B 6/4204](#); details of lighting devices in general [F21V](#); semiconductor devices with at least one potential-jump barrier or surface barrier specially adapted for light emission [H01L 33/00](#))}
- WARNING**
This group and subgroups are no longer used for the classification of new documents as from May 1, 2012. The backlog is being continuously classified to [G02B 19/00](#) and subgroups

Project: N/A (G02B)

- U G02B 27/10 · Beam splitting or combining systems (polarising systems [G02B 27/28](#); mixing and splitting light signals using optical waveguides [G02B 6/28](#); {beam shaping, e.g. changing the cross-sectional area, by dividing or superposing multiple light beams [G02B 27/0905](#)})
- U G02B 27/14 · · operating by reflection only
- G02B 27/142 · · · {Coating structures-, e.g. thin films multilayers}

Project: MP0145 (G02B)

- U G02B 27/42 · Diffraction optics {, i.e. systems including a diffractive element being designed for providing a diffractive effect}{[G02B 27/60](#) takes precedence}
- M G02B 27/4272 · · {having plural diffractive elements positioned sequentially along the optical path}

WARNINGNot complete, see also [G02B 5/1814](#)

M G02B 27/44

- Grating systems; Zone plate systems ([G02B 27/46](#) takes precedence; {beam splitting or combining systems operating by diffraction only [G02B 27/1086](#)}; spectrometry [G01J](#))

WARNING

~~This group is no longer used for the classification of new documents as from May 1, 2012. The backlog is being continuously classified to G02B 27/42 and subgroups~~

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

The following IPC group is not used in the CPC scheme.

Subject matter covered by these groups is classified in the following CPC groups:-

~~-G02F 1/13357 covered by G02F 1/1336 and subgroups~~

[G02F 1/13357](#) covered by [G02F 1/1336 and subgroups](#)

U G02F 2413/00

Indexing scheme related to [G02F 1/13363](#), i.e. to birefringent elements, e.g. for optical compensation, characterised by the number, position, orientation or value of the compensation plates

G02F 2413/11

- The refractive index N_z perpendicular to the element surface being different from in-plane refractive indices N_x and N_y , e.g. C plate

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

The following IPC group is not used in the CPC scheme.

Subject matter covered by this group is classified in the following CPC group:-

~~G03C 9/08 covered by G03F 7/0037~~

G03C 9/08 covered by G03F 7/0037

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

~~The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups :~~

~~G03F 3/08 covered by H04N 1/46
G03F 7/207 " G03F 7/20
G03F 7/23 " G03F 7/22
G03F 9/02 " G03F 9/00~~

The following IPC groups are not used in the CPC system. Subject matter covered by these 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*

U G03F 1/00

Originals for photomechanical production of textured or patterned surfaces, e.g., masks, photo-masks, reticles; Mask blanks or pellicles therefor; Containers specially adapted therefor; Preparation thereof

NOTE

In this main group, at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place

WARNING

Groups [G03F 1/0007-G03F 1/16](#) are no longer used for the classification of documents as of January 1, 2012. The backfile of these groups is being reclassified into groups [G03F 1/20-G03F 1/92](#) as follows: [G03F 1/0007-G03F 1/0092](#) and [G03F 1/08-G03F 1/16](#) into groups

[G03F 1/20-G03F 1/86](#); [G03F 1/02](#) into [G03F 1/88](#); [G03F 1/04](#) into [G03F 1/90](#); [G03F 1/06](#) into [G03F 1/92](#). Until reclassification is complete, groups [G03F 1/0007-G03F 1/16](#) and [G03F 1/20-G03F 1/92](#) should be considered in order to perform a complete search.

- G03F 1/06
 - {from printing surfaces, {e.g. using a heat or pressure sensitive foil, by pulling an impression, e.g. on a photosensitive sheet}}
- G03F 1/08
 - {Originals having inorganic imaging layers, e.g. chrome masks ([G03F 1/12](#) takes precedence; {X-Ray absorbers [G03F 1/148](#)})}

Project: MP0145 (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 15/01
 - For producing multicoloured copies {(colour correction in photography [G03C](#); colour correction in printing plate production)}
- U G03G 15/0105
 - · {Details of unit}
- U G03G 15/0131
 - · · {for transferring a pattern to a second base}
- M G03G 15/0136
 - · · · {transfer member separable from recording member or *vice versa*, mode switching}
 - WARNING**
~~Group G03G 15/0136 is not complete, pending reorganisation. See also G03G 15/0131~~
- U G03G 15/0142
 - · {Structure of complete machines}
- U G03G 15/0147
 - · · {using a single reusable electrographic recording member}
- U G03G 15/0152
 - · · · {onto which the monocolour toner images are superposed before common transfer from the recording member}
- M G03G 15/0163
 - · · · · {primary transfer to the final recording medium}
 - WARNING**
~~Groups G03G 15/0163 - G03G 15/0173 are not complete pending reorganisation. See also G03G 15/0147 - G03G 15/0157~~
- U G03G 15/0178
 - · · {using more than one reusable electrographic recording member, e.g. one for every monocolour image}
- M G03G 15/0184
 - · · · {at least one recording member having plural associated developing units}
 - WARNING**
~~Groups G03G 15/0184 - G03G 15/0194 are not complete pending reorganisation. See also G03G 15/0178~~
- U G03G 15/02
 - for laying down a uniform charge, e.g. for sensitising; Corona discharge devices ([G03G 15/14](#) takes precedence)
- M G03G 15/0291
 - · {corona discharge devices, e.g. wires, pointed electrodes, means for cleaning the corona discharge device}
 - WARNING**
~~Groups G03G 15/0291 and G03G 15/025 are not complete pending reorganisation. See also G03G 15/02 - G03G 15/0258~~

- U G03G 15/04
- for exposing, i.e. imagewise exposure by optically projecting the original image on a photoconductive recording material
- NOTE
The original image is obtained by direct optical projection or received from other sources, e.g. by computer modified or generated image data, by scanning, e.g. digital copiers
- U G03G 15/04036
- · {Details of illuminating systems, e.g. lamps, reflectors (lamp housings for copying cameras, reflex exposure lighting [G03B 27/542](#))}
- M G03G 15/04045
- · · {for exposing image information provided otherwise than by directly projecting the original image onto the photoconductive recording material, e.g. digital copiers ([G03G 15/041](#), [G03G 15/043](#) take precedence)}
- WARNING
Groups [G03G 15/04054](#) – [G03G 15/04081](#) are not complete pending reorganisation. See also [G03G 15/04](#), [G03G 15/04036](#), [G03G 15/043](#), [G03G 15/0435](#) and [G03G 15/326](#)
- 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}
- M G03G 15/0848
- · · · {Arrangements for testing or measuring developer properties or quality, e.g. charge, size, flowability}
- WARNING
[G03G 15/0848](#) – [G03G 15/0862](#) are not complete pending reorganisation. See also [G03G 15/0822](#) – [G03G 15/0831](#)
- M G03G 15/0865
- · · · {Arrangements for supplying new developer}
- WARNING
Groups [G03G 15/0877](#) – [G03G 15/0893](#) are not complete pending reorganisation. See also [G03G 15/0832](#) – [G03G 15/0843](#)
- M G03G 15/0887
- · · · {Arrangements for conveying and conditioning developer in the developing unit, e.g. agitating, removing impurities or humidity}
- WARNING
Groups [G03G 15/0887](#) – [G03G 15/0893](#) is not complete pending reorganisation. See also [G03G 15/0846](#)
- U G03G 15/14
- for transferring a pattern to a second base
- U G03G 15/16
- · of a toner pattern, e.g. a powder pattern, {e.g. magnetic transfer}
- U G03G 15/1605
- · · {using at least one intermediate support ([G03G 15/1625](#) takes precedence)}
- M G03G 15/1615
- · · · {relating to the driving mechanism for the intermediate support, e.g. gears, couplings, belt tensioning}
- WARNING
Groups [G03G 15/1615](#) and [G03G 15/162](#) are not complete pending reorganisation. See also [G03G 15/1605](#) – [G03G 15/161](#)
- U G03G 15/20
- for fixing, e.g. by using heat
- U G03G 15/2003
- · {using heat}
- U G03G 15/2014
- · · {using contact heat}

- M G03G 15/2017
- • • {Structural details of the fixing unit in general, e.g. cooling means, heat shielding means ([G03G 15/2053](#) takes precedence)}
- WARNING**
Groups ~~G03G 15/2017~~ – ~~G03G 15/205~~ are not complete pending reorganisation. See also ~~G03G 15/2064~~ – ~~G03G 15/2089~~
- U G03G 15/22
- involving the combination of more than one step according to groups [G03G 13/02](#) - [G03G 13/20](#) ([G03G 15/01](#) takes precedence)
- U G03G 15/221
- {Machines other than electrographic copiers, e.g. electrophotographic cameras, electrostatic typewriters}
- M G03G 15/224
- • • {Machines for forming tactile or three dimensional images by electrographic means, e.g. braille, 3d printing}
- WARNING**
Group ~~G03G 15/224~~ is not complete pending reorganisation. See also ~~G03G 15/221~~
- U G03G 15/50
- {Machine control of apparatus for electrographic processes using a charge pattern, e.g. regulating different parts of the machine, multimode copiers, microprocessor control (sequencing control [G03G 21/14](#))}
- U G03G 15/5033
- • {by measuring the photoconductor characteristics, e.g. temperature, or the characteristics of an image on the photoconductor}
- M G03G 15/5041
- • • {Detecting a toner image, e.g. density, toner coverage, using a test patch ([G03G 15/553](#) takes precedence)}
- WARNING**
Groups ~~G03G 15/5041~~ – ~~G03G 15/505~~ are not complete, pending reorganisation. See also ~~G03G 15/5033~~
- M G03G 15/5054
- • {by measuring the characteristics of an intermediate image carrying member or the characteristics of an image on an intermediate image carrying member, e.g. intermediate transfer belt or drum, conveyor belt}
- WARNING**
Groups ~~G03G 15/5054~~ – ~~G03G 15/5058~~ are not complete, see also ~~G03G 15/50~~
- 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, toner density measurement (detectors [G03G 15/0831](#))}
- WARNING**
Group ~~G03G 15/556~~ is not complete. See also ~~G03G 15/55~~ – ~~G03G 15/553~~
- U G03G 15/65
- {Apparatus which relate to the handling of copy material (handling sheets or webs in general [B65H](#); for photographic purposes in general [G03B](#))}
- U G03G 15/6555
- • {Handling of sheet copy material taking place in a specific part of the copy material feeding path}
- U G03G 15/6558
- • • {Feeding path after the copy sheet preparation and up to the transfer point, e.g. registering; Deskewing; Correct timing of sheet feeding to the transfer point}

- M G03G 15/6561
- • • {for sheet registration}
- WARNING**
Groups G03G 15/6561 – G03G 15/6567 are not complete, pending reorganisation. See also G03G 15/6558
- U G03G 15/6582
- {Special processing for irreversibly adding or changing the sheet copy material characteristics or its appearance, e.g. stamping, annotation printing, punching}
- M G03G 15/6585
- • • {by using non-standard toners, e.g. transparent toner, gloss adding devices}
- WARNING**
Group G03G 15/6585 is not complete, pending reorganisation. See also G03G 15/6582
- U G03G 15/6588
- {characterised by the copy material, e.g. postcards, large copies, multi-layered materials, coloured sheet material}
- M G03G 15/6591
- • • {characterised by the recording material, e.g. plastic material, OHP, ceramics, tiles, textiles (details transferring the toner pattern onto particular materials [G03G 15/1625](#))}
- WARNING**
Groups G03G 15/6591 – G03G 15/6594 are not complete, pending reorganisation. See also G03G 15/6588
- U G03G 21/00**
- Arrangements not provided for by groups [G03G 13/00](#) - [G03G 19/00](#), e.g. cleaning, elimination of residual charge**
- U G03G 21/0005
- {for removing solid developer or debris from the electrographic recording medium}
- U G03G 21/007
- {Arrangement or disposition of parts of the cleaning unit}
- M G03G 21/0076
- • • {Plural or sequential cleaning devices}
- WARNING**
Groups G03G 21/0076 – G03G 21/0082 are not complete pending reorganisation. See also G03G 21/007
- U G03G 21/10
- Collecting or recycling waste developer
- M G03G 21/105
- {Arrangements for conveying toner waste}
- WARNING**
Group G03G 21/105 is not complete pending reorganisation. See also G03G 21/10 – G03G 21/12
- U G03G 21/16
- Mechanical means for facilitating the maintenance of the apparatus, e.g. modular arrangements
- M G03G 21/18
- • using a processing cartridge, {whereby the process cartridge comprises at least two image processing means in a single unit}
- WARNING**
Groups G03G 21/1803 – G03G 21/1896 are not complete pending reorganisation. See also this group
- U G03G 21/20
- Humidity or temperature control {also ozone evacuation; Internal apparatus environment control}

M G03G 21/203 · · {Humidity}

WARNING

Groups G03G 21/203 and G03G 21/206 are not complete pending reorganisation. See also G03G 21/20

Project: MP0145 (G04C)

U G04C 3/00 Electromechanical clocks or watches independent of other time-pieces and in which the movement is maintained by electric means {(Synchronisation [G04C 11/00](#))}

U G04C 3/001 · {Electromechanical switches for setting or display (in general [H01H](#))}

M G04C 3/002 · · {Position, e.g. inclination dependent switches}

WARNING

~~Not complete. See also G04C 3/001~~

M G04C 3/004 · · {Magnetically controlled}

WARNING

~~Not complete. See also G04C 3/001, G04C 3/005~~

U G04C 9/00 Electrically-actuated devices for setting the time-indicating means (of slave clocks [G04C 13/03](#); mechanical setting devices [G04B 27/00](#); radio-controlled time-pieces [G04R](#))

M G04C 9/02 · {brought into action by radio transmission}

WARNING

~~This group is no longer used for the classification of new documents as from September 1, 2012. The backlog of this group is being continuously reclassified to subgroups of G04R.~~

U G04C 11/00 Synchronisation of independently-driven clocks (radio-controlled time-pieces [G04R](#))

M G04C 11/02 · {by radio {(time setting brought into action by radio [G04C 9/02](#))}}

WARNING

~~This group and subgroups are no longer used for the classification of new documents as from September 1, 2012. The backlog of this group and subgroups are being continuously reclassified to subgroups of G04R.~~

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:-

~~G04F 10/08~~ covered by ~~G04F 5/16~~
G04F 10/08 covered by G04F 5/16

- U G04F 7/00 Apparatus for measuring unknown time intervals by mechanical means**
- U G04F 7/04
- using a mechanical oscillator
- WARNING
The subgroups of [G04F 7/04](#) are not complete pending reclassification; see also this group
- U G04F 7/08
- • Watches or clocks with stop devices, e.g. chronograph
- U G04F 7/0804
- • • {with reset mechanisms}
- G04F 7/0814
- • • • {with double hammer, i.e. one hammer acts on two counters}

Project: MP0145 (G04F)

- U G04F 10/00 Apparatus for measuring unknown time intervals by electric means {(timing devices for clocks or watches for comparing the rate of the oscillating member with a standard [G04D 7/12](#); radar systems, analogous systems [G01S 7/00](#); measuring frequency [G01R 23/00](#); measuring phase angle [G01R 25/00](#))}**
- M G04F 10/005
- {Time-to-digital converters [TDC] (analog-to-digital converters with intermediate conversion to time or phase [H03M 1/50](#), [H03M 1/60](#))}
- WARNING
This group is not complete pending reclassification; see also groups [G04F 10/04](#) and [G04F 10/06](#)
- U G04F 13/00 Apparatus for measuring unknown time intervals by means not provided for in groups [G04F 5/00](#) - [G04F 10/00](#)**
- M G04F 13/04
- using electrochemical means
- WARNING
Not complete, see also [G04F 10/00](#)
- M G04F 13/06
- using fluidic means
- WARNING
Not complete, see also [G04F 10/00](#)

Project: MP0145 (G04G)

- U G04G 5/00 Setting, i.e. correcting or changing, the time-indication (radio-controlled time-pieces [G04R](#))**
- M G04G 5/002
- {brought into action by radio}
- WARNING
This group is no longer used for the classification of new documents as from September 1, 2012. The backlog of this group is being continuously reclassified to subgroups of [G04R](#)
- U G04G 5/02
- by temporarily changing the number of pulses per unit time, e.g. quick-feed method
- M G04G 5/022
- • {quick-feed method}
- WARNING
Not complete, see also [G04G 5/02](#)

- M G04G 5/027
- {by adding or suppressing individual pulses, e.g. for step-motor}
- WARNING
Not complete, see also G04G 5/02
- U G04G 5/04
- by setting each of the displayed values, e.g. date, hour, independently
- M G04G 5/043
- {using commutating devices for selecting the value, e.g. hours, minutes, seconds, to be corrected}
- WARNING
Not complete, see also G04G 5/04
- M G04G 5/045
- • {using a sequential electronic commutator}
- WARNING
Not complete, see also G04G 5/04

U G04G 7/00**Synchronisation (radio-controlled time-pieces [G04R](#))**

- M G04G 7/02
- {by radio}
- WARNING
This group and subgroups are no longer used for the classification of new documents as from September 1, 2012. The backlog of this group and subgroups are being continuously reclassified to subgroups of G04R

Project: MP0145 (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](#))**
- M G05B 23/02
- Electric testing or monitoring
- WARNING
As from June 1st, 2011 documents of this group are being continuously reclassified to its subgroups
- M G05B 23/0205
- {by means of a monitoring system capable of detecting and responding to faults}
- WARNING
Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/0208
- • {characterized by the configuration of the monitoring system}
- WARNING
Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/021
- • • {adopting a different treatment of each operating region or a different mode of the monitored system, e.g. transient modes; different operating configurations of monitored system}
- WARNING
Not complete pending the completion of a reclassification; see also G05B 23/02

- M G05B 23/0213 {Modular or universal configuration of the monitoring system, e.g. monitoring system having modules that may be combined to build monitoring program; monitoring system that can be applied to legacy systems; adaptable monitoring system; using different communication protocols}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02
- M G05B 23/0216 {Human interface functionality, e.g. monitoring system providing help to the user in the selection of tests or in its configuration}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02
- M G05B 23/0218 {characterised by the fault detection method dealing with either existing or incipient faults}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02
- M G05B 23/0221 {Preprocessing measurements, e.g. data collection rate adjustment; Standardization of measurements; Time series or signal analysis, e.g. frequency analysis or wavelets; Trustworthiness of measurements; Indexes therefor; Measurements using easily measured parameters to estimate parameters difficult to measure; Virtual sensor creation; De-noising; Sensor fusion; Unconventional preprocessing inherently present in specific fault detection methods like PCA-based methods}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02
- M G05B 23/0224 {Process history based detection method, e.g. whereby history implies the availability of large amounts of data}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02
- M G05B 23/0227 {Qualitative history assessment, whereby the type of data acted upon, e.g. waveforms, images or patterns, is not relevant, e.g. rule based assessment; if-then decisions}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02
- M G05B 23/0229 {knowledge based, e.g. expert systems; genetic algorithms}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02
- M G05B 23/0232 {based on qualitative trend analysis, e.g. system evolution}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02

- M G05B 23/0235 {based on a comparison with predetermined threshold or range-, e.g. "classical methods", carried out during normal operation; threshold adaptation or choice; when or how to compare with the threshold}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02
- M G05B 23/0237 {based on parallel systems, e.g. comparing signals produced at the same time by same type systems and detect faulty ones by noticing differences among their responses}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02
- M G05B 23/024 {Quantitative history assessment, e.g. mathematical relationships between available data; Functions therefor; Principal component analysis [PCA]; Partial least square [PLS]; Statistical classifiers, e.g. Bayesian networks, linear regression or correlation analysis; Neural networks}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02
- M G05B 23/0243 {model based detection method, e.g. first-principles knowledge model}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02
- M G05B 23/0245 {based on a qualitative model, e.g. rule based; if-then decisions}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02
- M G05B 23/0248 {Causal models, e.g. fault tree; digraphs; qualitative physics}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02
- M G05B 23/0251 {Abstraction hierarchy, e.g. "complex systems", i.e. system is divided in subsystems, subsystems are monitored and results are combined to decide on status of whole system}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02
- M G05B 23/0254 {based on a quantitative model, e.g. mathematical relationships between inputs and outputs; functions: observer, Kalman filter, residual calculation, Neural Networks}
- WARNING
Not complete pending the completion of a reclassification; see also G05B-23/02

- M G05B 23/0256 . . . {injecting test signals and analyzing monitored process response, e.g. injecting the test signal while interrupting the normal operation of the monitored system; superimposing the test signal onto a control signal during normal operation of the monitored system}
- WARNING
Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/0259 . . . {characterized by the response to fault detection}
- WARNING
Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/0262 . . . {Confirmation of fault detection, e.g. extra checks to confirm that a failure has indeed occurred}
- WARNING
Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/0264 . . . {Control of logging system, e.g. decision on which data to store; time-stamping measurements}
- WARNING
Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/0267 . . . {Fault communication, e.g. human machine interface [HMI]}
- WARNING
Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/027 . . . {Alarm generation, e.g. communication protocol; Forms of alarm}
- WARNING
Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/0272 . . . {Presentation of monitored results, e.g. selection of status reports to be displayed; Filtering information to the user}
- WARNING
Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/0275 . . . {Fault isolation and identification, e.g. classify fault; estimate cause or root of failure}
- WARNING
Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/0278 . . . {Qualitative, e.g. if-then rules; Fuzzy logic; Lookup tables; Symptomatic search; FMEA}
- WARNING
Not complete pending the completion of a reclassification; see also G05B 23/02

- M G05B 23/0281 {Quantitative, e.g. mathematical distance; Clustering; Neural networks; Statistical analysis}
WARNING
 Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/0283 {Predictive maintenance, e.g. involving the monitoring of a system and, based on the monitoring results, taking decisions on the maintenance schedule of the monitored system; Estimating remaining useful life [RUL] (preventive maintenance, i.e. planning maintenance according to the available resources without monitoring the system [G06Q 10/06](#))}
WARNING
 Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/0286 {Modifications to the monitored process, e.g. stopping operation or adapting control}
WARNING
 Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/0289 {Reconfiguration to prevent failure, e.g. usually as a reaction to incipient failure detection}
WARNING
 Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/0291 {Switching into safety or degraded mode, e.g. protection and supervision after failure}
WARNING
 Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/0294 {Optimizing process, e.g. process efficiency, product quality}
WARNING
 Not complete pending the completion of a reclassification; see also G05B 23/02
- M G05B 23/0297 {Reconfiguration of monitoring system, e.g. use of virtual sensors; change monitoring method as a response to monitoring results}
WARNING
 Not complete pending the completion of a reclassification; see also G05B 23/02

Project: N/A (G05B)

