

## Compilation of Changes to the CPC Scheme Between 2014.09 and 2014.10

### Presentation Details

- Entries for new symbols and headings: *Black text in italics*
- Entries for existing symbols and headings
- text insertions: *Green text in italics with yellow background*
  - 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 (A01K)

- U A01K 63/00**      **Receptacles for live fish, e.g. aquaria (keepnets or other containers for keeping captured fish [A01K 97/20](#)); Terraria {(receptacles for rearing fish [A01K 61/00](#))}**
- A01K 63/06      • Arrangements for heating or lighting in, or attached to, receptacles for live fish (~~heating, {cooling} or lighting apparatus per se F21, H01, H05B~~ *heating, {cooling} or lighting apparatus per se F21, H01, H05B*)
- U A01K 2207/00**      **Modified animals**
- A01K 2207/15      • Humanized animals
- NOTE
- This group covers animals comprising human nucleic acids, proteins or cells. Classification in this group should be done in combination with ~~K01K217~~ *K01K217* codes.
- WARNING

### Project: N/A (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](#))**
- U A01N 1/02**      • Preservation of living parts
- WARNING
- Subgroups ~~A01N1/02C-A01N 1/0294~~ are not complete, due to a reorganisation in progress
- A01N 1/0205      • - { Chemical aspects }
- WARNING
- This group contains documents to be reclassified into subgroups [A01N 1/021-A01N/02P6](#) ~~A01N/02P6~~ *A01N/02P6*

### Project: N/A (A23G)

- A23G 3/00**      **Sweetmeats; Confectionery; Marzipan; Coated or filled products(~~chewing gum-A23G/4/00~~ *chewing gum A23G 4/00*)**
- NOTE
- Attention is drawn to the internal note after the subclass title

**Project: N/A (A23L)**

U A23L 1/00 **Foods or foodstuffs; Their preparation or treatment (preservation thereof in general [A23L 3/00](#); {mechanical aspects [A23P](#)})**

**WARNING**

Groups [A23L 1/0002](#) to [A23L 1/0097](#) might be incomplete as a number of documents presently classified in groups [A23P 1/00](#) to [A23P 1/16](#), still needs reclassification to groups [A23L 1/0002](#) to [A23L 1/0097](#)

U A23L 1/06 • Marmalades; Jams; Jellies; Other similar fruit or vegetable compositions; Simulated fruit products

A23L 1/064 • • derived from fruit or vegetable solids {([A23L 1/062](#) and ~~[A231/24B](#)~~[A231/24B](#) take precedence)}

**Project: N/A (A23Y)**

A23Y

**INDEXING SCHEME RELATING TO LACTIC OR PROPIONIC ACID BACTERIA USED IN FOODSTUFFS OR FOOD PREPARATION****NOTE**

This subclass constitutes an internal scheme for indexing only. The indexing codes of ~~[K23Y](#)~~[K23Y](#) are used when classifying technical subjects in the food-related subclasses ~~[A23B](#)~~-~~[A23L](#)~~[A23L](#).

**Project: N/A (A43D)**

U A43D 25/00

**Devices for gluing shoe parts**

A43D 25/18

• Devices for applying adhesives to shoe parts (~~[A43DF25/20](#)~~[A43DF25/20](#) takes precedence; applying liquids or other fluent materials to surfaces in general [B05](#))

**Project: N/A (A45B)**

A45B 2200/00

Details not otherwise provided for in ~~[K45B](#)~~[K45B](#)**Project: N/A (A45C)**

A45C 2200/00

Details not otherwise provided for in ~~[K45C](#)~~[K45C](#)**Project: N/A (A45D)**

A45D 2200/00

Details not otherwise provided for in ~~[K45D](#)~~[K45D](#)**Project: N/A (A45F)**

A45F

**TRAVELLING OR CAMP EQUIPMENT; SACKS OR PACKS CARRIED ON THE BODY (~~hand-carried bags or luggage~~[A45C](#)~~hand carried bags or luggage~~ [A45C](#))****NOTE**

This subclass covers only the equipment specified in its subdivisions. Travelling or camp equipment is normally classified in the classes for the equipment concerned, e.g. camp furniture [A47](#).

A45F 2200/00

Details not otherwise provided for in ~~[K45F](#)~~[K45F](#)

**Project: N/A (A61B)**

- U A61B 1/00** Instruments for performing medical examinations of the interior of cavities or tubes of the body by visual or photographic inspection, e.g. endoscopes( examination of body cavities or body tracts using ultrasonic, sonic or infrasonic waves [A61B 8/12](#) ; instruments, e.g. endoscopes, for taking a cell sample [A61B 10/00](#) ; endoscopic cutting instruments [A61B 17/32](#) ; surgical instruments using a laser beam being directed along or through a flexible conduit [A61B 18/22](#) ; technical endoscopes [G02B 23/24](#) ); Illuminating arrangements therefor( for the eyes [A61B 3/00](#) )
- U A61B 1/00002     · {Operational features of endoscopes}
- U A61B 1/00004     · · {characterised by electronic signal processing}
- A61B 1/00009     · · · {of image signals(~~G06T~~[G06T](#) takes precedence)}
- 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{( measuring or recording in general subclasses of [G01](#); medical informatics [G06F 19/30](#) )}**
- WARNING
- Groups [A61B 5/40](#) - [A61B 5/748](#) do not correspond to former or present IPC groups. Concordance CPC : IPC for these groups is as follows: [A61B 5/40](#) : [A61B 5/00](#) [A61B 5/41](#) : [A61B 5/00](#) [A61B 5/42](#) : [A61B 5/00](#) [A61B 5/43](#) : [A61B 5/00](#) [A61B 5/44](#) : [A61B 5/00](#) [A61B 5/45](#) : [A61B 5/00](#) [A61B 5/48](#) : [A61B 5/00](#) [A61B 5/68](#) : [A61B 5/00](#) [A61B 5/70](#) : [A61B 5/00](#) [A61B 5/72](#) : [A61B 5/00](#) [A61B 5/74](#) : [A61B 5/00](#)
- A61B 5/16     · Devices for psychotechnics( testing capability [G09B 1/00](#) to [G09B 5/00](#) ); Testing reaction times; [Devices for evaluating the psychological state]
- WARNING
- Groups [A61B 5/167](#) and ~~A61B5/5/16L~~[A61B5/5/16L](#) are not complete pending a reorganisation; see also group [A61B 5/16](#)
- 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 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](#) )}
- NOTE
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](#) })
- U A61B 17/88     · · · {Osteosynthesis instruments;}Methods or means for implanting or extracting internal{or external}fixation devices
- U A61B 17/8802    · · · · {Equipment for handling bone cement or other fluid fillers( plugs or restrictors for bone cement [A61F 2/30723](#) )}
- A61B 17/8833    · · · · · {Tools for preparing, e.g. curing, cement or other fluid fillers(~~B01F~~[B01F](#) takes precedence); Means for supplying cement or other fluid fillers to an introducing tool, e.g. cartridge handling means}

**Project: N/A (A61C)**

A61C 9/00

Impression cups, {i.e. impression trays}; Impression methods {(computer-assisted sizing [A61C 13/0004](#); instruments for determining occlusion [A61C 19/05](#) [A61C 19/05](#) )}

**Project: N/A (A61F)**

U 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 (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

A61F 2/82

- Devices providing patency to, or preventing collapsing of, tubular structures of the body, e.g. stents (stent-grafts for tubular structures of the body other than blood vessels [A61F 2/04](#); stent-grafts for blood vessels [A61F 2/07](#); instruments specially adapted for placement or removal of stents or stent-grafts [A61F 2/95](#); for closing wounds, or holding wounds closed [A61B 17/03](#) [A61B 17/03](#); dilators [A61M 29/00](#))

U A61F 5/00

Orthopaedic methods or devices for non-surgical treatment of bones or joints (surgical instruments or methods for treatment of bones or joints, devices specially adapted therefor [A61B 17/56](#)); Nursing devices; {Anti-rape devices}(bandages, dressings or absorbent pads [A61F 13/00](#))

U A61F 5/44

- Devices worn by the patient for reception of urine, faeces, catamenial or other discharge; {Portable urination aids}(absorbent pads, e.g. sanitary towels, [A61F 13/15](#); drainage appliances for wounds [A61M 27/00](#); {emptying devices for urine bags [B65B 69/0016](#)}); Colostomy devices (adhesives for colostomy devices [A61L 24/00](#); materials for colostomy devices [A61L 28/00](#))

U A61F 5/451

- • Genital {or anal} receptacles ([A61F 5/441](#), [A61F 5/442](#), [A61F 5/443](#) take precedence; {other body securing means [A61F 5/4408](#); devices for taking faeces samples [A61B 10/0038](#); devices for taking urine samples [A61B 10/007](#)})

U A61F 5/455  
A61F 5/4553

- • • for collecting urine or discharge from female member
- • • • {placed in the vagina, e.g. for catamenial use (pessaries [A61F 6/08](#); absorbent cups [A61F 13/24](#) [A61F 13/24](#))}

U A61F 13/00

Bandages or dressings (suspensory bandages [A61F 5/40](#); { contact-avoiding wound protectors [A61F 15/00P](#); 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 13/15

- 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

U A61F 13/20

- • Tampons, e.g. catamenial tampons; Accessories therefor

WARNING

For group [A61F 13/20](#) and subgroups see warning after [A61F 13/00](#)

U A61F 13/2051  
A61F 13/2065

- • • { characterised by the material or the structure of the inner absorbing core}
- • • • {Tampons folded from sheets of material ([A61F 13/22](#) [A61F 13/22](#) takes precedence)}

- A61F 13/2068 . . . {Tampons made from several layers ([A61F 13/2065](#), [A61F 13/22](#)~~[A61F13/22](#)~~ take precedence)}
- A61F 13/45 . . characterised by the shape (cup-shaped type tampons [A61F 13/24](#)~~[A61F13/24](#)~~)
- A61F 2210/00 Particular material properties of prostheses classified in groups [A61F 2/00](#) to [A61F 2/26](#) or [A61F 2/82](#) or ~~[A61F9](#)[A61F 9/00](#)~~ or ~~[A61F11](#)[A61F 11/00](#)~~ or subgroups thereof
- A61F 2310/00 Prostheses classified in [A61F 2/28](#) or ~~[A61F30](#)[A61F30/00](#)~~ to [A61F 2/44](#) being constructed from or coated with a particular material

## Project: N/A (A61G)

- 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 ~~[A61F 5/045](#)[A61F5/045](#)~~ {takes precedence} ; stretchers with facilities for picking up patients or disabled persons [A61G 1/003](#) )

## Project: MP0111 (A61H)

- U A61H 1/00 Apparatus for passive exercising ([A61H 5/00](#) takes precedence); Vibrating apparatus {(driving means for vibrating [A61H 23/00](#))}; Chiropractic devices, e.g. body impacting devices, external devices for briefly extending or aligning unbroken bones
- NOTE  
This group does not cover orthopaedic methods or devices, which are covered by group [A61F 5/00](#)
- M A61H 1/005 . {Moveable ~~platform~~, e.g. vibrating or oscillating, platform for standing, sitting, laying, [leaning](#) or kneeling}
- U A61H 3/00 Appliances for aiding patients or disabled persons to walk about(apparatus for helping babies to walk [A47D 13/04](#));{ orthopaedic devices for correcting deformities of, or supporting, limbs [A61F 5/0102](#)}; exercising apparatus for the feet or toes [A63B 23/10](#));{ stairways or ramps [E04F 11/00](#))}
- M A61H 3/04 . Wheeled walking aids for disabled persons ~~{([A61H 3/008](#);~~[A61H 3/06](#) ~~take~~[takes](#) precedence)}
- M A61H 31/00 Artificial respiration or heart stimulation (blood pumps [A61M 1/10](#)); artificial respiration by treatment with gas or air, e.g. mouth-to-mouth respiration [A61M 16/00](#); applying electric currents by contact electrodes for stimulation, e.g. heart pace-makers [A61N 1/36](#));{ teaching or training models, ~~rhythm indicators~~[demonstration models for medical purposes](#) [G09B 23/288](#))}
- M 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 subaquatic intestinal cleaning~~ ~~[A61M 9/00](#)~~; ~~{isolation tanks~~ ~~[A61M 21/0094](#)~~); ~~for sub aquatic intestinal cleaning~~ [A61M 9/00](#); ~~{isolation chambers~~ ~~[A61M 21/0094](#)~~; }electric or magnetic baths, applying ionised fluids [A61N 1/44](#)); ~~{heated bath tubs~~ ~~[F24H 1/0072](#)~~; ~~heater for bath tubs~~ [F24H 1/0081](#))}
- U A61H 2201/00 Characteristics of apparatus not provided for in the preceding codes
- U A61H 2201/16 . Physical interface with patient
- U A61H 2201/1602 . . kind of interface, e.g. head rest, knee support or lumbar support

- U A61H 2201/1628 . . . Pelvis
- M A61H 2201/1633 . . . . Seat (~~incorporated in seats or chairs, A61H 2201/0149~~ [A61H 2201/0149](#) *takes precedence*)

**Project: N/A (A61J)**

- U A61J 15/00 **Feeding-tubes for therapeutic purposes (drinking tubes as tableware [A47G 21/18](#))**
- U A61J 15/0026 . { Parts, details or accessories for feeding-tubes (external tubes from the medical container to a connector outside of the body [A61M 39/08](#))}
- A61J 2015/008 . {Sensor means, e.g. sensing reflux, acidity, pressure (sensors for diagnostic purposes [A61B 5/00](#); sensors for inflation control ~~A61M 25/1018~~ [A61M 25/10184](#))}

**Project: N/A (A61K)**

- U 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

Use of cosmetics or similar toilet preparations is further classified in subclass [A61Q](#) .

1. Use of cosmetics or similar toilet preparations is mandatorily further classified in subclass [A61Q](#) . 2. In each of groups [A61K 8/02](#) and [A61K 8/18](#) , in the absence of an indication of the contrary, classification is made in the last appropriate place. 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.

- U A61K 8/02 . characterised by special physical form
- U A61K 8/04 . . Dispersions; Emulsions
- D A61K 2008/048 . . . {Microbeadlets; Microspheres; Granules; Microgranules}
- U A61K 8/11 . . Encapsulated compositions
- D A61K 2008/115 . . . {Microcapsules}

**A61K 9/00 Medicinal preparations characterised by special physical form( nuclear magnetic resonance contrast preparations or magnetic resonance imaging contrast preparataions [A61K 49/18](#) ; preparations containing radioactive substances [A61K 51/12](#) )**

NOTE

Among the one-dot groups of [A61K 9/00](#) , classification is not made in the last appropriate place.

[A61K 9/00](#) is subdivided according to the following concepts:

- the drug release technique ( [A61K 9/0002](#) and subgroups),
- the site of application ( [A61K 9/0012](#) and subgroups), and
- the physical form ( [A61K 9/0087](#) to ~~A61K 9/70-E~~ [A61K9/70E](#) ).

Where relevant, documents are classified in more than one of these subdivisions.

- 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 47/48007 · {the pharmacologically- or therapeutically-active agent being covalently bound or complexed to a modifying agent}
- NOTE  
The modifying agent being a macromolecular compound **A61K47/48K**, a peptide, protein or polyamino acid **A61K47/48R**, an antibody or immunoglobulin **A61K47/48T**
- U A61K 47/48023 · · {the modifying agent being an organic compound( [A61K 47/48161](#) takes precedence )}
- A61K 47/481 · · · {the modifying agent being also a pharmacologically or therapeutically active agent, i.e. the entire conjugate being a codrug, i.e. a dimer, oligomer or polymer of pharmacologically or therapeutically active compounds, e.g. a polymer of aspirin}{ Note a sugar, nucleoside, nucleotide, nucleic acid is classified in [A61K 47/48092](#) ; a polymer of an active agent is not classified in **A6K47/48K6A6K47/48K6** }
- U A61K 49/00 Preparations for testing in vivo**
- U A61K 49/06 · Nuclear magnetic resonance (NMR) contrast preparations; Magnetic resonance imaging (MRI) contrast preparations
- NOTE  
characterised only by the (inorganic) MRI-active nucleus, e.g. 129Xe
- U A61K 49/08 · · characterised by the carrier
- NOTE  
characterised by the carrier carrying the MRI-active nucleus, e.g. inorganic carrier]
- U A61K 49/10 · · · Organic compounds
- NOTE  
the carrier being an organic compound, e.g. 13C-labelled molecule or perfluorinated alkane, used as MRI in vivo probe, or a small organic molecule, e.g. a sugar, linked to a Gd-chelate
- A61K 49/14 · · · Peptides, e.g. proteins
- NOTE  
the carrier being a peptide (polyamino acid, **A61K 49/14-TA61K49/14T** ) or protein (not an antibody, see [A61K 49/16](#) ). If the MRI-active nucleus being linked to the peptide or protein or polyamino acid via a complexing or chelating group, the subgroup [A61K 49/085](#) should also be given. If the peptide or protein or polyamino acid being a dendrimer, a dendron, or hyperbranched, then the [A61K 49/124](#) being also given
- D A61K 2201/00 Compositions or compounds characterised by specific properties**
- D A61K 2201/01 · Optical properties
- D A61K 2201/012 · · Transparent compositions; Translucent compositions
- D A61K 2201/02 · Colour properties
- D A61K 2201/021 · · Pigments; Dyes
- D A61K 2201/022 · · Direct dyes

D	A61K 2201/0223	• • in-preparations for temporarily colouring the hair further containing an oxidising agent
D	A61K 2201/0225	• • in-preparations for permanently dyeing the hair
D	A61K 2201/023	• Luminescent, fluorescent; Optical brighteners; Photosensitizers
D	A61K 2201/025	• Interference pigments, e.g. iridescent, pearlescent
D	A61K 2201/027	• pH- or Redox indicators
D	A61K 2201/029	• Chromophoric; photochromic; phototropic
D	A61K 2201/03	• Electromagnetic properties
D	A61K 2201/032	• Electrophoresis; Electrodes; electrolytic phenomena
D	A61K 2201/034	• Magnetic materials
D	A61K 2201/036	• Cosmetics treated by (ir)radiation
D	A61K 2201/038	• Radiochemicals
D	A61K 2201/04	• Gas-releasing compositions
D	A61K 2201/045	• Effervescent compositions
D	A61K 2201/05	• Thermal properties
D	A61K 2201/052	• Exothermic; Self-heating
D	A61K 2201/054	• Endothermic; Cooling
D	A61K 2201/056	• Frozen or deep-frozen cosmetics
D	A61K 2201/06	• Stabilizers
D	A61K 2201/062	• Antioxidants
D	A61K 2201/064	• Corrosion inhibitors
D	A61K 2201/066	• Chelating agents
D	A61K 2201/068	• Preservatives
D	A61K 2201/07	• Homeopathic compositions
D	A61K 2201/08	• Rubbing or scrubbing compositions; Peeling or abrasive compositions; Exfoliants
D	A61K 2201/09	• Biological properties
D	A61K 2201/093	• Enzyme modulators
D	A61K 2201/094	• Enzyme inhibitors; Enzyme antagonists
D	A61K 2201/10	• Compositions or compounds characterised by the form
D	A61K 2201/101	• Microsized, i.e. compounds having particle sizes between 0.1 and 100 micrometers, e.g. micronised compounds
D	A61K 2201/103	• Nanosized, i.e. compounds having particle sizes below 100 nanometers, e.g. nanoparticles, nanopigments
D	A61K 2201/105	• Fibres; Fibrils; Micro- or nanofibres
D	A61K 2201/107	• Tablets; Lozenges; Dragees
D	A61K 2201/109	• Sticks
D	A61K 2201/111	• Pencils; Crayons; Felt-tip pens
D	A61K 2201/113	• Brushes
D	A61K 2201/115	• Dental appliances
D	A61K 2201/117	• Dental floss
D	A61K 2201/119	• Chewing gum
D	A61K 2201/123	• Tattoos; Stencils
D	A61K 2201/125	• Tattoo removal
D	A61K 2201/131	• Artificial nails

- D A61K 2201/142 · Containers; Packaging
- D A61K 2201/144 · · Two- or multipart kits
- D A61K 2201/145 · · Roll-on
- D A61K 2201/15 · Striped compositions; Core/shell compositions
- D A61K 2201/19 · Anhydrous compositions
- D A61K 2201/20 · Mixtures
- D A61K 2201/21 · Mixtures of polymers
- D A61K 2201/24 · Mixtures of surface active compounds
- D A61K 2201/30 · Polymers characterised by specific properties
- D A61K 2201/32 · characterised by the charge
- D A61K 2201/322 · · nonionic
- D A61K 2201/324 · · anionic
- D A61K 2201/326 · · cationic
- D A61K 2201/328 · · amphoteric
- D A61K 2201/35 · Ion-exchangers
- D A61K 2201/40 · Compounds, e.g. perfumes absorbed onto or entrapped into a solid carrier, e.g. inclusion compounds
- D A61K 2201/50 · Compounds, e.g. perfumes covalently linked to a carrier molecule, e.g. conjugates, pro-fragrances
- D A61K 2201/60 · Perfumes having both deodorant and antibacterial properties
- D A61K 2201/70 · Fermentation products, e.g. yoghurt
- D A61K 2201/702 · Alcohol-containing, e.g. beer, wine
- D A61K 2201/80 · Products obtained by genetic engineering
- D A61K 2201/90 · Compositions based essentially on surface active compounds
- D A61K 2201/92 · characterised by the charge
- D A61K 2201/922 · · nonionic
- D A61K 2201/924 · · anionic
- D A61K 2201/926 · · cationic
- D A61K 2201/928 · · amphoteric or zwitterionic

**Project: N/A (A61M)**

- U A61M 21/00 **Other devices or methods to cause a change in the state of consciousness; Devices for producing or ending sleep by mechanical, optical, or acoustical means, e.g. for hypnosis**
- A61M 21/02 · for inducing sleep or relaxation, e.g. by direct nerve stimulation, hypnosis, analgesia( for massage [A61H](#) ; electrotherapy [A61N](#) , e.g. applying alternating or intermittent electric currents for producing anaesthesia [A61N 1/34](#)[A61N1/34](#) )
- U A61M 25/00 **Catheters; Hollow probes( dilators [A61M 29/00](#) ; { peritoneal catheters [A61M 1/285](#) ; tracheal tubes [A61M 16/04](#) ; for drainage [A61M 27/00](#) ; for uterus, vagina or rectum [A61M 31/00](#) } ; for measuring or testing [A61B](#) ; { materials for catheters [A61L 29/00](#) })**
- U A61M 25/0021 · {characterised by the form of the tubing( [A61M 25/0054](#) takes precedence )}
- U A61M 25/0023 · {by the form of the lumen, e.g. cross-section, variable diameter}

- U A61M 25/0026
- • • {Multi-lumen catheters with stationary elements( catheter assemblies comprising a catheter in combination with a guide tube, sheath or sleeve [A61M 2025/0681](#) ; catheters comprising telescoping coaxial elements [A61M 2025/0175](#) )}
- A61M 2025/0034
- • • • {characterized by elements which are assembled, connected or fused, e.g. splittable tubes, outer sheaths creating lumina or separate cores(~~making of catheters A1M25/00G~~ *making of catheters A1M25/00G*)}
- U A61M 25/10
- Balloon catheters({ [A61M 25/0125](#) takes precedence; embolectomy [A61B 17/22032](#) ; retractors [A61B 17/02](#) } ; inflatable balloons for placing stents or stent-grafts [A61F 2/958](#) ; { stomach balloons for treatment of obesity [A61F 5/0003](#) ; oesophageal tubes [A61J 15/00](#) })
- A61M 25/1018
- {Balloon inflating or inflation-control devices}
- WARNINGS
- Groups ~~A61M 25/10181~~[A61M 25/10181](#) - ~~A61M 25/10188~~[A61M 25/10188](#) are incomplete pending reclassification of documents from group ~~A61M 25/1018~~[A61M 25/1018](#). Until reclassification is complete, groups ~~A61M 25/1018~~[A61M 25/1018](#) and ~~A61M 25/10181~~[A61M 25/10181](#) - ~~A61M 25/10188~~[A61M 25/10188](#) should be considered in order to perform a complete search.

## Project: N/A (A61Q)

## A61Q

## SPECIFIC USE OF COSMETICS OR SIMILAR TOILET PREPARATIONS

NOTES

[C12.03]

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~~[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

## A61Q 7/00

**Preparations for affecting hair growth (preparations with therapeutic activity ~~A61P 17/14~~[A61P17/14](#))**

NOTE

References listed below indicate IPC places which could also be of interest when carrying out a search in respect of the subject-matter covered by the preceding group: Preparations with therapeutic activities [A61P 17/14](#)

## A61Q 17/00

**Barrier preparations; Preparations brought into direct contact with the skin for affording protection against external influences, e.g. sunlight, X-rays or other harmful rays, corrosive materials, bacteria or insect stings (chemical means for combating harmful chemical agents [A62D 3/00](#)) Note: drugs for treating burns ~~A61P 17/02~~[A61P17/02](#)**

## Project: N/A (A63B)

## U A63B 71/00

**Games or sports accessories not covered in groups [A63B 1/00](#) to [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](#) )
- A63B 71/14
- • for the hands e.g. baseball, boxing or golfing gloves( archer`s finger tabs [F41B 5/16](#)[F41B5/16](#) )

**Project: N/A (A63F)**

- 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 13/02
- Accessories (input or output arrangements for electrical digital computers [G06F 3/00](#))
- WARNINGS
- Group [A63F 13/02](#) is no longer used for the classification of documents as of September 1, 2014. The backfile of this group is being reclassified into groups [A63F 13/20](#) - [A63F 13/245](#) and [A63F 13/98](#).
- Until reclassification is complete, groups [A63F 13/02](#) and [A63F 13/20](#) - [A63F 13/245](#) and [A63F 13/98](#) should be considered in order to perform a complete search.
- A63F 13/04
- • for aiming at specific areas on the displays, e.g. with photodetecting means
- WARNINGS
- Group [A63F 13/04](#) is no longer used for the classification of documents as of September 1, 2014. The backfile of this group is being reclassified into groups [A63F 13/20](#) - [A63F 13/245](#), and [A63F 13/837](#).
- Until reclassification is complete, groups [A63F 13/04](#) and [A63F 13/20](#)[A63F 13/20](#) - [A63F 13/245](#), and [A63F 13/837](#) should be considered in order to perform a complete search.
- A63F 13/06
- • using player-operated means for controlling the position of a specific area display
- WARNINGS
- Group [A63F 13/06](#) is no longer used for the classification of documents as of September 1, 2014. The backfile of this group is being reclassified into groups [A63F 13/20](#) - [A63F 13/245](#).
- Until reclassification is complete, groups [A63F 13/06](#) and [A63F 13/20](#)[A63F 13/20](#) - [A63F 13/245](#) should be considered in order to perform a complete search.
- A63F 13/08
- Constructional details or arrangements, e.g. housing, wiring, connections, cabinets, not otherwise provided for
- WARNINGS
- Group [A63F 13/08](#)[A63F 13/08](#) is no longer used for the classification of documents as of September 1, 2014. The backfile of this group is being reclassified into groups [A63F 13/90](#) – [A63F 13/98](#).
- Until reclassification is complete, groups [A63F 13/08](#) and [A63F 13/90](#) – [A63F 13/98](#) should be considered in order to perform a complete search.

**Project: N/A (B01D)**

- U B01D 29/00** **Other filters with filtering elements stationary during filtration, e.g. pressure or suction filters, or filtering elements therefor**{( [B01D 24/00](#) , [B01D 25/00](#) and [B01D 27/00](#) take precedence )}

NOTE

See WARNING after subclass title, particularly items (7), (8), (9), (10), (12) and (14)

- B01D 29/11 · with bag, cage, hose, tube, sleeve or like filtering elements

NOTE

If the construction of the filtering element itself is of minor importance the document is classified in the subgroups [B01D 29/11](#) , [B01D 29/114](#) and [B01D 29/117](#) , otherwise in the subgroups [B01D 29/13](#) to ~~[B01D 29/37](#)~~[B01D29/37](#)

- U B01D 39/00** **Filtering material for liquid or gaseous fluids**

- U B01D 39/14** · Other self-supporting filtering material;{Other filtering material( non-woven fabrics in general [D04H 3/00](#) )}

- B01D 39/20 · · of inorganic material, e.g. asbestos paper, metallic filtering material of non-woven wires(porous ceramic material{ [C04B 38/00](#) } ; sintering metals [C22C 1/04](#) ; { making porous sintered metal bodies [B22F 3/10](#) , honeycomb filters [B01D 46/2418](#) , materials used for filtering exhaust gases of an internal combustion engine ~~[F01N/022](#)~~[F01N/022](#) , ceramic honeycomb structures [C04B 38/0006](#) )}

**Project: N/A (B01J)**

- U B01J 23/00** **Catalysts comprising metals or metal oxides or hydroxides, not provided for in group [B01J 21/00](#) ( [B01J 21/16](#) takes precedence )**

- B01J 23/002 · {Mixed oxides other than spinels, e.g. perovskite}

NOTE

In group ~~[B01J23/00B](#)~~, elements constituting the exemplified mixed oxide are further indexed with [B01J 2523/00](#) as base symbol using the relevant classification symbols of [B01J 2523/00](#) to ~~[B01J2523/84F](#)~~, in numerical order without ~~[L01J523](#)~~~~[L01J523](#)~~ and preceded by the sign "+", e.g. Moa Vb Tec Ox is classified as [B01J 2523/00](#) ~~[+/55+/64+/68](#)~~~~[+/55](#)~~ ~~[+/64](#)~~ ~~[+/68](#)~~

- B01J 31/00** **Catalysts comprising hydrides, coordination complexes or organic compounds(catalyst compositions used only in polymerisation reactions [C08](#);{( catalytic antibodies [C12N 9/0002](#) )})**

NOTES

1. Group [B01J 31/003](#) takes precedence over groups [B01J 31/02](#) to [B01J 31/24](#) (catalytic antibodies [C12N 9/0002](#) )

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

-"Organic compound" a compound in which carbon is bonded to (1)a second carbon; (2)at least one atom of hydrogen or halogen; or (3)nitrogen by a single or double bond; except cyanic acid (HOCN), cyanogen (NCCN), cyanamide (H2NCN), cyanogen halide (HalCN), hydrocyanic acid (HCN) isocyanic acid (HNCO) fulminic acid (HCNO)and metal carbides (MCCM) (catalysts comprising any of these exceptions or their salts [B01J 27/20](#) to [B01J 27/26](#) .

-"Organometallic compounds" includes all organic compounds wherein a metal or metalloid atom is bonded directly to a carbon fragment, the latter being

formally anionic, no further neutral ligands being coordinated to the metal and the compound requiring no further cations for charge balance; e.g.  $M(1-CR_3)_n$  with  $M$ = main group metal,  $n$ = valency of metal and  $R$ = H or hydrocarbyl. (Compounds comprising anionic organonitrogen, organooxygen and organosulfur fragments, excluding carboxylates, with a metal bonded to these heteroatoms [B01J 31/02](#) to [B01J 31/0254](#); unsaturated carbon fragments in combination with transition metals [B01J 31/22D](#). -"Coordination complexes" includes any donor-acceptor compounds or complex ions comprising organic or inorganic, anionic or neutral Lewis basic ligands, attached to a Lewis acid central metal or metal ion through one or several complexing donor atoms with at least one lone-pair of electrons, e.g. N, O, S, P, to provide at least a Sigma-bond. Typically the maximum number of same or different ligands according to the coordination number, spatial requirements of the ligand and electronic configuration of the metal is bound in a predictable geometry. Complexes of neutral, cationic or anionic hydrocarbon ligands with delocalised charge and/or bonding site, e.g. Pd-olefin complexes or metallocenes, are also included (the following groups take precedence: simple hydrocarbyl metal compounds, e.g. of main group metal(oids) [B01J 31/12](#); oxoacid salts [B01J 31/04](#) to [B01J 31/10](#); other compounds comprising anionic organonitrogen, organooxygen and organosulfur fragments with a metal bonded to these heteroatoms [B01J 31/02](#) to [B01J 31/0254](#). -"Organometallic complexes" includes all coordination complexes comprising a M-C bond, e.g. metal carbonyls (complex cyanides such as  $M_4[Fe(CN)_6]$  [B01J 27/26](#)). Included are furthermore complexes which are not strictly organometallic per se, e.g. comprising only N, O, S and/or P coordinated ligands, but are described as involving, or known to involve, organometallic intermediates and/or transition states during use, e.g. Group 8-10 metal complexes for a variety of catalytic reactions or steps thereof, such as oxidative addition, e.g. of  $ArX$ , hydrogenation, carbonylation, epoxidation, etc. -"Organic complexes" includes all coordination complexes comprising organic ligands (groups [B01J 31/1608](#) to [B01J 31/1895](#) take precedence). -"Polymer" includes any macromolecular substance (typically  $M > 10000$  g/mol), which comprises repeating units made up of one or several kinds of atoms or groups of atoms, which are identically connected to one another. Oligomers, i.e. more than two identical repeating units connected to one another and typically  $500 < M < 10000$  g/mol, are grouped with the respective polymers (polymers per se [C08](#)).

3. In this group, if two or more aspects are of equal importance, these are each classified, e.g. two components in a catalyst system such as:

- support and pendant or otherwise immobilised coordination complex; or
- coordination complex and essential additive.

However, if two components, even if separately added, are described as forming, or known to form, a coordination complex, only the latter is classified, e.g. phosphine and Group 8-10 metal such as rhodium. The groups [B01J 31/26](#) to [B01J 31/38](#) are not to be used for the central metals in coordination complexes but rather for separately added further inorganic ingredients.

Each specifically disclosed alternative is separately classified, i.e. specifically disclosed by ways of worked examples, specific claims and/or explicit alternatives therein.

4. When classifying in [B01J 31/00](#), additional information for the catalysts is provided as follows:

- (4-1) the specifically disclosed intended uses are indexed in [B01J 2231/00](#);
- (4-2) general aspects of the complexes of group [B01J 31/16](#) and the specifically disclosed central metal(s) therein, as well as additional information regarding any special solvents used for any catalyst system of this group are indexed in [B01J 2531/00](#).
- (4-3) conceptual articles, e.g. reviews, are separately indexed in [B01J 2231/005](#) and [B01J 2531/001](#);

(4-4) additional information regarding the complexes or ligands classified in [B01J 31/16](#) to [B01J31/24](#)[B01J 31/24](#) and indexed in [B01J 2531/00](#) is indexed in [B01J 2540/00](#) , e.g. non-coordinating substituents on the ligand periphery]

**Project: N/A (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](#) )**

**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 )}

**B05B 15/065** · · {Mounting arrangements for fluidically connecting the spray apparatus, spray heads or other outlets to a flow conduit( Joints in eneral [F16L 13/00](#) -~~37/00~~[F16L 37/00](#) )}

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

**B05D 2500/00** **Indexation scheme for the composition of layers**

NOTE

~~L05D5\*\*/\*\*~~ ~~L05D5\*\*/\*\*~~ codes may be combined with one or more codes of the series ~~L05D4\*\*/\*\*~~ ~~L05D4\*\*/\*\*~~ with a + sign. Example : [B05D 2503/00](#) + [B05D 2420/01](#) + [B05D 2420/02](#)

**Project: N/A (B21D)**

**U B21D 22/00** **Shaping without cutting, by stamping, spinning, or deep-drawing( otherwise than using rigid devices or tools or yieldable or resilient pads [B21D 26/00](#) )**

**U B21D 22/02** · Stamping using rigid devices or tools

**B21D 22/022** · · {by heating the blank or stamping associated with heat treatment(~~C21D~~[C21D](#) takes precedence)}

**U B21D 22/20** · Deep-drawing( special deep-drawing arrangements in, or in connection with, presses [B21D 24/00](#) )

**B21D 22/208** · · {by heating the blank or deep-drawing associated with heat treatment(~~C21D~~[C21D](#) takes precedence)}

**Project: N/A (B22F)**

**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~~[C04](#), [C08](#) take precedence; { amorphous powder [B22F 9/002](#)})**

**Project: N/A (B23B)**

**U B23B 2231/00** **Details of chucks, toolholder shanks or tool shanks**

**U B23B 2231/20** · Collet chucks

**U B23B 2231/201** · · Operating surfaces of collets, i.e. the surface of the collet acted on by the operating means

**B23B 2231/2013** · · · Non-cylindrical (~~polygonal~~[L231/20H3](#)~~polygonal~~ [L231/20H3](#))

**U B23B 2260/00** **Details of constructional elements**

B23B 2260/058 · Dust covers (dust covers in chucks [B23B 2231/28](#), nose pieces in chucks [L231/44](#)[L231/44](#))

**Project: N/A (B23C)**

**U B23C 3/00** Milling particular work; Special milling operations; Machines therefor (milling gear-teeth [B23F](#), {heat assisted machining [B23P 25/00](#)})

B23C 3/10 · Relief milling (lathes or turning devices for relieving [B23B-5/42](#)[B23B5/42](#))

**Project: N/A (B23Q)**

**B23Q 5/00** Driving or feeding mechanisms; Control arrangements therefor (automatic control [B23Q 15/00](#); copying [B23Q 33/00](#), [B23Q 35/00](#); specially adapted for boring or drilling machines [B23B 39/10](#), [B23B-47/02](#)[B23B47/02](#); {numerical programme-control of machine tools [G05B 19/18](#)})

**B23Q 9/00** Arrangements for supporting or guiding portable metal-working machines or apparatus (for tapping pipes [B23B-41/08](#)[B23B41/08](#) { [F16L 41/04](#)}; specially designed for drilling [B23B-45/14](#)[B23B45/14](#) { [B25H 1/0021](#)})

**Project: N/A (B24D)**

**B24D** TOOLS FOR GRINDING, BUFFING, OR SHARPENING (tools for grinding or polishing optical surfaces on lenses or surfaces of similar shape [B24B 13/01](#); grinding heads [B24B 41/00](#); manufacture of abrasive or friction articles or shaped materials containing macromolecular substances [C08J-5/14](#)[C08J5/14](#); polishing compositions [C09G 1/00](#); abrasives [C09K 3/14](#))

NOTES

This subclass covers grinding tools for working on any material

Tools for grinding, buffing or sharpening, specially designed for a particular purpose, which purpose is provided for in a single other place, are classified in that place, e.g. [B23F 21/02](#)

**Project: N/A (B25D)**

**B25D 9/00** Portable percussive tools with fluid-pressure drive, { i.e. driven directly by fluids}, e.g. having several percussive tool bits operated simultaneously {([B25D-15/00](#)[B25D15/00](#) ; portable non-percussive drilling tools driven by fluid pressure or pneumatic power [B23B 45/04](#))}

**Project: N/A (B25H)**

**U B25H 1/00** Work benches; Portable stands or supports for positioning portable tools or work to be operated on thereby

B25H 1/0021 · {Stands, supports or guiding devices for positioning portable tools or for securing them to the work ([B23B-41/08](#)[B23B41/08](#) takes precedence)}

**Project: N/A (B27C)**

**B27C 7/00** Wood-turning machines; Equipment therefor ([B23B](#)[B23B](#), [B23G](#), [B23Q](#), take precedence; features of copying devices [B23Q 35/00](#))

**Project: N/A (B27K)**

**U B27K 3/00** Impregnating wood, {e.g. impregnation pretreatment, for example puncturing; Wood impregnation aids not directly involved in the impregnation process}{dyeing, staining [B27K 5/00](#)}

**U B27K 3/02** · Processes; Apparatus

B27K 3/15

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

NOTE

1. When classifying in group [B27K 3/15](#), classification is additionally made in the groups of subclass ~~M08L~~[M08L](#) for defining the chemical polymeric structure
2. In groups [B27K 3/16](#) to [B27K 3/50](#), in the absence of an indication to the contrary, impregnating agents are classified in the last appropriate place

**Project: N/A (B29C)**

U B29C 66/00

**{General aspects of processes or apparatus for joining preformed parts( means for handling the parts to be joined [B29C 65/78](#) ; testing the joint [B29C 65/82](#) )}**

WARNING

Groups [B29C 66/00](#) - [B29C 66/98](#) do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: - [B29C 66/00](#) - [B29C 66/98](#) : [B29C 65/00](#) ]

U B29C 66/70

- {characterised by the composition, physical properties or the structure of the material of the parts to be joined; Joining with non-plastics material( chemical aspects [C08J 5/12](#) , [C09J](#) )}

WARNING

Group [B29C 66/70](#) and subgroups are not complete, pending a reorganisation; see also [B29C 65/00](#) and its subgroups

B29C 66/71

- • {characterised by the composition of the plastics material of the parts to be joined( welding bar compositions [B29C 65/125](#) )}

WARNING

Group [B29C 66/71](#) and subgroups are not complete, pending a reorganisation; see also ~~B29K-1/00~~[B29K1/00](#) to ~~B29K-95/00~~[B29K95/00](#)

U B29C 66/72

- • {characterised by the structure of the material of the parts to be joined}

U B29C 66/721

- • • {Fibre-reinforced materials( [B29C 66/729](#) takes precedence )}

WARNING

Subgroups of [B29C 66/721](#) are not complete, pending a reorganisation; see also this group

B29C 66/7212

- • • • {characterised by the composition of the fibres}

WARNING

Not complete, pending a reorganisation; see also ~~B29K-201/00~~[B29K201/00](#) to ~~B29K-311/14~~[B29K311/14](#)

B29C 73/00

**Repairing of articles made from plastics or substances in a plastic state, e.g. of articles shaped or produced by using techniques covered by this subclass or subclass [B29D](#)( retreading tyres [B29D 30/54](#) ; { linings for tyres acting locally [B60C5/145](#) ; } devices for covering leaks in pipes or hoses [F16L 55/16](#) )**

WARNING

This group was introduced on 24 June, 1987

Documents from the backlog of ~~B60C 21/00~~~~B60C21/00~~ - ~~B60C21/08B~~,  
[B60C 25/16](#) are in the process of being systematically transferred to  
[B29C 73/00](#) ]

**Project: N/A (B29K)**

**B29K**

**INDEXING SCHEME ASSOCIATED WITH SUBCLASSES [B29B](#), C OR D,  
RELATING TO MOULDING MATERIALS**

NOTE

1. This subclass constitutes an indexing scheme associated with subclasses [B29B](#), [B29C](#) or [B29D](#).
2. In this subclass, the following term is used with the meaning indicated:  
"rubber" covers: natural or conjugated diene rubbers; rubber in general (for a specific rubber, other than a natural rubber or a conjugated diene rubber, see the group provided for such macromolecular compounds
3. Documents relating to compositions or properties of the materials to be shaped, said compositions having a particular influence on the shaping technique, should be classified in the shaping technique, e.g. [B29C 39/003](#) ,  
[B29C 41/003](#) , [B29C 43/003](#) , [B29C 45/0001](#) , [B29C 47/0004](#) , [B29C 49/0005](#) ,  
[B29C 51/002](#) , [B29C 53/005](#) , [B29C 55/005](#) , [B29C 61/003](#) , [B29C 63/0017](#) and  
~~B2965/00S~~~~B2965/00S~~  
Copolymers are indexed with the same indexing code as the majority polymers

WARNING

The following IPC indexing codes are not being used: [B29K 105/02](#) ,  
[B29K 105/22](#) , [B29K 105/28](#) , [B29K 105/30](#) , [B29K 105/32](#) and [B29K 105/34](#)  
The aspect of [B29K 105/02](#) is covered by [B29K 2995/0064](#) The aspect  
of [B29K 105/22](#) is covered by [B29K 705/00](#) The aspect of [B29K 105/28](#)  
is covered by [B29K 2995/0025](#) The aspect of [B29K 105/30](#) is covered by  
[B29K 2995/003](#) The aspect of [B29K 105/32](#) is covered by [B29K 2995/0026](#)  
The aspects of [B29K 105/34](#) are covered by [B29K 2995/002](#) , [B29K 2995/0007](#)  
and [B29K 2995/0015](#) Subclass indexes Compositions for moulding  
materials, condition, form or state of moulded material: ~~B29K1~~~~B29K1/00~~ -  
~~B29K105~~~~B29K105/00~~ Compositions for reinforcements: ~~B29K201~~~~B29K201/00~~  
- ~~B29K313~~~~B29K313/00~~ Compositions for fillers: ~~B29K401~~~~B29K401/00~~ -  
~~B29K511~~~~B29K511/00~~ Compositions for preformed parts: ~~B29K601~~~~B29K601/00~~  
- ~~B29K713~~~~B29K713/00~~ Compositions for moulds: ~~B29K801~~~~B29K801/00~~ -  
~~B29K913~~~~B29K913/00~~ Properties of moulding materials, reinforcements, fillers,  
preformed parts or moulds: ~~B29K995~~~~B29K995/00~~ Compositions for moulding  
materials; Condition, form or state of moulded material  
From the date indicated below, the following groups have been deleted from the  
classification scheme. The documents of these groups have been transferred to  
the new groups as follows :

[B29K 105/28](#) transferred to [B29K 2995/0025](#)

[B29K 105/30](#) transferred to [B29K 2995/003](#)

[B29K 105/32](#) transferred to [B29K 2995/0026](#)

[B29K 105/34](#) transferred to [B29K 2995/002](#) , [B29K 2995/0007](#) ,

~~B29K00D4~~~~B29K00D4~~

**B29K 2019/00**

**Use of rubber not provided for in a single one of main groups  
~~B29K 7/00~~~~B29K7/00~~ to { [B29K 2011/00](#) }, as moulding material**

**U B29K 2025/00**

**Use of polymers of vinyl-aromatic compounds{or derivatives thereof}as  
moulding material{( as such [C08L 25/00](#) )}**

U B29K 2025/04

· {Polymers of styrene( as such [C08L 25/04](#) )}

B29K 2025/08

· · {Copolymers of styrene, e.g. AS or SAN, i.e. acrylonitrile styrene( as such  
[C08L 25/08](#) ; ~~B29K 55/02~~~~B29K55/02~~ takes precedence )}

- B29K 2033/00 Use of polymers of unsaturated acids or derivatives thereof as moulding material{( as such [C08L 33/00](#) )} ( ~~B29K-35/00~~[B29K35/00](#) takes precedence )
- B29K 2055/00 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-23/00~~[B29K23/00](#) to { [B29K49/00](#) , e.g. having a vinyl group }, as moulding material{( as such [C08L 55/00](#) )}
- B29K 2079/00 Use of polymers having nitrogen, with or without oxygen, or carbon only, in the main chain{ not provided for in groups ~~B29K-61/00~~[B29K61/00](#) to ~~B29K-77/00~~[B29K77/00](#) }, as moulding material{( as such [C08L 79/00](#) )}
- B29K 2086/00 Use of specific polymers obtained by polycondensation or polyaddition, not provided for in a single one of main groups ~~B29K-59/00~~[B29K59/00](#) to ~~B29K-85/00~~[B29K85/00](#) , as moulding material
- B29K 2093/00 {Use of natural resins( as such [C08L 93/00](#) ), e.g. shellac( as such [C08L 93/02](#) )or derivatives thereof, as moulding material( ~~B29K-1/00~~[B29K1/00](#) , [B29K 2003/00](#) , [B29K 2005/00](#) , ~~B29K-7/00~~[B29K7/00](#) and [B29K 2089/00](#) take precedence )}
- B29K 2096/00 Use of specified macromolecular materials not provided for in a single one of main groups ~~B29K-1/00~~[B29K1/00](#) - ~~B29K-95/00~~[B29K95/00](#) , as moulding material
- B29K 2096/02 · Graft polymers( ~~B29K-55/02~~[B29K55/02](#) takes precedence )
- B29K 2096/04 · Block polymers( ~~B29K-55/02~~[B29K55/02](#) takes precedence )
- B29K 2101/00 Use of unspecified macromolecular compounds as moulding material( unspecified rubbers ~~B29K-21/00~~[B29K21/00](#) ){ as such [C08L 101/00](#) }
- U B29K 2105/00 Condition, form or state of moulded material{or of the material to be shaped}
- B29K 2105/0005 · {containing compounding ingredients( releasing, lubricating or separating agents [B29C 33/56](#) , fibers ~~B29K-105/08~~[B29K105/08](#) , ~~B29K-105/12~~[B29K105/12](#) ; fillers ~~B29K-105/16~~[B29K105/16](#) , recycled material ~~B29K-105/26~~[B29K105/26](#) )}
- B29K 2219/00 Use of rubber not provided for in a single one of main groups ~~B29K-207/00~~[B29K207/00](#) to { [B29K 2211/00](#) }, as reinforcement
- U B29K 2225/00 Use of polymers of vinyl-aromatic compounds{or derivatives thereof}as reinforcement{( as such [C08L 25/00](#) )}
- U B29K 2225/04 · {Polymers of styrene( as such [C08L 25/04](#) )}
- B29K 2225/08 · · {Copolymers of styrene, e.g. AS or SAN, i.e. acrylonitrile styrene( as such [C08L 25/08](#) ; ~~B29K-255/02~~[B29K255/02](#) takes precedence )}
- B29K 2233/00 Use of polymers of unsaturated acids or derivatives thereof as reinforcement{( as such [C08L 33/00](#) )} ( ~~B29K-35/00~~[B29K35/00](#) takes precedence )
- B29K 2255/00 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-223/00~~[B29K223/00](#) to { [B29K 2249/00](#) , e.g. having a vinyl group }, as reinforcement{( as such [C08L 55/00](#) )}
- B29K 2279/00 Use of polymers having nitrogen, with or without oxygen, or carbon only, in the main chain{ not provided for in groups ~~B29K-261/00~~[B29K261/00](#) to ~~B29K-277/00~~[B29K277/00](#) }, as reinforcement{( as such [C08L 79/00](#) )}