- U G05B 2219/00 Program-control systems**
- U G05B 2219/10 . Plc systems
- U G05B 2219/14 . . Plc safety
- G05B 2219/14013 . . . IN², dual plc worker coworker, switch, OUT persistency
- U G05B 2219/15 . . Plc structure of the system
- G05B 2219/15038 . . . Internet, tcp-ip, web server see under ~~S05B219-40~~ **S05B219-40**
- U G05B 2219/20 . Pc systems

- U G05B 2219/23
 - • Pc programming
- G05B 2219/23271
 - • • Decompiler, translate machine code to HLL-, reverse processing, easy modification
- U G05B 2219/25
 - • Pc structure of the system
- G05B 2219/25036
 - • • Two clocks, high frequency for normal and low frequency for battery low-, sleep
- G05B 2219/25249
 - • • Counter, timer plus microprocessor for real time-, jitter
- U G05B 2219/30
 - Nc systems
- U G05B 2219/33
 - • Director till display
- G05B 2219/33024
 - • • RAM artificial neural network-, several lookup tables addressed by input section, output summed
- G05B 2219/33026
 - • • Wavelet artificial neural network-, wavelet orthogonal decomposition for artificial neural network approximation
- G05B 2219/33251
 - • • Schedule periodic and aperiodic traffic, real time-, time critical
- G05B 2219/33299
 - • • Real time-, online diagnostic, integrated in normal control system
- G05B 2219/33337
 - • • For each axis a processor-, microprocessor
- U G05B 2219/34
 - • Director, elements to supervisory
- G05B 2219/34128
 - • • General surface replaced by sphere, cylinder, toroid-, calculate quickly
- U G05B 2219/35
 - • Nc in input of data, input till input file format
- G05B 2219/35086
 - • • Machining feature extraction-, geometry and machining parameters
- G05B 2219/35214
 - • • Setup planning-, number of them, machines needed, part orientation, order
- G05B 2219/35316
 - • • Interference checking between tool-, machine, part, chuck, machining range
- G05B 2219/35464
 - • • Glove-, movement of fingers
- U G05B 2219/36
 - • Nc in input of data, input key till input tape
- G05B 2219/36056
 - • • Modify program, machining order in real time-, during operation, dynamically
- G05B 2219/36312
 - • • Enter shape with cursor, joystick directions up, down, left-, right, slash
- G05B 2219/36395
 - • • Load local computer program from host, data transfer ram to rom-, BTR
- G05B 2219/36499
 - • • Part program, workpiece, geometry and environment-, machining dependant, combine
- U G05B 2219/37
 - • Measurements
- G05B 2219/37071
 - • • Measurement program is created, executed on object data-, no real object, no CMM is present
- G05B 2219/37275
 - • • Laser-, interferometer
- U G05B 2219/40
 - • Robotics, robotics mapping to robotics vision
- G05B 2219/40415
 - • • Semi active robot, cobot, guides surgeon, operator to planned trajectory-, constraint
- U G05B 2219/41
 - • Servomotor, servo controller till figures
- G05B 2219/41337
 - • • Linear drive motor-, voice coil
- G05B 2219/41355
 - • • Electro magnetic coil actuator-, voice coil
- U G05B 2219/42
 - • Servomotor, servo controller kind till VSS
- G05B 2219/42159
 - • • ARMA, AR autoregressive for poles, MA moving average model for zeros-, in combination
- U G05B 2219/43
 - • Speed, acceleration, deceleration control ADC
- G05B 2219/43048
 - • • Step change in reference, soft start-, smoothing reference
- G05B 2219/43099
 - • • Select acceleration deceleration time constants as function of weight, load-, position

- U G05B 2219/49 · · Nc machine tool, till multiple
- G05B 2219/49269 · · · Single motor for different drives-, switch, change gears
- U G05B 2219/50 · · Machine tool, machine tool null till machine tool work handling
- G05B 2219/50077 · · · Keep position by switching over to auxiliary power supply for resolver-, encoder

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	<i>Agricultural machines or implements</i>
A63H 17/36	<i>Toy vehicles</i>
B60V 1/11	<i>Air-cushion vehicles</i>
B62D 1/00	<i>Steering controls of motor vehicles or trailers, i.e. means for initiating a change of direction</i>
B62D 6/00	<i>Arrangements for automatically controlling the steering depending on driving conditions</i>
B62D 55/116	<i>Chassis of endless-tracked vehicles</i>
B63H 25/00	<i>Marine steering; control of waterborne vessels</i>
B64C 13/00 -	<i>Controlling aircraft</i>
B64C 15/00	
B64D 25/10	<i>Controlling attitude or direction of aircraft ejector seats</i>
B64G 1/24	<i>Cosmonautic vehicles</i>
F41G 7/00	<i>Self-propelled missiles</i>
F42B 15/01	<i>Guided missiles</i>
F42B 19/01	<i>Marine torpedoes</i>

Places related to G05D 1/00

A01B 69/00	<i>Agricultural machines or implements</i>
A63H 17/36	<i>Toy vehicles</i>
B60V 1/11	<i>Air-cushion vehicles</i>

~~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 — B64C 15/00 — Controlling aircraft~~
~~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~~
~~F24J 2/38 — Tracking of solar heat 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 3/00

<u>A43D 119/00</u>	Footwear manufacture
<u>B21K 31/00</u>	Tool carriers in forging or pressing
<u>B23B 39/26</u>	Pattern-controlled boring or drilling tools
<u>B23D 1/30,</u> <u>B23D 3/06,</u> <u>B23D 5/04</u>	Planing or slotting machines controlled by copying device
<u>B23H 7/18</u>	Electrode to workpiece spacing in electric discharge and electrochemical machining
<u>B23K 26/02</u>	Workpiece in laser welding or cutting
<u>B23K 37/04</u>	Workpiece in welding
<u>B23K 37/06</u>	Molten metal in welding
<u>B23Q 5/20</u>	Spindles in machine tools
<u>B23Q 15/00,</u> <u>B23Q 16/00</u>	Tool or work position in machine tools
<u>B23Q 35/00</u>	Tools controlled by pattern or master model
<u>B24B 17/00</u>	Grinding controlled by patterns, drawings, magnetic tape or the like
<u>B24B 47/22</u>	Starting position in grinding
<u>B30B 15/24</u>	Actuating members in presses
<u>B62D 55/116</u>	Chassis of tracked vehicles
<u>B65H 23/18</u>	Web-advancing mechanisms
<u>E02F 3/43</u>	Dippers or buckets in dredgers
<u>F15B 9/00</u>	Fluid-pressure servomotors with follow-up action
<u>F24J 2/38</u>	Tracking of solar heat collectors
<u>G03F 9/00</u>	Photomechanical production of patterned or textured surfaces
<u>G11B 5/588</u>	Rotating heads in information storage systems
<u>G21C 7/12</u>	Movement of control elements in nuclear reactors

Places related to G05D 5/00

<u>A24B 7/14</u>	Tobacco cutting
<u>B05C 11/02</u>	Thickness of coating of fluent material on surface
<u>B21B 37/16</u>	Thickness, width, diameter or other transverse dimensions of the products of metal-rolling mills
<u>C03B 18/04</u>	Dimension of glass ribbon
<u>D21F 7/06</u>	Thickness of layer in paper making

~~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

<u>A45D 20/26</u>	Air in hair drying helmets
<u>A61M 5/168</u>	Flow of media to the human body
<u>B03C 3/36</u>	Gases or vapour in electrostatic separators
<u>B05C 11/10</u>	Fluent material in coating devices
<u>B67D 1/12</u>	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 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 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 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 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 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 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 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 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 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

<u>D04B 35/30</u>	<i>Knitting machines</i>
<u>D06F 75/26</u>	<i>Hand irons</i>
<u>D21F 5/06</u>	<i>Paper-making machines</i>
<u>F01M 5/00</u>	<i>Lubricant in lubrication arrangements</i>
<u>F16N 7/08</u>	<i>Arrangements for supplying oil or unspecified lubricant from a reservoir</i>
<u>F22G 5/00</u>	<i>Steam superheat</i>
<u>F26B 21/10</u>	<i>Dryers</i>
<u>G01N 30/30</u>	<i>Temperature of fluid carrier in chemical analysis</i>
<u>H01M 10/60</u>	<i>Electric storage cells</i>
<u>H05B 6/06,</u> <u>H05B 6/50,</u> <u>H05B 6/68</u>	<i>Dielectric, induction or microwave heating</i>
<u>H05G 1/36</u>	<i>Anode of X-ray tube</i>

Places related to G05D 23/00

<u>A21B 1/40</u>	<u>Bakers' ovens</u>
<u>A45D 6/20</u>	<u>Hair curlers</u>
<u>B21C 31/00</u>	<u>Metal extruding</u>
<u>B60C 23/00</u>	<u>Tyre temperature</u>
<u>B64G 1/50</u>	<u>Cosmonautic vehicles</u>
<u>C03B 18/18</u>	<u>,</u>
<u>C03B 18/22</u>	<u>Float baths in glass making</u>
<u>D01D 1/09</u>	<u>Manufacture of artificial filaments, threads, fibres, bristles or ribbons</u>
<u>D04B 35/30</u>	<u>Knitting machines</u>
<u>D06F 75/26</u>	<u>Hand irons</u>
<u>D21F 5/06</u>	<u>Paper-making machines</u>
<u>F01M 5/00</u>	<u>Lubricant in lubrication arrangements</u>
<u>F16N 7/08</u>	<u>Arrangements for supplying oil or unspecified lubricant from a reservoir</u>
<u>F22G 5/00</u>	<u>Steam superheat</u>
<u>F26B 21/10</u>	<u>Dryers</u>
<u>G01N 30/30</u>	<u>Temperature of fluid carrier in chemical analysis</u>
<u>H01M 10/60</u>	<u>Electric storage cells</u>
<u>H05B 6/06</u>	<u>,</u>
<u>H05B 6/50</u>	<u>,</u>
<u>H05B 6/68</u>	<u>Dielectric, induction or microwave heating</u>
<u>H05G 1/36</u>	<u>Anode of X-ray tube</u>

Places related to G05D 25/00

<u>B41B 21/08</u>	<i>Photographic composing machines</i>
<u>H01S 3/10,</u> <u>H05B 33/08,</u> <u>H05B 35/00</u> <u>to H05B 43/00</u>	<i>Lasers and other light sources</i>

Places related to G05D 25/00

<u>B41B 21/08</u>	<u>Photographic composing machines</u>
<u>H01S 3/10</u>	<u>,</u>
<u>H05B 33/08</u>	<u>,</u>
<u>H05B 35/00</u>	<u>to</u>
<u>H05B 43/00</u>	<u>Lasers and other light sources</u>

General references

<u>A01J 5/007</u>	Milking machines
<u>B23K 9/095</u>	Welding parameters
<u>B23Q 35/00</u>	Copying
<u>B24B 17/00</u> , <u>B24B 49/00</u>	Grinding or polishing
<u>B24C 7/00</u>	Abrasive blasts
<u>B67D 1/12</u>	Dispensing beverages on draught
<u>G03G 21/20</u>	Electrographic, electrophotographic or magnetographic processes
<u>H02P 5/00</u> - <u>H02P 9/00</u>	Dynamo-electric motors or generators

~~General references~~

A01J 5/007	Milking machines
B23K 9/095	Welding parameters
B23Q 35/00	Copying
B24B 17/00	,
B24B 49/00	Grinding or polishing
B24C 7/00	Abrasive blasts
B67D 1/12	Dispensing beverages on draught
G03G 21/20	Electrographic, electrophotographic or magnetographic processes
H02P 5/00 - H02P 9/00	Dynamo-electric motors or generators

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](#)

G05D 1/0287

- • • {involving a plurality of land vehicles, e.g. fleet or convoy travelling (traffic control systems for road vehicles [G08G 1/00](#), particularly anticollision systems [G08G 1/16](#))}

NOTE

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

- fleet means a plurality of vehicles controlled in a coordinated manner or under unified control;
- convoy (or platooning) means a plurality of vehicles following an identical trajectory, said vehicles being separated by a predetermined distance maintained by a control system

G05D 1/0289

- • • • {with means for avoiding collisions between vehicles (vehicle fittings for automatically controlling speed including means for detecting potential obstacles [B60K 31/0008](#) ; avoiding obstacles by action on the steering system [B62D](#) ; radar, sonar, lidar systems designed for anti-collision purposes [G01S 13/93](#), [G01S 15/93](#), [G01S 17/93](#))}

G05D 1/0291

- • • • {Fleet control (monitoring fleets in traffic control systems for road vehicles [G08G 1/127](#), [G08G 1/127](#))}

G05D 1/12

- Target-seeking control

NOTE

Within groups [G05D 3/00](#) - [G05D 3/20](#), in the absence of an indication of the contrary, an invention is classified in the last appropriate place

U G05D 5/00

Control of dimensions of material

G05D 5/02

- of thickness, e.g. of rolled material (of specific materials [B21B](#), [B29C](#), [B32B](#), [C03B](#), [D21F](#))

U G05D 7/00

Control of flow (level control [G05D 9/00](#) ; ratio control [G05D 11/00](#) ; of media to the human body [A61M 5/168](#) ; weighing apparatus [G01G](#))

- U G05D 7/06 · characterised by the use of electric means {(G05D 7/005 takes precedence)}
- U G05D 7/0617 · · {specially adapted for fluid materials}
- U G05D 7/0629 · · · {characterised by the type of regulator means}
- G05D 7/0635 · · · · {by action on throttling means (G05D 7/0688-, G05D 7/0694 take precedence)}
- G05D 7/0676 · · · · {by action on flow sources (G05D 7/0688-, G05D 7/0694 take precedence)}
- G05D 9/00** **Level control, e.g. controlling quantity of material stored in vessel (controlling level of liquid-pool electrode in electric discharge tubes and lamps H01J 1/10-, H01J 13/14)**
- G05D 23/00** **Control of temperature (automatic switching arrangements for electric heating apparatus H05B 1/02 ; controlling induction heating H05B 6/06 ; regulating temperature of anode of X-ray tube H05G 1/36)**
- NOTE
Within groups G05D 23/01 - G05D 23/32-, an invention is classified in the last appropriate place in the absence of an indication of the contrary
- U G05D 23/19 · characterised by the use of electric means {(G05D 23/1393 takes precedence)}
- NOTE
In this group, multi-aspect classification is applied, so that subject matter characterised by aspects covered by more than one of its subgroups, which is considered to represent information of interest for search, should be classified in each of those subgroups. Temperature control arrangements are classified in subgroups G05D 23/20 - G05D 23/275 on the base of the type of temperature sensor and in the subgroups directly under G05D 23/19 for each aspect related to temperature control in general.
- G05D 23/1927 · · {using a plurality of sensors (G05D 23/1902-, G05D 23/1917-, and G05D 23/1919 take precedence)}
- G05D 25/00** **Control of light, e.g. intensity, colour, phase (mechanically operable parts of lighting devices for the control of light F21V ; optical devices or arrangements using movable or deformable elements for controlling light independent of the light source G02B 26/00 ; 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 light, circuit arrangements specially adapted therefor, control of light by electromagnetic waves, electrons or other elementary particles G02F 1/00 ; circuit arrangements for controlling light sources H01S 3/10-, H05B 33/08-, H05B 35/00 - H05B 43/00)**

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

The following IPC groups are not used in the internal CPC classification scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~G05F 3/28 covered by G05F 3/26~~

~~G05F 5/02 " " G05F 5/00~~

~~G05F 5/04 " " G05F 5/00~~

~~G05F 5/06 " " G05F 5/00~~

~~G05F 5/08 " " G05F 5/00~~

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

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.

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*

<u>F16D 43/00</u>	Automatic clutches
<u>F16K 31/00</u> , <u>F16K 33/00</u>	Controls for valves
<u>F16P 3/00</u>	Safety devices acting in conjunction with the control or operation of a machine
<u>F16P 7/02</u>	Stopping machines on occurrence of dangerous conditions therein
<u>G02B 21/32</u>	Micromanipulators structurally combined with microscopes
<u>G04B 1/00</u> - <u>G04B 18/00</u>	Driving mechanisms in clocks or watches
<u>G06C</u>	Digital computers in which all the computation is effected mechanically
<u>G06F 3/02</u>	Manual computer input arrangements
<u>G06K 11/00</u>	Converting a pattern of mechanical parameters into electric signals
<u>G21C 7/08</u>	Displacement of solid control elements in nuclear reactors
<u>H01H</u>	Mechanisms for operating switch contacts
<u>H03J 1/00</u>	Mechanical control of resonant circuits.

Project: MP0145 (G06E)

M G06E 3/00 Devices not provided for in group [G06E 1/00](#), e.g. for processing analogue or hybrid data

WARNING

~~Not complete. For hybrid devices see also G06J~~

M G06E 3/008 · {Matrix or vector computation}

WARNING

~~Not complete. See also G06E 3/001~~

Project: N/A (G06F)

G06F

ELECTRICAL DIGITAL DATA PROCESSING (computers in which a part of the computation is effected hydraulically or pneumatically [G06D](#); optically [G06E](#); self-contained input or output peripheral equipment [G06K](#); impedance networks using digital techniques [H03H](#))

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

~~-G06F 9/40 covered by G06F 9/4425 and subgroups~~

~~-G06F 9/42 covered by G06F 9/4426 and subgroups~~

~~-G06F 9/45 covered by G06F 8/41 and subgroups~~

[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
G06F 9/40	covered by	G06F 9/4425 and subgroups
G06F 9/42	covered by	G06F 9/4426 and subgroups
G06F 9/45	covered by	G06F 8/41 and subgroups

Project: MP0145 (G06F)

- U G06F 1/00** Details of data-processing equipment not covered by groups [G06F 3/00](#) - [G06F 13/00](#), {e.g. cooling, packaging or power supply specially adapted for computer application (security arrangements for protecting computers or computer systems against unauthorised activity [G06F 21/00](#))}
- U G06F 1/26** . Power supply means, e.g. regulation thereof (for memories [G11C](#); {regulation in general [G05F](#)})
- U G06F 1/30** . . Means for acting in the event of power-supply failure or interruption, e.g. power-supply fluctuations (for resetting only [G06F 1/24](#); involving the processing of data-words [G06F 11/00](#))
- M G06F 1/305** . . . {in the event of power-supply fluctuations}
- WARNING**
Not complete, see also G06F 1/30
- U G06F 3/00** Input arrangements for transferring data to be processed into a form capable of being handled by the computer; Output arrangements for transferring data from processing unit to output unit, e.g. interface arrangements (typewriters [B41J](#); conversion of physical variables [F15B 5/00](#), [G01](#); image acquisition [G06T 1/00](#), [G06F 9/00](#); coding, decoding or code conversion in general [H03M](#); transmission of digital information [H04L](#); {in regulating or control systems [G05B](#)})
- U G06F 3/01** . Input arrangements or combined input and output arrangements for interaction between user and computer ([G06F 3/16](#) takes precedence)
- U G06F 3/03** . . Arrangements for converting the position or the displacement of a member into a coded form
- U G06F 3/041** . . . Digitisers, e.g. for touch screens or touch pads, characterized by the transducing means
- M G06F 3/0416** {Control and interface arrangements for touch screen}
- WARNING**
Not complete, see G06F 3/0488
- U G06F 7/00** Methods or arrangements for processing data by operating upon the order or content of the data handled (logic circuits [H03K 19/00](#))
- U G06F 7/02** . Comparing digital values ([G06F 7/06](#), {[G06F 7/22](#), } [G06F 7/38](#) take precedence; information retrieval [G06F 17/30](#); comparing pulses [H03K 5/22](#))
- M G06F 7/026** . . {Magnitude comparison, i.e. determining the relative order of operands based on their numerical value, e.g. window comparator}
- WARNING**
Not complete. For documents published before July 1970 see also G06F 7/02
- U G06F 7/38** . Methods or arrangements for performing computations using exclusively denominational number representation, e.g. using binary, ternary, decimal representation
- U G06F 7/48** . . using non-contact-making devices, e.g. tube, solid state device; using unspecified devices

- M G06F 7/49
- • • Computations with a radix, other than binary, 8, 16 or decimal, e.g. ternary, negative or imaginary radices, mixed radix {non-linear PCM ([G06F 7/4824](#) takes precedence)}
- WARNING**
Not complete. For radix 12 or 20 see provisionally also G06F 7/491 and subgroups
- U G06F 7/491
- • • Computations with decimal numbers {radix 12 or 20. ([G06F 7/4824](#) takes precedence)}
- U G06F 7/492
- • • • using a binary weighted representation within each denomination {([G06F 7/498](#) takes precedence)}
- M G06F 7/493
- • • • • the representation being the natural binary coded representation, i.e. 8421-code
- WARNING**
Not complete. See provisionally also G06F 7/491
- M G06F 7/494
- • • • • Adding; Subtracting
- WARNING**
Not complete. See provisionally also G06F 7/4912
- M G06F 7/496
- • • • • Multiplying; Dividing
- WARNING**
Not complete. See provisionally also G06F 7/4915, G06F 7/4917
- M G06F 7/60
- Methods or arrangements for performing computations using a digital non-denominational number representation, i.e. number representation without radix; Computing devices using combinations of denominational and non-denominational quantity representations, {e.g. using difunction pulse trains, STEELE computers, phase computers (conversion of digital data to or from non-denominational form [H03M 5/00](#), [H03M 7/00](#))}
- WARNING**
Not complete: for computing devices using combinations of denominational and non-denominational quantity representations see also G06F 7/62

Project: N/A (G06F)

- U G06F 9/00
- Arrangements for programme control, e.g. control unit (programme control for peripheral devices [G06F 13/10](#); in regulating or control systems [G05B](#))**
- U G06F 9/06
- using stored programme, i.e. using internal store of processing equipment to receive and retain programme
- U G06F 9/44
- • Arrangements for executing specific programmes
- U G06F 9/4443
- • • {Execution mechanisms for user interfaces}
- G06F 9/4445
- • • • {Remote windowing, e.g. X-Window System, desktop virtualisation (protocols for telewriting [H04L 67/38](#))}
- U G06F 9/46
- • Multiprogramming arrangements
- U G06F 9/48
- • • Programme initiating; Programme switching, e.g. by interrupt
- U G06F 9/4806
- • • • {Task transfer initiation or dispatching}
- U G06F 9/4843
- • • • • {by program, e.g. task dispatcher, supervisor, operating system}
- U G06F 9/485
- • • • • • {Task life-cycle, e.g. stopping, restarting, resuming execution ([G06F 9/4881](#) takes precedence)}
- G06F 9/4856
- • • • • • • {resumption being on a different machine, e.g. task migration, virtual machine migration ([G06F 9/5088](#) takes precedence)}

Project: MP0145 (G06F)