B29K 2286/00	Use of specific polymers obtained by polycondensation or polyaddition, not provided for in a single one of main groups <b>B29K-259/00</b> <b>B29K259/00</b> to <b>B29K-285/00</b> <b>B29K285/00</b> , as reinforcement
B29K 2293/00	{Use of natural resins( as such <b>C08L 93/00</b> ), e.g. shellac( as such <b>C08L 93/02</b> )or derivatives thereof, as reinforcement( <b>B29K-201/00</b> <b>B29K201/00</b> , <b>B29K 2203/00</b> , <b>B29K 2205/00</b> , <b>B29K-207/00</b> <b>B29K207/00</b> and <b>B29K 2289/00</b> take precedence )}
B29K 2296/00	Use of specified macromolecular materials not provided for in a single one of main groups <b>B29K-201/00</b> <b>B29K201/00</b> - <b>B29K-295/00</b> <b>B29K295/00</b> , as reinforcement
B29K 2296/02	· Graft polymers( <b>B29K-255/02</b> <b>B29K255/02</b> takes precedence )
B29K 2296/04	· Block polymers( <b>B29K-255/02</b> <b>B29K255/02</b> takes precedence )
B29K 2301/00	Use of unspecified macromolecular compounds as reinforcement( unspecified rubbers <b>B29K-221/00</b> <b>B29K221/00</b> ){ ( as such <b>C08L 101/00</b> )}
B29K 2309/00	Use of inorganic materials not provided for in groups <b>B29K-303/00</b> <b>B29K303/00</b> - <b>B29K-307/00</b> <b>B29K307/00</b> , as reinforcement
B29K 2311/00	Use of natural products or their composites, not provided for in groups <b>B29K-201/00</b> <b>B29K201/00</b> - <b>B29K-309/00</b> <b>B29K309/00</b> , as reinforcement
B29K 2313/00	{Textile products, fabrics( <b>B29K-105/06</b> <b>B29K105/06</b> takes precedence )}
B29K 2419/00	Use of rubber not provided for in a single one of main groups <b>B29K-407/00</b> <b>B29K407/00</b> to { <b>B29K 2411/00</b> }, as filler
U B29K 2425/00	Use of polymers of vinyl-aromatic compounds{or derivatives thereof}as filler{( as such <b>C08L 25/00</b> )}
U B29K 2425/04	· {Polymers of styrene( as such <b>C08L 25/04</b> )}
B29K 2425/08	· · {Copolymers of styrene, e.g. AS or SAN, i.e. acrylonitrile styrene( as such <b>C08L 25/08</b> ; <b>B29K-455/02</b> <b>B29K455/02</b> takes precedence )}
B29K 2433/00	Use of polymers of unsaturated acids or derivatives thereof as filler{( as such <b>C08L 33/00</b> )} ( <b>B29K-435/00</b> <b>B29K435/00</b> takes precedence )
B29K 2455/00	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 <b>B29K-23/00</b> <b>B29K23/00</b> to { <b>B29K49/00</b> , e.g. having a vinyl group }, as filler{( as such <b>C08L 55/00</b> )}
B29K 2479/00	Use of polymers having nitrogen, with or without oxygen, or carbon only, in the main chain{ not provided for in groups <b>B29K-461/00</b> <b>B29K461/00</b> to <b>B29K-477/00</b> <b>B29K477/00</b> }, as filler{( as such <b>C08L 79/00</b> )}
B29K 2486/00	Use of specific polymers obtained by polycondensation or polyaddition, not provided for in a single one of main groups <b>B29K-459/00</b> <b>B29K459/00</b> to <b>B29K-485/00</b> <b>B29K485/00</b> , as filler
B29K 2493/00	{Use of natural resins( as such <b>C08L 93/00</b> ), e.g. shellac( as such <b>C08L 93/02</b> )or derivatives thereof, as filler( <b>B29K-401/00</b> <b>B29K401/00</b> , <b>B29K 2403/00</b> , <b>B29K 2405/00</b> , <b>B29K-407/00</b> <b>B29K407/00</b> and <b>B29K 2489/00</b> take precedence )}
B29K 2496/00	Use of specified macromolecular materials not provided for in a single one of main groups <b>B29K-401/00</b> <b>B29K401/00</b> - <b>B29K-495/00</b> <b>B29K495/00</b> , as filler
B29K 2496/02	· Graft polymers( <b>B29K-455/02</b> <b>B29K455/02</b> takes precedence )

B29K 2496/04	· Block polymers( <del>B29K-455/02</del> <b>B29K455/02</b> takes precedence )
B29K 2501/00	Use of unspecified macromolecular compounds as filler( unspecified rubbers <del>B29K-421/00</del> <b>B29K421/00</b> )(( as such <a href="#">C08L 101/00</a> ))
B29K 2509/00	Use of inorganic materials not provided for in groups <del>B29K-503/00</del> <b>B29K503/00</b> - <del>B29K-507/00</del> <b>B29K507/00</b> , as filler
B29K 2511/00	Use of natural products or their composites, not provided for in groups <del>B29K-401/00</del> <b>B29K401/00</b> - <del>B29K-509/00</del> <b>B29K509/00</b> , as filler
B29K 2619/00	Use of rubber not provided for in a single one of main groups <del>B29K-607/00</del> <b>B29K607/00</b> to { <a href="#">B29K 2611/00</a> }, for preformed parts, e.g. inserts
U B29K 2625/00	Use of polymers of vinyl-aromatic compounds{or derivatives thereof}for preformed parts, e.g. inserts(( as such <a href="#">C08L 25/00</a> ))
U B29K 2625/04	· {Polymers of styrene( as such <a href="#">C08L 25/04</a> )}
B29K 2625/08	· · {Copolymers of styrene, e.g. AS or SAN, i.e. acrylonitrile styrene( as such <a href="#">C08L 25/08</a> ; <del>B29K-655/02</del> <b>B29K655/02</b> takes precedence )}
B29K 2633/00	Use of polymers of unsaturated acids or derivatives thereof for preformed parts, e.g. inserts(( as such <a href="#">C08L 33/00</a> )) ( <del>B29K-635/00</del> <b>B29K635/00</b> takes precedence )
B29K 2655/00	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 <del>B29K-623/00</del> <b>B29K623/00</b> to { <a href="#">B29K 2649/00</a> , e.g. having a vinyl group }, for preformed parts, e.g. inserts(( as such <a href="#">C08L 55/00</a> ))
B29K 2679/00	Use of polymers having nitrogen, with or without oxygen, or carbon only, in the main chain{ not provided for in groups <del>B29K-661/00</del> <b>B29K661/00</b> to <del>B29K-677/00</del> <b>B29K677/00</b> }, for preformed parts, e.g. inserts(( as such <a href="#">C08L 79/00</a> ))
B29K 2686/00	Use of specific polymers obtained by polycondensation or polyaddition, not provided for in a single one of main groups <del>B29K-659/00</del> <b>B29K659/00</b> to <del>B29K-685/00</del> <b>B29K685/00</b> , for preformed parts, e.g. inserts
B29K 2693/00	{Use of natural resins( as such <a href="#">C08L 93/00</a> ), e.g. shellac( as such <a href="#">C08L 93/02</a> )or derivatives thereof, for preformed parts, e.g. inserts( <del>B29K-601/00</del> <b>B29K601/00</b> , <a href="#">B29K 2603/00</a> , <a href="#">B29K 2605/00</a> , <del>B29K-607/00</del> <b>B29K607/00</b> and <a href="#">B29K 2689/00</a> take precedence )}
B29K 2696/00	Use of specified macromolecular materials not provided for in a single one of main groups <del>B29K-601/00</del> <b>B29K601/00</b> - <del>B29K-695/00</del> <b>B29K695/00</b> , for preformed parts, e.g. inserts
B29K 2696/02	· Graft polymers( <del>B29K-655/02</del> <b>B29K655/02</b> takes precedence )
B29K 2696/04	· Block polymers( <del>B29K-655/02</del> <b>B29K655/02</b> takes precedence )
B29K 2701/00	Use of unspecified macromolecular compounds for preformed parts, e.g. inserts( unspecified rubbers <del>B29K-621/00</del> <b>B29K621/00</b> )(( as such <a href="#">C08L 101/00</a> ))
B29K 2709/00	Use of inorganic materials not provided for in groups <a href="#">B29K 2603/00</a> - <del>B29K-607/00</del> <b>B29K607/00</b> , for preformed parts, e.g. for inserts
B29K 2711/00	Use of natural products or their composites, not provided for in groups <del>B29K-601/00</del> <b>B29K601/00</b> - <del>B29K-709/00</del> <b>B29K709/00</b> , for preformed parts, e.g. for inserts

**B29K 2713/00** {Textile products, fabrics( **B29K-105/06****B29K105/06** takes precedence )}

**Project: N/A (B29L)**

**B29L 2007/00** Flat articles, e.g. films or sheets (**B29L-24/00****B29L24/00** takes precedence)

B29L 2007/007 • { Narrow strips, e.g. ribbons, tapes, bands (belts **B29L-29/00****B29L29/00**; tapes as carrier of sound or information [B29L 2017/008](#))}

**B29L 2016/00** Articles with corrugations or pleats (**B29L-23/18****B29L23/18**, { [B29L 2024/003](#) } take precedence)

**B29L 2019/00** Buttons or semi-finished parts of buttons { for haberdashery (push-buttons **B29L-31/46****B29L31/46**)}

**B29L 2022/00** Hollow articles (tubular articles **B29L-23/00****B29L23/00**; pneumatic tyres **B29L-30/00****B29L30/00**)

B29L 2022/02 • Inflatable articles (balls **B29L-31/54****B29L31/54**; { inner tyres [B29L 2023/245](#)})

**B29L 2023/00** Tubular articles (**B29L-24/00****B29L24/00** takes precedence; { catheters [B29L 2031/7542](#)})

B29L 2023/004 • { Bent tubes (for use as pipe couplings **B29L-31/24****B29L31/24**)}

**U B29L 2031/00 Other particular articles****WARNING**

Groups [B29L 2031/70](#) - [B29L 2031/7782](#) do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: [B29L 2031/70](#) - [B29L 2031/7782](#): [B29L 31/00](#)

B29L 2031/10 • Building elements, e.g. bricks, blocks, tiles, panels, posts, beams {(frameless domes **B29L-25/00****B29L25/00**, doors [B29L 2031/724](#))}

B29L 2031/24 • Pipe joints or couplings (**B29L-31/26****B29L31/26** takes precedence)

B29L 2031/30 • Vehicles, e.g. ships or aircraft, or body parts thereof {(vanes or blades **B29L-31/08****B29L31/08**, air bags [B29L 2022/027](#))}

B29L 2031/3076 • • { Aircrafts (blades, propellers **B29L-31/08****B29L31/08**)}

B29L 2031/32 • Wheels, pinions, pulleys, castors or rollers, { Rims (inner tubes [B29L 2023/245](#); gears [B29L 2015/003](#); tyres **B29L-30/00****B29L30/00**)}

B29L 2031/46 • Knobs or handles, { push-buttons, grips (buttons for haberdashery **B29L-19/00****B29L19/00**, press-buttons as fastening element [B29L 2031/7282](#))}

B29L 2031/52 • Sports equipment; { Games; Articles for amusement}; Toys (**B29L-31/54****B29L31/54** takes precedence)

U B29L 2031/60 • Multitubular or multicompartmented articles, e.g. honeycomb

B29L 2031/601 • • { Multi-tubular articles, i.e. composed of a plurality of tubes (hollow-walled **B29L-24/00****B29L24/00**)}

B29L 2031/702 • { Imitation articles, e.g. statues, mannequins (medical equipment [B29L 2031/753](#); models **B29L-31/40****B29L31/40**)}

U B29L 2031/709 • { Articles shaped in a closed loop, e.g. conveyor belts }

U B29L 2031/7096 • • { Rings or ring-like articles }

B29L 2031/7102 • • • { Toroidal articles (tyres **B29L-30/00****B29L30/00**; inner tubes [B29L 2023/245](#))}

B29L 2031/712 • { Containers; Packaging elements or accessories, Packages (closures therefor **B29L-31/56****B29L31/56**; ink or toner cartridges [B29L 2031/7678](#); squeeze tubes **B29L-23/20****B29L23/20**; suitcases [B29L 2031/7418](#))}

B29L 2031/718 • { Cosmetic equipment, e.g. hair dressing, shaving equipment (brushes **B29L-31/42****B29L31/42**, combs [B29L 2021/005](#))}

- B29L 2031/726 • { Fabrics (nets ~~B29L-28/00~~**B29L28/00**)}
- B29L 2031/727 • { Fastening elements (bolts [B29L 2001/002](#); nuts [B29L 2001/005](#); screws [B29L 2001/007](#); slide fasteners ~~B29L-5/00~~**B29L5/00**; buttons for haberdashery ~~B29L-19/00~~**B29L19/00**)}
- B29L 2031/7278 • { Couplings, connectors, nipples ([B29L 2031/7274](#) takes precedence; for pipes or tubes ~~B29L-31/24~~**B29L31/24**; electrical ~~B29L-31/34~~**B29L31/34**)}
- B29L 2031/737 • { Articles provided with holes, e.g. grids, sieves (nets ~~B29L-28/00~~**B29L28/00**)}
- B29L 2031/7414 • { Smokers' requisites, e.g. pipe cleaners (cigar holders ~~B29L-23/14~~**B29L23/14**)}
- B29L 2031/748 • { Machines or parts thereof not otherwise provided for (conveyor belts [B29L 2031/7092](#); driving belts [B29L 2031/7094](#); bearings ~~B29L-31/04~~**B29L31/04**)}
- B29L 2031/7498 • { Rotors (with blades ~~B29L-31/08~~**B29L31/08**)}
- B29L 2031/751 • { Mattresses, cushions (upholstery ~~B29L-31/58~~**B29L31/58**)}
- B29L 2031/772 • { Articles characterised by their shape and not otherwise provided for (closed loop [B29L 2031/709](#); ring-like [B29L 2031/7096](#); corrugated ~~B29L-16/00~~**B29L16/00**, flat ~~B29L-7/00~~**B29L7/00**; hollow ~~B29L-22/00~~**B29L22/00**; screw-threaded ~~B29L-1/00~~**B29L1/00**; toothed [B29L 2031/775](#); corrugated tubes ~~B29L-23/18~~**B29L23/18**)}
- B29L 2031/773 • { Dome-shaped (igloos [B29L 2031/106](#), frameless domes ~~B29L-25/00~~**B29L25/00**)}
- B29L 2031/7734 • { Spherical (balls ~~B29L-31/54~~**B29L31/54**; globes [B29L 2022/002](#))}
- B29L 2031/775 • { Toothed articles (corrugated ~~B29L-16/00~~**B29L16/00**; screw-threaded ~~B29L-1/00~~**B29L1/00**; corrugated tubes ~~B29L-23/18~~**B29L23/18**; comb-like ~~B29L-21/00~~**B29L21/00**; gears, pinions, sprocket-wheels ~~B29L-15/00~~**B29L15/00**)}

**Project: N/A (B31B)**

- B31B 29/00 **Machinery characterised by making envelopes or bags with structural provision at the base for thickness or contents(~~B31B-31/00~~**B31B31/00** to**B31B 37/00** take precedence; {~~B31B-31/00~~**B31B31/00** ,~~B31B-33/00~~**B31B33/00** ,~~B31B-35/00~~**B31B35/00** takes precedence})**
- B31B 37/00 **Machinery characterised by making envelopes or bags with structural provision at the base for thickness of contents from webs, e.g. from tubular webs (machinery characterised by cutting sheets and blanks from webs and working them to form such envelopes or bags ~~B31B-31/00~~**B31B31/00**)**

**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**  
**NOTE**  
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.

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.

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.

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.

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 23/04](#)~~ ~~[G B32B23/04C](#)~~ - [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](#) - [B2B3/22](#) - [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](#)

- 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](#) ) }
- B32B 17/10 • of synthetic resin ( producing optical elements from plastics [B29D 11/00](#) ; constructional form of optical elements [G02B](#) ) }

#### NOTE

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](#) to [B32B17/10L](#), whereby transparent polymeric layers other than the interlayer ( ~~[B32B 17/10](#)~~ ~~[G B32B17/10G](#)~~ ) are classified using indexing codes

#### Project: RP0064 (B41M)

- U B41M 3/00 Printing processes to produce particular kinds of printed work, e.g. patterns (special designs or pictures per se [B44F](#); { printing apparatus or machines of special type or for particular purposes [B41F 17/00](#) ; manufacturing organic semiconductor devices using printing techniques [H01L 51/0004](#) } ; manufacturing printed circuits using printing techniques [H05K 3/12](#) )**
- B41M 3/14 • Security printing ( { ~~security documents [B42D 15/00](#)~~ ~~securities [B42D 25/29](#)~~ ) }

## Project: N/A (B42D)

- B42D** **BOOKS; BOOK COVERS; LOOSE LEAVES; *PRINTED MATTER CHARACTERISED BY IDENTIFICATION OR SECURITY FEATURES*; PRINTED MATTER OF SPECIAL FORMAT OR STYLE NOT OTHERWISE PROVIDED FOR; DEVICES FOR USE THEREWITH *AND NOT OTHERWISE PROVIDED FOR*; MOVABLE-STRIP WRITING OR READING APPARATUS (~~book-stands A47B-19/00; book-rests A47B-23/00~~)<br/>**
- B42D 15/00** **Printed matter of special format or style not otherwise provided for (~~sheets temporarily attached together or with objects so attached thereto B42F; maps, diagrams G09B-29/00; labels G09F-3/00~~)**
- D B42D 15/0013 • {Securities, e.g. bank-notes, cheques, shares, bonds}
- D B42D 15/002 • • {with moirè effects}
- D B42D 15/0026 • • {with security threads}
- B42D 15/02 • Postcards; -Greeting, menu, business or like cards; -Letter cards or letter-sheets (~~B42D-15/10~~[B42D 25/00](#) takes precedence; envelopes [B65D 27/00](#))
- D B42D 15/10 • Identity, credit, cheque or like information-bearing cards ((B42D-15/002; B42D-15/0026 take precedence; holders for credit cards A45C-11/182); recognition of data, cards used as record-carriers G06K; record-carriers in general G11)
- D B42D 15/105 • • {with holograms (holography G03H)}
- N 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](#))***
- WARNINGS**
- 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.
- N B42D 25/20 • characterised by a particular use or purpose
- N B42D 25/21 • • for multiple purposes
- N B42D 25/22 • • for use in combination with accessories specially adapted for information-bearing cards
- N B42D 25/23 • • Identity cards
- N B42D 25/24 • • Passports
- N B42D 25/25 • • Public transport tickets (apparatus for printing and issuing [G07B](#))
- N B42D 25/26 • • Entrance cards; Admission tickets
- N B42D 25/27 • • Lots, e.g. lottery tickets
- N B42D 25/28 • • for use in medical treatment or therapy
- N B42D 25/285 • • {Gift cards}
- N B42D 25/29 • • Securities; Bank notes
- N B42D 25/30 • Identification or security features, e.g. for preventing forgery
- N B42D 25/305 • • Associated digital information (record carriers for use with machines and with at least a part designed to carry digital markings [G06K 19/00](#))

- N B42D 25/309 . . Photographs
- N B42D 25/313 . . Fingerprints
- N B42D 25/318 . . Signatures
- N B42D 25/324 . . Reliefs
- N B42D 25/328 . . Diffraction gratings; Holograms
- N B42D 25/333 . . Watermarks
- N B42D 25/337 . . Guilloche patterns
- N B42D 25/342 . . Moiré effects
- N B42D 25/346 . . Perforations
- N B42D 25/351 . . Translucent or partly translucent parts, e.g. windows
- N B42D 25/355 . . Security threads
- N B42D 25/36 . . comprising special materials
  - N B42D 25/364 . . . Liquid crystals
  - N B42D 25/369 . . . Magnetised or magnetisable materials
  - N B42D 25/373 . . . Metallic materials
  - N B42D 25/378 . . . Special inks
    - N B42D 25/382 . . . . absorbing or reflecting infra-red light
    - N B42D 25/387 . . . . absorbing or reflecting ultra-violet light
    - N B42D 25/391 . . . . absorbing or reflecting polarised light
- N B42D 25/40 . . Manufacture
  - N B42D 25/405 . . Marking
    - N B42D 25/41 . . . using electromagnetic radiation ([B42D 25/435](#) takes precedence)
    - N B42D 25/415 . . . using chemicals ([B42D 25/445](#) takes precedence)
      - N B42D 25/42 . . . . by photographic processes
      - N B42D 25/425 . . . . by deformation, e.g. embossing
      - N B42D 25/43 . . . . by removal of material
        - N B42D 25/435 . . . . . using electromagnetic radiation, e.g. laser
        - N B42D 25/44 . . . . . using mechanical means, e.g. engraving
        - N B42D 25/445 . . . . . using chemical means, e.g. etching
  - N B42D 25/45 . . Associating two or more layers
    - N B42D 25/455 . . . using heat
    - N B42D 25/46 . . . using pressure
    - N B42D 25/465 . . . using chemicals or adhesives
      - N B42D 25/47 . . . . using adhesives
  - N B42D 25/475 . . Cutting cards
  - N B42D 25/48 . . Controlling the manufacturing process
    - N B42D 25/485 . . . by electronic processing means
- D B42D 2031/00 Manufacturing identity, credit, cheque or like information-bearing cards**
  - D B42D 2031/02 . . Marking
    - D B42D 2031/04 . . by printing
      - D B42D 2031/06 . . . using letterpress, intaglio, lithographic or screen-printing
      - D B42D 2031/08 . . by electromagnetic radiation, e.g. laser
      - D B42D 2031/10 . . by chemicals
        - D B42D 2031/12 . . . by a photographic process

- D B42D 2031/14      · · by deformation
- D B42D 2031/16      · · by removal of material
- D B42D 2031/20      · Associating two or more layers
- D B42D 2031/22      · · by heat
- D B42D 2031/24      · · by pressure
- D B42D 2031/26      · · by chemicals
- D B42D 2031/28      · · · by adhesives
- D B42D 2031/30      · Cutting
- D B42D 2031/32      · Controlling the manufacturing process
- D B42D 2031/34      · · by electronic data processing means

**Project: RP0064 (B42D)**

**B42D 2033/00**      **Indexing scheme associated with group ~~B42D 15/10~~**B42D 25/00**, relating to specific characteristics of identity, credit, cheque or like information-bearing cards**  
 - ~~B42D 2037/00~~  
**B42D 2035/00**

**B42D 2033/00**      **Structure or construction of identity, credit, cheque or like information-bearing cards**

**WARNINGS**

*Groups B42D 2033/00 - B42D 2033/46 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 2033/00 - B42D 2033/46 and B42D 25/00 - B42D 25/485 should be considered in order to perform a complete search.*

**B42D 2035/00**      **Nature or shape of the markings provided on identity, credit, cheque or like information-bearing cards**

**WARNINGS**

*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 (B42D)**

- U B42D 2035/02      · Nature of the markings
- D B42D 2035/04      · · Fingerprints
- D B42D 2035/10      · · Signature
- U B42D 2035/12      · Shape of the markings
- D B42D 2035/18      · · Photograph
- U B42D 2035/20      · · Optical effects
- D B42D 2035/22      · · · Diffraction gratings; Holograms
- D B42D 2035/28      · · Reliefs

D	B42D 2035/32	• • Perforations
D	B42D 2035/33	• • Watermarks
U	B42D 2035/34	• Markings visible under particular conditions or containing coded information
D	B42D 2035/38	• • visible under infra-red light
D	B42D 2035/40	• • visible under ultra-violet light
D	B42D 2035/42	• • visible under polarised light
<b>D</b>	<b>B42D 2037/00</b>	<b>Particular use of information-bearing cards otherwise than as credit or identity card</b>
D	B42D 2037/02	• Medical cards
D	B42D 2037/04	• Access cards
D	B42D 2037/06	• Banknotes or cheques
D	B42D 2037/08	• Passports, e.g. laminated data pages for passport books
D	B42D 2037/10	• Gift cards

**Project: RP0064 (B44F)****B44F****SPECIAL DESIGNS OR PICTURES**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: B44F 11/12 covered by B42D 15/00

**Project: N/A (B60B)****B60B****VEHICLE WHEELS; CASTORS; AXLES; INCREASING WHEEL ADHESION**NOTE

Attention is drawn to the Explanatory Note following the class title (~~B60~~B60)

**B60B 2200/00**

Type of product being used or applied (~~kind of vehicle product being used or applied L60Y200~~kind of vehicle product being used or applied L60Y200)

**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

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

Attention is drawn to the note following the title of class ~~B-60~~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](#)

**Project: N/A (B60G)**

- U B60G 3/00 Resilient suspension for a single wheel (pivoted suspension arms per se, attachment thereof to sprung part of the vehicle, buffer means for limiting movement of arms [B60G 7/00](#); {rigid axle suspensions [B60G 9/00](#);} characterised by arrangement, location or type of springs [B60G 11/00](#))
- U B60G 3/18 · with two or more pivoted arms, e.g. parallelogram
- U B60G 3/20 · · all arms being rigid
- B60G 3/24 · · · a rigid arm being formed by the live axle {(~~B60G/22~~[B60G/22](#), [B60G 3/26](#) take precedence; driving arrangements [B60K 17/22](#), [B60K 17/30](#), [B60K 17/32](#))}

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

- U B60J 1/00 Windows; Windscreens; Accessories therefor ([B60J 10/00](#) takes precedence; air curtains instead of windows [B60J 9/04](#); { sealing strips for windshields [B60J 10/02](#); sealing sash guides for sliding window panes [B60J 10/04](#); glass partitions inside vehicles to protect occupants against personal attack [B60R 21/12](#))}
- U B60J 1/20 · Accessories, e.g. wind deflectors, blinds (antiglare provisions [B60J 3/00](#); wind deflectors associated with roof openings [B60J 7/22](#); removable external protective coverings for windows or windscreens [B60J 11/08](#); { aerodynamical spoiler for vehicles [B62D 35/00](#);} heating arrangements specially adapted for transparent or reflecting areas [H05B 3/84](#))
- B60J 1/2011 · · {Blinds; curtains or screens reducing heat or light intensity (means against intense light blinding the driver or passengers ~~B60J 3/00~~[B60J 3/00](#))}

**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 invalids [A61G 3/00](#))**

NOTE

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

**Project: N/A (B60R)**

- B60R 16/00** Electric or fluid circuits specially adapted for vehicles and not otherwise provided for; Arrangement of elements of electric or fluid circuits specially adapted for vehicles and not otherwise provided for{( devices for protecting vehicle occupants in case of accidents [B60R 21/00](#) ; safety belts [B60R 22/00](#) ; central door locking [E05B 49/00](#) , [E05B 65/38](#)[E05B65/38](#) )}

**Project: RP0001 (B60R)**

- U B60R 21/00** Arrangements or fittings on vehicles for protecting or preventing injuries to occupants or pedestrians in case of accidents or other traffic risks( safety belts or body harnesses in vehicles [B60R 22/00](#) ; devices, apparatus or methods for life-saving in general [A62B](#) ; safety devices for propulsion unit control specially adapted for, or arranged in, vehicles [B60K 28/00](#) ; seats constructed to protect the occupant from the effect of abnormal g-forces, e.g. crash or safety seats, [B60N 2/42](#) ; energy-absorbing arrangements for hand wheels for steering vehicles [B62D 1/11](#) ; energy-absorbing arrangements for vehicle steering columns [B62D 1/19](#) ; harnessing in aircraft [B64D 25/00](#) )
- U B60R 21/01** • Electrical circuits for triggering{passive}safety arrangements,{e.g. airbags, safety belt tighteners,}in case of vehicle accidents or impending vehicle accidents{( electrical circuits for transmission of signals between steering wheel and the vehicle itself [B60R 16/027](#) ; for electrically actuating belt retractor locking mechanisms [B60R 22/343](#) )}
- U B60R 21/013** • • including means for detecting collisions, impending collision or roll-over{( inclination sensors per se [G01C 9/00](#) ; acceleration sensors per se [G01P 15/00](#) ; radar systems per se [G01S 13/00](#) ; inertia switches per se [H01H 35/14](#) )}
- B60R 21/0136** • • responsive to actual contact with an obstacle{, e.g. to vehicle deformation, bumper displacement or bumper velocity relative to the vehicle  
(*monitoring crash strength in combination with passenger seat detection* [B60R 21/01558](#))}
- B60R 21/015** • • including means for detecting the presence or position of passengers, passenger seats or child seats, e.g. for disabling triggering{;  
*Including including* means for *controlling detecting* the *presence or position of passengers, passenger seats or child seats*{, and the related safety arrangement actuation parameters *parameters therefor*, e.g. *rate*, speed or timing of airbag inflation; in relation to *external conditions, e.g. temperature, crash strength*, occupant position; *or seat belt use or the like*}; *Inhibition* means for cases of *useless or dangerous conditions, e.g. passengers out of position*}

**WARNINGS**

*Group(s) B60R 21/01504 - B60R 21/01566 is/are incomplete pending reclassification of documents from group(s) B60R 21/015.*

*Until reclassification is complete, group B60R 21/015 should be considered in order to perform a complete search.*

**Project: N/A (B60R)**

- D B60R 2021/01504** • • • {monitoring bag displacement}
- N B60R 21/01504** • • • {detecting bag displacement}
- D B60R 2021/01508** • • • {monitoring forces or pressure in bag or module}
- N B60R 21/01508** • • • {detecting forces or pressure in bags or modules}
- D B60R 2021/01512** • • • {Passenger detection systems}

N	B60R 21/01512	. . . {Passenger detection systems}
D	B60R 2021/01516	. . . . {using force or pressure sensing means}
N	B60R 21/01516	. . . . {using force or pressure sensing means}
D	B60R 2021/0152	. . . . {mounted on the bad}
N	B60R 21/0152	. . . . . {using strain gauges}
N	B60R 21/01522	. . . . . {using fluid means}
N	B60R 21/01524	. . . . . {using electric switches}
D	B60R 2021/01525	. . . . {using field detection presence sensor}
N	B60R 21/01526	. . . . . {using piezoelectric elements}
N	B60R 21/01528	. . . . . {mounted on the bag}
D	B60R 2021/01529	. . . . . {using electric or capacitive field sensors}
N	B60R 21/0153	. . . . . {using field detection presence sensors}
N	B60R 21/01532	. . . . . {using electric or capacitive field sensors}
D	B60R 2021/01533	. . . . . {using electromagnetic waves, e.g. infrared}
N	B60R 21/01534	. . . . . {using electromagnetic waves, e.g. infrared}
N	B60R 21/01536	. . . . . {using ultrasonic waves}
D	B60R 2021/01537	. . . . . {using ultrasonic waves}
N	B60R 21/01538	. . . . . {for image processing, e.g. cameras or sensor arrays}
N	B60R 21/0154	. . . . . {in combination with seat heating}
D	B60R 2021/01541	. . . . . {for image processing, e.g. cameras, sensor arrays}
N	B60R 21/01542	. . . . . {detecting passenger motion}
N	B60R 21/01544	. . . . . {detecting seat belt parameters, e.g. length, tension or height-adjustment}
D	B60R 2021/01545	. . . . . {monitoring passenger motion}
N	B60R 21/01546	. . . . . {using belt buckle sensors}
N	B60R 21/01548	. . . . . {sensing the amount of belt winded on retractor}
D	B60R 2021/0155	. . . . . {monitoring seat belt, e.g. length, height-adjustment, tension}
N	B60R 21/0155	. . . . . {sensing belt tension}
N	B60R 21/01552	. . . . . {detecting position of specific human body parts, e.g. face, eyes or hands}
N	B60R 21/01554	. . . {Seat position sensors}
D	B60R 2021/01554	. . . . . {using belt buckle sensors}
N	B60R 21/01556	. . . {Child-seat detection systems}
N	B60R 21/01558	. . . {monitoring crash strength}
D	B60R 2021/01558	. . . . . {sensing amount of belt winded on retractor}
N	B60R 21/0156	. . . . . {by deceleration}
N	B60R 21/01562	. . . . . {by speed}
D	B60R 2021/01562	. . . . . {sensing belt tension}
N	B60R 21/01564	. . . {Manually or key-actuated inhibition switches}
N	B60R 21/01566	. . . {Devices for warning or indicating mode of inhibition}
D	B60R 2021/01566	. . . . . {monitoring specific human body parts, e.g. face, eyes, hands}
D	B60R 2021/0157	. . . {Seat position sensors}
D	B60R 2021/01575	. . . {Children seat detection system}
D	B60R 2021/01579	. . . {monitoring crash strength}
D	B60R 2021/01583	. . . . . {deceleration dependent}
D	B60R 2021/01587	. . . . . {speed dependent}

- D B60R 2021/01591 . . . {Manually or key-actuated inhibition switches}
- D B60R 2021/01595 . . . {Devices for warning in case of inhibition}

**B60R 25/00**

**Fittings or systems for preventing or indicating unauthorised use or theft of vehicles(locks for vehicles ~~E05B 77/00~~~~E05B 77/00~~-E05B 85/00)**

WARNING

Subgroups of [B60R 25/00](#) corresponding to IPC2013.01 are not complete pending the completion of a reclassification; see also [B60R 25/00](#) and its other subgroups

**Project: N/A (B61D)****B61D 19/00**

**Door arrangements specially adapted for rail vehicles (locks for vehicles ~~E05B 77/00~~~~E05B 77/00~~ - E05B 85/00; door-operating mechanisms E05F)**

**Project: N/A (B62D)****U B62D 1/00**

**Steering controls, i.e. means for initiating a change of direction of the vehicle**

## B62D 1/24

- not vehicle-mounted{( special adaptations of automatic tractor steering ~~A01B 69/04~~~~A01B 69/04~~ ; devices for lifting, movable on wheels, automatically guided [B66F 9/063](#) )}

**U B62D 25/00**

**Superstructure{or monocoque structure}sub-units; Parts or details thereof not otherwise provided for{( having impact absorbing means [B62D 21/15](#) ; running-boards, steps, or the like as superstructure sub-unit [B60R 3/00](#) )}**

## U B62D 25/08

- Front or rear portions{( sub-frames for mounting engine or suspensions [B62D 21/11](#) )}

## U B62D 25/10

- · Bonnets or lids,{e.g. for trucks, tractors, busses, work vehicles( for truck beds [B60J 7/1607](#) ; for boats [B63B 19/12](#) ; doors arranged at the vehicle rear [B60J 5/10](#) ; inlet covers for vehicle fuel tanks [B60K 15/05](#) ; for protecting non-occupants of a vehicle [B60R 21/38](#) )}

## B62D 25/12

- · · Parts or details thereof(locks [E05B](#),{ ~~E05B 65/19~~~~E05B 65/19~~ ; devices for holding open [E05C 17/00](#) , e.g. while carrying oversize objects [E05C 17/042](#) } ; hinges [E05D](#); counterbalancing means [E05F](#) ;{ checks, stops, buffers [E05F 5/00](#) ; }springs,{e.g. pneumatic springs}F16F ; }springs, {e.g. pneumatic springs}F16F)

## 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 [C13H](#); { 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](#) [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](#) [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](#)

U B65B 63/00

**Miscellaneous auxiliary devices operating on articles or materials to be packaged and not otherwise provided for (operating on sheets, blanks, webs, binding material, or packages, and not otherwise provided for [B65B 61/00](#))**

B65B 63/04

- for folding or winding articles, e.g. gloves, stockings ( { [B65B 63/024](#) takes precedence; } ~~folding or winding webs or filamentary material in general [B65H4w5/00](#), [B65H 54/00](#); } *folding or winding webs or filamentary material in general [B65H4w5/00](#), [B65H 54/00](#)*; folding textile articles in connection with laundering preparatory to packaging [D06F 89/00](#) )~~

**Project: N/A (B65C)**

B65C 11/00

Manually-controlled or manually-operable label dispensers, e.g. modified for the application of labels to articles (special furniture, fittings, or accessories for shops, storehouses, bars, or the like [A47E](#); for paper napkins, for toilet paper [A47K](#); for playing cards [A63F](#); movable-strip writing or reading apparatus [B42D 19/00](#); adhesive tape dispensers [B65H 35/07](#)~~[B65H35/07](#)~~; dispensers for tickets [G07B](#); coin-operated dispensers for stamps [G07F](#)){(dispensing devices for pamphlets from vehicles [G09F 21/22](#))}

**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](#) to [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

In this subclass, the indexing codes of [B65D 2519/00004](#) - [B65D 2519/00995](#) should be added, if applicable

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](#)

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

In this subclass, groups [B65D 5/00](#) , [B65D 27/00](#) , ~~[B65D 30/00](#)~~[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

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 [3]

Tamper-indicating means for containers or closures are classified in the group appropriate to the type of container of closure, e.g. ~~B65D 5/43~~[B65D5/43](#), [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](#) [5]

#### 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:

<a href="#">B65D 5/34</a>	covered by	<a href="#">B65D 5/325</a>	
<a href="#">B65D 5/35</a>	covered by	<a href="#">B65D 5/32</a>	
<a href="#">B65D 5/355</a>	covered by	<a href="#">B65D 5/0005</a>	
<a href="#">B65D 5/43</a>	covered by	<a href="#">B65D 5/42</a>	
<a href="#">B65D 5/462</a>	covered by	<a href="#">B65D 5/46008</a>	to
<a href="#">B65D 5/46032</a>			
<a href="#">B65D 5/465</a>	covered by	<a href="#">B65D 5/46008</a>	to
<a href="#">B65D 5/46032</a>			
<a href="#">B65D 5/468</a>	covered by	<a href="#">B65D 5/4608</a>	

[B65D 5/472](#) covered by [B65D 5/46048](#)  
[B65D 5/475](#) covered by [B65D 5/46008](#)  
[B65D 5/478](#) covered by [B65D 5/46056](#)  
[B65D 5/4805](#) - [B65D 5/489](#) covered by  
[B65D 5/48002](#)  
[B65D 5/49](#) - [B65D 5/499](#) covered by  
[B65D 5/48024](#)  
[B65D 5/63](#) covered by [B65D 5/72](#)  
[B65D 6/00](#) - [B65D 6/40](#) covered by  
[B65D 7/00](#) , [B65D 9/00](#) , [B65D 11/00](#) ,  
[B65D 15/00](#)  
[B65D 8/00](#) - [B65D 8/22](#) covered by  
[B65D 7/00](#) , [B65D 9/00](#) , [B65D 11/00](#) ,  
[B65D 15/00](#)

[B65D 19/22](#) covered by [B65D 19/0004](#) &  
subgroups [B65D 19/24](#) covered by [B65D 19/0004](#)  
& subgroups [B65D 19/26](#) covered by [B65D 19/0004](#)  
& subgroups [B65D 19/28](#) covered by [B65D 19/0004](#)  
& subgroups [B65D 19/30](#) covered by [B65D 19/0004](#)  
& subgroups [B65D 19/31](#) covered by [B65D 19/0004](#)  
& subgroups [B65D 19/34](#) covered by [B65D 19/0004](#)  
& subgroups

[B65D 17/28](#) - [B65D 17/48](#) , [B65D 17/52](#)  
covered by [B65D 17/16](#) to [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 [B65D55/02E](#)  
[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](#) to [B65D 71/0077](#)  
[B65D 75/60](#) - [B65D 75/64](#) covered by  
[B65D 75/58](#)

<a href="#">B65D 81/15</a>	covered by	<a href="#">B65D 81/05</a>
<a href="#">B65D 81/17</a>	covered by	<a href="#">B65D 81/02</a>
<a href="#">B65D 83/18</a>	-	<a href="#">B65D 83/74</a> covered by
<a href="#">B65D 83/14</a>	,	<a href="#">B65D 83/16</a>
<a href="#">B65D 83/18</a>	covered by	<a href="#">B65D 83/201</a>
<a href="#">B65D 83/58</a>	covered by	<a href="#">B65D 83/44</a>
<a href="#">B65D 83/76</a>	covered by	<a href="#">B65D 83/0005</a>
<a href="#">B65D 85/57</a>	covered by	<a href="#">G11B 23/00</a>
<a href="#">B65D 85/575</a>	covered by	<a href="#">G11B 23/00</a>
<a href="#">B65D 85/86</a>	-	<a href="#">B65D 85/90</a> covered by
<a href="#">H01L 21/00</a>	S,	<a href="#">H05K 13/00</a>
<b>B65D91/00</b>	covered by	<a href="#">A47G 29/12</a>

**U B65D 19/00 Pallets or like platforms, with or without side walls, for supporting loads to be lifted or lowered( in devices for lifting or lowering bulky or heavy goods for loading or unloading purposes [B66F 9/12](#) )**

B65D 19/0002 · {Platforms, i.e. load supporting devices without provision for handling by a forklift}

WARNING

Group [B65D 19/0002](#) and subgroups are not yet complete. See also ~~[B65D 19/22](#)~~[B65D19/22](#) and subgroups

B65D 19/0004 · {Rigid pallets without side walls}

WARNING

Group [B65D 19/0004](#) and subgroups are not yet complete. See also ~~[B65D 19/22](#)~~[B65D19/22](#) and subgroups

**B65D 39/00 Closures arranged within necks or pouring openings or in discharge apertures, e.g. stoppers( lids or covers [B65D 43/00](#) ; with additional securing elements [B65D 45/00](#) )**

NOTE

In this group, the indexing codes of ~~[L65D339](#)~~[L65D339](#) are used

**U B65D 43/00 Lids or covers for rigid or semi-rigid containers( for cooking vessels [A47J 36/06](#) ; covers for pressure vessels in general [F16J 13/00](#) )**

U B65D 43/02 · Removable lids or covers( with means for piercing, cutting, or tearing a frangible inner closure [B65D 51/22](#) )

B65D 43/08 · · having a peripheral flange fitting over the rim of the container{ not in use, covered by [B65D 43/0222](#) and [B65D 43/0274](#) + ~~[L65D43](#)~~[L65D43](#) codes }

**U B65D 47/00 Closures with filling and discharging, or with discharging, devices( dispensers for liquid soap [A47K 5/12](#) ; desk equipment for applying liquid by contact with surfaces [B43M 11/00](#) ; fluid delivery valves in general [F16K 21/00](#) )**

B65D 47/42 · with pads or like contents-applying means({ contents-applying means associated to aerosol container nozzles [B65D 83/285](#) ; } brushes combined or associated with containers [A46B 11/00](#) ; swabs for applying media to the human body from an integral supply ~~[A61F 13/40](#)~~[A61F13/40](#) )

B65D 47/44 · · combined with slits opening when container is deformed or when pad is pressed against surface to which contents are to be applied(pliable tubular containers with valves opening when closure is pressed against surfaces{{ ~~[B65D 35/54](#)~~[B65D35/54](#) not used ) [B65D 47/248](#) }}

**B65D 53/00** Sealing or packing elements( sealings in general [F16J 15/00](#) ); Sealings formed by liquid or plastics material

NOTE

Sealings or packing means combined with particular closures are classified with the closures, e.g. in subgroups of [B65D 39/00](#) together with indexing codes out of [B65D339B65D339/00](#), or in the groups [B65D 41/005](#) , [B65D 41/0435](#)

**U B65D 90/00** Component parts, details or accessories for large containers( [B65D 88/34](#) to [B65D 88/78](#) take precedence )

B65D 90/008 · {Doors for containers, e.g. ISO-containers( locking [E05B-65/16E05B65/16](#) )}

**Project: N/A (B65G)**

**U B65G 1/00** Storing articles, individually or in orderly arrangement, in warehouses or magazines( conveyer combinations in warehouses, magazines, or workshops [B65G 37/00](#) ; stacking of articles [B65G 57/00](#) ; removing articles from stacks [B65G 59/00](#) ; loading machines [B65G 65/02](#) ; arrangements of articles for drying or baking in kilns or ovens [F26](#) ; [F27](#) )

NOTE

group [B65G 1/0442](#) takes precedence over the other groups, except over [B65G 1/08](#)

**U B65G 1/02** · Storage devices( furniture, shop fittings, table equipment [A47B](#) , [A47F](#) , [A47G](#) ; mechanical garages [E04H](#) ; for data record cards in association with machines for making or sensing data [G06K](#) ; coin changers or sorters [G07D](#) ; coin-freed apparatus [G07F](#) ){ pallets [B65D 19/00](#) }

**U B65G 1/04** · · mechanical  
 B65G 1/137 · · · with arrangements or automatic control means for selecting which articles are to be removed( devices for feeding articles to conveyers from several groups of articles [B65G-47/10B65G47/10](#) )

**Project: MP0111 (B65H)**

**U B65H 16/00** Unwinding, paying-out webs{( reel-to-reel type web winding and unwinding mechanisms [B65H 18/103](#) , [B65H 18/145](#) )}

**U B65H 16/02** · Supporting web roll

**M B65H 16/021** · · {Multiple web roll supports ~~or holders~~}

**U B65H 19/00** Changing the web roll

**U B65H 19/22** · in winding mechanisms or in connection with winding operations

**M B65H 19/2292** · · {Removing cores ~~from rolls~~ or ~~removing~~ mandrels from ~~coreless rolls~~ web roll after winding}

**Project: N/A (B65H)**

**U B65H 2301/00** Handling processes for sheets or webs

**U B65H 2301/40** · Type of handling process

**U B65H 2301/44** · · Moving, forwarding, guiding material

**U B65H 2301/443** · · · by acting on surface of handled material

**U B65H 2301/4433** · · · · by means holding the material

**B65H 2301/44331** · · · · · at particular portion of handled material(~~to be used in combination with at least one code L65H713~~ to be used in combination with at least one code [L65H713](#))

**Project: N/A (C01)**

C01

**INORGANIC CHEMISTRY (processing powders of inorganic compounds preparatory to the manufacturing of ceramic products [C04B 35/00](#); fermentation or enzyme-using processes for the preparation of elements or inorganic compounds except carbon dioxide [C12P 3/00](#); obtaining metal compounds from mixtures, e.g. ores, which are intermediate compounds in a metallurgical process for obtaining a free metal [C21B](#), [C22B](#); production of non-metallic elements or inorganic compounds by electrolysis or electrophoresis [C25B](#))**

NOTES

In this class, in the absence of an indication to the contrary, a compound is classified in the last appropriate place; { except compounds of group [C01B 6/00](#) which takes precedence over the other groups of class [C01](#) }.