- U G06F 11/00** **Error detection; Error correction; Monitoring (methods or arrangements for verifying the correctness of marking on a record carrier [G06K 5/00](#); in information storage based on relative movement between record carrier and transducer [G11B](#), e.g. [G11B 20/18](#); in static stores [G11C](#); coding, decoding or code conversion, for error detection or error correction, in general [H03M 13/00](#))**
- NOTE
In this group the indexing codes of [G06F 1/00](#) - [G06F 15/00](#) are added
- U G06F 11/07** • responding to the occurrence of a fault, e.g. fault tolerance
- U G06F 11/16** • • Error detection or correction of the data by redundancy in hardware
- U G06F 11/1658** • • • {Data re-synchronization of a redundant component, or initial sync of replacement, additional or spare unit}
- M G06F 11/1662** • • • • {the resynchronized component or unit being a persistent storage device (re-synchronization of failed mirror storage [G06F 11/2082](#); rebuild or reconstruction of parity RAID storage [G06F 11/1008](#))}
- WARNING**
~~Not complete pending a reclassification. See also [G06F 11/1658](#)~~
- U G06F 11/20** • • • using active fault-masking, e.g. by switching out faulty elements or by switching in spare elements
- M G06F 11/2017** • • • • {where memory access, memory control or I/O control functionality is redundant (redundant communication control functionality [G06F 11/2005](#); redundant storage control functionality [G06F 11/2089](#))}
- WARNING**
~~Not complete pending a reclassification. See also [G06F 11/20L](#)~~
- U G06F 17/00** **Digital computing or data processing equipment or methods, specially adapted for specific functions**
- U G06F 17/30** • Information retrieval; Database structures therefor; {File system structures therefor (data processing systems or methods specially adapted for administrative, commercial, financial managerial, supervisory or forecasting purposes [G06Q](#))}
- M G06F 17/30002** • • {Interfaces; Database management systems; Updating}
- WARNING**
~~This group is no longer used for the classification of new documents as from April 15, 2012. The backlog of this group is being continuously reclassified to subgroups of [G06F 17/30067](#) and [G06F 17/30286](#)~~
- M G06F 17/30005** • • • {File format conversion (code conversion circuits or methods [H03M 5/00](#), [H03M 7/00](#))}
- WARNING**
~~This group is no longer used for the classification of new documents as from April 15, 2012. The backlog of this group is being continuously reclassified to subgroups of [G06F 17/30179](#) and [G06F 17/30569](#)~~

- M G06F 17/30008
- {Concurrency control and recovery ([G06F 11/1402](#) takes precedence; transaction processing [G06F 9/466](#))}
- WARNING**
This group is no longer used for the classification of new documents as from April 15, 2012. The backlog of this group is being continuously reclassified to subgroups of [G06F 17/30067](#) and [G06F 17/30286](#)
- M G06F 17/30017
- {Multimedia data retrieval; Retrieval of more than one type of audiovisual media (retrieval of image data [G06F 17/30244](#); retrieval of video data [G06F 17/30781](#); retrieval of audio data [G06F 17/3074](#); editing or indexing of data stored based on relative movement between record carrier and transducer [G11B 27/00](#))}
- WARNING**
Groups [G06F 17/3002](#) – [G06F 17/30064](#) are not complete pending reclassification. See also [G06F 17/30017](#)
- M G06F 17/30067
- {File systems; File servers ([G06F 17/3061](#), [G06F 17/30017](#), [G06F 17/30244](#), [G06F 17/3074](#), [G06F 17/30781](#) take precedence; dedicated interfaces to storage systems [G06F 3/0601](#); error detection, correction or monitoring [G06F 11/00](#))}
- WARNING**
Groups [G06F 17/3007](#) – [G06F 17/30238](#) are not complete pending reclassification. See also this group
- M G06F 17/30283
- {using distributed data base systems, e.g. networks}
- WARNING**
This group is no longer used for the classification of new documents as from April 15, 2012. The backlog of this group is being continuously reclassified to subgroups of [G06F 17/30067](#) and [G06F 17/30286](#)
- M G06F 17/30286
- {in structured data stores}
- WARNING**
Not complete pending the completion of a reclassification; see also [G06F 17/30002](#), [G06F 17/30008](#) and [G06F 17/30283](#)
- M G06F 17/3074
- {Audio data retrieval (retrieval of video data [G06F 17/30781](#); retrieval of multimedia data [G06F 17/30017](#); general determination or detection of speech characteristics [G10L 25/00](#); speech recognition [G10L 15/00](#); speaker recognition [G10L 17/00](#); electrophonic musical instruments [G10H](#); editing or indexing of data stored based on relative movement between record carrier and transducer [G11B 27/00](#))}
- WARNING**
Groups [G06F 17/30743](#) – [G06F 17/30778](#) are not complete pending reclassification. See also [G06F 17/3074](#)
- M G06F 17/60
- {Administrative, commercial, managerial, supervisory or forecasting purposes (electronic cash registers other than digital data processing aspects thereof [G07G 1/12](#))}
- WARNING**
This group is no longer used for the classification of new documents as from January 1, 2006. The backlog of this group is being continuously reclassified to the relevant groups of [G06Q](#)

- U G06F 19/00** **Digital computing or data processing equipment or methods, specially adapted for specific applications ([G06F 17/00](#) takes precedence; data processing systems or methods specially adapted for administrative, commercial, financial, managerial, supervisory or forecasting purposes [G06Q](#))**
- NOTE
- This group only covers specific applications related to the fields of healthcare or life sciences, e.g. bioinformatics ([G09F 19/10](#)), medical informatics ([G06F 19/30](#)), or chemoinformatics ([G06F 19/70](#)).

- M G06F 19/70**
- {Chemoinformatics, i.e. data processing methods or systems for the retrieval, analysis, visualisation, or storage of physicochemical or structural data of chemical compounds (in silico methods of screening virtual chemical libraries [C40B 30/02](#); in silico or mathematical methods of creating virtual chemical libraries [C40B 50/02](#); computer-aided design per se [G06F 17/50](#); bioinformatics [G06F 19/10](#); processing of 2D or 3D images [G06T](#))}

WARNING

Subgroups G06F 19/701 – G06F 19/709 are not complete pending reclassification; see also group G06F 19/70.

Project: N/A (G06G)

- U G06G 7/00** **Devices in which the computing operation is performed by varying electric or magnetic quantities**
- U G06G 7/12**
- Arrangements for performing computing operations, e.g. operational amplifiers (amplifiers in general [H03F](#); {adapted for telemeasuring or for indicating or recording the results of the measurement [G01D 1/10](#), [G01D 1/16](#); for fuzzy computing [G06N 7/02](#)})
- G06G 7/16**
- · for multiplication or division {([G06G 7/19](#) and [G06G 7/24](#) take precedence; measuring electric power [G01R 21/00](#))}

Project: N/A (G06N)

- U G06N 3/00** **Computer systems based on biological models (analogue computers simulating functional aspects of living beings [G06G 7/60](#))**
- U G06N 3/004**
- {Artificial life, i.e. computers simulating life}
- G06N 3/006**
- · {based on simulated virtual individual or collective life forms, e.g. single "avatar", social simulations, virtual worlds (computer games [A63F 13/00](#); medical simulations [G06F 19/00](#); information retrieval [G06F 17/30873](#); image processing [G06T](#); telecommunication protocols [H04L 29/06034](#))}

Project: N/A (G06T)**G06T**

IMAGE DATA PROCESSING OR GENERATION, IN GENERAL (specially adapted for particular applications, see the relevant subclasses, e.g. [G06K](#), [G09G](#), [H04N](#))

NOTES

1. This subclass covers:

- arrangements for geometrically modelling objects, whether the final model is used for display of an image of the object or for some other purpose, such as manufacture of a corresponding object;
- arrangements for analysing the geometric attributes of an image of an object.

2. This subclass does not cover:

- reading or recognising printed or written characters or recognising patterns, e.g. fingerprints, which is covered by subclass [G06K](#);

- modification of image data to allow display using multiple viewports, which is covered by subclass [G09G](#);
- circuits for generating functions for visual indicators, which are covered by subclass [G09G](#);
- scanning of documents or the like in pictorial communication, which is covered by subclass [H04N](#).

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

~~G06T 1/40 covered by G06T 1/20~~

G06T 1/40 covered by G06T 1/20

Project: MP0145 (G06T)

U G06T 7/00

Image analysis, e.g. from bit-mapped to non bit-mapped

- U G06T 7/0051
- U G06T 7/0065
- M G06T 7/0071

- {Depth or shape recovery}
- • {from multiple images}
- • • {from motion}

WARNING

~~Not complete pending reclassification; see also group G06T 7/20~~

- M G06T 7/20

- Analysis of motion {(movement detection in television systems [H04N 5/144](#); motion estimation for digital video signal compression [H04N 19/51](#); recognizing scenes under surveillance and traffic patterns [G06K 9/00771](#), [G06K 9/00785](#))}

WARNING

~~This group is being reorganised. Documents dealing with shape from motion are reclassified to G06T 7/0071 and a sub-group G06T 7/2006 is created~~

- M G06T 7/2006

- • {Motion-based segmentation}

WARNING

~~Not complete pending reclassification; see also group G06T 7/20~~

- U G06T 7/2033

- • {using feature-based methods, e.g. corners, segments}

- M G06T 7/204

- • • {involving reference images or patches (image matching for pattern recognition or image matching in general [G06K 9/6203](#))}

WARNING

~~Not complete pending reclassification; see also group G06T 7/20~~

- M G06T 7/2046

- • • {involving models (model matching for pattern recognition [G06K 9/6204](#), [G06K 9/6878](#))}

WARNING

~~Not complete pending reclassification; see also group G06T 7/20~~

- M G06T 7/2093

- • {Multi-camera tracking}

WARNING

~~Not complete pending reclassification; see also group G06T 7/20~~

- U G06T 11/00**

2D [Two Dimensional] image generation

- M G06T 11/003 · {Reconstruction from projections, e.g. tomography}
- WARNING
As from 06.2011 documents of this group are being continuously reclassified to its subgroups
- M G06T 11/005 · {Specific pre-processing for tomographic reconstruction, e.g. calibration, source positioning, rebinning, scatter correction, retrospective gating}
- WARNING
Not complete pending the completion of a reclassification; see also **G11/00T**
- M G06T 11/006 · {Inverse problem, transformation from projection-space into object-space, e.g. transform methods, back-projection, algebraic methods}
- WARNING
Not complete pending the completion of a reclassification; see also **G06T-11/003**
- M G06T 11/008 · {Specific post-processing after tomographic reconstruction, e.g. voxelisation, metal artifact correction}
- WARNING
Not complete pending the completion of a reclassification; see also **G06T-11/003**
- U G06T 15/00 3D [Three Dimensional] image rendering**
- U G06T 15/10 · Geometric effects
- U G06T 15/20 · · Perspective computation
- M G06T 15/205 · · · {Image-based rendering}
- WARNING
This group is not complete pending a reorganisation. See also **G06T-15/00**
- M G06T 19/00 Manipulating 3D models or images for computer graphics**
- WARNING
As from August 1, 2011, documents relating to subject matter covered by subgroups **G06T-19/003**, **G06T-19/006** are continuously reclassified to said subgroups
- M G06T 19/003 · {Navigation within 3D models or images}
- WARNING
This group is not complete pending reclassification; see also group **G06T-19/00**
- M G06T 19/006 · {Mixed reality (object pose determination, tracking or camera calibration for mixed reality [G06T 7/00](#))}
- WARNING
This group is not complete pending reclassification; see also group **G06T-19/00**

Project: N/A (G07D)**G07D**

HANDLING OF COINS OR OF PAPER CURRENCY OR SIMILAR VALUABLE PAPERS, e.g. TESTING, SORTING BY DENOMINATIONS, COUNTING, DISPENSING, CHANGING OR DEPOSITING

NOTES

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

- "coins" also covers tokens of similar nature;
- "paper currency or similar valuable papers" covers banknotes, bills, cheques, vouchers, securities, bonds or the like.

2. This subclass covers handling of "coins" or "paper currency" insofar as they carry distinctive value features representative of money or the like.

Informative references:

- sorting in general [B07C](#)
- handling paper sheets in general [B65H](#)
- counting by weighing [G01G](#)
- counting of objects in general, i.e. without discriminating of denominations, [G06M](#)

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups: ~~G07D 13/00~~ ~~covered by G07D 11/00 and subgroup.~~

G07D 13/00 covered by *G07D 11/00 and subgroup.*

Project: MP0145 (G07D)

- M G07D 3/00 **Sorting a mixed bulk of coins into denominations** **{{(sorting paper currency [G07D 11/0084](#); sorting by coin weight [G01G](#))}}**
- WARNING**
~~Not complete pending a reclassification. See also groups G07F 3/00 and G07F 3/04~~
- M G07D 5/00 **Testing specially adapted to determine the identity or genuineness of coins, e.g. for segregating coins which are unacceptable or alien to a currency** **{{(in combination with apparatus freed or actuated by coins or the like [G07F 3/00](#))}}**
- WARNING**
~~Not complete pending a reclassification. See also groups G07F 3/00-G07F 3/027~~
- M G07D 5/005 • {Testing the surface pattern, e.g. relief}
- WARNING**
~~Not complete pending a reclassification. See also groups G07F 3/02 and G07F 3/027~~
- M G07D 5/02 • Testing the dimensions, e.g. thickness, diameter; Testing the deformation
- WARNING**
~~Not complete pending a reclassification. See also groups G07F 3/02 and G07F 3/022~~
- M G07D 5/06 • Testing the hardness or elasticity
- WARNING**
~~Not complete pending a reclassification. See also groups G07F 3/02 and G07F 3/025~~
- M G07D 5/08 • Testing the magnetic or electric properties
- WARNING**
~~Not complete pending a reclassification. See also groups G07F 3/02 and G07F 3/025~~

- M G07D 5/10 · Testing the rim, e.g. the milling of the rim

WARNING

~~Not complete pending a reclassification. See also groups G07F 3/02 and G07F 3/027~~

Project: N/A (G07F)

G07F 3/00

{Coin testing or sorting means or arrangements for coin-freed apparatus (apparatus for testing coins for use apart from coin-freed apparatus [G07D](#))}

WARNING

The groups [G07F 3/00](#) - [G07F 3/027](#) are no longer used for the classification of new documents from October 1, 2007. The backlog of these groups is being continuously reclassified to the group [G07D 5/00](#) and subgroups

G07F 3/02

- {for testing coins}

Project: MP0145 (G07F)

M G07F 3/04

- {for sorting coins}

WARNING

~~This group is no longer used for the classification of new documents from October 1, 2007. The backlog of this group is being continuously reclassified to the group G07D 3/00 and subgroups~~

Project: MP0235 (G08B)

M G08B

SIGNALLING OR CALLING SYSTEMS; ORDER TELEGRAPHS; ALARM SYSTEMS {(signalling arrangements on vehicles [B60Q](#), [B62D 41/00](#); railway signalling systems or devices [B61L](#); on cycles [B62J 3/00](#), [B62J 6/00](#); safes or strong-rooms with alarm devices [E05G](#); signalling or alarm devices in mines [E21F 17/18](#); lamps or shutters therefor [F21](#); sensitive measuring elements, see the appropriate subclasses of [G01](#); traffic control systems [G08G](#); visual indicating means [G09](#); sound-producing devices [G10](#); radio or near-field calling systems [H04B 5/00](#), [H04B 7/00](#); selecting arrangements ~~[H04Q7/00](#)~~[H04Q 5/00](#), [H04Q 9/00](#); loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers [H04R](#))}

NOTES

1. This subclass covers also means for identifying or incapacitating burglars or the like.
2. This subclass does not cover:
 - the mere provision of an audible or visible signalling device on measuring or switching apparatus;
 - alarm systems for indicating that a specific variable has exceeded, or fallen below, a predetermined value, which are covered by the relevant subclasses of class [G01](#) for the measurement of that variable.
 - alarms for specific processes or types of machines or apparatus, which are covered by the relevant subclasses for the processes, machines, or apparatus.
3. In this subclass, the following term is used with the meaning indicated:
 - "systems" may cover also devices peculiar thereto.

- M G08B 3/00** Audible signalling systems; Audible personal calling systems *{{(signalling devices actuated by tyre pressure [B60C 23/02](#); alarm locks [E05B 45/00](#), e.g. with mechanically-operated bells [E05B 45/02](#), electric [E05B 45/06](#)); audible indication of time signals [G04B 21/00](#), [G04C 21/00](#); {sound producing devices, e.g. hooter, buzzer, [G10K](#); telephonic systems provided with personal calling arrangements [H04M 11/022](#))}}*
- M G08B 5/00** **Visible***visible* signalling systems, e.g. personal calling systems, remote indication of seats occupied *{{(locks with visible signalling devices [E05B 39/00](#); electro-, magneto- or acousto-optic display devices [G02F](#)); display of time signals [G04B 19/00](#), [G04C 17/00](#), [G04C 19/00](#), [G04G 9/00](#); for display of alphanumeric information [G09F](#); flags, banners [G09F](#); {display tubes [H01J 17/49](#), [H01K 7/04](#); electro-luminescent devices [H05B 33/00](#))}}*
- U G08B 5/06** • using hydraulic transmission; using pneumatic transmission
- M G08B 5/14** • • with indicator element moving about a pivot, e.g. hinged flap; *or* rotating vane
- U G08B 5/22** • using electric transmission; using electro-magnetic transmission
- M G08B 5/24** • • with indicator element moving about a pivot, e.g. hinged flap; *or* rotating vane *{{(signalling devices for telephones [H04M 19/04](#); telecontrolling indicating devices, e.g. hinged flap, [G08C 19/30](#); signalling systems for auctioneering devices [H04L 12/1804](#))}}*
- M G08B 5/40** • using smoke, fire or coloured gases *{{(sky-writing [G09F 21/16](#) {missiles, e.g. of tracer, illuminating, signal or smoke producing type [F42B](#); chemical compositions therefor [C06B](#); for personal calling arrangements [G08B 3/1008](#), [G08B 3/1016](#); smoke producers for aircraft [B64D 1/16](#)–[B64D 1/20](#); for personal calling arrangements see provisionally [G08B 3/1008](#), [G08B 3/1016](#)}; chemical compositions [C06B](#); missiles, e.g. of tracer, illuminating, signal or smoke producing type [F42B](#))}}*
- M G08B 6/00** Tactile signalling systems, e.g. personal calling systems *{{(indication of time by feeling [G04B 25/02](#); deaf-aid sets [H04R 25/00](#))}{(apparatus for generating mechanical vibrations [B06B 1/045](#); motors converting reciprocating into rotary movement or *vice-versa**vice-versa* [H02K 7/06](#); motors with reciprocating, oscillating, or vibrating magnet, armature, or coil system [H02K 33/00](#); telephone hand set vibration alarms [H04M 19/047](#))}}*
- M G08B 7/00** Signalling systems according to more than one of groups [G08B 3/00](#)–[G08B 6/00](#) *(combinations of display arrangements with audible advertising [G09F 27/00](#))*; Personal calling systems according to more than one of groups [G08B 3/00](#)–[G08B 6/00](#) *{{(combinations of display devices with advertising [G09F](#))}}*
- M G08B 9/00** Order telegraph apparatus, i.e. means for transmitting one of a finite number of different orders at the discretion of the user, e.g. bridge to engine room orders in ships *{{(signalling devices in mines [E21F 17/18](#) signaling devices in mines [E21F 17/18](#))}}*
- M G08B 13/00** Burglar, theft; or intruder alarms *{{(vehicle theft alarms [B60R 25/10](#); cycle theft alarms [B62H 5/00](#))}{(fire or police telegraphic systems [G08B 25/00](#), [G08B 26/00](#), [H04M 11/04](#); vehicle theft alarms [B60R 25/10](#); cycle theft alarms [B62H 5/00](#))}}*
- U G08B 13/02** • Mechanical actuation
- M G08B 13/06** • • by tampering with fastening *{{(alarm locks [E05B 45/00](#); alarm devices on safes [E05G 1/10](#))}{(anti-theft means in containers [B65D 2211/00](#))}}*
- U G08B 13/18** • Actuation by interference with heat, light or radiation of shorter wavelength; Actuation by intruding sources of heat, light or radiation of shorter wavelength *{{(signalling devices using photo-electric devices in general [G09F](#))}}*
- U G08B 13/181** • • using active radiation detection systems

- M G08B 13/183
- • by interruption of a radiation beam or barrier ~~{(light barriers G01V 8/10)}~~ ~~{(industrial safety devices with photocells F16P 3/14)}~~
- M G08B 15/00
- Identifying, scaring or incapacitating burglars, thieves, or intruders, e.g. by explosives ~~{(burglar traps or the like, on safes E05G 5/02; {devices to prevent loss of bags, trunks or travelling baskets by producing sound, piercing, gas-discharging or the like A45C 13/24; alarm locks E05B 45/00, e.g. with detonating alarm E05B 45/04})}~~
- M G08B 17/00
- Fire alarms; Alarms responsive to explosion ~~{(temperature-responsive elements G01K; {automatic fire-extinguishing and alarm devices A62C 35/00, A62C 37/00; structural combination of lighting devices with smoke detectors F21V 33/0076; arrangement of safety devices on stoves F24C 7/08})}~~
- M G08B 17/06
- Electric actuation of the alarm, e.g. using a thermally-operated switch ~~{(thermally-operated electric switches per se H01H 37/00)}~~
- U G08B 17/10
- Actuation by presence of smoke or gases {automatic alarm devices for analysing flowing fluid materials by the use of optical means (turbidimetric analysis of gases, e.g. of smoke G01N 21/534)}
- M G08B 17/11
- • using an ionisation chamber for detecting smoke or gas ~~{(vacuum gauges making use of ionisation effects G01L 21/30; gas analysis by investigating the ionisation G01N 27/62)}~~
- M G08B 17/113
- • • Constructional details ~~(discharge tubes for measuring pressure of introduced gas, or for detecting presence of gas, in general H01J 41/02)~~
- M G08B 17/117
- • by using a detection device for specific gases, e.g. combustion products, produced by the fire (G08B 17/103, G08B 17/11 take precedence); investigating or analysing gases in general G01N, e.g. by using electric means G01N 27/00; {particle spectrometers per se H01J 49/00}
- M G08B 17/12
- Actuation by presence of radiation or particles, e.g. of infra-red radiation, ~~or of ions~~ ~~{(alarm or controlling circuits using ionisation chamber, proportional counters or Geiger-Müller tubes also functioning as u-v detectors G01T 7/125; flame detection in burners F23N 5/00; alarm or controlling circuits using ionisation chamber, proportional counters or Geiger-Müller tubes also functioning as u-v detectors G01T 7/125)}~~
- U G08B 19/00
- Alarms responsive to two or more different undesired or abnormal conditions, e.g. burglary and fire, abnormal temperature and abnormal rate of flow
- U G08B 19/02
- Alarm responsive to formation or anticipated formation of ice ~~{(indicating weather conditions G01W 1/00)}~~
- U G08B 21/00
- Alarms responsive to a single specified undesired or abnormal operating condition and not elsewhere provided for ~~{(alarms on gas pipes F17D 3/01)}~~
- U G08B 21/02
- Alarms for ensuring the safety of persons
- M G08B 21/06
- • indicating a condition of sleep, e.g. anti-dozing alarms ~~{(safety devices for propulsion-unit control of vehicles responsive to incapacity of driver B60K 28/06; {psychotechnic analysis of vehicle drivers A61B 5/18; safety devices for propulsion-unit control of vehicles responsive to incapacity of driver B60K 28/06})}~~
- M G08B 21/10
- • responsive to calamitous events, e.g. tornados, ~~or~~ earthquakes ~~(seismology G01V 1/00; indicating weather conditions G01W 1/00)~~
- U G08B 21/12
- • responsive to undesired emission of substances, e.g. pollution alarms
- U G08B 21/18
- Status alarms (G08B 21/02 takes precedence)
- M G08B 21/24
- • Reminder alarms, e.g. anti-loss alarms ~~(devices to prevent loss of bags or the like A45C 13/24)~~

- U G08B 25/00** Alarm systems in which the location of the alarm condition is signalled to a central station, e.g. fire or police telegraphic systems **{{(signalling systems in general [G08C](#))}}**
- U G08B 25/01 · characterised by the transmission medium
- M G08B 25/06 · · using power transmission lines **{{(systems in general for transmission of information via power distribution lines [H04B 3/54](#))}}**
- M G08B 25/08 · · using communication transmission lines; **~~{e.g. complete alarm systems using telephone lines for transmission of the alarm}~~****{{(telephone communication systems combined with alarm systems [H04M 11/04](#))}}****{{(G08B 13/19658, [G08B 21/0286](#), [G08B 25/016](#) take precedence; *specific aspects of telephone communication systems adapted for combination with alarm systems [H04M 11/04](#))}}***
- U G08B 29/00** Checking or monitoring of signalling or alarm systems; Prevention or correction of operating errors, e.g. preventing unauthorised operation **{{(arrangements for testing electric properties, arrangements for locating electric faults [G01R 31/00](#))}}**
- U G08B 29/02 · Monitoring continuously signalling or alarm systems
- M G08B 29/06 · · Monitoring of the line circuits, e.g. signalling of line faults **{{(testing or locating faults in cables or lines in general [G01R 31/02](#), [G01R 31/08](#))}}**

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

1. 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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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
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

Project: MP0272 (G10D)

M G10D

STRINGED MUSICAL INSTRUMENTS; WIND-~~ACTUATED~~ 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; combinations of microphones, pick-ups or amplifiers with musical instruments G10H; sound-producing devices not regarded as musical instruments or parts thereof G10K; 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](#).

M G10D 7/00

General design of wind-~~actuated~~ musical instruments (accordions or concertinas [G10D 11/00](#); ~~organs or harmoniums G10B~~; whistles ~~G10K~~[G10K 5/00](#))

M G10D 7/06

• of the type with a beating reed (~~Rohrblatt~~) or reeds, e.g. oboes, clarinets, bassoons or bagpipes

M G10D 7/12

• of the type with free reeds (~~Zunge~~), e.g. ~~mouthorgans~~[mouth-organs](#) or trumpets for children

M G10D 7/123

• • {~~Mouthorgans~~[Mouth-organs](#)}

M G10D 9/00

Details of, or accessories for, wind-~~actuated~~ musical instruments

Project: N/A (G10H)

- U G10H 2210/00 Aspects or methods of musical processing having intrinsic musical character, i.e. involving musical theory or musical parameters or relying on musical knowledge, as applied in electrophonic musical tools or instruments (processing aspects without intrinsic musical character [G10H 2250/00](#))**
- U G10H 2210/155 · Musical effects
- U G10H 2210/195 · · Modulation effects, i.e. smooth non-discontinuous variations over a time interval, e.g. within a note, melody or musical transition, of any sound parameter, e.g. amplitude, pitch, spectral response, playback speed (stepwise or discontinuous variations over time, e.g. sequence effects [G10H 2210/161](#))
- G10H 2210/221 · · · Glissando, i.e. pitch smoothly sliding from one note to another, e.g. gliss, glide, slide, bend-, smear, sweep; ("discrete glissando" on instruments not permitting continuous glissando, like the xylophone or the piano, e.g. arpeggio [G10H 2210/185](#))
- U G10H 2210/395 · Special musical scales, i.e. other than the 12- interval equally tempered scale; Special input devices therefor (keyboards [G10H 2220/221](#))
- U G10H 2210/541 · · Pentatonic or pentatonic scale, i.e. five pitches or notes per octave, e.g. basic chinese musical scale, black piano keys, javanese gamelan slendr? scale, japanese shakuhachi flute (balinese pentatonic scales with deliberate interference beating, e.g. balinese gamelan slendr? scale [G10H 2210/515](#))
- G10H 2210/545 · · · Yona Nuki-, i.e. a family of pentatonic scales without fourth or seventh, e.g. Hirajoshi, Iwato, Kumoi, Sino-indian [Raga Amritavarsini] used, e.g. for japanese traditional music, koto or shamisen tunings
- U G10H 2230/00 General physical, ergonomic or hardware implementation of electrophonic musical tools or instruments, e.g. shape or architecture**
- U G10H 2230/045 · Special instrument [spint], i.e. mimicking the ergonomoy, shape, sound or other characteristic of a specific acoustic musical instrument category
- U G10H 2230/075 · · Spint stringed, i.e. mimicking stringed instrument features, electrophonic aspects of acoustic stringed musical instruments without keyboard; MIDI-like control therefor (string instrument sound synthesis [G10H 2250/441](#))
- U G10H 2230/125 · · · Spint harp, i.e. mimicking harp-like instruments, e.g. large size concert harp, with pedal
- G10H 2230/131 · · · Spint harp celtic, i.e. mimicking smaller sized harps without pedal, eg. celtic harp, lever harp-, folk harp, Irish harp

Project: MP0145 (G10L)

- U G10L 13/00 Speech synthesis; Text to speech systems**
- U G10L 13/02 · Methods for producing synthetic speech; Speech synthesisers
- U G10L 13/04 · · Details of speech synthesis systems, e.g. synthesiser structure or memory management
- M G10L 13/043 · · · {Synthesisers specially adapted to particular applications}
- WARNING**
This group is no longer used for the classification of new documents as from September 1, 2012. The backlog is being reclassified to G10L 13/00 and subgroups.
- U G10L 15/00 Speech recognition ([G10L 17/00](#) takes precedence)**
- U G10L 15/26 · Speech to text systems ([G10L 15/08](#) takes precedence)

- M G10L 15/265
- {Speech recognisers specially adapted for particular applications (devices for signalling identity of wanted subscriber in a telephonic communication equipment controlled by voice recognition [H04M 1/271](#); speech interaction details in interactive information services in a telephonic communication system [H04M 3/4936](#))}
- WARNING**
This group is no longer used for the classification of new documents as from September 1, 2012. The backlog is being reclassified to G10L 15/00 and subgroups.
- U G10L 17/00** **Speaker identification or verification**
- M G10L 17/005
- {Speaker recognisers specially adapted for particular applications ([G07C 9/00071](#) takes precedence)}
- WARNING**
This group is no longer used for the classification of new documents as from September 1, 2012. The backlog is being reclassified to G10L 17/00 and subgroups.
- U G10L 19/00** **Speech or audio signal analysis-synthesis techniques for redundancy reduction, e.g. in vocoders; Coding or decoding of speech or audio signal, using source filter models or psychoacoustic analysis (in musical instruments [G10H](#))**
- M G10L 19/0019
- {Vocoders specially adapted for particular applications}
- WARNING**
This group is no longer used for the classification of new documents as from September 1, 2012. The backlog is being reclassified to G10L 19/00 and subgroups.
- U G10L 21/00** **Processing of the speech or voice signal to produce another audible or non-audible signal, e.g. visual or tactile, in order to modify its quality or its intelligibility ([G10L 19/00](#) takes precedence)**
- U G10L 21/02
- Speech enhancement, e.g. noise reduction or echo cancellation (reducing echo effects in line transmission systems [H04B 3/20](#); echo suppression in hands-free telephones [H04M 9/08](#))
- M G10L 21/0202
- {Applications}
- WARNING**
This group is no longer used for the classification of new documents as from September 1, 2012. The backlog is being reclassified to G10L 21/00 and subgroups.
- M G10L 21/0205
- • {Enhancement of intelligibility of clean or coded speech}
- WARNING**
This group is no longer used for the classification of new documents as from September 1, 2012. The backlog is being reclassified to G10L 21/0364, G10L 21/057.

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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	
G11B 7/16	covered by	G11B 7/135	
G11B 7/18	covered by	G11B 7/135	
G11B 7/30	covered by	G11B 7/00	
G11B 9/12	covered by	G11B 9/14	covered by
G11B 9/00			
G11B 11/24	covered by	G11B 11/26	covered by
G11B 11/00			
G11B 13/08	covered by	G11B	
G11B 5/65	covered by	<u>G11B 5/64 - G11B 5/656</u>	
G11B 5/667	covered by	<u>G11B 5/66</u>	
G11B 5/673	covered by	<u>G11B 5/66</u>	
G11B 7/16	covered by	<u>G11B 7/135</u>	
G11B 7/18	covered by	<u>G11B 7/135</u>	
G11B 7/30	covered by	<u>G11B 7/00</u>	
G11B 9/12 - G11B 9/14	covered by	<u>G11B 9/00</u>	
G11B 11/24 - G11B 11/26	covered by	<u>G11B 11/00</u>	
G11B 13/08	covered by	<u>G11B</u>	

- U **G11B 3/00** **Recording by mechanical cutting, deforming or pressing, e.g. of grooves or pits; Reproducing by mechanical sensing; Record carriers therefor ([G11B 11/00](#), {[G11B 13/00](#)} take precedence; {recording by cutting or deforming using laser beam [G11B 7/00](#), using electron beam [G11B 9/10](#)})**
- U G11B 3/02 • Arrangements of heads (styli [G11B 3/44](#))
- U G11B 3/08 • • Raising, lowering, traversing otherwise than for transducing, arresting, or holding-up heads against record carriers {(for transducing [G11B 3/12](#), [G11B 3/34](#))}
- G11B 3/085 • • • using automatic means ([G11B 3/095](#) takes precedence {; if particularly adapted for record-changers see [G11B 17/16](#) and subgroups-})

Project: MP0145 (G11B)

- U G11B 7/00 **Recording or reproducing by optical means, e.g. recording using a thermal beam of optical radiation {by modifying optical properties or the physical structure}, reproducing using an optical beam at lower power {by sensing optical properties}; Record carriers therefor; ([G11B 11/00](#), [G11B 13/00](#) take precedence)**
- U G11B 7/004 • Recording, reproducing or erasing methods; Read, write or erase circuits therefor {(magneto-optical systems [G11B 11/105](#))}
- U G11B 7/0045 • • Recording ([G11B 7/006](#), [G11B 7/0065](#) take precedence)
- M G11B 7/00458 • • • {Verification, i.e. checking data during or after recording}
- WARNING
Not complete, see also [G11B 7/0045](#) and [G11B 7/005](#)
- U G11B 7/005 • • Reproducing ([G11B 7/0065](#) takes precedence)
- M G11B 7/0053 • • • {Reproducing non-user data, e.g. wobbling address, prepits, BCA}
- WARNING
Not complete, see also [G11B 7/005](#)
- U G11B 7/007 • Arrangement of the information on the record carrier, e.g. form of tracks, {actual track shape, e.g. wobbling, or cross-section, e.g. v-shaped; Sequential information structures, e.g. sectoring or header formats within a track}
- M G11B 7/00736 • • {Auxiliary data, e.g. lead-in, lead-out, Power Calibration Area [PCA], Burst Cutting Area [BCA], control information (sector headers or addresses in prepits [G11B 7/00745](#); address data in track wobble [G11B 7/24082](#))}
- WARNING
Not complete, see also [G11B 7/007](#) and [G11B 7/00745](#)
- M G11B 7/0079 • • {Zoned data area, e.g. having different data structures or formats for the user data within data layer, Zone Constant Linear Velocity [ZCLV], Zone Constant Angular Velocity [ZCAV], carriers with RAM and ROM areas}
- WARNING
Not complete, see also [G11B 7/007](#)
- U G11B 7/08 • Disposition or mounting of heads or light sources relatively to record carriers
- M G11B 7/082 • • {Aligning the head or the light source relative to the record carrier otherwise than during transducing, e.g. adjusting tilt set screw during assembly of head}
- WARNING
Not complete, see also [G11B 7/22](#)
- U G11B 7/12 • Heads, e.g. forming of the optical beam spot or modulation of the optical beam (disposition or mounting of head elements within housing or with provision for moving of light source, optical beam or detector, irrelevant to the transducing method [G11B 7/08](#); {modulating lasers [H01S 3/10](#); controlling the intensity, colour, phase, polarisation or direction of light beams arriving from an independent light source, e.g. switching gating or modulating [G02F 1/00](#))}
- M G11B 7/125 • • Optical beam sources therefor, e.g. laser control circuitry specially adapted for optical storage devices; Modulators, e.g. means for controlling the size or intensity of optical spots or optical traces {(electro-, magneto-, or acousto-optical modulators [G02F 1/00](#); optical diaphragms [G03B 9/02](#))}
- WARNING
For all subgroups of [G11B 7/125](#), see also provisional [G11B 7/125](#)

- M G11B 7/13
- Optical detectors therefor {(optical detectors per se [G01J](#); demodulating light, transferring the modulation of modulated light, frequency changing of light [G02F 2/00](#))}
- WARNING**
For all subgroups of G11B 7/13, see provisional also G11B 7/13
- M G11B 7/135
- Means for guiding the beam from the source to the record carrier or from the record carrier to the detector
- WARNING**
For all subgroups of G11B 7/135, see provisional also G11B 7/135
- M G11B 7/1395
- • Beam splitters or combiners ([G11B 7/1353](#), [G11B 7/1356](#) take precedence {; beam splitting or combining per se [G02B 27/10](#))}
- WARNING**
Not complete, see also G11B 7/1359 – G11B 7/1381
- U G11B 7/24
- Record carriers characterised by shape, structure or physical properties, or by the selection of the material (characterised by the arrangement of information on the carrier [G11B 7/007](#))
- U G11B 7/26
- • Apparatus or processes specially adapted for the manufacture of record carriers (processes involving a single technical art and for which provision exists elsewhere, see the relevant class, e.g. [B29](#), [G03](#) {manufacture of intermediate mediums, e.g. matrixes for processing [G11B 23/0057](#))}
- M G11B 7/265
- • {Apparatus for the mass production of optical record carriers, e.g. complete production stations, transport systems}
- WARNING**
Not complete, see also G11B 7/26
- M G11B 7/266
- • {Sputtering or spin-coating layers (sputtering in general [C23C 14/24](#); spin-coating in general [B05D 1/005](#))}
- WARNING**
Not complete, see also G11B 7/26
- M G11B 7/268
- • {Post-production operations, e.g. initialising phase-change recording layers, checking for defects (investigating the presence of flaws or contamination in optical discs [G01N 21/9506](#))}
- WARNING**
Not complete, see also G11B 7/26
- U G11B 27/00
- Editing; Indexing; Addressing; Timing or synchronising; Monitoring; Measuring tape travel**
- M G11B 27/02
- Editing, e.g. varying the order of information signals recorded on, or reproduced from, record carriers (arrangements for sorting or merging computer data on continuous record carriers [G06F 7/22](#); mixing of video signals [H04N 5/265](#))
- WARNING**
For groups G11B 27/022 – G11B 27/038, see provisionally also G11B 27/02, G11B 27/029 and G11B 27/036

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 27/115](#); pulse technique in general [H03K](#), e.g. electronic switches [H03K 17/00](#); {using a static store as a picture recording medium [H04N 5/907](#)})

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

~~The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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~~

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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

Project: MP0145 (G11C)**U G11C 7/00**

Arrangements for writing information into, or reading information out from, a digital store ([G11C 5/00](#) takes precedence; auxiliary circuits for stores using semiconductor devices [G11C 11/4063](#), [G11C 11/413](#))

M G11C 7/02

- with means for avoiding parasitic signals

WARNING

~~Not complete; see also [G11C 7/18](#), [G11C 7/22](#)~~

M G11C 7/04

- with means for avoiding disturbances due to temperature effects

WARNING

~~Not complete; see also [G11C 7/22](#)~~

- U G11C 7/06 · Sense amplifiers; Associated circuits, {e.g. timing or triggering circuits} (amplifiers *per se* [H03F](#), [H03K](#))
- M G11C 7/08 · · Control thereof

WARNING

Not complete; see also G11C 7/06

Project: N/A (G11C)

- G11C 7/10 · Input/output (I/O) data interface arrangements, e.g. I/O data control circuits, I/O data buffers (level conversion circuits in general [H03K 19/0175](#))

Project: N/A (G21C)

G21C NUCLEAR REACTORS (analogue computers therefor [G06G 7/54](#); fusion reactors, hybrid fission-fusion reactors [G21B](#); nuclear explosives [G21J](#))

WARNING

The following IPC groups are not used in the CPC scheme:

~~G21C 1/01 covered by all other groups of G21C~~

~~G21C 19/33 covered by all other subgroups of G21C 19/34~~

<i>G21C 1/01</i>	<i>covered by</i>	<i>all other groups of G21C</i>
<i>G21C 19/33</i>	<i>covered by</i>	<i>all other subgroups of G21C 19/34</i>

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

The following IPC group is not used in the CPC scheme. Subject matter covered this group is classified in the following CPC group:

~~G21K 3/00 covered by G21K 1/10~~

<i>G21K 3/00</i>	<i>covered by</i>	<i>G21K 1/10</i>
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Project: N/A (H01G)

- U H01G 9/00 **Electrolytic capacitors, rectifiers, detectors, switching devices, light-sensitive or temperature-sensitive devices; Processes of their manufacture**
- U H01G 9/004 · Details
- U H01G 9/04 · · Electrodes {or formation of dielectric layers thereon}
- U H01G 9/048 · · · characterised by their structure ([H01G 11/22](#) takes precedence)
- H01G 2009/05 · · · · {IPC5 consisting of tantalum, niobium, or sintered material; Combinations of such electrodes with solid semiconductive electrolytes, e.g. manganese dioxide not used, see subgroups-}

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 "micro-structural devices" and micro-structural 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 accomodating two or more switching devices or for accomodating 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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups :

~~H01H 33/575 covered by H01H 33/56~~

~~H01H 33/825 " H01H 33/82~~

~~H01H 33/835 " H01H 33/83~~

~~H01H 33/867 " H01H 33/86~~

~~H01H 33/873 " H01H 33/86~~

~~H01H 33/915 " H01H 33/91~~

~~H01H 33/985 " H01H 33/98~~

~~H01H 33/99 " H01H 33/98~~

H01H 33/575	covered by	H01H 33/56
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

U H01H 11/00

Apparatus or processes specially adapted for manufacture of electric switches (processes specially adapted for manufacture of rectilinearly movable switches having a plurality of operating members associated with different sets of contacts, e.g. keyboards, [H01H 13/88](#); processes or apparatus specially adapted for the manufacture or treatment of micro-structural devices or systems, e.g. in combination with electrical devices, [B81C](#))

H01H 2011/0093

· {Standardization, e.g. limiting the factory stock by limiting the number of unique, *i.e.* e-different components}

U H01H 33/00

High-tension or heavy-current switches with arc-extinguishing or arc-preventing means

U H01H 33/60

· Switches wherein the means for extinguishing or preventing the arc do not include separate means for obtaining or increasing flow of arc-extinguishing fluid

H01H 33/62

· · {wherein the break is in air at atmospheric pressure, e.g. in open air}

Project: N/A (H01J)

U H01J 3/00

Details of electron-optical or ion-optical arrangements or of ion traps common to two or more basic types of discharge tubes or lamps

H01J 3/26

· Arrangements for deflecting ray or beam (circuit arrangements for producing saw-tooth pulses or other deflecting voltages or currents [H03K](#); {[H01J 29/46](#) - [H01J 29/84](#) and [H01J 37/147](#) take precedence-})

Project: MP0169 (H01J)

- U H01J 37/00 Discharge tubes with provision for introducing objects or material to be exposed to the discharge, e.g. for the purpose of examination or processing thereof ([H01J 33/00](#), [H01J 40/00](#), [H01J 41/00](#), [H01J 47/00](#), [H01J 49/00](#) take precedence; {scanning-probe techniques or apparatus [G01Q](#)} ; contactless testing of electronic circuits using electron beams [G01R 31/305](#); {particle accelerators [H05H](#)})
- U H01J 37/30 · Electron-beam or ion-beam tubes for localised treatment of objects
- U H01J 37/305 · · for casting, melting, evaporating or etching {(methods for casting or melting of metals with electron beam or gas discharges [C22B 9/22](#))}
- M H01J 37/3053 · · · {for evaporating or etching (~~methods for evaporating or etching metals with electron or ion beams [C23C 14/30](#)~~)}

Project: N/A (H01J)

- U H01J 49/00 Particle spectrometer or separator tubes
- NOTE
- In classifying particle separators, no distinction is made between spectrometry and spectrography, the difference being only in the manner of detection which in the first case is electrical and in the second case is by means of a photographic film.
- H01J 49/0013 · {Miniaturised spectrometers, ~~ee.g. g-~~having smaller than usual scale, integrated conventional components}
- H01J 49/0018 · · {Microminiaturised spectrometers, ~~ee.g. g-~~chip-integrated devices, Micro-Electro-Mechanical Systems [MEMS]}
- H01J 49/0022 · {Portable spectrometers, ~~ee.g. g-~~devices comprising independent power supply, constructional details relating to portability (small scale devices per se [H01J 49/0013](#) and [H01J 49/0018](#))}
- H01J 49/004 · {Combinations of spectrometers, tandem spectrometers, ~~ee.g. g-~~MS/MS, MSn}
- U H01J 49/02 · Details
- U H01J 49/06 · · Electron- or ion-optical arrangements
- H01J 49/061 · · · {Ion deflecting means, ~~ee.g. g-~~ion gates}
- U H01J 49/26 · Mass spectrometers or separator tubes (isotope separation using these tubes [B01D 59/44](#))
- U H01J 49/34 · · Dynamic spectrometers
- U H01J 49/40 · · · Time-of-flight spectrometers ([H01J 49/36](#) takes precedence)
- H01J 49/405 · · · · {characterised by the reflectron, ~~ee.g. g-~~curved field, electrode shapes}

Project: RP0268 (H01J)

- U H01J 2237/00 Discharge tubes exposing object to beam, e.g. for analysis treatment, etching, imaging
- NOTES
1. For features of general interest which may be found in other types of discharge tubes, an indexing code corresponding to general schemes [H01J 2201/00](#) - [H01J 2203/00](#) is given, e.g. for cathodes, vessels, cooling means or the like
 2. Same rules apply for manufacturing procedures ([H01J 2209/00](#)), unless really specific to the tube concerned.
 3. The codes in this main group are grouped according to the following principle: details common to gas or plasma discharge of the above mentioned tubes: [H01J 2237/00](#) - [H01J 2237/2487](#)

Imaging or analysing: [H01J 2237/25](#) - [H01J 2237/2857](#)
particle beam processing: [H01J 2237/30](#) - [H01J 2237/31798](#)
plasma processing: [H01J 2237/32](#) - [H01J 2237/339](#)

- U H01J 2237/30 · Electron or ion beam tubes for processing objects
 - U H01J 2237/317 · · Processing objects on a micro-scale
 - D H01J 2237/31715 · · · Particle-beam lithography, e.g. electron-beam lithography
- WARNING**
This group and subgroups thereof are not complete, see provisionally H01J 2237/3175 and subgroups
- D H01J 2237/31716 · · · · Production of exposure radiation, e.g. types of radiation, radiation sources
 - D H01J 2237/31718 · · · · Illumination systems for mask or workpiece
 - D H01J 2237/3172 · · · · Systems for imaging mask onto workpiece
 - D H01J 2237/31722 · · · · Imaging systems for maskless apparatus, e.g. direct writing with a scanning beam
 - D H01J 2237/31723 · · · · Imaging strategies, e.g. overlapping exposures, stitching
 - D H01J 2237/31725 · · · · Testing and control, e.g. beam control, testing of apparatus components
 - D H01J 2237/31727 · · · · Handling mask or workpiece
 - D H01J 2237/31728 · · · · Alignment of the mask or the workpiece
 - D H01J 2237/3173 · · · · Constructional details of particle beam apparatus not otherwise provided for, e.g. arrangement, mounting, housing, environment; Special provisions for cleaning or maintenance of the apparatus
- M H01J 2237/3175 · · · Lithography

WARNING

As from January 1st, 2009 this group and its subgroups are no longer used for classification of new documents. The backlock is continuously reclassified to H01J 2237/31715 and subgroups.