1. The name of compounds is to be taken in a strictly limitative sense. With the exception of hydrogen and oxygen, in order to include water of hydration and acid salts, compounds may not contain other parts than its name suggests. In some cases however subgroups are provided for compounds containing more parts than their name suggests, e.g. group [C01F 7/76](#), providing for alum, is a subgroup of group [C01F 7/74](#) covering aluminium sulfates. In such a case, this note is applicable to the particular subgroup

2. In class [C01](#) it is desirable to add the indexing codes relating to structural and physical aspects of solid inorganic compounds. The indexing codes are chosen from the groups of [M01P](#)[M01P](#)

**Project: N/A (C01B)**

U C01B 13/00

**Oxygen; Ozone; Oxides or hydroxides in general**

U C01B 13/02

• Preparation of oxygen( by liquefying [F25J](#) )

C01B 13/0229

• • {Purification or separation processes}

NOTE

In groups [C01B 13/0229](#) to [C01B 13/0288](#) , additional features relating to the purification or separation processes are indexed with codes chosen from [C01B 2210/0026](#) to [M210/00W90](#)[M210/00W90](#).

U C01B 31/00

**Carbon; Compounds thereof({ [C01B 6/00](#) } , [C01B 21/00](#) , [C01B 23/00](#) take precedence; percarbonates [C01B 15/10](#) ; carbon black [C09C 1/48](#) ; gas carbon production [C10B](#) )**

C01B 31/24

• Methods for the preparation of carbonates or bicarbonates in general( ~~percarbonates [C15/10](#)~~; [percarbonates C15/10](#); particular individual carbonates, see the relevant groups in [C01B](#) to [C01G](#) according to the cation )

**Project: N/A (C07C)**

U C07C 37/00

**Preparation of compounds having hydroxy or O-metal groups bound to a carbon atom of a six-membered aromatic ring**

U C07C 37/01

• by replacing functional groups bound to a six-membered aromatic ring by hydroxy groups, e.g. by hydrolysis

U C07C 37/045

• • by substitution of a group bound to the ring by nitrogen

C07C 37/05

• • • by substitution of a [NH<sub>2</sub>NH<sub>2</sub>](#) group

**Project: MP0111 (C07C)**

**U C07C 39/00**      **Compounds having at least one hydroxy or O-metal group bound to a carbon atom of a six-membered aromatic ring**

NOTE

In condensed ring systems of six-membered aromatic rings and other rings, the double bond belonging to the benzene ring is not considered as unsaturated for the non-aromatic ring condensed thereon.

U C07C 39/02

• monocyclic with no unsaturation outside the aromatic ring

M C07C 39/11

• • alkylated hydroxy benzenes containing also acyclically bound hydroxy groups, e.g. *satigenol*/*saligenol*

**Project: N/A (C07C)**

C07C 2104/00

Fullerenes, e.g. *C60C60* (buckminsterfullerene) or *C70C70*

**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

Attention is drawn to Note (3) [C07](#), which defines the last place priority rule applied in the range of subclasses [C07C-C07K](#)/[C07K](#) and within these subclasses.

Attention is drawn to Note (6) following the title of class [C07](#). 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, organic acid salts, alcoholates, phenates, chelates or mercaptides are classified as the parent compounds.

Compounds containing Se or Te are classified with their sulfur homologues

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

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.

WARNINGS

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: N/A (C07H)**

C07H 19/00

Compounds containing a hetero ring sharing{only}one ring hetero atom with the saccharide radical{the ring-heteroatom of the saccharide radical is not to be taken into consideration}; Nucleosides; Mononucleotides{or mononucleosides}; Anhydro-derivatives thereof{(C07H15/10D2 takes precedence; ~~acetals~~; intermediate for methods of chemical engineering C07H21/00C4 )}

**Project: N/A (C07K)**

U C07K 14/00

Peptides having more than 20 amino acids; Gastrins; Somatostatins; Melanotropins; Derivatives thereof

C07K 14/005

· from viruses

NOTE

When classifying in this group, subject-matter related to viral proteins shall be classified by the symbol [C07K 14/005](#) together with (a number of) appropriate indexing codes out of ~~M12N710~~~~M12N710~~-~~M12N795~~~~M12N795~~

WARNING

1. From March 15, 2012 groups [C07K 14/01](#) - [C07K 14/19](#) and subgroups thereof are no longer used for the classification of new documents. 2. Reclassification of the back-file follows the principle outlined in the Note here above

**Project: N/A (C08B)**

U C08B 3/00

Preparation of cellulose esters of organic acids{( rendering cellulose suitable for esterification [C08B 1/02](#) )}

C08B 3/14

· in which the organic acid residue contains substituents, e.g. ~~NH2NH2~~, Cl

**Project: N/A (C08J)**

C08J

WORKING-UP; GENERAL PROCESSES OF COMPOUNDING; AFTER-TREATMENT NOT COVERED BY SUBCLASSES [C08B](#), [C08C](#), [C08F](#), [C08G](#)( mechanical aspects [B29](#); layered products, manufacture thereof [B32B](#); treatment of macromolecular material specially adapted to enhance its filling properties in mortars, concrete or artificial stone [C04B 16/04](#) , [C04B 18/20](#) , [C04B 20/00](#) ; treatment of textiles [D06](#) )

NOTE

1. This subclass covers processes, not covered by subclasses [C08B](#) to [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 ~~M08J300~~~~M08J300~~ 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 ~~M08J400~~~~M08J400~~ 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](#) to [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 ~~M08J400~~[M08J400](#) was introduced on January 1st, 2012. Patent documents are continuously being reclassified. As a consequence, documents published before 01/01/2012, and to which ~~M08J400~~[M08J400](#) 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](#) to [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](#)

## 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](#) to [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](#) to [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.

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 Al<sub>2</sub>O<sub>3</sub>, 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

In this subclass, organic acid salts, alcoholates, phenolates or mercaptides are classified in the groups or subgroups of the parent compounds

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](#) to [C08L 99/00](#).

Example: Polystyrene containing a carboxylic amide is classified in [C08K 5/20](#)+L25/06

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 ~~[C08F8/-](#)~~[C08F8/-](#), 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](#)~~[C08K5/5445](#) covered by [C08K 5/544](#)

## Project: N/A (C08L)

### C08L

**COMPOSITIONS OF MACROMOLECULAR COMPOUNDS(pesticides, herbicides [A01N](#); pharmaceuticals, cosmetics [A61K](#); explosives [C06B](#); compositions based on polymerisable monomers [C08F](#), [C08G](#); paints, inks, varnishes, dyes, polishes, adhesives [C09](#); lubricants [C10M](#); detergents [C11D](#); artificial filaments or fibres [D01F](#); textile treating compositions [D06](#))**

#### NOTES

Compositions classified in [C08K](#) according to note 3 of [C08K](#), are not classified in [C08L](#).

Documents classified before 09.2003: Classification is given in the form of C-Sets. The polymer in majority is given a [C08L](#) symbol, and the minor components are characterised by Indexing Codes taken from the list below. The Indexing Codes are linked. The polymer in majority is always first in the C-set.

List of ~~[M08L](#)~~[M08L](#) codes: [C08L 23/00](#), [C08L 23/26](#), [C08L 25/00](#), [C08L 27/00](#), [C08L 27/04](#), ~~[M08L27/1-2](#)~~[M08L27/1 2](#), [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](#), ~~[C08L67/02B](#)~~, [C08L 67/03](#), [C08L 67/04](#), [C08L 67/06](#), [C08L 67/07](#), [C08L 69/00](#), ~~[M08L69/00B](#)~~[M08L69/00B](#), ~~[M08L7-1/00](#)~~[M08L7 1/00](#), [C08L 75/04](#), [C08L 77/00](#), [C08L 77/08](#), [C08L 77/12](#), [C08L 79/08](#), ~~[C08L79/08B](#)~~[C08L79/08B](#), [C08L 81/00](#), [C08L 83/00](#)

, [C08L 85/00](#) , [C08L 91/06](#) , [C08L 95/00](#) or [C08L 2666/00](#) - [C08L 2666/86](#) . Documents from group [C08L 23/00](#) - [C08L 23/36](#) , [C08L 45/00](#) - [C08L 45/02](#) and [C08L 49/00](#) have all been reclassified following Note 3 below. An additive is classified in the last appropriate place in the list as selected for each [C08L](#) group. Examples:

- a. A composition based on a polyamide and a graft polymer is classified in ( [C08L 77/00](#) , [C08L 2666/24](#) ) .
- b. A composition based on polyvinylchloride and containing CaCO<sub>3</sub> is classified according to note 4 of C08K, i.e. in ( [C08K 3/26](#) , [C08L 27/06](#) ) . If this composition contains also a polyamide, then the classification will be ( [C08L 27/06](#) , [C08L 77/00](#) , [C08K 3/26](#) ) .
- c. A composition based on a polysiloxane ( [C08L 83/04](#) ) and containing a second polysiloxane, a phenol and silica is classified in ( [C08L 83/04](#) , [C08L 83/04](#) , [C08L 2666/34](#) , [C08L 2666/58](#) ) .

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 ~~M08L~~[M08L](#) or ~~M08K~~[M08K](#) and they are linked or unlinked. The polymer in majority is always first in the C-Set. List of ~~M08L~~[M08L](#) codes in the C-Set: [C08L 1/00](#) , [C08L 81/00](#) , [C08L 83/00](#) , [C08L 91/06](#) , [C08L 95/00](#) or [C08L 2666/02](#) - [C08L 2666/08](#) , [C08L 2666/14](#) - [C08L 2666/26](#) . Examples:

- a. A blend of 60 parts polyvinylchloride ( [C08L 27/06](#) ) and 40 parts polyamide is classified in ( [C08L 27/06](#) , [C08L 2666/20](#) ) and [C08L 77/00](#) . b. A blend of 50 parts polyvinylchloride ( [C08L 27/06](#) ) and 50 parts polyamide ( [C08L 77/00](#) ) is classified in ( [C08L 27/06](#) , [C08L 2666/20](#) ) and [C08L 77/00](#) , as well as in ( [C08L 77/00](#) , [C08L 2666/04](#) ) and [C08L 27/06](#) . c. A composition based on polyvinylchloride and containing CaCO<sub>3</sub> is classified according to [N: Note 4 of C08K, i.e. in ( [C08K 3/26](#) , [C08L 27/06](#) ) . If this composition contains also a polyamide, then the classification will be ( [C08L 27/06](#) , [C08L 2666/20](#) ) and [C08K 3/26](#) . d. A composition based on a first polysiloxane ( [C08L 83/04](#) ) and containing a second polysiloxane, a phenol and silica is classified in ( [C08L 83/04](#) , [C08L 83/04](#) , [C08K 5/13](#) , [C08K 3/36](#) ) and [C08L 2205/02](#) .

From April 2012 onwards, after the notation [C08L](#), notations concerning the other constituents of the composition may be added, in the form of C-Sets. The further constituent is added with an indexing code. The indexing codes are chosen from [C08L 1/00](#) -~~C08L555/86~~ or [C08K](#) and they may be linked or unlinked: - [C08L 1/00](#) - [C08L 101/10](#) are linked. - [C08L 2201/00](#) - [C08L 2555/86](#) are unlinked. The polymer in majority is always first in the C-Set. Examples:

- a. A blend of 60 parts polyvinylchloride ( [C08L 27/06](#) ) and 40 parts polyamide ( [C08L 77/00](#) ) is classified in ( [C08L 27/06](#) , [C08L 77/00](#) ) . b. A blend of 50 parts polyvinylchloride ( [C08L 27/06](#) ) and 50 parts polyamide ( [C08L 77/00](#) ) is classified in ( [C08L 27/06](#) , [C08L 77/00](#) ) and ( [C08L 77/00](#) , [C08L 27/06](#) ) . c. A composition based on polyvinylchloride and containing CaCO<sub>3</sub> is classified according to [N: Note 4 of [C08K](#), i.e. in ( [C08K 3/26](#) , [C08L 27/06](#) ) . If this composition contains also a polyamide, then the classification will be ( [C08L 27/06](#) , [C08L 77/00](#) , [C08K 3/26](#) ) . d. A composition based

on a first polysiloxane ( [C08L 83/04](#) ) and containing a second polysiloxane, a phenol and silica is classified in ( [C08L 83/04](#) , [C08L 83/00](#) , [C08K 5/13](#) , [C08K 3/36](#) ) and [C08L 2205/02](#) . e. A composition containing a polyamide in majority, a polyester and a polyethylene is classified in ( [C08L 77/00](#) , [C08L 67/00](#) , [C08L 23/06](#) ) and [C08L 2205/03](#) .

**WARNING**

"Rubber" includes:

natural or conjugated diene rubbers;  
rubber in general (for a specific rubber, other than a natural rubber or a conjugated diene rubber, see the group provided for compositions of such macromolecular compounds).

In this subclass:

compositions are classified according to the mutual proportions by weight of only the macromolecular constituents;  
compositions are classified according to the macromolecular constituent or constituents present in the highest proportion: if all these constituents are present in equal proportions the composition is classified according to each of these constituents.

**Project: N/A (C09B)**

**C09B**

**ORGANIC DYES OR CLOSELY-RELATED COMPOUNDS FOR PRODUCING DYES; 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

**WARNINGS**

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

<a href="#">C09B 23/01</a>	covered by	<a href="#">C09B 23/0008</a>	to
<a href="#">C09B 23/0091</a>			
<a href="#">C09B 29/01</a>	" "	<a href="#">C09B 29/0003</a>	to
<a href="#">C09B 29/0022</a>			
<a href="#">C09B 29/03</a>	" "	<a href="#">C09B 29/0007</a>	
<a href="#">C09B 29/033</a>	" "	<a href="#">C09B 29/0025</a>	
<a href="#">C09B 29/036</a>	" "	<a href="#">C09B 29/0029</a>	
<a href="#">C09B 29/039</a>	" "	<a href="#">C09B 29/0074</a>	to
<a href="#">C09B 29/0081</a>			
<a href="#">C09B 29/042</a>	" "	<a href="#">C09B 29/0085</a>	
<del>C09B 29/045</del> <b>C09B29/045</b>	" "	<a href="#">C09B 29/0088</a>	
<a href="#">C09B 29/048</a>	" "	<a href="#">C09B 29/0092</a>	
<a href="#">C09B 29/085</a>	" "	<a href="#">C09B 29/0003</a>	,
<a href="#">C09B 29/0801</a>	to	<a href="#">C09B 29/0848</a>	
<a href="#">C09B 29/09</a>	" "	<a href="#">C09B 29/0025</a>	,
<a href="#">C09B 29/0801</a>	to	<a href="#">C09B 29/0848</a>	
<a href="#">C09B 29/15</a>	" "	<a href="#">C09B 29/103</a>	
<a href="#">C09B 29/40</a>	" "	<a href="#">C09B 29/3608</a>	to
<a href="#">C09B 29/3613</a>			
<a href="#">C09B 29/42</a>	" "	<a href="#">C09B 29/3617</a>	to
<a href="#">C09B 29/3639</a>			
<a href="#">C09B 29/44</a>	" "	<a href="#">C09B 29/3643</a>	
<a href="#">C09B 29/46</a>	" "	<a href="#">C09B 29/3652</a>	
<a href="#">C09B 29/48</a>	" "	<a href="#">C09B 29/3656</a>	

<a href="#">C09B 29/50</a>	"	"	<a href="#">C09B 29/366</a>	
<a href="#">C09B 29/52</a>	"	"	<a href="#">C09B 29/3665</a>	
<a href="#">C09B 33/13</a>	"	"	<a href="#">C09B 33/12</a>	
<a href="#">C09B 46/00</a>	"	"	<a href="#">C09B 27/00</a>	to
<a href="#">C09B 45/00</a>				
<a href="#">C09B 67/02</a>	"	"	<a href="#">C09B 67/0097</a>	
<a href="#">C09B 67/04</a>	"	"	<a href="#">C09B 67/0001</a>	
<a href="#">C09B 67/06</a>	"	"	<a href="#">C09B 67/0003</a>	
<a href="#">C09B 67/08</a>	"	"	<a href="#">C09B 67/0004</a>	
<a href="#">C09B 67/10</a>	"	"	<a href="#">C09B 67/0014</a>	
<a href="#">C09B 67/12</a>	"	"	<a href="#">C09B 67/0016</a>	
<a href="#">C09B 67/14</a>	"	"	<a href="#">C09B 67/0017</a>	
<a href="#">C09B 67/16</a>	"	"	<a href="#">C09B 67/0019</a>	
<a href="#">C09B 67/18</a>	"	"	<a href="#">C09B 67/002</a>	
<a href="#">C09B 67/20</a>	"	"	<a href="#">C09B 67/006</a>	
<a href="#">C09B 67/22</a>	"	"	<a href="#">C09B 67/0033</a>	
<a href="#">C09B 67/24</a>	"	"	<a href="#">C09B 67/0072</a>	
<a href="#">C09B 67/26</a>	"	"	<a href="#">C09B 67/0073</a>	
<a href="#">C09B 67/28</a>	"	"	<a href="#">C09B 67/0077</a>	
<a href="#">C09B 67/30</a>	"	"	<a href="#">C09B 67/0078</a>	
<a href="#">C09B 67/32</a>	"	"	<a href="#">C09B 67/0075</a>	
<a href="#">C09B 67/34</a>	"	"	<a href="#">C09B 67/0076</a>	
<a href="#">C09B 67/36</a>	"	"	<a href="#">C09B 67/0079</a>	
<a href="#">C09B 67/38</a>	"	"	<a href="#">C09B 67/008</a>	
<a href="#">C09B 67/40</a>	"	"	<a href="#">C09B 67/0082</a>	
<a href="#">C09B 67/42</a>	"	"	<a href="#">C09B 67/0071</a>	
<a href="#">C09B 67/44</a>	"	"	<a href="#">C09B 67/0083</a>	
<a href="#">C09B 67/46</a>	"	"	<a href="#">C09B 67/0084</a>	
<a href="#">C09B 67/48</a>	"	"	<a href="#">C09B 67/0025</a>	
<a href="#">C09B 67/50</a>	"	"	<a href="#">C09B 67/0026</a>	
<a href="#">C09B 67/52</a>	"	"	<a href="#">C09B 67/0027</a>	
<a href="#">C09B 67/54</a>	"	"	<a href="#">C09B 67/0096</a>	

**C09B 27/00 -  
C09B 62/00**

**Azo dyes**

**NOTE**

In groups [C09B 27/00](#) to ~~C09B 46/00~~ **C09B46/00** , arrows in the formulae of the various types of azo dyes indicate which part of an azo dye, prepared by diazotising and coupling, is derived from the diazo component and which part is derived from the coupling component. The arrow is pointing to the part derived from the coupling component.

**U C09B 69/00  
C09B 69/08**

**Dyes not provided for by a single group of this subclass**

- Dyes containing a splittable water solubilizing group{ Dyes containing an onium group attached to the dye molecule via a bridge are to be considered as cationic dyes and are classified with the respective dyes such as [C09B 44/02](#) to [C09B 44/08](#) ; ~~C009B69/00B-B6~~ **C009B69/00B-B6** }

## 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

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

Treatment by polymerisation onto particle is classified in [C08F 292/00](#).

Only treatment by already polymerised agents is classified in [C09C](#)

Whenever in groups [C09C 1/00](#) to [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](#)

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](#))

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

When classifying in this subclass, the indexing codes of subclass ~~M01P~~**M01P** 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](#)

## Project: N/A (C09D)

## C09D

COATING COMPOSITIONS, e.g. PAINTS, VARNISHES OR LACQUERS; FILLING PASTES; CHEMICAL PAINT OR INK REMOVERS; INKS; CORRECTING FLUIDS; WOODSTAINS; PASTES OR SOLIDS FOR COLOURING OR PRINTING; USE OF MATERIALS THEREFOR( cosmetics [A61K](#) ; processes for applying liquids or other fluent materials to surfaces, in general, [B05D](#) ; staining wood [B27K 5/02](#) ; glazes or vitreous enamels [C03C](#) ; organic macromolecular compounds [C08](#) ; organic dyes or closely-related compounds for producing dyes, mordants or lakes, per se , [C09B](#) ; treatment of inorganic materials other than fibrous fillers used as pigments or fillers [C09C](#) ; natural resins, French polish, drying-oils, driers, turpentine, per se , [C09F](#) ; polishing compositions other than French polish, ski waxes [C09G](#) ; preparation of glue or gelatine [C09H](#), { [C08H 1/06](#) } ; adhesives or use of materials as adhesives [C09J](#) ; materials for sealing or packing joints or covers [C09K 3/10](#) ; materials for stopping leaks [C09K 3/12](#) ; processes for the electrolytic or electrophoretic production of coatings [C25D](#) ; textile-treating compositions [D06](#) ; paper-making [D21](#) ; conductors, insulators [H01B](#) )

## NOTES

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

- "use of materials for coating compositions" means the use of known or new polymers or products;
- "rubber" includes:
  - 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.

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](#) to [C09D 187/00](#) are classified according to the unsaturated non-macromolecular component in group [C09D 4/00](#) .

Example: a coating composition containing polyethene and styrene monomer is classified in group [C09D 4/06](#) .

Aspects relating to the physical nature of the coating compositions or to the effects produced, as defined in group [C09D 5/00](#) , if clearly and explicitly stated, are also classified in this subclass.

Coating compositions characterised by other features, e.g. additives, are classified in group [C09D 7/00](#) , unless the macromolecular constituent is specified.

In this subclass, coating compositions comprising two or more macromolecular constituents are classified according to the macromolecular constituent or constituents present in the highest proportion, i.e. the constituent on which the composition is based. If the composition is based on two or more constituents,

present in equal proportions, the composition is classified according to each of these constituents.

Examples:

A coating composition containing 80 parts of polyethylene and 20 parts of polyvinylchloride is classified in group [C09D 123/06](#) ;

A coating composition containing 40 parts of polyethylene and 40 parts of polyvinylchloride is classified in groups [C09D 123/06](#) and [C09D 127/06](#) .

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](#) to [C08F 291/00](#) and from the subgroups of [C08F 290/00](#) to [C08F 290/048](#) and [C08F 290/08](#) to [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](#) .

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](#) to [C08F 246/00](#) , [C08G 77/00](#) to [C08G 77/04](#) or [C08G 77/20](#) to [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](#) ) .

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 ~~M08L~~**M08L** 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](#) , ~~C08L67/02B~~ , [C08L 67/03](#) , [C08L 67/04](#) , [C08L 67/06](#) , [C08L 67/07](#) , [C08L 69/00](#) , ~~C08L69/00B~~ , [C08L 71/00](#) , [C08L 75/04](#) , [C08L 77/00](#) , [C08L 77/08](#) , [C08L 77/12](#) , [C08L 79/08](#) , ~~C08L79/08B~~ , [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 CaCO<sub>3</sub> 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](#) ) .

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 ~~M08L~~**M08L** or ~~M08K~~**M08K** 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 CaCO<sub>3</sub> 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](#) .

From April 2012 onwards, after the notation of groups [C09D 101/00](#) to [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](#) -[C08L555/86](#) or [C08K](#) and they may be linked or unlinked: - [C08L 1/00](#) - [C08L 101/10](#) are linked. - [C08L 2201/00](#) - [C08L 2555/86](#) are unlinked. The polymer in majority is always first in the C-set. Examples:

a. A coating composition containing polyethylene and amino-propyltrimethoxysilane is classified in groups [C09D 123/06](#) and [C08K 5/544](#) (unlinked).

b. A coating composition containing 80 parts of polyethylene and 20 parts of polyvinylchloride is classified in ( [C09D 123/06](#) , [C08L 27/06](#) ). c. A coating composition containing 40 parts of polyethylene and 40 parts of polyvinylchloride is classified in ( [C09D 123/06](#) , [C08L 27/06](#) ) and ( [C09D 127/06](#) , [C08L 23/06](#) ). d. A coating composition containing 90% of polysiloxane ( [C09D 183/04](#) ) further containing 10% of polyester ( [C08L 67/00](#) ) and an alcohol is classified in ( [C09D 183/04](#) , [C08L 67/00](#) , [C08K 5/05](#) ).