Project: RP0259 (H01L)

- M 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)**

NOTES

1. 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, galvanomagnetic 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.

~~1. 3. In This subclass covers electric solid state devices which are not provided for in any other subclass and details thereof. This 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.~~

~~Also covered by this subclass are photo-resistors, magnetic field dependent resistors, field effect resistors, capacitors with potential-jump barrier, resistors with potential-jump barrier both the process or surface barrier, incoherent light emitting diodes, electromechanical solid state transducers and thin-film or thick-film circuits. Furthermore, it provides for processes and apparatus adapted~~

for the manufacture or treatment of ~~such devices~~ *a device and the device itself are classified, except where such processes relate whenever both of these are described sufficiently* to single step processes for which provision exists elsewhere *be of interest*.

2.4. 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.

- ~~The expression "solid state body" refers to 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. (Electrodes are often referred to as "contacts" in the literature.) 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.~~
- ~~The word "device" refers to an electric circuit element; where an electric circuit element is one of a plurality or elements formed in or on a common substrate it is referred to as a "component".~~
- ~~A "complete device" is a device in its fully assembled state which may or may not require further treatment, e.g. electro-forming, before it is ready for use but which does not require the addition of further structural units.~~
- ~~The word "parts" includes all structural units which are included in a complete device.~~
- ~~A "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.~~

~~3. "Integration processes" are processes for the manufacture of at least two different components where the process is especially adapted to their integration, e.g. to take advantage of it or to reduce their manufacturing cost. Example: in a CMOS process, the same ion implant dopes the p-MOS gate and the n-MNOS source and drain.~~

~~Consequently, a process for the manufacture of a component per se is not considered as an integration process, even though that component will be part of an integrated circuit.~~

~~"Assembly" of a device is the building up of the device from its component constructional units and includes the provision of fillings in containers. When referring to the periodic table of the elements, either the new IUPAC notation, i.e. numbering system from 1 to 18, or the previous IUPAC form may be used to indicate an element group, e.g. group IV elements according to the~~

previous IUPAC form correspond to group 14 elements according to the new notation

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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 21/58 covered by H01L 24/80
H01L 21/8239 covered by H01L 27/1052
H01L 21/60 covered by H01L 24/80
H01L 21/66 covered by H01L 22/34
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 21/8247 covered by H01L 27/11517
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

<i>H01L 21/301</i>	<i>covered by</i>	<i><u>H01L 21/30</u></i>
<i>H01L 21/328</i>	<i>covered by</i>	<i><u>H01L 29/66075</u></i>
<i>H01L 21/329</i>	<i>covered by</i>	<i><u>H01L 29/66083</u></i>
<i>H01L 21/33</i>	<i>covered by</i>	<i><u>H01L 29/66227</u></i>
<i>H01L 21/331</i>	<i>covered by</i>	<i><u>H01L 29/66234</u></i>
<i>H01L 21/332</i>	<i>covered by</i>	<i><u>H01L 29/66363</u></i>
<i>H01L 21/334</i>	<i>covered by</i>	<i><u>H01L 29/66075</u></i>
<i>H01L 21/335</i>	<i>covered by</i>	<i><u>H01L 29/66409</u></i>
<i>H01L 21/336</i>	<i>covered by</i>	<i><u>H01L 29/66477</u></i>
<i>H01L 21/337</i>	<i>covered by</i>	<i><u>H01L 29/66893</u></i>
<i>H01L 21/338</i>	<i>covered by</i>	<i><u>H01L 29/66848</u></i>
<i>H01L 21/339</i>	<i>covered by</i>	<i><u>H01L 29/66946</u></i>
<i>H01L 21/58</i>	<i>covered by</i>	<i><u>H01L 24/80</u></i>
<i>H01L 21/8239</i>	<i>covered by</i>	<i><u>H01L 27/1052</u></i>
<i>H01L 21/60</i>	<i>covered by</i>	<i><u>H01L 24/80</u></i>
<i>H01L 21/66</i>	<i>covered by</i>	<i><u>H01L 22/00</u></i>
<i>H01L 21/603</i>	<i>covered by</i>	<i><u>H01L 24/80</u></i>
<i>H01L 21/607</i>	<i>covered by</i>	<i><u>H01L 24/80</u></i>
<i>H01L 21/8242</i>	<i>covered by</i>	<i><u>H01L 27/10844</u></i>
<i>H01L 21/8244</i>	<i>covered by</i>	<i><u>H01L 27/11</u></i>

H01L 21/8246	covered by	H01L 27/112
H01L 21/8247	covered by	H01L 27/11517
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

- U H01L 21/00** Processes or apparatus adapted for the manufacture or treatment of semiconductor or solid state devices or of parts thereof ({testing or measuring during manufacture or treatment, or reliability measurements [H01L 22/00](#); multistep manufacturing processes for passive two-terminal components without a potential-jump or surface barrier for integrated circuits [H01L 28/00](#); } processes or apparatus peculiar to the manufacture or treatment of devices provided for in groups [H01L 31/00](#) - [H01L 51/00](#) or of parts thereof, see these groups; single-step processes covered by other subclasses, see the relevant subclasses, e.g. [C23C](#), [C30B](#); photomechanical production of textured or patterned surfaces, materials or originals therefor, apparatus specially adapted therefor, in general [G03F](#))
- U H01L 21/02 · Manufacture or treatment of semiconductor devices or of parts thereof
- U H01L 21/04 · · the devices having at least one potential-jump barrier or surface barrier, e.g. PN junction, depletion layer, carrier concentration layer {(multistep processes specially adapted for the manufacture of said devices [H01L 29/66007](#), [H01L 29/401](#); details of semiconductor bodies [H01L 29/02](#))}
- M H01L 21/18 · · · the devices having semiconductor bodies comprising elements of **the fourth-group Group IV** of the Periodic System or $A_{III}B_V$ compounds with or without impurities, e.g. doping materials {([H01L 21/041](#) - [H01L 21/0425](#), [H01L 21/045](#) - [H01L 21/048](#) take precedence)}
- NOTE**
This group covers also processes and apparatus which, by using the appropriate technology, are clearly suitable for manufacture or treatment of devices whose bodies comprise elements of **the fourth-group Group IV** of the Periodic System or $A_{III}B_V$ compounds, even if the material used is not explicitly specified.
- U H01L 21/20 · · · · Deposition of semiconductor materials on a substrate, e.g. epitaxial growth {solid phase epitaxy}
- WARNING**
Group [H01L 21/20](#) is impacted by reclassification into groups [H01L 21/02365](#) – [H01L 21/02694](#).
Groups [H01L 21/20](#) and [H01L 21/02365](#) – [H01L 21/02694](#) should be considered in order to perform a complete search.
- U H01L 21/203 · · · · · using physical deposition, e.g. vacuum deposition, sputtering
- M H01L 21/2033 · · · · · {Epitaxial deposition of elements of **the Fourth-Group IV** of the Periodic System, e.g. Si, Ge}
- U H01L 21/205 · · · · · using reduction or decomposition of a gaseous compound yielding a solid condensate, i.e. chemical deposition
- M H01L 21/2053 · · · · · {Epitaxial deposition of elements of **the Fourth-Group IV** of the Periodic System, e.g. Si, Ge}

- U H01L 21/28 Manufacture of electrodes on semiconductor bodies using processes or apparatus not provided for in [H01L 21/20](#) - [H01L 21/268](#); {(etching for patterning the electrodes [H01L 21/311](#) and [H01L 21/3213](#))}
- U H01L 21/28008 {Making conductor-insulator-semiconductor electrodes}
- M H01L 21/28255 {the insulator being formed after the semiconductor body, the semiconductor belonging to **the fourth group Group IV** and not being elemental silicon, e.g. Ge, SiGe, SiGeC}
- U H01L 21/283 Deposition of conductive or insulating materials for electrodes {conducting electric current}
- U H01L 21/285 from a gas or vapour, e.g. condensation
- U H01L 21/28506 {of conductive layers}
- M H01L 21/28512 {on semiconductor bodies comprising elements of **the fourth group Group IV** of the Periodic System}
- U H01L 21/30 Treatment of semiconductor bodies using processes or apparatus not provided for in groups [H01L 21/20](#) - [H01L 21/26](#) (manufacture of electrodes thereon [H01L 21/28](#))
- U H01L 21/302 to change their surface-physical characteristics or shape, e.g. etching, polishing, cutting
- U H01L 21/306 Chemical or electrical treatment, e.g. electrolytic etching (to form insulating layers [H01L 21/31](#))
- U H01L 21/3063 Electrolytic etching
- M H01L 21/30635 {of A **three-III** B **five-V** compounds}
- U H01L 21/324 Thermal treatment for modifying the properties of semiconductor bodies, e.g. annealing, sintering ([H01L 21/20](#) - [H01L 21/288](#) and [H01L 21/302](#) - [H01L 21/322](#) take precedence)
- M H01L 21/3245 {of **III-V A_{III}B_V** compounds}
- U H01L 21/70 . Manufacture or treatment of devices consisting of a plurality of solid state components formed in or on a common substrate or of parts thereof; Manufacture of integrated circuit devices or of parts thereof ({multistep manufacturing processes of assemblies consisting of a plurality of individual semiconductor or other solid state devices [H01L 25/00](#)}, manufacture of assemblies consisting or preformed electrical components [H05K 3/00](#), [H05K 13/00](#))
- U H01L 21/71 Manufacture of specific parts of devices defined in group [H01L 21/70](#) ({[H01L 21/0405](#), [H01L 21/0445](#)}, [H01L 21/28](#), [H01L 21/44](#), [H01L 21/48](#) take precedence)
- U H01L 21/76 Making of isolation regions between components
- M H01L 21/7607 {between components manufactured in an active substrate comprising **III-V A_{III}B_V** compounds}

Project: N/A (H01L)

- H01L 21/768 Applying interconnections to be used for carrying current between separate components within a device {comprising conductors and dielectrics}

NOTE

Groups [H01L 21/768](#) - [H01L 21/76898](#) cover multi-step processes for manufacturing interconnections. Information peculiar to single-step processes should also be classified in the corresponding group, e.g.

- cleaning [H01L 21/02041](#)
- etching [H01L 21/311](#), [H01L 21/3213](#)
- masking [H01L 21/027](#), [H01L 21/033](#), [H01L 21/31144](#), [H01L 21/32139](#)
- planarizing [H01L 21/3105](#), [H01L 21/321](#)

Project: RP0259 (H01L)

- M H01L 22/00** {Testing or measuring during manufacture or treatment; Reliability measurements, i.e. testing of parts without further processing to modify the parts as such; Structural arrangements therefor ~~(detecting or counting or handling H01L 21/67005; marks applied to semiconductor devices H01L 23/544; testing methods or structures peculiar to devices provided for in groups H01L 31/00 - H01L 51/00, see these groups; investigating or analysing materials by the use of optical means G01N 21/00; testing electrical properties of individual semiconductor devices G01R 31/26; testing of photovoltaic systems H02S 50/00)}~~
- M H01L 25/00** Assemblies consisting of a plurality of individual semiconductor or other solid state devices {; Multistep manufacturing processes thereof} (~~lead frames with assemblies of semiconductor devices thereon H01L 23/49575; assembling semiconductor devices using processes or apparatus not provided for in a single one of the subgroups H01L 21/06 - H01L 21/326, e.g. sealing of a cap to a base of a container, H01L 21/50;~~) devices consisting of a plurality of solid state components formed in or on a common substrate [H01L 27/00](#); photovoltaic modules or arrays of photovoltaic cells [H01L 31/042](#) {, [H01G 9/20](#)}; [panels or arrays of photo electrochemical cells H01G 9/2068](#))
- U H01L 29/00** Semiconductor devices adapted for rectifying, amplifying, oscillating or switching, or capacitors or resistors with at least one potential-jump barrier or surface barrier, e.g. PN junction depletion layer or carrier concentration layer; Details of semiconductor bodies or of electrodes thereof; {Multistep manufacturing processes therefor}([H01L 31/00](#) - [H01L 47/00](#), [H01L 51/05](#) take precedence; processes or apparatus adapted for the manufacture or treatment thereof or of parts thereof [H01L 21/00](#); details other than of semiconductor bodies or of electrodes thereof [H01L 23/00](#); devices consisting of a plurality of solid state components formed in or on a common substrate [H01L 27/00](#); {passive two-terminal components without a potential-jump or surface barrier for integrated circuits, details thereof and multistep manufacturing processes therefor [H01L 28/00](#); } resistors in general [H01C](#); capacitors in general [H01G](#), {e.g. ceramic barrier-layer capacitors [H01G 4/1272](#)})

NOTE

In this main group, classification is made both in groups [H01L 29/02](#) - [H01L 29/51](#) and in groups [H01L 29/66](#) - [H01L 29/94](#) if both of these sets of groups are relevant.

- U H01L 29/02** • Semiconductor bodies; {Multistep manufacturing processes therefor}
- M H01L 29/04** • • characterised by their crystalline structure, e.g. polycrystalline, cubic; *or* particular orientation of crystalline planes (~~imperfections H01L 29/30~~ *characterised by physical imperfections H01L 29/30*)
- U H01L 29/12** • • characterised by the materials of which they are formed
- M H01L 29/16** • • • including, apart from doping materials or other impurities, only elements of ~~the fourth group~~ *Group IV* of the Periodic System ~~in uncombined form~~ *{(including SiC H01L 29/24)}*
- U H01L 29/66** • Types of semiconductor device; {Multistep manufacturing processes therefor}
- U H01L 29/68** • • controllable by only the electric current supplied, or only the electric potential applied, to an electrode which does not carry the current to be rectified, amplified or switched
- U H01L 29/76** • • • Unipolar devices, {e.g. field effect transistors}
- U H01L 29/772** • • • • Field effect transistors

- U H01L 29/78 with field effect produced by an insulated gate ({[H01L 29/7725](#), [H01L 29/775](#), [H01L 29/778](#) take precedence)}
- U H01L 29/786 Thin film transistors, {i.e. transistors with a channel being at least partly a thin film (transistors having only the source or the drain region on an insulator layer [H01L 29/0653](#); thin film FinFETs [H01L 29/785](#))}
- M H01L 29/78681 {having a semiconductor body comprising [AIII-BVA_{III}B_V](#) or [AII-BVA_{II}B_V](#) or [AIV-BVA_{IV}B_V](#) semiconductor materials, or Se or Te}
- M H01L 29/78684 {having a semiconductor body comprising semiconductor materials of [the fourth-group Group IV](#) not being silicon, or alloys including an element of the group IV, e.g. Ge, SiN alloys, SiC alloys ([H01L 29/7869](#) takes precedence)}
- U H01L 31/00** **Semiconductor devices sensitive to infra-red radiation, light, electromagnetic radiation of shorter wavelength or corpuscular radiation and adapted either for the conversion of the energy of such radiation into electrical energy or for the control of electrical energy by such radiation; Processes or apparatus peculiar to the manufacture or treatment thereof or of parts thereof; Details thereof ([H01L 51/42](#) takes precedence; devices consisting of a plurality of solid state components formed in, or on, a common substrate, other than combinations of radiation-sensitive components with one or more electric light sources, [H01L 27/00](#); production of heat using solar heat [F24J 2/00](#); measurement of X-radiation, gamma radiation, corpuscular radiation or cosmic radiation with semiconductor detectors [G01T 1/24](#), with resistance detectors [G01T 1/26](#); measurement of neutron radiation with semiconductor detectors [G01T 3/08](#); couplings of light guides with optoelectronic elements [G02B 6/42](#); obtaining energy from radioactive sources [G21H](#))**
- U H01L 31/0248 . characterised by their semiconductor bodies
- U H01L 31/0256 . . characterised by the material
- U H01L 31/0264 . . . Inorganic materials
- M H01L 31/028 including, apart from doping material or other impurities, only elements of [the fourth-group Group IV](#) of the Periodic System
- U H01L 31/0328 including, apart from doping materials or other impurities, semiconductor materials provided for in two or more of groups [H01L 31/0272](#) - [H01L 31/032](#)
- M H01L 31/0336 in different semiconductor regions, e.g. Cu₂X-/CdX hetero-junctions, X being an element of [the sixth-group Group VI](#) of the Periodic System
- M H01L 31/03365 {comprising only [Cu₂X](#)/[Cu₂X](#) / CdX heterojunctions, X being an element of [the sixth-group Group VI](#) of the Periodic System}
- U H01L 31/0352 . . characterised by their shape or by the shapes, relative sizes or disposition of the semiconductor regions
- U H01L 31/035236 . . . {Superlattices; Multiple quantum well structures}
- M H01L 31/035254 {including, apart from doping materials or other impurities, only elements of [the fourth-group Group IV](#) of the Periodic System, e.g. Si-SiGe superlattices}
- U H01L 31/036 . . characterised by their crystalline structure or particular orientation of the crystalline planes
- U H01L 31/0368 . . . including polycrystalline semiconductors ([H01L 31/0392](#) takes precedence)
- M H01L 31/03682 {including only elements of [the fourth-group Group IV](#) of the Periodic System}
- U H01L 31/0376 . . . including amorphous semiconductors ([H01L 31/0392](#) takes precedence)
- M H01L 31/03762 {including only elements of [the fourth-group Group IV](#) of the Periodic System}

- U H01L 31/0392
 - • • including thin films deposited on metallic or insulating substrates; {characterised by specific substrate materials or substrate features or by the presence of intermediate layers, e.g. barrier layers, on the substrate (textured substrates [H01L 31/02366](#))}
- M H01L 31/03921
 - • • • {including only elements of ~~the fourth group~~ **Group IV** of the Periodic System}
- M H01L 31/04
 - adapted as photovoltaic [PV] conversion devices, ~~e.g. PV modules or single PV cells~~ (testing thereof during manufacture {[H01L 22/00](#)}; testing thereof after manufacture [H02S 50/10](#))
- U H01L 31/052
 - • Cooling means directly associated or integrated with the PV cell, e.g. integrated Peltier elements for active cooling or heat sinks directly associated with the PV cells (cooling means in combination with the PV module [H02S 40/42](#))
- M H01L 31/0525
 - • • {including means to utilise heat energy directly associated with the PV cell, e.g. integrated Seebeck elements}
- U H01L 31/06
 - • characterised by at least one potential-jump barrier or surface barrier
- U H01L 31/072
 - • • the potential barriers being only of the PN heterojunction type
- M H01L 31/074
 - • • • comprising a heterojunction with an element of ~~the fourth group~~ **Group IV** of the Periodic System, e.g. ITO/Si, GaAs/Si or CdTe/Si solar cells
- U H01L 31/08
 - in which radiation controls flow of current through the device, e.g. photoresistors
- U H01L 31/10
 - • characterised by at least one potential-jump barrier or surface barrier, e.g. phototransistors
- U H01L 31/101
 - • • Devices sensitive to infra-red, visible or ultra-violet radiation
- U H01L 31/102
 - • • • characterised by only one potential barrier or surface barrier
- U H01L 31/105
 - • • • • the potential barrier being of the PIN type
- M H01L 31/1055
 - • • • • • {the devices comprising amorphous materials of ~~the fourth group~~ **Group IV** of the Periodic System}
- U H01L 31/18
 - Processes or apparatus peculiar to the manufacture or treatment of these devices or of parts thereof (not peculiar thereto [H01L 21/00](#))
- M H01L 31/1804
 - • {comprising only elements of ~~the fourth group~~ **Group IV** of the Periodic System}
- U H01L 31/20
 - • such devices or parts thereof comprising amorphous semiconductor materials
- M H01L 31/202
 - • • {including only elements of ~~the fourth group~~ **Group IV** of the Periodic System}

Project: MP0115 (H01L)

- U H01L 39/00
 - Devices using superconductivity; Processes or apparatus peculiar to the manufacture or treatment thereof or of parts thereof (devices consisting of a plurality of solid state components formed in or on a common substrate [H01L 27/00](#); {light detection [G01J](#), [G02F 2/00](#); application to memories [G11C 11/44](#), [G11C 15/00](#), [G11C 19/32](#)}; superconducting conductors cables or transmission lines [H01B 12/00](#); {microwaves [H01P 7/00](#), [H01P 11/00](#)}; superconductive coils or windings [H01F](#); amplifiers using superconductivity [H03F 19/00](#); {impulse generators and logic circuits [H03K 3/38](#), [H03K 17/92](#), [H03K 19/195](#); lasers [H01S 3/00](#), [H01S 5/00](#)})**

NOTE

In this group, in the absence of an indication to the contrary, an invention is classified in the last appropriate place

- U H01L 39/24 · Processes or apparatus peculiar to the manufacture or treatment of devices provided for in [H01L 39/00](#) or of parts thereof
- U H01L 39/2419 · · {the superconducting material comprising copper oxide}
- U H01L 39/2422 · · · {Processes for depositing or forming superconductor layers}
- M H01L 39/2451 · · · · {Precursor deposition followed by after?-treatment, e.g. oxidation}

Project: N/A (H01L)

- U H01L 2224/00** **Indexing scheme for arrangements for connecting or disconnecting semiconductor or solid-state bodies and methods related thereto as covered by [H01L 24/00](#)**
- U H01L 2224/01 · Means for bonding being attached to, or being formed on, the surface to be connected, e.g. chip-to-package, die-attach, "first-level" interconnects; Manufacturing methods related thereto
- U H01L 2224/34 · · Strap connectors, e.g. copper straps for grounding power devices; Manufacturing methods related thereto
- U H01L 2224/35 · · · Manufacturing methods
- U H01L 2224/358 · · · · Post-treatment of the connector
- H01L 2224/3581 · · · · · Cleaning-, e.g. oxide removal step, desmearing
- U H01L 2224/42 · · Wire connectors; Manufacturing methods related thereto
- U H01L 2224/43 · · · Manufacturing methods
- U H01L 2224/438 · · · · Post-treatment of the connector
- H01L 2224/4381 · · · · · Cleaning-, e.g. oxide removal step, desmearing

Project: N/A (H01M)

- U H01M 2/00** **Constructional details or processes of manufacture of the non-active parts**
- U H01M 2/02 · Cases, jackets or wrappings (working of plastics or substances in plastic state [B29](#))
- H01M 2/0237 · · {for large-sized cells or batteries, e.g. **L.I.S.starting, lighting or ignition [SLI]** batteries, traction or motive power type or standby power batteries ([H01M 2/025](#) takes precedence)}
- U H01M 2/20 · Current conducting connections for cells
- U H01M 2/202 · · {Interconnectors for or interconnection of the terminals of adjacent or distinct batteries or cells}
- H01M 2/206 · · · {of large-sized cells or batteries, e.g. **L.I.S.starting, lighting or ignition [SLI]** batteries, traction or motive power type or standby power batteries}
- H01M 2/22 · · Fixed connections, i.e. not **intentedintended** for disconnection
- U H01M 2/26 · · · Electrode connections
- H01M 2/263 · · · · {Electrode connections overlying **woundedwound** or folded electrode stacks}
- U H01M 2/30 · · Terminals
- H01M 2/305 · · · {Poles or terminals for **L.I.S.starting, lighting or ignition [SLI]** batteries, traction or motive power type or standby power batteries}
- U H01M 2/36 · arrangements for filling, topping-up or emptying cases with or of liquid, e.g. for filling with electrolytes, for washing-out
- H01M 2/362 · · {Filling or topping up of large-sized cells or batteries, e.g. **L.I.S.starting, lighting or ignition [SLI]** batteries, traction or motive power type or standby power batteries}
- H01M 2/367 · · {with means for preventing spilling of liquid or electrolyte-, e.g. when the battery is tilted or turned over}

U H01M 8/00 Fuel cells; Manufacture thereofNOTE

Fuel cells are electrochemical generators wherein the reactants are supplied from outside

- U H01M 8/10 · Fuel cells with solid electrolytes
- U H01M 8/1016 · · characterised by the electrolyte material ([H01M 8/12](#) takes precedence)
- U H01M 8/1018 · · · Polymeric electrolyte materials
- U H01M 8/1069 · · · · characterised by the manufacturing processes
- H01M 8/1076 · · · · {Micromachining techniques, e.g. masking, etching steps;
[photo](#)lithography or [photolithography](#)}

Project: N/A (H01R)**U H01R 9/00 Connectors and connecting arrangements providing a plurality of mutually insulated connections; Terminals or binding posts mounted upon a base or in a case; Terminal strips; Terminal blocks (details of direct connections or connections using contact members penetrating insulation [H01R 4/00](#); {individual connecting parts [H01R 11/00](#);} specially adapted for printed circuits, flat or ribbon cables, or like generally planar structures [H01R 12/00](#); coupling devices [H01R 12/70](#), [H01R 24/00-H01R 33/00](#); flexible or turnable line connectors [H01R 35/00](#))**

- U H01R 9/03 · Connectors arranged to contact a plurality of the conductors of a multiconductor cable, {e.g. tapping connections}
- H01R 9/032 · · {for shielded multiconductor cable (coaxial cables with one conductor surrounded by shield [H01R 9/05](#); flat shielded cables [H01R 12/594](#))}

WARNING

This group and its subgroups are no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group and its subgroups is being continuously reclassified to [H01R 13/658](#) and its subgroups

- H01R 9/07 · · {for flat or ribbon cables {or flexible printed circuits}}

WARNING

This group and its subgroups is no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group and its subgroups is being continuously reclassified to [H01R 12/00](#), [H01R 12/50](#) and their respective subgroups.

- H01R 9/09 · · {Connectors for printed circuits (printed connections to or between printed circuits [H05K](#)); {Terminals, terminal strips, terminal blocks or bases for printed circuits}}

WARNING

This group and its subgroups is no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group and its subgroups is being continuously reclassified to [H01R 12/00](#), [H01R 12/50](#) and their respective subgroups.

U H01R 13/00 Details of coupling devices of the kinds covered by groups [H01R 12/70](#) or [H01R 24/00-H01R 33/00](#) {(electro-optical connectors [G02B 6/24](#))}

- U H01R 13/648 · Protective earth or shield arrangements on coupling devices (coaxially arranged shields [H01R 24/38](#)){, e.g. anti-static shielding}

- U H01R 13/658
- High frequency shielding arrangements, e.g. against EMI [Electro-Magnetic Interference] or EMP [Electro-Magnetic Pulse] {(coaxial coupling devices specially adapted for high frequency [H01R 24/40](#); for flat or ribbon cable connectors [H01R 12/774](#); for coaxial cable [H01R 9/05](#))}
- WARNING
This group is not complete pending reclassification, see also [H01R 9/032](#), [H01R 13/658](#), [H01R 23/6873](#) and their respective subgroups
- H01R 13/65802
- {with resilient grounding means}
- WARNING
This group is no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group is being continuously reclassified to [H01R 13/6582](#) and [H01R 13/6583](#)
- H01R 13/65805
- {using dielectric material made conductive, e.g. plastics material coated with metal}
- WARNING
This group is no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group is being continuously reclassified to [H01R 13/6599](#)
- H01R 13/65807
- {and comprising shielding between neighboring signal paths}
- WARNING
This group is no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group is being continuously reclassified to [H01R 13/6585](#) and [H01R 13/6586](#)
- U H01R 13/66
- Structural association with built-in electrical component (Coupling devices having concentrically or coaxially-arranged contacts [H01R 24/38](#)-[H01R 24/56](#))
- U H01R 13/665
- {with built-in electronic circuit ([H01R 13/70](#), [H01R 13/719](#) take precedence)}
- H01R 13/6658
- {on printed circuit board ([H01R 13/6666](#) - [H01R 13/6691](#) take precedence)}
- WARNING
This group is no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group is being continuously reclassified to [H01R 13/6466](#) and [H01R 13/6469](#)
- H01R 23/00**
- {Two-part coupling devices having four or more poles, with or without additional protective earth connection; Separate parts thereof}**
- WARNING
This group is no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group is being continuously reclassified to [H01R 24/00](#) and its subgroups. See also [H01R 2107/00](#) as part of the indexing scheme associated with group [H01R 24/00](#) and its subgroups, relating to the number of poles in a two-part coupling device.
- H01R 23/005
- {comprising means for reducing cross-talk, e.g. special layout of conductors between input and output pins (by shielding of neighboring signal paths [H01R 13/65807](#), [H01R 23/688](#); twisted pair cables [H01B 11/02](#); in line transmission systems [H04B 3/32](#); ground circuit layout on printed circuit boards [H05K 9/0039](#))}
- WARNING
This group is no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group is being

continuously reclassified to [H01R 13/6461](#), [H01R 13/6473](#) and their respective subgroups

- H01R 23/02
- ~~{having parallelly-arranged contacts for sliding engagement with their counter-contacts}~~
- WARNING
- This group and its subgroups is no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group and its subgroups is being continuously reclassified to [H01R 24/00](#) and its subgroups. See also [H01R 2107/00](#) as part of the indexing scheme associated with group [H01R 24/00](#) and its subgroups, relating to the number of poles in a two-part coupling device.
- H01R 23/10
- ~~{wherein one coupling part is secured to wire or cable and the other part is secured to apparatus or structure}~~
- H01R 23/26
- ~~{having concentrically or coaxially arranged contacts}~~
- WARNING
- This group is no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group is being continuously reclassified to [H01R 24/38](#) and its subgroups. See also [H01R 2107/00](#) as part of the indexing scheme associated with group [H01R 24/00](#) and its subgroups, relating to the number of poles in a two-part coupling device.
- H01R 23/27
- ~~{Hermaphroditic coupling devices {(hermaphroditic contact members [H01R 13/28](#))}}~~
- WARNING
- This group is no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group is being continuously reclassified to [H01R 24/84](#)
- H01R 23/66
- ~~{for connection to or between flat or ribbon cables}~~
- WARNING
- This group and its subgroups is no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group and its subgroups is being continuously reclassified to [H01R 12/00](#), [H01R 12/70](#) and their respective subgroups.
- H01R 23/68
- ~~{for connection to or between printed circuits; {Non printed connecting arrangements of printed circuit boards (PCB's) ([H01R 23/668](#) takes precedence)}~~
- WARNING
- This group and its subgroups is no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group and its subgroups is being continuously reclassified to [H01R 12/00](#), [H01R 12/70](#) and their respective subgroups.
- H01R 23/6873
- ~~{adapted for high frequency}~~
- WARNING
- This group and its subgroups are no longer used for the classification of new documents as from ~~January 01, 2011~~ January 1, 2011. The backlog of this group and its subgroups is being continuously reclassified to [H01R 13/646](#), [H01R 13/658](#) and their respective subgroups

- H01R 23/70
- • {co-operating with the edge of the printed circuit or with a counterpart provided on the edge of the printed circuit ({[H01R 23/6813](#) takes precedence); Counterparts therefor; Special features of the edge of the board}
- H01R 23/72
- • {co-operating with the surface of the printed circuit or with a counterpart provided on the surface of the printed circuit ({[H01R 23/6813](#)}, [H01R 23/70](#) take precedence)}

Project: N/A (H01S)

H01S

DEVICES USING STIMULATED EMISSION

NOTE

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

The following IPC groups are not used in the CPC scheme.

Subject matter covered by these groups is classified in the following CPC groups:-

~~H01S 3/098 covered by H01S 3/08018, H01S 3/11 and s.gr.~~

H01S 3/098 covered by H01S 3/08018, H01S 3/11 and s.gr.

- 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 3/09
- Processes or apparatus for excitation, e.g. pumping
- U H01S 3/091
- • using optical pumping
- U H01S 3/094
- • • by coherent light
- NOTE**
- Groups [H01S 3/094003](#) - [H01S 3/094088](#) take precedence over groups [H01S 3/0941](#) - [H01S 3/0947](#)
- U H01S 3/094003
- • • • {the pumped medium being a fibre}
- H01S 3/094019
- • • • {Side pumped fibre, whereby pump light is coupled laterally into the fibre via an optical component like a prism, or a grating, or via V-groove coupling}
- U H01S 5/00** Semiconductor lasers ({superluminescent diodes [H01L 33/0045](#)})
- U H01S 5/02
- Structural details or components not essential to laser action
- H01S 5/024
- • Cooling arrangements ({cooling solid state junction devices [H01L 23/34](#); Heating arrangements-; [H01S 5/0261](#) takes precedence)}

Project: N/A (H02G)

U H02G 3/00

Installations of electric cables or lines in or on buildings, equivalent structures or vehicles (installations of bus-bars [H02G 5/00](#); overhead installations [H02G 7/00](#); installations in or on the ground [H02G 9/00](#); channels or vertical ducts for receiving utility lines [E04F 17/08](#); wiring of electric apparatus in general [H05K](#))

- H02G 3/24
- {Installation of lines or cables on walls, ceilings or floors by means of insulators (insulators [H01B 17/00](#))}

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

~~The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:~~

~~H02J 7/10 — covered by — H02J 7/0072~~

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

H02J 7/10 covered by H02J 7/0072

- | | | |
|----------|------------------|---|
| U | H02J 7/00 | Circuit arrangements for charging or depolarising batteries or for supplying loads from batteries |
| | H02J 2007/0001 | • {Authentication, i.e. circuits for checking compatibility between one component, e.g. a battery or a battery charger, and another component-, e.g. a power source} |
| U | H02J 9/00 | Circuit arrangement for emergency or standby power supply, e.g. for emergency lighting (with provision for charging standby battery H02J 7/00) |
| U | H02J 9/04 | • in which the distribution system is disconnected from the normal source and connected to a standby source |
| U | H02J 9/06 | • • with automatic change-over |
| | H02J 2009/068 | • • • {Electronic means for switching from one power supply to another power supply-, e.g. to avoid parallel connection} |

Project: RP0251 (H02K)

M	H02K	<p>DYNAMO-ELECTRIC MACHINES (measuring instruments G01; dynamo-electric relays H01H 53/00; conversion of dc or ac input power into surge output power {H03K 3/53}; loudspeakers, microphones, gramophone pickups or like acoustic electromechanical transducers H04R; conversion of DC or AC input power into surge output power {H03K 3/53})</p> <p>NOTES</p> <p>1. This subclass covers <i>the</i> structural adaptation of the machine <i>dynamo-electric machines</i> for the purposes <i>purpose</i> of its <i>their</i> control.</p> <p>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.</p> <p><i>3. Attention is drawn to the Notes following the titles of class B81 and subclass B81B relating to "micro-structural devices" and "micro-structural systems".</i></p>
U	H02K 1/00	<p>Details of the magnetic circuit (magnetic circuits or magnets in general, magnetic circuits for transformers for power supply H01F; magnetic circuits for relays H01H 50/16)</p>
M	H02K 1/06	<ul style="list-style-type: none"> • characterised by the shape, form; or construction
M	H02K 1/22	<ul style="list-style-type: none"> • • Rotating parts of <i>the</i> magnetic circuit
U	H02K 1/28	<ul style="list-style-type: none"> • • • Means for mounting or fastening rotating magnetic parts on to, or to, the rotor structures
M	H02K 1/30	<ul style="list-style-type: none"> • • • • using intermediate part or parts, e.g. <i>spiders</i>
M	H02K 1/34	<ul style="list-style-type: none"> • • Reciprocating, oscillating; or vibrating part parts of <i>the</i> magnetic circuit
U	H02K 3/00	<p>Details of windings (coils in general H01F 5/00)</p>
M	H02K 3/04	<ul style="list-style-type: none"> • Windings characterised by the conductor shape, form; or construction, e.g. with bar conductor conductors
U	H02K 3/12	<ul style="list-style-type: none"> • • arranged in slots
M	H02K 3/14	<ul style="list-style-type: none"> • • • with transposed conductors, e.g. twisted conductor conductors
M	H02K 3/16	<ul style="list-style-type: none"> • • • for damping auxiliary purposes, commutating, e.g. <i>damping</i> or other auxiliary purposes <i>commutating</i>
U	H02K 3/18	<ul style="list-style-type: none"> • • Windings for salient poles
M	H02K 3/20	<ul style="list-style-type: none"> • • • for damping auxiliary purposes, commutating, e.g. <i>damping</i> or other auxiliary purposes <i>commutating</i>
M	H02K 3/24	<ul style="list-style-type: none"> • • with channels or ducts <i>for cooling medium</i> between the conductors for flow of cooling medium
M	H02K 3/32	<ul style="list-style-type: none"> • Windings characterised by the shape, form; or construction of the insulation {(H02K 3/46 takes precedence)}
M	H02K 3/40	<ul style="list-style-type: none"> • • for high voltage, e.g. affording protection against corona <i>discharges</i>
M	H02K 3/46	<ul style="list-style-type: none"> • Fastening of windings on <i>the</i> stator or rotor structure
U	H02K 3/48	<ul style="list-style-type: none"> • • in slots
U	H02K 3/487	<ul style="list-style-type: none"> • • • Slot-closing devices
M	H02K 3/493	<ul style="list-style-type: none"> • • • • where the devices are magnetic
M	H02K 5/00	<p>Casings; Enclosures; Supports (casings for electric apparatus in general H05K 5/00)</p>
U	H02K 5/04	<ul style="list-style-type: none"> • Casings or enclosures characterised by the shape, form or construction thereof
M	H02K 5/10	<ul style="list-style-type: none"> • • <i>affording with arrangements for</i> protection from ingress, e.g. of water, of or fingers {(means for protecting brushes or brush holders H02K 5/14)}

- U H02K 5/12
 - specially adapted for operating in liquid or gas (combined with cooling arrangements [H02K 9/00](#))
- M H02K 5/124
 - • Sealing of ~~the shaft~~[shafts](#)
- M H02K 5/128
 - • using air-gap ~~sleeve~~[sleeves](#) or air-gap ~~disc~~[discs](#)
- M H02K 5/132
 - • Submersible electric ~~motor~~[motors](#) ([H02K 5/128](#) takes precedence; ~~pumping installations or systems for submerged use F04D 13/08~~)
- M H02K 5/16
 - Means for supporting bearings, e.g. insulating ~~support~~[supports](#) or means for fitting ~~the bearing~~[bearings](#) in the bearing-~~shield~~[shields](#) (magnetic bearings [H02K 7/09](#))
- M H02K 5/173
 - • using ~~ball~~-bearings or ~~bearings~~ with rolling contact, e.g. [ball bearings](#)
- M H02K 5/22
 - • ~~Other additional~~[Auxiliary](#) parts of casings ~~not covered by groups~~ [H02K 5/06-H02K 5/20](#), e.g. shaped to form connection ~~boxes~~ or terminal ~~box~~[boxes](#)
- M H02K 5/24
 - specially adapted for suppression or reduction of noise or ~~vibration~~[vibrations](#) {(elastic means for supporting brush holders [H02K 5/14](#); elastic means for supporting bearings [H02K 5/16](#))}
- M H02K 5/26
 - Means for adjusting ~~the casing~~[casings](#) relative to ~~its support~~[their supports](#)
- M H02K 7/00**

Arrangements for handling mechanical energy structurally associated with ~~the machine~~[dynamo-electric machines](#), e.g. structural association with mechanical driving ~~motor~~[motors](#) or auxiliary dynamo-electric ~~machine~~[machines](#)
- M H02K 7/02
 - Additional mass for increasing inertia, e.g. ~~fly-wheel~~[flywheels](#)
- M H02K 7/06
 - Means for converting reciprocating ~~motion~~ into rotary motion or vice versa
- M H02K 7/07
 - • using ~~pawl~~[pawls](#) and ratchet ~~wheel~~[wheels](#)
- M H02K 7/075
 - • using ~~crankshaft~~[crankshafts](#) or ~~eccentric~~[eccentrics](#)
- M H02K 7/10
 - Structural association with clutches, brakes, gears, pulleys, ~~or~~ mechanical starters

NOTE
Group [H02K 7/12](#) takes precedence over groups [H02K 7/102](#) - [H02K 7/118](#)
- M H02K 7/112
 - • with friction clutches ~~and~~[in combination with](#) brakes
- M H02K 7/114
 - • with dynamo-electric clutches ~~and~~[in combination with](#) brakes
- M H02K 7/118
 - • with starting ~~device~~[devices](#)
- M H02K 7/12
 - • with auxiliary limited movement of ~~stator~~[stators](#), ~~rotor~~[rotors](#) or core parts, e.g. ~~rotor~~[rotors](#) axially movable for the purpose of clutching or braking
- M H02K 7/14
 - Structural association with mechanical ~~load~~[loads](#), e.g. ~~with~~ hand-held machine ~~tool~~[tools](#) or ~~fan~~[fans](#) ({[H02K 7/006](#) takes precedence;}) with fan or impeller for cooling the machine [H02K 9/06](#); ~~for suction cleaners A47L~~)
- M H02K 7/16
 - • for operation above ~~the~~ critical speed of vibration of ~~the~~ rotating parts
- M H02K 9/00**

~~Systems~~[Arrangements](#) for cooling or ventilating (channels or ducts in parts of the magnetic circuit [H02K 1/20](#), [H02K 1/32](#); channels or ducts in or between conductors [H02K 3/22](#), [H02K 3/24](#))
- U H02K 9/02
 - by ambient air flowing through the machine
- M H02K 9/04
 - • having means for generating ~~a~~ flow of cooling medium, ~~e.g.~~ ~~having fan~~
- M H02K 9/06
 - • • with ~~fan~~[fans](#) or ~~impeller~~[impellers](#) driven by the machine shaft
- M H02K 9/19
 - for machines with closed casing and ~~with~~ closed ~~□~~ circuit cooling using a liquid cooling medium, e.g. oil
- M H02K 9/22
 - by solid heat conducting material embedded in, or arranged in contact with, ~~the~~ stator or rotor, e.g. heat ~~bridge~~[bridges](#)

- M H02K 9/26
- Structural association ~~with machine of~~ *of machines with* devices for cleaning or drying cooling medium, e.g. ~~of filter~~ *with filters*
- M H02K 13/00**
- Structural associations of current collectors with motors or generators, e.g. brush mounting plates; *or* connections to windings (supporting or protecting brushes or brush holders in motor casings or enclosures H02K 5/14); Disposition of current collectors in motors or generators; Arrangements for improving commutation**
- M H02K 13/02
- Connections *of between* slip-rings ~~with the winding and~~ *windings*
- M H02K 13/04
- Connections *of between* commutator segments ~~with the winding and~~ *windings*
- M H02K 13/06
- • Resistive connections ~~between winding and commutator segments~~, e.g. by high-resistance ~~choke, chokes or~~ *by transistor transistors*
- M H02K 13/08
- • Segments formed by extensions of *the* winding
- M H02K 13/10
- ~~Special arrangements~~ *Arrangements* of brushes or commutators *especially adapted* for ~~the purpose of~~ improving commutation
- M H02K 13/12
- ~~Means~~ *Arrangements* for producing an axial reciprocation of the rotor and its associated current collector part, e.g. for polishing commutator ~~surface~~ *surfaces*
- M H02K 13/14
- Circuit arrangements for improvement of commutation, e.g. by use of unidirectionally conductive ~~element~~ *elements*
- M H02K 15/00**
- Methods or apparatus specially adapted for manufacturing, assembling, maintaining or repairing *of* dynamo-electric machines (~~manufacture of current collectors in general H01R 43/00~~)**
- M H02K 15/04
- of windings, prior to mounting into ~~the machine~~ *machines* (insulating windings H02K 15/10, H02K 15/12; ~~coil manufacture in general H01F 41/02~~)
- M H02K 15/06
- Embedding prefabricated windings in ~~the machine~~ *machines*
- M H02K 15/08
- Forming windings by laying conductors into or around core ~~part~~ *parts*
- M H02K 15/10
- Applying solid insulation to ~~the~~ windings, ~~the stator,~~ *stators* or ~~the rotor~~ *rotors*
- M H02K 15/12
- Impregnating, heating or drying of windings, stators, rotors; or machines
- M H02K 15/16
- Centering ~~the rotor~~ *rotors* within the stator; Balancing ~~the rotor~~ *rotors* (~~balancing in general G01M~~)
- U H02K 17/00**
- Asynchronous induction motors; Asynchronous induction generators**
- U H02K 17/02
- Asynchronous induction motors
- U H02K 17/04
- • for single phase current
- M H02K 17/08
- • • Motors with auxiliary phase obtained by externally fed auxiliary ~~winding~~ *windings*, e.g. capacitor ~~motor~~ *motors*
- M H02K 17/10
- • • Motors with auxiliary phase obtained by split-pole carrying short-circuited ~~winding~~ *windings*
- M H02K 17/16
- • having ~~rotor~~ *rotors* with internally short-circuited windings, e.g. cage ~~rotor~~ *rotors*
- M H02K 17/18
- • • having double-~~cage~~ or multiple-cage ~~rotor~~ *rotors*
- M H02K 17/20
- • • having deep-bar ~~rotor~~ *rotors*
- M H02K 17/22
- • having ~~rotor~~ *rotors* with windings connected to slip-rings
- M H02K 17/24
- • • in which both stator and rotor are fed with ~~ac~~ *AC*
- M H02K 17/26
- • having ~~rotor~~ *rotors* or ~~stator~~ *stators* designed to permit synchronous operation
- M H02K 17/30
- • Structural association *of asynchronous induction motors* with auxiliary electric devices influencing the ~~characteristic of,~~ *characteristics of the motor* or controlling; the motor, e.g. with ~~impedance,~~ *with switch impedances or switches* (~~control arrangements external to the motor H02P~~)