#### WARNING

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](#)

<a href="#">C09D 163/02</a>	covered by	
<a href="#">C09D 163/00</a>		
<a href="#">C09D 171/08</a>	covered by	
<a href="#">C09D 171/02</a>		
<a href="#">C09D 171/10</a>	covered by	
<a href="#">C09D 171/12</a>		
<a href="#">C09D 183/05</a>	covered by	
<a href="#">C09D 183/04</a>		
<a href="#">C09D 183/07</a>	covered by	<a href="#">C09D 183/04</a>
		<a href="#">C09D 183/06</a>

Project: N/A (C09J)

C09J

**ADHESIVES; NON-MECHANICAL ASPECTS OF ADHESIVE PROCESSES IN GENERAL; ADHESIVE PROCESSES NOT PROVIDED FOR ELSEWHERE; USE OF MATERIALS AS ADHESIVES( surgical adhesives [A61L 24/00](#) ; processes for applying liquids or other fluent materials to surfaces in general [B05D](#); adhesives on the basis of non specified organic macromolecular compounds used as bonding agents in layered products [B32B](#); organic labelling fabrics or comparable materials or articles with deformable surface using adhesives and thermo-activatable adhesives respectively [B65C 5/02](#) , [B65C 5/04](#) ; organic macromolecular compounds [C08](#); production of multi-layer textile fabrics [D06M 17/00](#) ; preparation of glue or gelatine [C09H](#) ; adhesive labels, tag tickets or similar identification of indication means [G09F 3/10](#) )**

NOTES

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

- "use of materials as adhesives" means the use of known or new polymers or products;
- "rubber" includes:
  - 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.

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](#) to [C09J 187/00](#) are classified according to the unsaturated non-macromolecular component in group [C09J 4/00](#) .

Example: an adhesive containing polyethene and styrene monomer is classified in group [C09J 4/06](#) .

Aspects relating to the physical nature of the adhesives or to the effects produced, as defined in group [C09J 9/00](#) , if clearly and explicitly stated, are also classified in this subclass. Adhesives characterised by other features,

e.g. additives, are classified in group [C09J 11/00](#) , unless the macromolecular constituent is specified.

In this subclass, adhesives comprising two or more macromolecular constituents are classified according to the macromolecular constituent or constituents present in the highest proportion, i.e. the constituent on which the adhesive is based. If the adhesive is based on two or more constituents, present in equal proportions, the adhesive is classified according to each of these constituents.

Examples: An adhesive containing 80 parts of polyethene and 20 parts of polyvinylchloride

is classified in group [C09J 123/06](#) ;

An adhesive containing 40 parts of polyethene and 40 parts of polyvinylchloride is

classified in groups [C09J 123/06](#) and [C09J 127/06](#)

An adhesive composition containing polyethylene and amino-propyltrimethoxysilane is classified in groups [C09J 123/06](#) and [C08K 5/544](#)  
Documents classified up until 09-2003: Classification is given in the form of C-Sets. The polymer in majority is given a [C09J 101/00](#) - [C09J 201/10](#) symbol, and the minor components are characterised by Indexing Codes taken from the list below. The Indexing Codes are linked. The polymer in majority is always first in the C-set.

List of ~~M08L~~**M08L** 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](#) , **C08L67/02B** , [C08L 67/03](#) , [C08L 67/04](#) , [C08L 67/06](#) , [C08L 67/07](#) , [C08L 69/00](#) , **C08L69/00B** , [C08L 71/00](#) , [C08L 75/04](#) , [C08L 77/00](#) , [C08L 77/08](#) , [C08L 77/12](#) , [C08L 79/08](#) , **C08L79/08B** , [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 CaCO<sub>3</sub> 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](#) ) .

3. 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](#) to [C08F 246/00](#) , [C08G 77/00](#) to [C08G 77/04](#) or [C08G 77/20](#) to [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](#) ) .

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 ~~M08L~~**M08L** or ~~M08K~~**M08K** 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 CaCO<sub>3</sub> 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](#) .

From April 2012 onwards, after the notation of groups [C09J 101/00](#) to [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](#) - [C08L555/86](#) or [C08K](#) and they may be linked or unlinked: - [C08L 1/00](#) - [C08L 101/16](#) are linked. - [C08L 2201/00](#) - [C08L 2555/86](#) are unlinked. The polymer in majority is always first in the C-set.

Examples:

- a. An adhesive composition containing polyethylene and amino-propyltrimethoxysilane is classified in groups [C09J 123/06](#) and [C08K 5/544](#) (unlinked). b. An adhesive containing 80 parts of polyethene and 20 parts of polyvinylchloride is classified in group ( [C09J 123/06](#) , [C08L 27/06](#) ). c. An adhesive containing 40 parts of polyethene and 40 parts of polyvinylchloride is classified in groups ( [C09J 123/06](#) , [C08L 27/06](#) ) and ( [C09J 127/06](#) , [C08L 23/06](#) ). d. An adhesive containing 90% of polysiloxane ( [C09J 183/04](#) ) further containing of polyester ( [C08L 67/00](#) ) and an alcohol is classified in ( [C09J 183/04](#) , [C08L 67/00](#) , [C08K 5/05](#) ).

#### WARNING

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](#)

**U** [C09J 2205/00](#)  
**U** [C09J 2205/10](#)  
[C09J 2205/102](#)  
[C09J 2205/106](#)

#### Other features

- of adhesive tapes; Production process thereof
- additives as essential feature of the adhesive layer, the additive itself being indicated with the corresponding code of **M08KM08K**
- additives as essential feature of the substrate, the additive itself being indicated by the corresponding code of **M08KM08K**

C09J 2205/114

- Presence of a copolymer

NOTE

This group is to be used in combination with combined indexing codes of ~~M09J401~~**M09J401**-~~M09J499~~**M09J499** in case a copolymer is present but not a blend

**Project: N/A (C09K)****U C09K 5/00**

**Heat-transfer, heat-exchange or heat-storage materials, e.g. refrigerants; Materials for the production of heat or cold by chemical reactions other than by combustion**

U C09K 5/02

- Materials undergoing a change of physical state when used( [C09K 5/16](#) , [C09K 5/20](#) take precedence )

C09K 5/04

- the change of state being from liquid to vapour or vice-versa

NOTE

When classifying in groups [C09K 5/042](#) , [C09K 5/044](#) and [C09K 5/045](#) the chemical nature of the material can be further indexed by using indexing codes chosen from [C09K 2205/00](#) to ~~C09K 2205/480~~**C09K2205/480**

**C09K 9/00**

**Tenebrescent materials, i.e. materials for which the range of wavelength for energy absorption is changed as result of excitation by some form of energy({ liquid crystal materials [C09K 19/00](#) ; photochromic glass [C03C 4/06](#) ; in thermometers [G01K 11/12](#) ; in photochromic filters [G02B 5/23](#) ; in optical modulation devices [G02F 1/00](#) } ; photosensitive materials for photographic purposes [G03C](#) ; { in cathodochromic screens [H01J 29/14](#) }**

NOTE

When classifying in groups [C09K 9/02](#) the chemical nature of the tenebrescent material can be further indexed by using indexing codes chosen from [C09K 2211/00](#) to ~~C09K2211/188~~**C09K 2211/188**

**U C09K 11/00**

**Luminescent, e.g. electroluminescent, chemiluminescent materials**

C09K 11/06

- containing organic luminescent materials

NOTE

When classifying in groups [C09K 11/06](#) and [C09K 11/07](#) the chemical nature of the luminescent material can be further indexed by using indexing codes chosen from [C09K 2211/00](#) to ~~C09K2211/188~~**C09K 2211/188**

**Project: N/A (C10M)****C10M**

**LUBRICATING COMPOSITIONS( well drilling compositions [C09K 8/02](#) ); USE OF CHEMICAL SUBSTANCES EITHER ALONE OR AS LUBRICATING INGREDIENTS IN A LUBRICATING COMPOSITION({lubricants for medical use [A61](#) } ; mould release, i.e. separating, agents for metals [B22C 3/00](#) , for plastics or substances in a plastic state, in general [B29C 33/56](#) , for glass [C03B 40/02](#) ; use of particular substances in particular apparatus or conditions, see [F16N](#) or the relevant groups for the application, e.g. [A21D 8/08](#) , [B21C 9/00](#) , [H01B 3/18](#) ; immersion oils for microscopy [G02B 21/33](#) )**

NOTES

In this subclass, the following terms are used with the meanings indicated:  
 - "lubricant" or "lubricating composition" includes cutting oils, hydraulic fluids, metal

drawing compositions, flushing oils, slushing oils, or the like;

- "aliphatic" includes "cycloaliphatic".

In respect of the classification of mixtures, attention is drawn to Note (4) (e) below.

In this subclass, in the absence of an indication to the contrary, classification is made in the last appropriate place. Thus, a compound having an aromatic ring is classified as aromatic regardless of whether the substituent(s) of interest are on the ring or on an aliphatic part of the molecule.

In this subclass:

metal or ammonium salts of a compound are classified as that compound;

salts or adducts formed between two or more organic compounds are classified according to all compounds forming the salt or adduct, if of interest;

a specified compound, e.g. phenols, acids, substituted by a macromolecular hydrocarbon radical is classified as that compound; base-materials or thickeners or additives consisting of a mixture for which no specific main group is provided are classified in the most indented group covering all essential constituents of the mixture, for example,

- a base-material mixture of ketone and amide - group [C10M 105/00](#)

- a base-material mixture of ketone and ether - group [C10M 105/08](#)

- an additive mixture of long and short chain esters - group [C10M 129/00](#)

- an additive mixture of short chain aliphatic and aromatic carboxylic acids - group [C10M 129/26](#) ;

except for aqueous lubricating compositions containing more than 10% water, which are classified separately, classification is made according to the type of ingredient or mixture of types of ingredient (base-material, thickener or additive) which characterises the composition. Attention is drawn to the fact that a mixture of essential ingredients characterised by only one of its components, rather than by the mixture as a whole, is not classified as a mixture, e.g. a lubricating composition consisting of:

- a known base-material and a new additive is classified only in the "additive"

part of the classification scheme;

- a known base-material with both a thickener and a further additive as essential ingredients, which may be individually classified as a mixture of thickener and additive;

- known base-material with a combination of additives as essential ingredients, which may be individually known or not, is classified in the appropriate place for the additive mixture.

In this subclass, it is desirable to add the indexing codes of:

- subclass **M10MM10M**, relating to the chemical constitution of individual compounds of the lubricating compositions;

- subclass **M10NM10N**, relating to physico-chemical aspects of the lubricating compositions or of their compounding ingredients.

For more information about the way of allocating these indexing codes, see the notes after the titles of the respective subclasses.

In this subclass, until May 2003, indexing codes were added, relating to:  
- each of the essential ingredients of a mixture. However, in the case of an aqueous lubricating composition covered by group [C10M 173/00](#), the presence of water is not indicated;

- each of the essential reactants of a reaction product covered by groups [C10M 109/02](#), [C10M 121/04](#) or [C10M 159/12](#)

The indexing codes, which are chosen from groups [C10M 101/00](#) to [C10M 109/00](#), [C10M 113/00](#) to [C10M 121/00](#), [C10M 125/00](#) to [C10M 139/00](#), [C10M 143/00](#) to [C10M 155/00](#), [C10M 159/00](#) or [C10M 163/00](#) to [C10M 167/00](#), were given using Combination Sets.

In this subclass, until May 2003, the indexing codes of subclass [C10N](#) were added.

Documents classified with Combination Sets according to internal Notes 2), 3) and 5) are in the state of being reclassified according to Note 1).

#### WARNING

The following groups are no longer used for the classification of new documents from January, 1978:

- [C10M 1/00](#) to [C10M 7/00](#)

The backlog of these groups is continuously being reclassified in groups [C10M 101/00](#) to [C10M 177/00](#).

## Project: N/A (C11D)

### C11D

**DETERGENT COMPOSITIONS (preparations specially adapted for washing the hair [A61K7/075](#); 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](#) to [C11D 1/655](#), [C11D 1/825](#) to [C11D 1/86](#), [C11D 1/94](#) to [C11D 1/945](#) and [C11D 10/00](#) to ~~[C11D 10/06](#)~~[C11D10/06](#), are indexed using codes chosen from [C11D 1/00](#) to [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:

<a href="#">C11D 1/68</a>	covered by	<a href="#">C11D 3/2003</a>
<a href="#">C11D 1/70</a>	covered by	<a href="#">C11D 3/2003</a>
<a href="#">C11D 3/44</a>	covered by	<a href="#">C11D 3/43</a>
<a href="#">C11D 3/46</a>	covered by	<a href="#">C11D 3/2079</a> , <a href="#">C11D 9/48</a>
<a href="#">C11D 3/60</a>	covered by	<a href="#">C11D 3/00</a>
<a href="#">C11D 7/18</a>	covered by	<a href="#">C11D 3/39</a>
<a href="#">C11D 7/38</a>	covered by	<a href="#">C11D 3/39</a>
<a href="#">C11D 7/42</a>	covered by	<a href="#">C11D 3/386</a>
<a href="#">C11D 7/52</a>	covered by	<a href="#">C11D 7/50</a>
<a href="#">C11D 7/54</a>	covered by	<a href="#">C11D 3/395</a>
<a href="#">C11D 7/56</a>	covered by	<a href="#">C11D 3/395</a>

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](#)

U C11D 3/00

**Other compounding ingredients of detergent compositions covered in group [C11D 1/00](#)**

NOTE

Documents classified in group [C11D 3/0005](#) are also classified in other groups of subclass [C11D](#) according to the chemical nature of the compounds as such

- U C11D 3/16 · Organic compounds
- U C11D 3/20 · · containing oxygen {([C11D 3/162](#), [C11D 3/164](#), [C11D 3/166](#), [C11D 3/168](#) take precedence)}
- U C11D 3/2075 · · · {Carboxylic acids-salts thereof}
- C11D 3/2079 · · · · { Monocarboxylic acids-salts thereof (soaps ~~C11D 10/06~~[C11D10/06](#) to [C11D 10/04](#))}

**Project: N/A (C12N)**

C12N 7/00

**Viruses; Bacteriophages; Compositions thereof; Preparation or purification thereof( preparing medicinal viral antigen or antibody composition, e.g. virus vaccines, [A61K 39/00](#) )**

WARNING

From March 15, 2012 groups [C12N 7/02](#) - [C12N 7/08](#) and subgroups thereof are no longer used for the classification of new documents. The documents in these (sub)groups are being reclassified to the corresponding codes in the range ~~M12N710~~[M12N710](#)-~~M12N795~~[M12N795](#).

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
- C12N 15/10

- Recombinant DNA-technology
- · 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](#) to ~~C12N15/10D~~, and separated therefrom by a + sign, it is desirable to add the indexing codes selected from groups [C12Q 2500/00](#) to ~~C12Q 599/00~~[C12Q599/00](#) , 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](#) + 537/125 + 521/537

- C12N 15/11
- DNA or RNA fragments; Modified forms thereof( DNA or RNA not used in recombinant technology, [C07H 21/00](#) ); {Non-coding nucleic acids having a biological activity}

**NOTE**

Documents relating to DNA or its corresponding RNA and their use in recombinant DNA technology or 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 relating to their use in recombinant technology. Groups [C12N 15/11](#) to [C12N 15/117](#) cover also the use of non-coding nucleic acids as active ingredients in medicinal preparations. The ~~C12N 2300/00~~[C12N2300/00](#) ICO scheme has to be applied to these groups. When documents classifiable in one or more subgroups disclose general principles of the technology applicable to the whole field, classification is also made in group [C12N 15/111](#)

- U C12N 15/63
- Introduction of foreign genetic material using vectors; Vectors; Use of hosts therefor; Regulation of expression
- U C12N 15/79
- Vectors or expression systems specially adapted for eukaryotic hosts

**NOTE**

This group covers the use of eukaryotes as hosts.

- U C12N 15/85
- • • • for animal cells
- C12N 15/86
- • • • Viral vectors

**WARNING**

From March 15, 2012 groups [C12N 15/861](#) - [C12N 15/869](#) and subgroups thereof are no longer used for the classification of new documents. The documents in these (sub)groups are being reclassified to the corresponding codes in the range ~~M12N710~~[M12N710](#)-~~M12N795~~[M12N795](#)

**C12N 2501/00 Active agents used in cell culture processes, e.g. differentiation****NOTE**

Whenever possible, indexation is done by signalling pathway and not by chemical structure, e.g. the group of a protein covers not only peptide analogs of it and the corresponding nucleic acids, as in ~~C07K14~~[C07K 14/00](#), but also antibodies, anti-idiotypic antibodies, non-peptide ligands of the receptor, the receptor itself, antibodies against the receptor or inhibitors of the conversion enzyme which processes the protein precursor. Unless otherwise provided for, ligands and substrates take precedence over receptors and enzymes.

- U **C12N 2502/00**
- C12N 2502/99
- **Coculture with; Conditioned medium produced by** genetically modified cells

**NOTE**

Use ~~M12N501~~[M12N501](#) to index the expressed products.

**C12N 2799/00 Uses of viruses****WARNING**

From March 15, 2012 codes in the range [C12N 2799/00](#) - [C12N 2799/06](#) are no longer used for the classification of new documents. The documents in this range are being reclassified to the corresponding codes in ~~M12N710~~[M12N710](#)-~~M12N795~~[M12N795](#)

## C12N 2999/00

Further aspects of viruses or vectors not covered by the **M12N700/M12N700** or **M12N800/M12N800** series

NOTE

This group is for classification of patent and non-patent literature documents.

When classifying non-patent literature in this group, classification must also be given for the relevant CPC groups, to define the technical area to which they relate.

## Project: N/A (C12Q)

## C12Q

**MEASURING OR TESTING PROCESSES INVOLVING ENZYMES OR MICRO-ORGANISMS( immunoassay [G01N 33/53](#) ); COMPOSITIONS OR TEST PAPERS THEREFOR; PROCESSES OF PREPARING SUCH COMPOSITIONS; CONDITION RESPONSIVE CONTROL IN MICROBIOLOGICAL OR ENZYMOLOGICAL PROCESSES**

NOTES

This subclass does not cover the observation of the progress or of the result of processes specified in this subclass by any of the methods specified in groups [G01N 3/00](#) to [G01N 29/00](#) , which is covered by subclass [G01N](#).

In this subclass, the following expression is used with the meaning indicated: "involving", when used in relation to a substance, includes the testing for the substance as well as employing the substance as a determinant or reactant in a test for a different substance.

Attention is drawn to Notes (1) to (3) following the title of class [C12](#).

In this subclass, test media are classified in the appropriate group for the relevant test process.

Documents describing the use of an electrode for analysis of a specific analyte are classified in [C12Q 1/001](#) or subgroups and not according to the last place rule

Documents relating to new peptides, e.g. enzymes, or new DNA or its corresponding mRNA, encoding for the peptides, and their use in measuring or testing processes are classified in subclass [C07K](#) or in group [C12N 9/00](#) according to the peptides, with the appropriate indexing codes relating to their use in diagnostics. However where the new nucleic acids are principally used in diagnostic processes, e.g. PCR, hybridisation reactions, the documents are also classified in group [C12Q 1/68](#)

When classifying in groups [C12Q 1/68](#) to [C12Q 1/70](#) it is desirable to classify with symbols from groups [C12Q 2500/00](#) to ~~[C12Q 599/00](#)~~**[C12Q599/00](#)** , relating to relevant technical features of the invention, using Combination Sets.

In groups [C12Q 1/68](#) M- [C12Q 1/6895](#) and [C12Q 1/70](#) - [C12Q 1/708](#) it is desirable to add the indexing codes [C12Q 2600/00](#) to [C12Q 2600/178](#) which reflect the use of the product in combination with the virus groups only if the application refers to products.

## Project: N/A (C13)

## C13

**SUGAR INDUSTRY (polysaccharides, e.g. starch, derivatives thereof [C08B](#); malt [C12C](#))**

NOTE

1. In class [C13](#), the following terms or expressions are used with the meanings indicated: • "sugars" are a class of edible, water-soluble crystalline carbohydrates, having a characteristic sweet taste, including mono-, di- and oligosaccharides, e.g. sucrose, lactose and fructose. A more specific meaning

of the term "sugar" is defined in the note of subclass [C13B](#). 2. Processes using enzymes or micro-organisms in order to : i. to liberate, separate or purify a pre-existing compound or composition, or to ii. to treat textiles or clean solid surfaces of materials are further classified in subclass ~~C12S~~**C12S** .

**Project: N/A (C22B)**

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

U C22B 3/20

· Treatment or purification of solutions, e.g. obtained by leaching( [C22B 3/18](#) takes precedence )

C22B 3/22

· · by physical processes, e.g. by filtration, by magnetic means, {by thermal decomposition} ( ~~C22B 3/26~~**C22B3/26** takes precedence )

**Project: N/A (C25D)**

U C25D 3/00

**Electroplating: Baths therefor**

C25D 3/02

· from solutions ( ~~C25D 5/24~~**C25D5/24** to ~~C25D 5/32~~**C25D5/32** take precedence)

**Project: N/A (C40B)**

C40B

**COMBINATORIAL CHEMISTRY; LIBRARIES, e.g. CHEMICAL LIBRARIES, IN SILICO LIBRARIES**

NOTE

In this subclass, the first place priority rule is applied, i.e. at each hierarchical level, classification is made in the first appropriate place. 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.

<a href="#">A01N</a>	Biocides
<a href="#">A61K</a>	Preparations for medical, dental or toilet purposes
<del>A61P</del> <b>A61P</b>	Therapeutic activity of compounds
<a href="#">B01D</a>	Separation
<a href="#">B01J</a>	Chemical or physical processes, e.g. catalysis; Apparatus therefor
<a href="#">B01L</a>	Chemical or physical laboratory apparatus
<a href="#">B29</a>	Shaped plastics
<a href="#">C01</a> , <a href="#">C07</a> , <a href="#">C08</a>	Inorganic, organic or organic macromolecular compounds; Methods of preparation or separation thereof
<a href="#">C12</a>	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  
[C22](#) 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

Project: N/A (D01H)

U D01H 1/00

Spinning or twisting machines in which the product is wound-up continuously (open-end spinning machines [D01H 4/00](#); {doubling of yarns [B65H 54/00+T](#); doubled, plied or cabled threads [D02G 3/28](#), e.g. using hollow spindles [D02G 3/283](#); spin-twisting [D02G 3/281](#); threads with alternately "S" and "Z" direction of twist, e.g. self-twist process, [D02G 3/286](#); wrapping strands of filaments or staple fibres by a binder yarn [D02G 3/38](#)})

D01H 1/02

· ring type ~~{(arrangements with two or more spinning or twisting devices in combination [D01H/90](#)arrangements with two or more spinning or twisting devices in combination [D01H/90](#))}~~

Project: N/A (D04H)

D04H

MAKING TEXTILE FABRICS, e.g. FROM FIBRES OR FILAMENTARY MATERIAL(weaving [D03](#); knitting [D04B](#); ~~braiding{or lace-making}D04C~~; ~~net-making{or making knotted carpets}D04G~~; ~~braiding{or lace-making}D04C~~; ~~net-making{or making knotted carpets}D04G~~; sewing [D05B](#); tufting [D05C](#), { e.g. [D05C 15/04](#) }; finishing non-woven fabrics [D06](#)); FABRICS MADE BY SUCH PROCESSES OR APPARATUS, e.g. FELTS, NON-WOVEN FABRICS; COTTON-WOOL; WADDING(Non-woven fabrics from staple fibres, filaments or yarns, bonded with at least one web-like material during their consolidation) (non-woven fabrics having an intermediate or external layer of a different kind, e.g. of woven fabric, [B32B](#)); { manufacturing hats [A42C](#); filtering material [B01D 39/00](#) ; making board or the like from wood fibre [B27N](#); producing shaped articles from mixtures containing fibres [B28B 1/52](#) ; making layered products from solid layers, at least one of which contains synthetic resin as an essential component [B32B 27/00](#) ; making or treating glass wool and mineral wool [C03B 37/00](#) ; compounding ingredients used as fillers for mortars and the like [C04B 14/38](#) , [C04B 16/06](#) , [C04B 20/0048](#) ; sintering plastics particles [C08J 9/24](#) ; manufacturing by extrusion of synthetic filaments and fibres in general [D01D](#); paper [D21C](#) to [D21H](#); making shaped articles from liquid suspensions of cellulose fibres [D21J](#) )}

NOTES

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

- "non-woven fabrics" means fabrics formed wholly or partly of textile material by processes comprising operations other than the weaving, knitting, braiding, lacing, or

knotting of yarns, threads, or filaments for which provision is made in other subclasses of Section D. This expression includes felts, cotton-wool, and wadding.