- M H02K 17/32
- Structural association *of asynchronous induction motors* with auxiliary mechanical devices, e.g. *clutch, brake with clutches or brakes* (*control arrangements external to the motor H02P*)
- U H02K 17/34
- Cascade arrangement of an asynchronous motor with another dynamo-electric motor or converter (*{machines with rotors and moving stators connected in a cascade H02K 16/025;}* control of cascade-arrangements *H02P*)
- M H02K 17/40
- with a rotary *acAC/dcDC* converter (*cascade ac/dc converters H02K 47/06*)
- U H02K 17/42
- Asynchronous induction generators (*H02K 17/02* takes precedence)
- M H02K 17/44
- Structural association with exciting *machine machines*
- M H02K 19/00**
- Synchronous motors or generators (having permanent magnet magnets H02K 21/00)**
- U H02K 19/02
- Synchronous motors
- U H02K 19/04
- for single-phase current
- M H02K 19/08
- Motors having windings on the stator and a smooth rotor *without windings* of material with large hysteresis *without windings*, e.g. hysteresis *motor motors*
- U H02K 19/10
- for multi-phase current
- M H02K 19/12
- characterised by the arrangement of exciting windings, e.g. for self-excitation, *for* compounding, *for or* pole-changing
- M H02K 19/14
- having additional short-circuited *winding windings* for starting as an asynchronous *motor motors*
- U H02K 19/16
- Synchronous generators
- M H02K 19/18
- having windings each turn of which co-operates only with poles of one polarity, e.g. homopolar *generator generators*
- M H02K 19/20
- with variable-reluctance soft-iron *rotor rotors* without winding
- M H02K 19/22
- having windings each turn of which co-operates alternately with poles of opposite polarity, e.g. heteropolar *generator generators*
- M H02K 19/24
- with variable-reluctance soft-iron *rotor rotors* without winding
- M H02K 19/26
- characterised by the arrangement of exciting *winding windings*
- M H02K 19/36
- Structural association *of synchronous generators* with auxiliary electric devices influencing the characteristic of *the generator* or controlling *the generator*, e.g. with *impedance, with switch impedances or switches* (*control arrangements external to the generator H02P*)
- M H02K 19/38
- Structural association *of synchronous generators* with exciting *machine machines*
- M H02K 21/00**
- Synchronous motors having permanent magnet magnets; Synchronous generators having permanent magnet magnets (stator cores with permanent magnets H02K 1/17; rotor cores with permanent magnets H02K 1/27)**
- U H02K 21/02
- Details
- M H02K 21/04
- Windings on *magnet magnets* for additional excitation *{; windings Windings and magnets for additional excitation}*
- M H02K 21/12
- with stationary *armature armatures* and rotating *magnet magnets*
- M H02K 21/14
- *magnet with magnets* rotating within *armature the armatures*
- M H02K 21/16
- having an annular armature *core cores* with salient poles (with homopolar co-operation *H02K 21/20*)
- M H02K 21/18
- having horse-shoe armature *core cores* (with homopolar co-operation *H02K 21/20*)

- M H02K 21/22
- **magnet** *with magnets* rotating around **armature** *the armatures*, e.g. flywheel **magneto magnetos**
- M H02K 21/24
- **magnet** *with magnets* axially facing **armature** *the armatures*, e.g. hub-type cycle **dynamo dynamos**
- M H02K 21/26
- with rotating **armature** *armatures* and stationary **magnet** *magnets*
- M H02K 21/28
- **armature** *with armatures* rotating within **magnet** *the magnets*
- M H02K 21/30
- • having **an** annular armature **core** *cores* with salient poles (with homopolar co-operation [H02K 21/36](#))
- M H02K 21/32
- • having **a** horse-shoe **magnet** *magnets* (with homopolar co-operation [H02K 21/36](#))
- M H02K 21/34
- • having bell-shaped or bar-shaped **magnet** *magnets*, e.g. for cycle lighting (with homopolar co-operation [H02K 21/36](#))
- M H02K 21/38
- with rotating flux **distributor** *distributors*, and **armature** *armatures* and **magnet** *magnets* both stationary
- M H02K 21/40
- *with* flux **distributor** *distributors* rotating around **magnet** *the magnets* and within **armature** *the armatures*
- M H02K 21/42
- *with* flux **distributor** *distributors* rotating around **armature** *the armatures* and within **magnet** *the magnets*
- M H02K 21/44
- *with* armature windings wound upon **magnet** *the magnets*
- M H02K 23/00** **DeDC commutator motors or generators having mechanical commutator; Universal acAC/dcDC commutator motors**
- M H02K 23/02
- characterised by **the** *arrangement for* exciting **arrangement**
- M H02K 23/12
- • having excitation produced by **a** current **source** *sources* independent of the armature circuit
- M H02K 23/16
- • having angularly adjustable excitation field, e.g. by pole reversing, **by or** pole switching
- M H02K 23/20
- • having additional brushes spaced intermediately of the main brushes on the commutator, e.g. cross-field **machine** *machines*, **metadyne** *metadynes*, **amplidyne, amplidynes or** other armature-reaction excited **machine** *machines*
- M H02K 23/22
- • having compensating or damping **winding** *windings*
- M H02K 23/24
- • having commutating-pole **winding** *windings*
- M H02K 23/26
- characterised by the armature **winding** *windings*
- M H02K 23/28
- • having open **winding** *windings*, i.e. not closed within **armature** *the armatures*
- M H02K 23/30
- • having lap **winding** *windings*; having loop **winding** *windings*
- M H02K 23/36
- • having **two or more than one** *winding windings*; having **two or more than one commutator** *commutators*; having **two or more than one stator** *stators*
- M H02K 23/40
- characterised by the arrangement of the magnet **circuit** *circuits*
- M H02K 23/44
- • having movable **or, e.g.** turnable, iron parts
- M H02K 23/48
- • having adjustable **armature** *armatures*
- M H02K 23/52
- Motors acting also as generators, e.g. starting **motor** *motors* used as **generator** *generators* for ignition or lighting
- M H02K 23/56
- Motors or generators having **the** iron **core** *cores* separated from armature winding
- M H02K 23/58
- Motors or generators **having no without** iron **core** *cores*
- M H02K 23/60
- Motors or generators having **a** rotating **armature** *armatures* and **a** rotating excitation field ~~-(machines with only rotors in general H02K 16/005)~~
- M H02K 23/62
- Motors or generators with stationary **armature** *armatures* and rotating excitation field

- M H02K 23/64 · Motors specially adapted for running on **deDC** or **aeAC** by choice
- M H02K 25/00** **DeDC** interrupter motors or generators
- M H02K 27/00** **AeAC** commutator motors or generators having mechanical commutator (**universal ac/dc motors {H02K 23/00}, H02K 23/64**)
- M H02K 27/28 · Structural association with auxiliary electric devices influencing the characteristic of, **the machine** or controlling, the machine (**control arrangements external to the machine H02P**)
- M H02K 29/00** **Motors or generators having non-mechanical commutating devices, e.g. discharge tubes, or semiconductor devices**
- M H02K 31/00** **Acyclic motors or generators, i.e. deDC machines having a drum or disc armaturearmatures with continuous current collectors**
- M H02K 33/00** **Motors with reciprocating, oscillating, or vibrating magnet, armature, or coil system (arrangements for handling mechanical energy structurally associated with motors H02K 7/00, e.g. H02K 7/06)**
- M H02K 33/02 · with **armature armatures** moved one way by energisation of a single coil system and returned by mechanical force, e.g. by **spring springs**
- M H02K 33/04 · · wherein the frequency of operation is determined by the frequency of uninterrupted **aeAC** energisation
- M H02K 33/06 · · · with polarised **armaturearmatures**
- M H02K 33/08 · · · with **deDC** energisation superimposed on **aeAC** energisation
- M H02K 33/10 · · wherein the alternate energisation and de-energisation of the single coil system is effected or controlled by movement of the **armaturearmatures**
- M H02K 33/12 · with **armature armatures** moving in alternate directions by alternate energisation of two coil systems
- M H02K 33/14 · · wherein the alternate energisation and de-energisation of the two coil systems are effected or controlled by movement of the **armaturearmatures**
- M H02K 33/16 · with polarised **armature armatures** moving in alternate directions by reversal or energisation of a single coil system
- M H02K 33/18 · with coil **system systems** moving upon intermittent or reversed energisation thereof by interaction with a fixed field system, e.g. permanent **magnetmagnets**
- M H02K 35/00** **Generators with reciprocating, oscillating, or vibrating coil system, magnet, armature, or other part of the magnetic circuit (arrangements for handling mechanical energy structurally associated with generators H02K 7/00, e.g. H02K 7/06)**
- M H02K 35/02 · with moving **magnetmagnets** and stationary coil **systemsystems**
- M H02K 35/04 · with moving coil **systemsystems** and stationary **magnetmagnets**
- M H02K 35/06 · with moving flux **distributor distributors**, and both coil **system systems** and **magnetmagnets** stationary
- U H02K 37/00** **Motors with rotor rotating step by step and without interrupter or commutator driven by the rotor, e.g. stepping motors**
- M H02K 37/02 · **of** variable reluctance type
- M H02K 37/04 · · **Rotorwith rotors** situated within **statorthe stators**
- M H02K 37/06 · · **Rotorwith rotors** situated around **statorthe stators**
- M H02K 37/08 · · **Rotorwith rotors** axially facing **statorthe stators**
- M H02K 37/10 · **of** permanent magnet type (**H02K 37/02 takes precedence**)
- M H02K 37/12 · · with stationary **armaturearmatures** and rotating **magnetmagnets**
- M H02K 37/14 · · · **Magnetwith magnets** rotating within **armaturethe armatures**

- M H02K 37/16 · · · · having **horse-shoe***horseshoe* armature **core***cores*
- M H02K 37/18 · · · · **of** homopolar type
- M H02K 37/20 · · with rotating flux **distributor***distributors*, the **armature***armatures* and **magnet***magnets* both being stationary

- U H02K 41/00** **Propulsion systems in which a rigid body is moved along a path due to dynamo-electric interaction between the body and a magnetic field travelling along the path {(electromagnetic launchers [F41B 6/00](#))}**
- U H02K 41/02 · Linear motors; Sectional motors
- M H02K 41/035 · · **DeDC** motors; Unipolar motors

- U H02K 44/00** **Machines in which the dynamo-electric interaction between a plasma or flow of conductive liquid or of fluid-borne conductive or magnetic particles and a coil system or magnetic field converts energy of mass flow into electrical energy or vice versa**
- U H02K 44/08 · Magnetohydrodynamic [MHD] generators
- M H02K 44/12 · · Constructional details of fluid **channel***channels*
- M H02K 44/14 · · · Circular or screw-shaped **channel***channels*
- M H02K 44/16 · · Constructional details of the magnetic **circuit***circuits*
- M H02K 44/18 · · for generating **acAC** power

- U H02K 47/00** **Dynamo-electric converters**
- M H02K 47/02 · **AcAC/deDC** converters **of vica-versa or vice versa**
- U H02K 47/08 · · Single-armature converters
- M H02K 47/10 · · · with booster **machine***machines* on the **acAC** side
- M H02K 47/12 · **DeDC/deDC** converters
- M H02K 47/18 · **AcAC/acAC** converters

- D H02K 57/00** **~~Dynamo-electric machines not provided for in groups H02K 17/00–H02K 55/00~~**
- D H02K 57/003 · {generators}
- D H02K 57/006 · {motors}

- N H02K 99/00** **Subject matter not provided for in other groups of this subclass**
- N H02K 99/10 · {Generators}
- N H02K 99/20 · {Motors}

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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
<i>H02M 9/00</i>	<i>covered by</i>	<i>H03K 3/53</i>
<i>H02M 9/02</i>	<i>covered by</i>	<i>H03K 3/53</i>
<i>H02M 9/04</i>	<i>covered by</i>	<i>H03K 3/53</i>
<i>H02M 9/06</i>	<i>covered by</i>	<i>H03K 3/53</i>

U H02M 1/00**Details of apparatus for conversion**

U H02M 1/42

- Circuits or arrangements for compensating for or adjusting power factor in converters or inverters

WARNING

Group [H02M 1/42](#) is not complete, see provisionally also [H02M 1/32](#) and subgroups

U H02M 1/4208

- {Arrangements for improving power factor of AC input}

H02M 1/4258

- • {using a single converter stage both for correction of AC input power factor and generation of a regulated and *galvanically/galvanically* isolated DC output voltage ([H02M 1/4241](#) takes precedence)}

Project: RP0378 (H02P)

U H02P 29/00 Arrangements for regulating or controlling electric motors, appropriate for both AC and DC motors (arrangements for starting electric motors [H02P 1/00](#); arrangements for stopping or slowing electric motors [H02P 3/00](#); control of motors that can be connected to two or more different electric power supplies [H02P 4/00](#); regulating or controlling the speed or torque of two or more electric motors [H02P 5/00](#); vector control [H02P 21/00](#))

WARNING

Group [H02P 29/00](#) is impacted by reclassification into groups [H02P 29/10](#), [H02P 29/20](#), [H02P 29/40](#), [H02P 29/50](#), [H02P 29/60](#), [H02P 29/62](#), [H02P 29/64](#), [H02P 29/66](#) and [H02P 29/68](#).

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

- D H02P 29/0005 · {for preventing over- or under speed}
- D H02P 29/0011 · {for controlling one motor used for different sequential operations}
- D H02P 29/0033 · {Controlling the mechanical load according to the amount of current drawn or delivered by the motor}
- D H02P 29/0038 · {Reduction of harmonics}
- D H02P 29/0044 · {Controlling or determining the motor or drive temperature (AC motor parameter estimation H02P-23/14; motor parameter estimation for vector control H02P-21/14; protection against overload H02P-29/02; protection against faults of stepper motores H02P-8/36)}
- D H02P 29/005 · · {for raising the temperature of the motor}
- D H02P 29/0055 · · {controlling or determining the winding temperature (H02P-29/0072 takes precedence)}
- D H02P 29/0061 · · {controlling or determining the rotor temperature}
- D H02P 29/0066 · · · {the rotor having permanent magnets (H02P-29/0083 takes precedence)}
- D H02P 29/0072 · · · {the rotor having windings}
- D H02P 29/0077 · · · · {by rotor current detection}
- D H02P 29/0083 · · {by back-emf evaluation to obtain the motor temperature (back-emf based rotor position determination H02P-6/182)}
- D H02P 29/0088 · · {based on the temperature of a drive component or a semiconductor component}
- D H02P 29/0094 · · · {compensating for Hall sensor temperature non-linearity}
- E H02P 29/10 · for preventing overspeed or under speed

WARNING

~~Group H02P-29/10 is incomplete pending reclassification of documents from group H02P-29/00.~~
~~Groups H02P-29/00 and H02P-29/10 should be considered in order to perform a complete search.~~

- E H02P 29/20 · for controlling one motor used for different sequential operations

WARNING

~~Group H02P-29/20 is incomplete pending reclassification of documents from group H02P-29/00.~~
~~Groups H02P-29/00 and H02P-29/20 should be considered in order to perform a complete search.~~

- E H02P 29/40
- Regulating or controlling the amount of current drawn or delivered by the motor for controlling the mechanical load
- WARNING**
Group H02P 29/40 is incomplete pending reclassification of documents from group H02P 29/00.
Groups H02P 29/00 and H02P 29/40 should be considered in order to perform a complete search.
- E H02P 29/50
- Reduction of harmonics
- WARNING**
Group H02P 29/50 is incomplete pending reclassification of documents from group H02P 29/00.
Groups H02P 29/00 and H02P 29/50 should be considered in order to perform a complete search.
- E H02P 29/60
- Controlling or determining the temperature of the motor or of the drive ([H02P 29/02](#) takes precedence)
- WARNING**
Group H02P 29/60 is incomplete pending reclassification of documents from group H02P 29/00.
Groups H02P 29/00 and H02P 29/60 should be considered in order to perform a complete search.
- E H02P 29/62
- for raising the temperature of the motor
- WARNING**
Group H02P 29/62 is incomplete pending reclassification of documents from group H02P 29/00.
Groups H02P 29/00 and H02P 29/62 should be considered in order to perform a complete search.
- E H02P 29/64
- Controlling or determining the temperature of the winding
- WARNING**
Group H02P 29/64 is incomplete pending reclassification of documents from group H02P 29/00.
Groups H02P 29/00 and H02P 29/64 should be considered in order to perform a complete search.
- E H02P 29/66
- Controlling or determining the temperature of the rotor
- WARNING**
Group H02P 29/66 is incomplete pending reclassification of documents from group H02P 29/00.
Groups H02P 29/00 and H02P 29/66 should be considered in order to perform a complete search.
- N H02P 29/662
- the rotor having permanent magnets ([H02P 29/67](#) takes precedence)
- N H02P 29/664
- the rotor having windings
- N H02P 29/666
- by rotor current detection
- N H02P 29/67
- Controlling or determining the motor temperature by back electromotive force [back-EMF] evaluation
- E H02P 29/68
- based on the temperature of a drive component or a semiconductor component
- WARNING**
Group H02P 29/68 is incomplete pending reclassification of documents from group H02P 29/00.

~~Groups H02P 29/00 and H02P 29/68 should be considered in order to perform a complete search:~~

N H02P 29/685

. . . {compensating for Hall sensor temperature non-linearity}

Project: N/A (H03C)

H03C

MODULATION (measuring, testing [G01R](#); masers, lasers [H01S](#); modulators specially adapted for use in the amplifiers [H03F 3/38](#); modulating pulses [H03K 7/00](#); so-called modulators capable only of a switching between predetermined states of amplitude, frequency or phase [H03K 17/00](#), [H04L](#); coding, decoding or code conversion, in general [H03M](#); synchronous modulators specially adapted for colour television [H04N 9/65](#))

NOTES

1. This subclass covers only modulation, keying, or interruption of sinusoidal oscillations or electromagnetic waves, the modulating signal having any desired waveform.
2. In this subclass, circuits usable both as modulator and demodulator are classified in the group dealing with the type of modulator involved.

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups :-

~~H03C 1/38 — H03C 1/44 — covered by — H03C 1/36~~
H03C 1/38 - H03C 1/44 covered by H03C 1/36

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

~~The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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 —~~

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

H03F 1/44 covered by H03F 1/42
H03F 1/46 covered by H03F 1/42

<i>H03F 3/18</i>	<i>covered by</i>	<i>H03F 3/00</i>
<i>H03F 3/32</i>	<i>covered by</i>	<i>H03F 3/30</i>
<i>H03F 7/06</i>	<i>covered by</i>	<i>H03F 7/00</i>

Project: RP0205 (H03F)

- U H03F 3/00 Amplifiers with only discharge tubes or only semiconductor devices as amplifying elements**
- U H03F 3/30
 - Single-ended push-pull [G11C 7/067](#) amplifiers (single-ended sense amplifiers [G11C 7/067](#)); Phase-splitters therefor
 - U H03F 3/3001
 - • {with field-effect transistors}
 - D H03F 2003/3003
 - • • {with MOSFET's}
 - D H03F 2003/3005
 - • • {with junction-FET's}
 - D H03F 2003/3006
 - • • {in a bridge configuration}
 - U H03F 3/45
 - Differential amplifiers (differential sense amplifiers [G11C 7/062](#))
 - D H03F 2003/45004
 - • {with semiconductor devices only}
 - D H03F 2003/45008
 - • • {with field-effect devices}
 - D H03F 2003/45013
 - • • {Integrated circuits}
 - D H03F 2003/45017
 - • • • {with field-effect devices}
 - D H03F 2003/45022
 - • • {Rejection of common mode signals; Modifications of differential amplifiers to reduce the influence of variations of physical parameters, e.g. temperature, age}
 - D H03F 2003/45026
 - • • • {MOSFET amplifiers}
 - D H03F 2003/45031
 - • • • • {using switching means}
 - D H03F 2003/45035
 - • • • • {with a combination of P-MOS and N-MOS differential amplifiers as input stage}
 - D H03F 2003/4504
 - • • • • {using feedback means}
 - D H03F 2003/45044
 - • • • • {feedback on the differential amplifier in series with the Dc current supply}
 - D H03F 2003/45049
 - • • • • {feedback on the input leads of the differential amplifier}
 - D H03F 2003/45053
 - • • • • • {using a capacitor in the feedback loop}
 - D H03F 2003/45058
 - • • • • {in junction-FET amplifiers}
 - D H03F 2003/45062
 - • • • • {using switching means}
 - D H03F 2003/45067
 - • • • • {using switching means}

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups :-

~~H03K 17/695~~ covered by ~~H03K 17/687~~
H03K 17/695 covered by H03K 17/687

Project: MP0150 (H03L)

U H03L 7/00 Automatic control of frequency or phase; Synchronisation (tuning of resonant circuits in general H03J; synchronising in digital communication systems, see the relevant groups in class H04)

- U H03L 7/06 · using a reference signal applied to a frequency- or phase-locked loop
- U H03L 7/08 · · Details of the phase-locked loop
- U H03L 7/081 · · · provided with an additional controlled phase shifter {(H03L 7/0998 takes precedence)}
- M H03L 7/0812 · · · · {and where no voltage or current controlled oscillator is used}

WARNING

Group H03L 7/0812 is impacted by reclassification into groups H03L 7/0816 and H03L 7/0818.
Groups H03L 7/0812, H03L 7/0816 and H03L 7/0818 should be considered in order to perform a complete search.

- M H03L 7/0814 · · · · · {the phase shifting device being digitally controlled}

WARNING

Group H03L 7/0814 is impacted by reclassification into groups H03L 7/0816 and H03L 7/0818.
Groups H03L 7/0814, H03L 7/0816 and H03L 7/0818 should be considered in order to perform a complete search.