In this subclass:

- some of the non-woven fabrics can also be regarded as "layered products" within the meaning of subclass [B32B](#), and further classification in that subclass should be considered in accordance with the notes thereto;  
- in cases where the making of non-woven fabrics involves the use of particular chemical compounds or compositions, e.g. for treating or bonding fibres, filaments, or yarns, further classification in other appropriate subclasses should also be considered.

By varying the proportions of fibres or threads, and the chemical compounds or compositions, the final products may be given the appearance of paper, cardboard, leather or the like.

In this subclass, a number of groups, e.g. [D04H 1/067](#), correspond to IPC2012.01

#### WARNING

1. Documents of the complete subclass [D04H](#) including all subgroups are in the process of being reorganised to the new groups corresponding to the IPC 2012.01 classification scheme defined below.

### Project: RP0064 (D21H)

**U D21H 21/00 Non-fibrous material added to the pulp, characterised by its function, form or properties; Paper-impregnating or coating material, characterised by its function, form or properties**

#### NOTE

In groups [D21H 21/00](#) to [D21H 21/12](#), it is desirable to classify the individual constituents of the fibres used in the pulp or the paper, the non-fibrous material added to the pulp or the impregnating or coating material, using Combination Sets with symbols chosen from groups [D21H 11/00](#) to [D21H 17/00](#).

**U D21H 21/14** • characterised by function or properties in or on the paper ([D21H 19/66](#), [D21H 27/02](#) take precedence)

#### NOTE

In groups [D21H 21/14](#) to [D21H 21/56](#), it is desirable to classify the individual constituents of the fibres used in the pulp or the paper, the non-fibrous material added to the pulp or the impregnating or coating material, using Combination Sets with symbols chosen from groups [D21H 11/00](#) to [D21H 19/00](#).

**D21H 21/40** • • Agents facilitating proof of genuineness or preventing fraudulent alteration, e.g. for security paper (watermarking [B41M 3/10](#), [D21F 1/44](#); security printing [B41M 3/14](#); securities or banknotes characterised by colour effects [B42D 15/00](#); [B42D 25/29](#), [B42D 25/30](#); testing paper currency or valuable papers for genuineness [G07D 7/00](#))

**Project: N/A (E01F)**

- U E01F 13/00 Arrangements for obstructing or restricting traffic, e.g. gates, barricades (for railway crossings [B61L](#)); {Preventing passage of vehicles of selected category or dimensions ([E01F 13/12](#), [E01F 13/126](#) take precedence)}**
- U E01F 13/04 · movable to allow or prevent passage {([E01F 13/12](#), [E01F 15/12](#) take precedence; removing part of barrier for occasional passage [E01F 13/024](#); gates for allowing passage through fences [E06B 11/02](#))}
- E01F 13/048 · · {with obstructing members moving in a translatory motion, e.g. vertical lift barriers, sliding gates (~~[E0113/04C2](#)~~[E0113/04C2](#), [E01F 13/105](#) take precedence)}

**Project: N/A (E02B)**

- U E02B 3/00 Engineering works in connection with control or use of streams, rivers, coasts, or other marine sites (barrages or weirs [E02B 7/00](#)); Sealing or joints for engineering works in general**
- U E02B 3/04 · Structures or apparatus for, or methods of, protecting banks, coasts, or harbours (sealings or joints [E02B 3/16](#); {[E02B 1/003](#) takes precedence})
- U E02B 3/06 · · Moles; Piers; Quay walls; Groynes; Breakwaters {Wave dissipating walls; Quay equipment}
- E02B 3/066 · · · {Quays (bulkheads [E02D 5/00](#); caissons [E02D 23/00](#); retaining walls ~~[E02D 29/00](#)~~[E02D 29/00](#) )}

**Project: N/A (E03F)**

- U E03F 5/00 Sewerage structures**
- E03F 5/10 · Collecting-tanks; Equalising-tanks for regulating the run-off; Laying-up basins {(~~sewage settling installations [85C3E](#), [85C6A](#); sand traps [85C6A2](#); emptying sewage settling installations [85C6E](#)~~; ~~sewage settling installations [85C3E](#), [85C6A](#); sand traps [85C6A2](#); emptying sewage settling installations [85C6E](#)~~; settling installations in general [B01D 21/00](#))}

**Project: MP0111 (E04D)**

- U E04D 1/00 Roof covering by making use of tiles, slates, shingles, or other small roofing elements (roofing supports {and underlayers} [E04D 12/00](#))**
- U E04D 1/02 · Grooved or vaulted roofing elements ([E04D 1/28](#), [E04D 1/30](#) take precedence)
- U E04D 1/04 · · of ceramics, glass or concrete, with or without reinforcement
- M E04D 1/045 · · · {-Vaulted roofing elements laid alternately side-up and side-down, *e.g. monks and nuns tiles*}
- M E04D 1/08 · · of plastics; ~~{-of asphalt;}~~ of fibrous materials ~~{-or wood}~~
- U E04D 1/12 · Roofing elements shaped as plain tiles or shingles, i.e. with flat outer surface ([E04D 1/28](#), [E04D 1/30](#) take precedence)
- M E04D 1/20 · · of plastics; ~~{-of asphalt;}~~ of fibrous materials, ~~or wood~~
- U E04D 1/34 · Fastenings for attaching roof-covering elements to the supporting elements
- U E04D 2001/3408 · · {characterised by the fastener type or material }
- M E04D 2001/3426 · · · {Threaded elements, *e.g. screws or bolts*}
- U E04D 13/00 Special arrangements or devices in connection with roof coverings; {Protection against birds}; Roof drainage; {Sky-lights}(ventilation tiles [E04D 1/30](#); ventilation slabs [E04D 3/40](#); internal channels [E04F 17/00](#); elements therefor, see the relevant groups)**

- U E04D 13/04 · Roof drainage; Drainage fittings in flat roofs, {balconies or the like}{gutter tiles [E04D 1/30](#); gutter slabs [E04D 3/40](#); {vessels for collecting rainwater [E03B 3/03](#);} street gullies [E03F 5/04](#)}
- U E04D 13/08 · · Down pipes; Special clamping means therefor (clamping pipes in general [F16B](#), [F16L](#))
- M E04D 2013/088 · · · {~~De~~-icing devices or snow melters-}

**Project: N/A (E04H)**

E04H 14/00

**Buildings for combinations of different purposes not covered in a single previous group of this subclass, e.g. for double purpose (~~E04H3/02~~[E04H3/02](#), [E04H 9/06](#) take precedence); Buildings of the drive-in type**

**Project: N/A (E05B)**

- U E05B 37/00 **Permutation { or combination} locks ({ handles with combination locks [E05B 13/103](#); keyhole guards with combination locks [E05B 17/145](#); alarms therefor [E05B 45/061](#)}; electric permutation locks [E05B 49/00](#); { for container closures [B65D 55/145](#); combination switches [H01H 27/10](#)});**  
**Puzzle locks**
- E05B 37/0068 · {in padlocks ([E05B 37/025](#), ~~E05B-37/06~~[E05B37/06](#), [E05B 37/10](#) and [E05B 37/14](#) take precedence)}
- E05B 47/00 - **Operation or control of locks by non-mechanical means, e.g. from a distance (locking doors simultaneously in passenger vehicles ~~E05B-65/36~~[E05B65/36](#); key switches [H01H 27/00](#))**
- E05B 55/00 - **Locks with provision for latching (for passenger vehicle doors ~~E05B-65/20~~[E05B65/20](#))**

**Project: N/A (E05F)**

- U E05F 15/00 **Power-operated mechanisms for wings {(for hatch covers [B63B 19/14](#); for elevator doors [B66B 13/00](#); motor-operated devices for completing closing or initiating opening of a wing [E05B 17/0029](#); limit switches [H01H 3/16](#))}**
- U E05F 15/0004 · {Safety devices, e.g. safety couplings, detection of obstructions or end position ([E05F 15/20](#) takes precedence); anti-dropping devices [E05D 13/003](#); by current overload [H02H 7/0851](#)}
- E05F 15/0095 · · {specially adapted for pressure medium-operated mechanisms for wings, e.g. detection by means of monitoring transmitted fluid pressure (~~E05FB15/00B6H~~[E05FB15/00B6H](#) takes precedence)}

**Project: N/A (E21C)**

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](#); ~~driving of shafts, galleries or tunnels~~ [E21D](#)){ not used, see subgroup and [E21B 3/00](#)}**

**Project: N/A (E21D)**

- U E21D 15/00 **Props (in the building art [E04G 25/00](#)); Chocks, {e.g. made of flexible containers filled with backfilling material}**
- U E21D 15/50 · Component parts or details of props ([E21D 15/43](#), [E21D 15/58](#), [E21D 15/60](#) take precedence)
- E21D 15/52 · · Extensible units located above or below standard props (~~for allowing step-by-step movement of cap~~ [E2123/06](#); ~~for allowing step-by-step movement of cap~~ [E2123/06](#); setting props or chocks [E21D 15/58](#))

**Project: MP0111 (F01N)**

- U F01N 2610/00 Adding substances to exhaust gases**
- U F01N 2610/14 · Arrangements for the supply of substances, e.g. conduits
- M F01N 2610/1493 · · Means for prevention of ~~purging or clogging~~ **clogging, e.g. purging**

**Project: N/A (F02P)**

- U F02P 3/00 Other installations**
- U F02P 3/02 · having inductive energy storage, e.g. arrangements of induction coils {(ignition coils structurally combined with sparking plugs [F02P 13/00](#); constructional details of ignition coils [H01F 38/12](#))}
- U F02P 3/04 · · Layout of circuits
- U F02P 3/0407 · · · {Opening or closing the primary coil circuit with electronic switching means ([F02P 3/045](#) to [F02P 3/055](#) take precedence)}
- F02P 3/0435 · · · · {with semiconductor devices (~~F02P3/045B~~ **F02P3/045B**, [F02P 3/051](#), [F02P 3/0552](#) take precedence)}

**Project: N/A (F05)**

- F05 Indexing Schemes relating to Engines or Pumps in various subclasses of Classes ~~F01F01-F04F04~~**

**Project: N/A (F05C)**

- U F05C 2201/00 Metals**
- U F05C 2201/90 · Alloys not otherwise provided for
- F05C 2201/903 · · Aluminium alloy, e.g. AlCuMgPb ~~F34F34~~, 37

**Project: MP0111 (F16D)**

- M F16D COUPLINGS FOR TRANSMITTING ROTATION; CLUTCHES; BRAKES**

NOTE

Attention is drawn to the following places:

- [A01D 69/08](#) , [A01D 69/10](#) Clutches or brakes of harvesting machines for grass or cereals;
- [A61C 1/18](#) Clutches in dental machines for boring or cutting;
- [B21B 35/14](#) Drive couplings for metal-rolling mills;
- [B30B 15/10](#) Brakes specially adapted for presses;
- [B30B 15/12](#) Clutches specially adapted for presses;
- [B41J 33/52](#) Braking devices for ribbon-feed devices in selective printing mechanisms;
- [B60K 17/00](#) Arrangement or location of clutches in vehicles;
- [B61H](#) Brakes peculiar to rail vehicles;
- [B62B 5/04](#) Braking mechanisms for hand carts;
- [B62B 9/08](#) Braking mechanisms for children`s carriages or perambulators;
- [B62C 7/00](#) Braking mechanisms for animal-drawn vehicles;
- [B62L](#) Cycle brakes;
- [B66D 5/00](#) Braking devices for lifting or hoisting gear;

[E21B 17/02](#) Couplings for drilling rods;  
[H02P 3/04](#) Brakes for electric motors, generators,  
dynamo-electric converters;  
[H04L 13/04](#) Clutches for apparatus for transmission of  
coded digital information.

#### WARNINGS

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

*F16D 3/19 covered by F16D 3/50;*  
*F16D 3/27 covered by F16D 3/265;*  
*F16D 27/07 covered by F16D 27/06, F16D 27/14;*  
*F16D 48/12 covered by B60K 23/0808;*  
*F16D 65/35 covered by F16D 63/00.*

- U F16D 1/00 **Couplings for rigidly connecting two coaxial shafts or other movable machine elements( attachment of wheels to axles for railway carriages [B60B](#) ; for attachment of cranks to their shafts [F16C 3/10](#) )**
- U F16D 1/06 · for attachment of a member on a shaft or on a shaft-end( attachment of marine propellers on shafts [B63H 23/34](#) )
- U F16D 1/08 · · with clamping hub; with hub and longitudinal key
- U F16D 1/09 · · · with radial clamping due to axial loading of at least one pair of conical surfaces{( tapered keys [F16D 1/0882](#) )}
- M F16D 1/093 · · · · using one **of** or more elastic segmented conical rings forming at least one of the conical surfaces, the rings being expanded or contracted to effect clamping (~~F16D 1/091 takes precedence~~ [F16D 1/091 takes precedence](#))
- F16D 25/00 -  
F16D 29/00 **Clutches actuated non-mechanically ( arrangements for synchronisation [F16D 23/02](#) ; fluid clutches [F16DE31/00 to F16D 39/00](#) ; fluid clutches [F16D 31/00 to F16D 39/00](#) ; automatic clutches [F16D 41/00 to F16D 45/00](#) ; dynamo-electric clutches [H02K 49/00](#) ; clutches using electrostatic attraction [H02N 13/00](#) )**

#### Project: N/A (F16D)

- F16D 41/00 **Freewheels or freewheel clutches( cycle brakes controlled by back-peddalling [B62L 5/00](#) ; { one-way linear clutches [F16B 7/16](#)[F16B7/16](#) } )**

#### Project: MP0111 (F16D)

- U F16D 47/00 **Systems of clutches, or clutches and couplings, comprising devices of types grouped under at least two of the preceding guide headings**
- M F16D 47/02 · of which at least one is a coupling (~~elastic attachment of clutch parts, see the groups for the clutches~~[elastic attachment of clutch parts, see the groups for the clutches {clutch flywheels with damping devices F16F 15/10}](#)){(~~clutch flywheels with damping devices F16F 15/10 +s.gr.~~)}

#### Project: N/A (F16D)

- U F16D 2121/00 **Type of actuator operation force**
- U F16D 2121/02 · Fluid pressure
- F16D 2121/04 · · acting on a piston-type actuator, e.g. for liquid pressure

#### WARNING

Not complete; see also ~~F16D 121/02~~[F16D121/02](#)

- F16D 2121/06
- • • for releasing a normally applied brake
- WARNING  
Not complete; see also ~~F16D 121/12~~**F16D121/12**
- F16D 2121/08
- • acting on a membrane-type actuator, e.g. for gas pressure
- WARNING  
Not complete; see also ~~F16D 121/02~~**F16D121/02**
- F16D 2121/10
- • • for releasing a normally applied brake
- WARNING  
Not complete; see also ~~F16D 121/12~~**F16D121/12**
- F16D 2121/12
- • for releasing a normally applied brake, the type of actuator being irrelevant or not provided for in groups ~~F16D 121/04~~**F16D121/04** - ~~F16D 121/10~~**F16D121/10**

**Project: MP0111 (F16D)****U** F16D 2300/00**Special features for couplings or clutches**

M F16D 2300/08

- Details or arrangements of sealings not provided for in ~~groups~~**group** [F16D 3/84](#) ; ~~F16D 25/08~~

**Project: N/A (F16F)**

F16F

**SPRINGS; SHOCK-ABSORBERS; MEANS FOR DAMPING VIBRATION**NOTES

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.

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](#)to [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 5/20~~[F41B5/20](#) 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 }

Mention of "steel" or "metal" in groups [F16E](#), 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.

Mention of "rubber" or "plastics" in group [F16E](#), 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](#) to [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](#) to [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](#)

**Project: N/A (F16G)**

U F16G 11/00

**Means for fastening cables or ropes to one another or to other objects; Caps or sleeves for fixing on cables or ropes (attaching ropes or cables to lift cars or cages [B66B 7/08](#), to winch drums or barrels [B66D 1/34](#); ground anchors [E02D 5/00](#); anchoring devices for prestressed members [E04C 5/00](#); rope clamps in earth drilling [E21B 19/12](#))**

U F16G 11/02

• with parts deformable to grip the cable or cables; Fastening means which engage a sleeve or the like fixed on the cable

F16G 11/025

- { Fastening means which engage a sleeve or the like fixed on the cable, e.g. caps ([F16G 11/143](#) and [F16G 11/146](#) take precedence)}

**WARNING**

this group is not complete pending a reorganisation, see also ~~F16G11/0~~[F16G 11/00](#)

**Project: N/A (F16H)**

F16H

**GEARING**{( steering of motor vehicles by differentially driving ground-engaging elements on opposite vehicle sides [B62D 11/02](#) )}**NOTE**

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](#) to [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. Attention is drawn to the following places:

<a href="#">A01D 69/06</a>	Gearings in harvesting machines
<a href="#">A63H 31/00</a>	Gearing for toys
<a href="#">B21B 35/12</a>	Toothed-wheel gearing for metal-rolling mills
<a href="#">B60K</a>	Arrangement of transmissions in vehicles
<a href="#">B61C 9/00</a>	Transmissions for railway locomotives
<a href="#">B62D 3/00</a>	Vehicle steering gears
<a href="#">B62M</a>	Transmissions for cycles
<a href="#">B63H 23/00</a>	Transmissions for marine propulsions
<a href="#">B63H 25/00</a>	Marine steering gears
{ <a href="#">B64C 27/12</a> , <a href="#">B64C 27/58</a>	Transmissions for helicopters
<a href="#">B64D 35/00</a>	Transmissions for aircraft }
<a href="#">F01</a> to <a href="#">F04</a>	Machines, engines, pumps
<a href="#">F15B 15/00</a>	Gearings associated with fluid-actuated devices

[G01D 5/04](#) Gearing used in indicating or recording apparatus in connection with measuring devices  
[H03J 1/00](#) Driving arrangements for tuning resonant circuits  
[H04L 13/04](#) Driving mechanisms for apparatus for transmission of coded digital information.

**WARNING**

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:

[F16H 48/00](#) covered by [F16H1/38](#) ;  
[F16H48/02](#) covered by [B60K](#) ;  
[F16H48/04](#) covered by [B60K](#) ;  
[F16H 48/06](#) covered by [F16H1/38](#) ;  
[F16H 48/08](#) covered by [F16H1/40](#) ;  
[F16H 48/10](#) covered by [F16H1/42](#) ;  
[F16H 48/12](#) covered by [F16H35/04](#) ;  
[F16H 48/14](#) covered by [F16H35/04](#) ;  
~~[F16H35/04C](#)~~ ;  
[F16H 48/16](#) covered by [F16H35/04](#) ,  
[F16H 41/00](#) ;  
[F16H 48/18](#) covered by [F16H 39/40](#) ;  
[F16H 48/20](#) covered by [F16H1/44](#) ;  
[F16H 48/22](#) covered by [F16H1/44](#) ;  
[F16H 48/24](#) covered by [F16H1/44](#) ;  
[F16H 48/26](#) covered by [F16H1/45](#) ;  
~~[F16H1/45S](#)~~ ;  
[F16H 48/28](#) covered by [F16H1/45](#) ,  
~~[F16H1/45](#)~~ ~~[B16H1/45B](#)~~ , ~~[F16H1/45](#)~~ ~~[C16H1/45C](#)~~ ;  
[F16H 48/30](#) covered by ~~[F16H1/44](#)~~ ~~[S16H1/44S](#)~~ .

- U F16H 3/00 **Toothed gearings for conveying rotary motion with variable gear ratio or for reversing rotary motion( speed-changing or reversing mechanisms [F16H 59/00](#) to [F16H 63/00](#) )**
- U F16H 3/44 • using gears having orbital motion{( the gear-ratio being changed by inversion of torque direction [F16H 3/005](#) )}
- U F16H 3/72 • • with a secondary drive, e.g. regulating motor, in order to vary speed continuously
- F16H 3/727 • • • {with at least two dynamo electric machines for creating an electric power path inside the gearing, e.g. using generator and motor for a variable power torque path (special adapted for a hybrid electric vehicle ~~[B60K 6/42](#)~~[B60K 6/20](#) )}
- F16H 7/00 - F16H 9/00 **Gearing for conveying rotary motion by endless flexible members{(control of exclusively fluid gearings for conveying rotary motion by endless flexible members [F16H 61/662](#) )}**
- U F16H 9/00 **Gearings for conveying rotary motion with variable gear ratio, or for reversing rotary motion, by endless flexible members( control of change-speed or reversing-gearings conveying rotary motion [F16H 59/00](#) to [F16H 63/00](#) )**
- U F16H 9/02 • without members having orbital motion
- U F16H 9/04 • • using belts, V-belts, or ropes( with toothed belts [F16H 9/24](#) ; pulleys of adjustable construction [F16H 55/52](#) )

- F16H 9/12
- • • engaging a pulley built-up out of relatively axially-adjustable parts in which the belt engages the opposite flanges of the pulley directly without interposed belt-supporting members ~~{(- means for controlling the geometrical interrelationship of pulleys and the endless flexible member, e.g. belt alignment or position of the resulting axial pulley force in the plane perpendicular to the pulley axis F16H 2061/66295 )}~~

## Project: MP0111 (F16H)

- F16H 13/00 -  
F16H 19/00
- Other friction gearing for conveying rotary motion** ~~{(- control of exclusively friction gearings for conveying rotary motion F16H 61/664 )}~~

## Project: N/A (F16H)

- U F16H 19/00      Gearing comprising essentially only toothed gears or friction members and not capable of conveying indefinitely-continuing rotary motion ( with intermittently-driving members [F16H 27/00](#) - [F16H 31/00](#) ; rope or like tackle for lifting or haulage [B66D 3/00](#) )
- F16H 19/02      • for interconverting rotary *{or oscillating}* motion and reciprocating motion
- F16H 43/00      Other fluid gearing, e.g. with oscillating input or output ~~{(- generating mechanical vibrations of infrasonic or sonic frequency [B06B](#) ; percussive tools [B25D 9/00](#) ; mine roof supports for step by step movement [E21D 23/00](#) ; reciprocating-piston machines without rotary main shaft [F01B 11/08](#) ; fluid pressure ~~actuatoars~~ *actuators* [F15B](#) )}~~
- F16H 47/00      Combinations of mechanical gearing with fluid clutches or fluid gearing ( ~~conjoint control of clutch and gearing [B60K 41/22](#) ; control of driveline clutches and change-speed gearing in vehicles [B60W 10/02](#) and [B60W 10/10](#)~~ *conjoint control of driveline clutches and change-speed gearing in vehicles [B60W 10/02](#) and [B60W 10/10](#)* )
- 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](#) )
- NOTE  
Groups [F16H 57/01](#) , [F16H 57/021](#) - [F16H 57/039](#) are based on IPC2012.01
- 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](#) )
- WARNINGS  
Subgroups of [F16H 57/04](#) are not complete pending reclassification; see provisionally also respective higher groups
- U F16H 57/042      • • {Guidance of lubricant}
- U F16H 57/0421      • • • {on or within the casing, e.g. shields or baffles for collecting lubricant, tubes, pipes, grooves, channels or the like}
- F16H 57/0423      • • • • {Lubricant guiding means mounted or supported on the casing, e.g. shields or baffles for collecting lubricant, tubes or pipes (-means for guiding lubricant into an axial channel of a shaft [F16H 57/0426](#) ; ~~lubrication by injection; injection nozzles or tubes therefore F16H 57/0456~~ ; *lubrication by injection, injection nozzles or tubes therefore [F16H 57/0456](#)* )}
- F16H 57/0434      • • {relating to lubrication supply, e.g. ~~Pumps~~ *pumps* (-arrangement of pumps [F16H 57/0441](#)-); Pressure control (-grooves with pumping effect for supplying lubricant [F16H 57/0428](#)-; generation and variation of line pressure *for transmission control [F16H 61/0021](#)*-)}

## Project: MP0111 (F16H)

F16H 59/00 -  
F16H 63/00

**Control of gearings conveying rotary motion (~~orbital toothed gearings with a secondary drive in order to vary the speed ratio of driving or feeding mechanisms of machine tools B23Q 5/12, B23Q 5/46; conjoint control of drive units for vehicles B60K 41/00; cycle transmissions B62M; marine propulsion B63H~~)**

## NOTES

Attention is drawn to the Notes **following group after the B60K 41/00 title of subclass B60W**.

In groups [F16H 59/00](#) to [F16H 63/00](#), clutches positioned within a gearbox are considered as comprising part of the gearings.