- M H03L 7/0816 · · · · · {the controlled phase shifter and the frequency- or phase-detection arrangement being connected to a common input}

WARNING

Groups H03L 7/0816 and H03L 7/0818 are incomplete pending reclassification of documents from groups H03L 7/0812 and H03L 7/0814.
Until reclassification is complete, groups H03L 7/0816, H03L 7/0818, H03L 7/0812 and H03L 7/0814 should be considered in order to perform a complete search.

- M H03L 7/0818 {the controlled phase shifter comprising coarse and fine delay or phase-shifting means}
- WARNING**
*Groups H03L 7/0816 and H03L 7/0818 are incomplete pending reclassification of documents from groups H03L 7/0812 and H03L 7/0814.
 Until reclassification is complete, groups H03L 7/0816, H03L 7/0818, H03L 7/0812 and H03L 7/0814 should be considered in order to perform a complete search.*
- M H03L 7/10 . . . for assuring initial synchronisation or for broadening the capture range
- WARNING**
*Group H03L 7/10 impacted by reclassification into groups H03L 7/102, H03L 7/103, H03L 7/104 and H03L 7/105.
 Groups H03L 7/10, H03L 7/102, H03L 7/103, H03L 7/104 and H03L 7/105 should be considered in order to perform a complete search.*
- U H03L 7/101 {using an additional control signal to the controlled loop oscillator derived from a signal generated in the loop ([H03L 7/113](#), [H03L 7/187](#) take precedence)}
- M H03L 7/102 {the additional signal being directly applied to the controlled loop oscillator}
- WARNING**
*Group H03L 7/102 is incomplete pending reclassification of documents from group H03L 7/10.
 Until reclassification is complete, groups H03L 7/102 and H03L 7/10 should be considered in order to perform a complete search.*
- M H03L 7/103 {the additional signal being a digital signal}
- WARNING**
*Group H03L 7/103 is incomplete pending reclassification of documents from group H03L 7/10.
 Until reclassification is complete, groups H03L 7/103 and H03L 7/10 should be considered in order to perform a complete search.*
- M H03L 7/104 {using an additional signal from outside the loop for setting or controlling a parameter in the loop ([H03L 7/107](#), [H03L 7/12](#) take precedence)}
- WARNING**
*Group H03L 7/104 is incomplete pending reclassification of documents from group H03L 7/10.
 Until reclassification is complete, groups H03L 7/104 and H03L 7/10 should be considered in order to perform a complete search.*
- M H03L 7/105 {Resetting the controlled oscillator when its frequency is outside a predetermined limit}
- WARNING**
*Group H03L 7/105 is incomplete pending reclassification of documents from group H03L 7/10.
 Until reclassification is complete, groups H03L 7/105 and H03L 7/10 should be considered in order to perform a complete search.*

- M H03L 7/107
 - • • using a variable transfer function for the loop, e.g. low pass filter having a variable bandwidth

WARNING
*Group H03L 7/107 impacted by reclassification into groups H03L 7/1072, H03L 7/1075 and H03L 7/1077.
 Groups H03L 7/107, H03L 7/1072, H03L 7/1075 and H03L 7/1077 should be considered in order to perform a complete search.*

- M H03L 7/1072
 - • • {by changing characteristics of the charge pump, e.g. changing the gain}

WARNING
*Group H03L 7/1072 is incomplete pending reclassification of documents from group H03L 7/107.
 Until reclassification is complete, groups H03L 7/1072 and H03L 7/107 should be considered in order to perform a complete search.*

- M H03L 7/1075
 - • • {by changing characteristics of the loop filter, e.g. changing the gain, changing the bandwidth (H03L 7/1072 takes precedence)}

WARNING
*Group H03L 7/1075 is incomplete pending reclassification of documents from group H03L 7/107.
 Until reclassification is complete, groups H03L 7/1075 and H03L 7/107 should be considered in order to perform a complete search.*

- M H03L 7/1077
 - • • {by changing characteristics of the phase or frequency detection means (H03L 7/1072 takes precedence)}

WARNING
*Group H03L 7/1077 is incomplete pending reclassification of documents from group H03L 7/107.
 Until reclassification is complete, groups H03L 7/1077 and H03L 7/107 should be considered in order to perform a complete search.*

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these 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
<i>H03M 7/32</i>	<i>covered by</i>	<i>H03M 7/3004, H03M 7/3048</i>	
<i>H03M 7/34</i>	<i>covered by</i>	<i>H03M 7/3004, H03M 7/3051</i>	
<i>H03M 7/36</i>	<i>covered by</i>	<i>H03M 7/3004, H03M 7/3044</i>	
<i>H03M 7/38</i>	<i>covered by</i>	<i>H03M 7/3004, H03M 7/3046</i>	

- U H03M 13/00 Coding, decoding or code conversion, for error detection or error correction; Coding theory basic assumptions; Coding bounds; Error probability evaluation methods; Channel models; Simulation or testing of codes (error detection or error correction for analogue/digital, digital/ analogue or code conversion [H03M 1/00](#) - [H03M 11/00](#); specially adapted for digital computers [G06F 11/08](#), for information storage based on relative movement between record carrier and transducer [G11B](#), e.g. [G11B 20/18](#), for static stores [G11C](#); {use of error detection or error correction in transmission systems [H04L 1/004](#), in television systems [H04N 7/0357](#)})
- U H03M 13/03 · Error detection or forward error correction by redundancy in data representation, i.e. code words containing more digits than the source words
- U H03M 13/05 · · using block codes, i.e. a predetermined number of check bits joined to a predetermined number of information bits {([H03M 13/2906](#) takes precedence)}
- U H03M 13/11 · · · using multiple parity bits
- U H03M 13/1102 · · · · {Codes on graphs and decoding on graphs, e.g. low-density parity check [LDPC] codes}
- U H03M 13/1148 · · · · · {Structural properties of the code parity-check or generator matrix}
- H03M 13/118 · · · · · · {Parity check matrix structured for simplifying encoding, e.g. by having a triangular or an approximate triangular structure ([H03M 13/1165](#) takes precedence)}

Project: N/A (H04J)

H04J 15/00

{Multiplex systems not otherwise provided for}

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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

H04L 12/20	covered by	H04L 29/00
H04L 25/04	"	H04L 25/03
H04L 25/17	"	H03H
H04L 25/18	"	H04L 25/027
H04L 25/28	"	H04L 25/0268
H04L 25/30	"	H04L 25/061
H04L 25/32	"	H04L 25/49
H04L 25/34	"	H04L 25/4917
H04L 25/36	"	
H04L 25/48	"	H04L 25/49
H04L 25/50	"	H04L 25/05
H04L 25/52	"	H04L 25/20
H04L 25/54	"	H04L 25/20
H04L 25/56	"	H04L 25/202
H04L 25/58	"	H04L 25/20

H04L 25/60	"	H04L 25/207
H04L 25/62	"	H04L 25/205
H04L 25/64	"	H04L 25/245
H04L 25/66	"	H04L 25/247
H04L 12/20	covered by	H04L 29/00
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 25/36	covered by	
H04L 25/48	covered by	H04L 25/49
H04L 25/50	covered by	H04L 25/05
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

- U H04L 25/00** **Baseband systems**
- U H04L 25/38 • Synchronous or start-stop systems, e.g. for Baudot code
- U H04L 25/40 • • Transmitting circuits; Receiving circuits (repeater circuits, relay circuits {[H04L 25/20](#)})
- U H04L 25/49 • • • using code conversion at the transmitter; using predistortion; using insertion of idle bits for obtaining a desired frequency spectrum; using three or more amplitude levels; {Baseband coding techniques specific to data transmission systems (spectral shaping [H04L 25/03828](#))}
- U H04L 25/497 • • • • by correlative coding, e.g. partial response coding or echo modulation coding {transmitters and receivers for partial response systems (transversal equalizers [H04L 25/03](#); partial response continuous phase modulation systems [H04L 27/18](#))}
- H04L 25/4975 • • • • {Correlative coding using Tomlinson precoding, Harashima precoding, Trellis precoding or GPRS}
- U H04L 29/00** **Arrangements, apparatus, circuits or systems, not covered by a single one of groups [H04L 1/00](#) - [H04L 27/00](#) (interconnection of, or transfer of information or other signals between, memories, input/output devices or central processing units [G06F 13/00](#)){contains provisionally no documents}**
- U H04L 29/02 • Communication control (in satellite networks [H04B 7/185](#)); Communication processing ([H04L 29/12](#), [H04L 29/14](#) take precedence){contains provisionally no documents}
- U H04L 29/06 • • characterised by a protocol
- U H04L 29/08 • • • Transmission control procedure, e.g. data link level control procedure
- U H04L 29/08081 • • • • {Protocols for network applications (message switching systems [H04L 12/58](#); protocols for multimedia communication [H04L 29/06027](#); protocols for telewriting [H04L 29/06034](#))}

- U H04L 29/08702 {involving intermediate processing or storage in the network, e.g. proxy (billing provisions [H04L 12/14](#); network management provisions [H04L 12/24](#); monitoring provisions [H04L 12/2602](#); multimedia network architectures; gateways and control entities [H04L 29/0621](#); multimedia handling; encoding and conversion [H04L 29/06476](#); security provisions [H04L 29/06551](#); addressing provisions [H04L 29/12009](#))}
- WARNING**
The subgroups [H04L 29/08711](#), [H04L 29/08738](#) - [H04L 29/08783](#), and [H04L 29/08801](#) - [H04L 29/08855](#) are not complete pending reorganisation. See also [H04L 29/0872](#), [H04L 29/08729](#) and [H04L 29/08792](#))
- H04L 29/0872 **m**{Arrangements for brokering (protocols for client-server architecture [H04L 29/06047](#); negotiation of communication capabilities [H04L 29/06537](#); e-commerce [G06Q 30/00](#))}
- WARNING**
This group is no longer used for the classification of new documents as from December 1, 2009. The backlog of this group is being continuously reclassified to the subgroups [H04L 29/08711](#) - [H04L 29/08909](#)
- U H04L 41/00 {Arrangements for maintenance or administration or management of packet switching networks}**
- U H04L 41/02 . {involving integration or standardization}
- H04L 41/0246 . . {exchanging or transporting network management information using Internet-, e.g. aspects relating to embedding network management web servers in network elements, web service for network management purposes, aspects related to Internet applications or services or web-based protocols, simple object access protocol [SOAP] (web-based network application protocols [H04L 67/02](#); web-based network application protocols for remote control of end-devices or monitoring of remote application data [H04L 67/025](#); proprietary application protocols for remote control of end-devices in special networking environments [H04L 67/125](#); retrieval from the Internet [G06F 17/30861](#))}
- U H04L 49/00 {Packet switching elements (selecting arrangements for multiplex arrangements using optical switching [H04Q 11/0001](#))}**
- U H04L 49/10 . {Switching fabric construction}
- U H04L 49/104 . . {ATM switching fabrics}
- U H04L 49/105 . . . {ATM switching elements}
- H04L 49/106 {using space switching², e.g. crossbar or matrix}

Project: RP0234 (H04M)

- M 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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups are classified in the following CPC groups :-

~~H04M 1/677 covered by H04M 1/677~~

~~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 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

U H04M 15/00 Arrangements for metering, time-control or time indication {; Metering, charging or billing arrangements for voice wireline or wireless communications, e.g. VoIP}

D H04M 15/02 • Severing connection after predetermined time

WARNING

This subgroup is no longer used for classification as from 01.05.2012. The backlog of this subgroup is being continuously reclassified to H04M 15/888

Project: N/A (H04M)

U H04M 17/00 Prepayment {of wireline communication systems, wireless communication systems or} telephone systems (using a coded card to authorise calls from a telephone set [H04M 1/675](#))

U H04M 17/20 • {with provision for recharging the prepaid account or card, or for credit establishment}

U H04M 17/204 • • {on-line recharging, e.g. cashless}

H04M 17/208 • • • {using WAP or Internet-, i.e. including electronic payment, e.g. e-cash}

U H04M 2017/24 • {with on-line recharging of an account or card, e.g. cashless}

H04M 2017/245 • • {using money-, i.e. physical input of coins or bank notes}

H04M 2017/248 • • {using WAP or Internet-, i.e. including electronic payment, e-cash, etc.}

U H04M 2215/00 Metering arrangements; Time controlling arrangements; Time indicating arrangements

U H04M 2215/72 • Account specifications

U H04M 2215/7277 • • Account specifications on parallel communications

H04M 2215/7295 • • • Reserve amount-, e.g. according to estimated costs for a typical communication duration or according to the estimated volume to be transferred

Project: N/A (H04N)

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 :

- {generation, recording or} 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 or arrangements {involving 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 by converting an electric image signal into light e.g. with an electronic spatial light modulator;
- { concerning cameras or projectors:
 - video cameras or TV cameras, e.g. in studios, CCTV cameras, surveillance cameras, camcorders; constructional or mechanical details related to such cameras even when not peculiar to the presence of an electronic image sensor [EIS] e.g. housings;
 - arrangements or methods for image capture using an EIS or image projection using an electronic spatial light modulator [ESLM], i.e.
 - i. sensor read-out;
 - ii. processing of electrical image signals from the EIS or provided to the ESLM for the generation of respective camera or projector control signals,
 - for controlling the EIS or its read-out for e.g. exposure, scene selection for auto focussing, or electronic image enhancement or processing of the image signals captured by the EIS, e.g. white balance, electronic motion blur correction, noise suppression [H04N 5/00](#),
 - for controlling the ESLM, e.g. control of the light source based on electronic image signal, light conditioning specially adapted for the ESLM, or
 - for controlling other camera functions, e.g. exposure, shaking by influencing optical parts of the camera (generation of control signals for focussing for optical elements [G02B 7/28](#); using such signals to control focus of particular apparatus, see the subclasses for the apparatus, e.g. [G03B](#), [G03F](#), [H04N](#));
- electronic image data storage (data storage in general [G11B](#), [G11C](#));
- in-camera image processing e.g. correction of lens distortion, defect pixel correction, noise suppression, removal of motion blur, improving of the dynamic range of the image, in-projector image processing, electronic image data manipulation, e.g. during display or projection (image processing per se [G06T](#));

- electronic viewfinders e.g. control of image pickup devices based on information indicated by the electronic viewfinder displaying an image signal generated by the EIS ;
 - electrical or mechanical aspects of camera modules using electronic image sensors, as well as related constructional details as in webcams or mobile phones (see [H04M 1/0264](#) for mounting structure in mobile phones);
 - details of projectors peculiar to the use of an ESLM, e.g. dichroic or polarizing arrangements specially adapted for the ESLM (dichroic or polarizing arrangements in general [G02B](#), [G03B](#));
 - remote control of cameras or projectors peculiar to the EIS or the ESLM, e.g. affecting their operation, or based on a generated image signal;
 - adaptations peculiar to the use of a EIS or ESLM and/or the display, the transmission, recording or other use of electrical image data and related circuitry, e.g. mounting of EIS or ESLM, integrated cleaning system for the EIS, dust mapping, cooling of the EIS, controlling the operation of the EIS by external input signals;
 - systems or apparatus wherein the inventive contribution lies in the interaction between features covered in Notes 1 above, concerning cameras and projectors, when interacting with those covered in Note 1 of [G03B](#), e.g. switch-over between electronic motion-blur correction of electronic viewfinder during focussing and optical motion-blur correction of the lens during exposure, electronic motion blur correction of the electronic image sensor based on output signals of additional sensor, or interaction between mechanical shutter and electronic control of the charge accumulation period of the EIS;
- }
- (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 (both written and printed), 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) of 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 abovementioned 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 to the above-mentioned step (b) of pictures comprising alphanumeric or like character forms and involving the generation according to the abovementioned 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 methods, or materials or processes therefor, which are covered by the relevant subclasses, e.g. [B41C](#), [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

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups :

<i>H04N 5/31</i>	<i>covered by</i>	<i>G01S 7/52, G01S 15/89</i>
<i>H04N 5/761</i>	<i>covered by</i>	<i>H04N 5/782</i>
<i>H04N 5/7613</i>	<i>covered by</i>	<i>H04N 5/782</i>
<i>H04N 5/7617</i>	<i>covered by</i>	<i>H04N 5/782</i>
<i>H04N 5/922</i>	<i>covered by</i>	<i>H04N 5/92</i>
<i>H04N 5/924</i>	<i>covered by</i>	<i>H04N 5/92</i>
<i>H04N 9/815</i>	<i>covered by</i>	<i>H04N 9/81</i>
<i>H04N 11/24</i>	<i>covered by</i>	<i>H04N 11/002</i>
<i>H04N 15/00</i>	<i>covered by</i>	<i>H04N 13/00</i>

<i>H04N 5/31</i>	<i>covered by</i>	<i>G01S 7/52, G01S 15/89</i>
<i>H04N 5/761</i>	<i>covered by</i>	<i>H04N 5/782</i>
<i>H04N 5/7613</i>	<i>covered by</i>	<i>H04N 5/782</i>
<i>H04N 5/7617</i>	<i>covered by</i>	<i>H04N 5/782</i>
<i>H04N 5/922</i>	<i>covered by</i>	<i>H04N 5/92</i>
<i>H04N 5/924</i>	<i>covered by</i>	<i>H04N 5/92</i>
<i>H04N 9/815</i>	<i>covered by</i>	<i>H04N 9/81</i>
<i>H04N 11/24</i>	<i>covered by</i>	<i>H04N 11/002</i>
<i>H04N 15/00</i>	<i>covered by</i>	<i>H04N 13/00</i>

U H04N 1/00 Scanning, transmission or reproduction of documents or the like, e.g. facsimile transmission; Details thereof {(recording arrangements for measuring instruments [G01D](#); sensing record carriers [G06K 7/00](#); character or pattern recognition [G06K 9/00](#); mosaic printer telegraph systems [H04L 21/00](#))}

U H04N 1/0035 · {User-machine interface; Control console (input or output arrangements for computers [G06F 3/00](#))}

U H04N 1/00501 · · {Tailoring a user interface [UI] to specific requirements}

U H04N 1/00509 · · · {Personalising for a particular user or group of users, e.g. a workgroup or company}

H04N 1/00511 · · · · {for a group of users, e.g. a workgroup, company, or a service provider}

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}

- U H04N 5/225
 - • Television cameras; {Cameras comprising an electronic image sensor, e.g. digital cameras, video cameras, video cameras, camcorders, webcams, camera modules for embedding 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](#))}
- 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}
- H04N 5/2355
 - • • • {by increasing the dynamic range of the final image compared to the dynamic range of the electronic image sensor-, e.g. by adding correct exposed portions of short and long exposed images (image enhancement in general using more than one image [G06T 5/50](#))}
- H04N 5/262
 - • Studio circuits, e.g. for mixing, switching-over, change of character of image, other special effect-; {Cameras specially adapted for the electronic generation of special effects}

U H04N 9/00 **Details of colour television systems**

- U H04N 9/04
 - Picture signal generators
- H04N 9/045
 - • {using solid-state devices ([H04N 9/11](#) takes precedence-; solid state picture signal generators [H01L 31/00](#))}

U H04N 13/00 **Stereoscopic {or multiview} television systems; Details thereof**

NOTE

{This group covers systems where a three-dimensional effect or different views according to the viewpoint location are provided to one or more viewers by means of electronic signals representing a plurality of images or signals including depth information, e.g. taken from different viewpoint locations representing the interocular distance (optical systems for producing stereoscopic or other three dimensional effects [G02B 27/22](#))}

- U H04N 13/02
 - Picture signal generators
- H04N 13/0271
 - • {wherein the generated image signal comprises a depth map or a disparity map (depth map generation as such [G06T 7/0075](#)-)}

Project: N/A (H04Q)

- U H04Q 2213/00
 - Indexing scheme relating to selecting arrangements in general and for multiplex systems**
- H04Q 2213/293
 - Irregular time switching-, e.g. TASI; Burst switching

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

The following IPC group is not used in the CPC scheme. ~~H05G 1/61 covered by H05G 1/60~~

[H05G 1/61](#) covered by [H05G 1/60](#)

Project: MP0210 (H05G)

- U H05G 1/00
 - X-ray apparatus involving X-ray tubes; circuits therefor**
- U H05G 1/08
 - Electrical details

- M H05G 1/64
- Circuit arrangements for X-ray apparatus incorporating image intensifiers

WARNING

image intensifiers H01J 31/00

Project: N/A (H05H)

- U H05H 6/00
- Targets for producing nuclear reactions (supports for targets or objects to be irradiated [G21K 5/08](#) {preparation of tritium [C01B 4/00](#)}); {targets, e.g. pellets for fusion reactions by laser or charged particles beam injection [H05H 1/22](#)}**
- H05H 2006/007
- {Radiation protection arrangements-, e.g. screens}
- U H05H 7/00
- Details of devices of the types covered by groups [H05H 9/00](#), [H05H 11/00](#), [H05H 13/00](#)**
- U H05H 7/001
- {Arrangements for beam delivery or irradiation (irradiation systems per se [G21K 5/00](#))}
- H05H 2007/002
- {for modifying beam trajectory-, e.g. gantries}
- H05H 2007/005
- {for modifying beam emittance-, e.g. stochastic cooling devices, stripper foils}
- U H05H 7/04
- Magnet systems {, e.g. undulators, wigglers (free-electron laser [H01S 3/0903](#))}; Energisation thereof
- H05H 2007/041
- {for beam bunching-, e.g. undulators}
- H05H 2007/048
- {for modifying beam trajectory-, e.g. gantry systems}
- U H05H 7/06
- Two-beam arrangements; Multi-beam arrangements {storage rings}; Electron rings
- H05H 2007/065
- {Multi-beam merging-, e.g. funneling}
- U H05H 7/12
- Arrangements for varying final energy of beam
- H05H 2007/122
- {by electromagnetic means-, e.g. RF cavities}
- H05H 2007/125
- {by mechanical means-, e.g. stripping foils}
- H05H 2007/127
- {by emittance variation-, e.g. stochastic cooling}
- U H05H 7/22
- Details of linear accelerators, e.g. drift tubes ([H05H 7/02](#) - [H05H 7/20](#) take precedence)
- H05H 2007/227
- {power coupling-, e.g. coupling loops}
- U H05H 2277/00
- Applications**
- H05H 2277/13
- High energy applications-, e.g. fusion

Project: N/A (Y02E)

- U Y02E 10/00
- Energy generation through renewable energy sources**
- U Y02E 10/50
- Photovoltaic [PV] energy
- U Y02E 10/56
- Power conversion electric or electronic aspects
- Y02E 10/566
- • concerning power management inside the plant-, e.g. battery charging/ discharging, economical operation, hybridisation with other energy sources

Project: N/A (Y10T)

- U Y10T 83/00
- Cutting**
- U Y10T 83/647
- With means to convey work relative to tool station
- U Y10T 83/664
- Roller
- Y10T 83/6648
- • Continuous conveying during-, cutting; e.g., straw cutting