In groups [F16H 59/00](#) to [F16H 63/00](#), the following terms or expressions are used with the meaning indicated:

- "final output element" means the final element which is moved to establish a gear ratio, i.e. which achieves the linking between two power transmission means, e.g. reverse idler gear, gear cluster, coupling sleeve, apply piston of a hydraulic clutch;
- "mechanism" means a kinematic chain consisting either of a single element or alternatively of a series of elements, the position of each point on the kinematic chain being derivable from the position of any other point on the chain, and therefore, for a given position of a point on one of the elements forming the kinematic chain there is only one position for each of the other points on the elements forming the kinematic chain;
- "final output mechanism" means the mechanism which includes the final output element;
- "actuating mechanism" means the mechanism, the movement of which causes the movement of another mechanism by being in mutual contact;
- "final actuating mechanism" means the mechanism actuating the final output mechanism.
- { "mechanical force" means the force transmitted by an actuating mechanism or the human body }

Combinations of features individually covered by group [F16H 61/00](#) and one or both of groups [F16H 59/00](#) and [F16H 63/00](#) are classified in group [F16H 61/00](#).

Combinations of features individually covered by groups [F16H 59/00](#) and [F16H 63/00](#) are classified in group [F16H 63/00](#).

When classifying in groups [F16H 59/00](#) to [F16H 63/00](#), control inputs or types of gearing, which are not identified by the preceding notes concerning combinations, and which are considered to represent information of interest for search, may also be classified. Such non-obligatory classification should be given

as "additional information", e.g. selected from subgroup [F16H 61/66](#) relating to the type of gearing controlled or from group [F16H 59/00](#) relating to control inputs

## Project: N/A (F16H)

- U F16H 61/00** **Control functions within{control units of}change-speed- or reversing-gearings for conveying rotary motion;{Control of exclusively fluid gearing, friction gearing, gearings with endless flexible members or other particular types of gearing}**
- U F16H 61/0021 · {Generation or control of line pressure}
- U F16H 61/0025 · · {Supply of control fluid; Pumps therefore}
- WARNING  
Group [F16H 61/0025](#) and subgroups are not complete pending a reorganisation, see also **F16H61/00K**
- F16H 61/0031 · · · {using ~~an~~ auxiliary *pumps, e.g.* pump driven by a different power source than the engine}
- F16H 61/0059 · {Braking of gear output shaft, *by using* simultaneous engagement of ~~clutches~~ *friction devices applied* for different ~~gears~~ *gear ratios*}{~~engine braking F16H 61/21~~}
- U F16H 61/70 · specially adapted for change-speed gearing in group arrangement, i.e. with separate change-speed gear trains arranged in series, e.g. range or overdrive-type gearing arrangements
- F16H 61/702 · · {using electric or electrohydraulic control means(~~timing of auxilliary gear shifts F16H 2061/085~~)}
- F16H 61/705 · · {using hydraulic and mechanical control means(~~timing of auxilliary gear shifts F16H 2061/085~~)}
- U F16H 63/00** **Control outputs{from the control unit}to change-speed- or reversing-gearings for conveying rotary motion{or to other devices than the final output mechanism}**
- U F16H 63/02 · Final output mechanisms therefor; Actuating means for the final output mechanisms
- U F16H 63/30 · · Constructional features of the final output mechanisms
- F16H 63/3003 · · · {~~Bandbrake~~ *Band brake* actuating mechanisms}
- F16H 63/3023 · · · {the final output mechanisms comprising elements moved by fluid pressure (~~F16H 63/3003 takes precedence~~ *band brake actuating mechanisms F16H 63/3003*)}
- F16H 63/304 · · · {the final output mechanisms comprising elements moved by electrical or magnetic force (~~F16H 63/3003 takes precedence~~ *band brake actuating mechanisms F16H 63/3003*)}

## Project: N/A (F16S)

- U F16S 1/00** **Sheets, panels, or other members of similar proportions; Constructions comprising assemblies of such members (built-up gratings [F16S 3/00](#); layered products [B32B](#))**
- NOTE  
In general shape the members may be flat or curved, but they may depart from such shape in detail over part or all of their area, e.g. they may be corrugated, ribbed, flanged; ribs, flanges or the like may be separately formed.
- F16S 1/04 · produced by deforming or otherwise working a flat sheet (honeycomb or other core members for layered products [B32B 3/00](#), e.g. [B32B 3/12](#), [B32B 3/24](#)~~B32B3/24~~, [B32B 3/26](#))

**Project: N/A (F21V)**

F21V

**DETAILS OF LIGHTING DEVICES, OF GENERAL APPLICATION**NOTES

1. Groups [F21V 1/00-F21V 14/00](#) cover details of those parts involved in light emission or distribution. Groups [F21V 15/00-F21V 31/00](#) cover details of those parts not so involved.

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.

In this subclass have been included only those lighting device details which were considered to be of a kind applicable to the lighting devices of more than one of the subclasses [F21L](#), [F21MF21M](#), [F21PF21P](#), [F21QF21Q](#), [F21S](#). Inventions concerned with details of the kinds provided for are to be classified in this subclass, even though they are only stated to be applied to a device of a single subclass.

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 [G02B6/00L](#)

**Project: N/A (F21W)**

F21W

**INDEXING SCHEME RELATING TO USES OR APPLICATIONS OF LIGHTING DEVICES OR SYSTEMS**NOTE

This subclass constitutes an internal scheme for indexing only, associated with subclasses [F21L](#), [F21MF21M](#), [F21PF21P](#), [F21QF21Q](#), [F21S](#) and [F21V](#), relating to uses or applications of lighting devices or systems.

**Project: N/A (F21Y)**

F21Y

**INDEXING SCHEME RELATING TO THE FORM OF THE LIGHT SOURCES**NOTE

This subclass constitutes an internal scheme for indexing only, associated with subclasses [F21L](#), [F21MF21M](#), [F21PF21P](#), [F21QF21Q](#), [F21S](#) and [F21V](#), relating to the form of the light sources.

**Project: N/A (F23J)**

U F23J 2215/00

**Preventing emissions (solids only [F23J 2217/00](#))**

U F23J 2215/10

· Nitrogen; Compounds thereof

F23J 2215/101

· · Nitrous oxide([N2O](#)[N2O](#))

**Project: N/A (F24F)**

F24F

**AIR-CONDITIONING, AIR-HUMIDIFICATION, VENTILATION, USE OF AIR CURRENTS FOR SCREENING** (devices for ventilating greenhouses [A01G { F24F9/24](#); air-conditioning systems for greenhouses [A01G 9/246](#)); animal husbandry [A01K](#), e.g. controlling humidity in incubators [A01K 41/04](#); disinfecting or sterilising of air [A61L](#); devices for reconditioning breathing air in sealed rooms or for ventilating gas-proof shelters [A62B](#); filtering, washing or drying of gases [B01D](#); mixing gases with vapours or liquids in general [B01F 3/00](#); spraying [B05B](#), [B05D](#); removing dirt or fumes from areas where they are produced [B08B 15/00](#); ventilation, air-conditioning or cooling, specially adapted for vehicles, see the relevant vehicle places, e.g. [B60H](#), [B61D 27/00](#), { [B64D 13/00](#)}; production of ozone [C01B 13/10](#); chimneys or flues [E04F 17/02](#), [E04H 12/28](#), [F23J 11/00](#), [F23L 17/02](#); ~~air ducts or conduits E0417/04, F16L~~; ~~air ducts or conduits E0417/04, F16L~~; ventilation in doors or windows [E06B 7/02](#); fans, blowers [F04](#); noise-absorbing in pipes or pipe systems [F16L](#); tops for chimneys and ventilating shafts [F23L](#); cooling [F25](#); details of heat-exchange or heat-transfer apparatus, of general application [F28F](#); apparatus for generating ions to be introduced into non-enclosed gases, e.g. the atmosphere [H01T 23/00](#))

NOTES

In this subclass:

- air-humidification as auxiliary treatment in air-conditioning, i.e. in units wherein the air is also either cooled or heated, is covered by groups [F24F 1/00](#) or [F24F 3/14](#);
- air-humidification per se, e.g. "room humidifiers", is covered by group [F24F 6/00](#).

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

- "air-conditioning" means the supply of air to rooms or spaces by means which provide for the treatment of the air in at least two of the following ways:  
heating - cooling - any other kind of treatment, e.g. humidification.

**Project: N/A (F41A)**

F41A 9/00

**Feeding or loading of ammunition**({ conveying ammunition through pipes by the action of flowing gases [B65G 51/025](#) } ; adaptations for feeding or loading missiles from magazines in air guns [F41B-11/02](#)[F41B11/02](#) ); Magazines; Guiding means for the extracting of cartridges( cartridge extractors or ejectors [F41A 15/00](#) )

**Project: N/A (F41C)**

U F41C 9/00

**Other smallarms, e.g. hidden smallarms or smallarms specially adapted for underwater use**

F41C 9/06

- Smallarms specially adapted for underwater use {(spring operated harpoon guns [F41B 7/04](#); air pressure operated harpoon guns [F41B-11/08](#)[F41B11/08](#))}

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

G

**PHYSICS**NOTES

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

- "variable" (as a noun) means a feature or property, (e.g. a dimension, a physical condition such as temperature, a

quality such as density or colour) which, in respect of a particular entity (e.g. an object, a quantity of a substance, a beam of light) and at a particular instant, is capable of being measured; the variable may change, so that its numerical expression may assume different values at different times or in different conditions or individual cases, but may be constant in respect of a particular entity in certain conditions or for practical purposes, (e.g. the length of a bar may be regarded as constant for many purposes).

Attention is drawn to the definitions of terms used appearing in the notes of several of the classes in this Section, particularly of "measuring" in class [G01](#) and "control" and "regulation" in class [G05](#).

The classification of inventions in this Section may present more difficulty than in others because the distinction between different fields of use rests to a considerable extent on differences in the intention of the user rather than on any constructional differences or differences in the manner of use of inventions, and also because the subjects dealt with are often in effect systems or combinations which have features or parts in common rather than "things" which are readily distinguishable as a whole. For example, information, (e.g. a set of figures) may be displayed for the purpose of education or advertising ([G09G09](#)), for enabling the result of a measurement to be known ([G01](#)), ~~for signalling the information to a distant point or for giving information which has been signalled from a distant point (G08); the words used to describe the purpose depend on features which may be irrelevant to the form of the apparatus concerned – such features as the desired effect on the person who sees the display or whether the display is controlled from a remote point. Again, a device which responds to some change in a condition, e.g. in the pressure of a fluid, may be used, without modification of the device itself, to give information about the pressure (G01L) or about some other condition connected with the pressure (another subclass of G01), for signalling the information to a distant point or for giving information which has been signalled from a distant point (G08); the words used to describe the purpose depend on features which may be irrelevant to the form of the apparatus concerned - such features as the desired effect on the person who sees the display or whether the display is controlled from a remote point. Again, a device which responds to some change in a condition, e.g. in the pressure of a fluid, may be used, without modification of the device itself, to give information about the pressure (G01L) or about some other condition connected with the pressure (another subclass of G01, e.g. [G01K](#) for temperature), to make a record of the pressure or of its occurrence ([G07C](#)[G07C](#)), to give an alarm ([G08B](#)[G08B](#)), or to control some other apparatus ([G05](#)[G05](#)). The classification scheme is intended to enable things of a similar nature (as indicated above) to be classified together, and it is therefore particularly necessary for the real nature of any invention to be decided before it can be properly classified.~~

**Project: N/A (G01B)**

- |   |             |  |
|---|-------------|--|
| U | G01B 5/00   | <b>Measuring arrangements characterised by the use of mechanical means( instruments of the types covered by group <a href="#">G01B 3/00</a> per se <a href="#">G01B 3/00</a> )</b> |
| U | G01B 5/0002 | · {Arrangements for supporting, fixing or guiding the measuring instrument or the object to be measured}   |
|   | G01B 5/0004 | · · {Supports( in general <a href="#">F16M</a> , <del><a href="#">116A2C</a></del> <a href="#">116A2C</a> ; <a href="#">G01B 5/025</a> takes precedence )}                         |

**Project: N/A (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
- G01D 5/35306 · · · · · { using an interferometer arrangement}

WARNING

This group and its subgroups are not complete pending reclassification; see also [G01D353F](#)[G01D353F](#)

- 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 [G01D353F](#)[G01D353F](#)

**Project: N/A (G01L)**

- U G01L 19/00** Details of, or accessories for, apparatus for measuring steady or quasi-steady pressure of a fluent medium insofar as such details or accessories are not special to particular types of pressure gauges
- G01L 19/14 · { Housings ([G01L 19/0007](#), [G01L 19/0084](#), [G01L 19/0092](#), [G01L 19/04](#), [G801L19/06](#)[G801L 19/06](#) take precedence)}

**Project: N/A (G01M)****G01M**

**TESTING STATIC OR DYNAMIC BALANCE OF MACHINES OR STRUCTURES; TESTING STRUCTURES OR APPARATUS NOT OTHERWISE PROVIDED FOR**{( devices for testing the performance of portable percussive tools with fluid-pressure drive [B25D 9/005](#) )}

NOTE

Attention is drawn to the Note following the title of Class [G01](#).

WARNINGS

Subject matter covered by these groups is classified in the following CPC groups: - [G01M/38](#)[G01M/38](#) covered by [G01M 1/14](#) and [G01M 1/30](#) and subgroups

**U G01M 1/00**

**Testing static or dynamic balance of machines or structures( balancing rotary bowls of centrifuges [B04B 9/14](#) ; apparatus characterised by the means for holding wheels or parts thereof [B60B 30/00](#) ; determining the stability factors of ships [B63B](#); stabilising of aircraft [B64C 17/00](#) ; control systems for balancing automatically in operation [G05](#); balancing rotors of dynamo-electric machines [H02K 15/16](#) )**

G01M 1/14

• Determining unbalance( [G01M 1/30](#) , [G01M-1/38](#)[G01M1/38](#) take precedence )

G01M 1/30

• Compensating unbalance( [G01M-1/38](#)[G01M1/38](#) takes precedence; counterweights [F16F 15/28](#) )

**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 [G02B-11/00](#)[G02B11/00](#) ) 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

### **U G02B 6/00**

#### **Light guides**

- G02B 6/0001
  - {specially adapted for lighting devices or systems( lighting or signalling on vehicles using light guides [B60Q 1/00](#) ; lighting devices for vehicle interior using light guides [B60Q 3/002](#) ; lighting devices mounted on the vehicle rear part using light guides [F21S 48/2225](#) ; lighting devices for vehicle dashboards [B60Q 3/04](#) ; measuring arrangements having light conducting pointers [G01D 13/265](#) ; illumination of liquid crystal displays [G02F 1/13357](#)[G02F1/13357](#) ; illuminated signs [G09F 13/00](#) )}
- 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 )
- G02B 6/268
  - • • {for modal dispersion control, e.g. concatenation of light guides having different modal dispersion properties( graded index multimode fibres [G02B 6/0288](#) ; multimodal transmission systems [H04B 10/13](#)[H04B10/13](#) )}
- 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 6/293
  - • • • with wavelength selective means({ [G02B 6/02052](#) , [G02B 6/02057](#) take precedence } ; for optical elements in use, see the relevant subgroups of this subclass; optical wavelength-division multiplexing systems [H04J 14/02](#) ; { in or associated with an integrated waveguide arrangement [G02B 6/12007](#) ; mode multiplexing [G02B 6/14](#) )}
- U G02B 6/29379
  - • • • • {characterised by the function or use of the complete device}
- U G02B 6/2938
  - • • • • • {for multiplexing or demultiplexing, i.e. combining or separating wavelengths, e.g. 1xN, NxM}
- U G02B 6/29382
  - • • • • • {including at least adding or dropping a signal, i.e. passing the majority of signals}
- G02B 6/29385
  - • • • • • • {Channel monitoring, e.g. by tapping( channel monitoring in optical transmission systems [H04B 10/08](#)[H04B10/08](#) )}
- U G02B 6/29392
  - • • • • • {Controlling dispersion( [G02B 6/02214](#) takes precedence; modal dispersion control [G02B 6/268](#) )}
- G02B 6/29394
  - • • • • • • {Compensating wavelength dispersion( [G02B 6/29376](#) takes precedence; dispersion compensated optical transmission systems [H04B 10/18](#)[H04B10/18](#) )}
- 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](#) )
- G02B 6/3598
  - • • • {Switching means directly located between an optoelectronic element and waveguides, including direct displacement of either the element or the waveguide, e.g. optical pulse generation( based on changing the optical properties of the medium [G02F 1/00](#) ; optical pulse generation in optical transmitters [H04B 10/155](#)[H04B10/155](#) ; optical pulse generation by controlling laser operation [H01S 3/00](#) )}
- U G02B 6/36
  - • Mechanical coupling means({ [G02B 6/06](#) , [G02B 6/30](#) , [G02B 6/35](#) , [G02B 6/38](#) } , [G02B 6/255](#) , [G02B 6/42](#) take precedence )
- U G02B 6/38
  - • • having fibre to fibre mating means
- U G02B 6/3807
  - • • • {Dismountable connectors, i.e. comprising plugs}

- U G02B 6/381 . . . . {of the ferrule type, e.g. fibre ends embedded in ferrules, connecting a pair of fibres}
- G02B 6/3817 . . . . . {containing optical and electrical conductors( cables including electrical and optical conductors [H01B 11/22](#) ; [G092B6/38D2H](#)[G092B6/38D2H](#) takes precedence )}
- U G02B 7/00 Mountings, adjusting means, or light-tight connections, for optical elements**
- G02B 7/28 . Systems for automatic generation of focusing signals(measuring distance per se [G01C](#), S; using such signals to control focus of particular apparatus, see the subclasses for the apparatus, e.g. [G03B](#), [G03E](#),{~~H04N~~[H04N](#)})
- G02B 23/00 Telescopes, e.g. binoculars; Periscopes; Instruments for viewing the inside of hollow bodies( diagnostic instruments [A61B](#) ); Viewfinders( objectives [G02B 9/00](#) , ~~[G02B 11/00](#)~~[G02B 11/00](#) , [G02B 15/00](#) , [G02B 17/00](#) ; eyepieces [G02B 25/00](#) ); Optical aiming or sighting devices( non-optical aspects of weapon aiming or sighting devices [F41G](#) )**
- 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 27/02 . Viewing or reading apparatus( stereoscopic systems per se [G02B 27/22](#) ; of the projection type [G03B](#) ; slide-changing apparatus [G03B](#) )
- U G02B 27/022 . . {Viewing apparatus( [G02B 27/04](#) , [G02B 27/06](#) , [G02B 27/08](#) take precedence )}
- G02B 27/024 . . . {comprising a light source, e.g. for viewing photographic slides, X-ray transparencies( [G02B 27/023](#) , and photographic, cine and overhead projectors ~~[G03B 21/00](#)~~[G03B 21/00](#) and subgroups )}

**Project: N/A (G02F)**

- U G02F 1/00 Devices or arrangements for the control of the intensity, colour, phase, polarisation or direction of light arriving from an independent light source, e.g. switching, gating, or modulating; Non-linear optics( thermometers using change of colour or translucency [G01K 11/12](#) ; using changes in fluorescence [G01K 11/32](#) ; light guide devices [G02B 6/00](#) ; optical devices or arrangements using movable or deformable elements for controlling light independent of the light source [G02B 26/00](#) ; control of light in general [G05D 25/00](#) ; visible signalling systems [G08B 5/00](#) ; indicating arrangements for variable information by selection or combination of individual elements [G09F 9/00](#) ; control arrangements or circuits for visual indicators other than cathode-ray tubes [G09G 3/00](#) ; control of light sources [H01S 3/10](#) , [H05B 33/08](#) , [H05B 35/00](#) to [H05B 43/00](#) ; { photochromic filters [G02B 5/23](#) ; optical logic elements [G02F 3/00](#) } }**

**NOTE**

This group covers only :

- devices or arrangements, e.g. cells, the optical operation of which is modified by changing the optical properties of the medium of the devices or arrangements by the influence or control of physical parameters, e.g. electric fields, electric current, magnetic fields, sound or mechanical vibrations, stress or thermal effects;

- devices or arrangements in which the electric or magnetic field component of the light beams influences the optical properties of the medium, i.e. non-linear optics;  
- control of light by electromagnetic waves, e.g. radio waves, or by electrons or other elementary particles.

- U G02F 1/01
  - for the control of the intensity, phase, polarisation or colour( [G02F 1/29](#) , [G02F 1/35](#) take precedence; polarising elements per se [G02B 5/30](#) ; static storage per se [G11C](#); image tube screens acting as light valves by shutter operation [H01J 29/12](#) ; such screens acting by discoloration [H01J 29/14](#) ; { projection arrangements for television image reproduction, e.g. using eidophor [H04N 5/74](#) ; recording by light [G11B 7/00](#) to [G11B 11/00](#) }
- U G02F 1/0102
  - {Constructional details( [G02F 1/1306](#) , [G02F 1/133](#) take precedence )}
- G02F 1/0105
  - • {Illumination devices( for liquid crystal cells [G02F 1/13357](#)[G02F1/13357](#) ; for display devices for electronic time pieces [G04G 9/0041](#) )}
- U G02F 1/13
  - • based on liquid crystals, e.g. single liquid crystal display cells( liquid crystal materials [C09K 19/00](#) )
- U G02F 1/133
  - • • Constructional arrangements; Operation of liquid crystal cells; Circuit arrangements(arrangements or circuits for control of liquid crystal elements in a{ segment display or a }matrix, not structurally associated with these elements,{ respectively [G09G 3/18](#) and } [G09G 3/36](#) )
- U G02F 1/1333
  - • • • Constructional arrangements;(Manufacturing methods){ [G02F 1/135](#) , [G02F 1/136](#) take precedence )
- U G02F 1/1335
  - • • • • Structural association of optical devices, e.g. polarisers, reflectors or illuminating devices, with the cell
- G02F 1/133504
  - • • • • {Diffusing, scattering, diffracting elements( associated to illuminating devices [G02F 1/13357](#)[G02F1/13357](#) )}
- G02F 1/133553
  - • • • • {Reflecting elements( associated to illuminating devices [G02F 1/13357](#)[G02F1/13357](#) )}
- U G02F 2/00
  - Demodulating light; Transferring the modulation of modulated light; Frequency-changing of light( [G02F 1/35](#) takes precedence; photoelectric detecting or measuring devices [G01J](#), [H01J 40/00](#) , [H01L 31/00](#) ; demodulating laser arrangements { e.g. switching, gating } [H01S 3/10](#) ; demodulation or transference of modulation of modulated electro-magnetic waves in general [H03D 9/00](#) )**
- G02F 2/002
  - {using optical mixing( homodyne, heterodyne systems [H04B 10/148](#)[H04B10/148](#) )}

**Project: N/A (G03F)**

- U G03F 7/00
  - Photomechanical, e.g. photolithographic, production of textured or patterned surfaces, e.g. printing surfaces; Materials therefor, e.g. comprising photoresists; Apparatus specially adapted therefor( using photoresist structures for special production processes, see the relevant places, e.g. [B44C](#), [H01L](#), e.g. [H01L 21/00](#) , [H05K](#) )**
- U G03F 7/70
  - {Exposure apparatus for microlithography}
- U G03F 7/70216
  - • {Systems for imaging mask onto workpiece}

G03F 7/70241 . . . {Optical aspects of refractive systems}

NOTE

Further aspects of refractive systems are classified in group **G02B13/143**  
**G02B 13/143**

**Project: N/A (G03G)**

**U G03G 21/00 Arrangements not provided for by groups G03G 13/00 to G03G 19/00 , e.g. cleaning, elimination of residual charge**

U G03G 21/16 . Mechanical means for facilitating the maintenance of the apparatus, e.g. modular arrangements

U 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** to **G03G 21/1896** are not complete pending reorganisation. See also this group

U G03G 21/1803 . . . {Arrangements or disposition of the complete process cartridge or parts thereof}

G03G 21/1814 . . . . {Details of parts of process cartridge, e.g. for charging, transfer, cleaning, developing (**G021/18C6** **G021/18C6** takes precedence)}

**Project: RP0064 (G03H)**

**U G03H 1/00 Holographic processes or apparatus using light, infra-red or ultra-violet waves for obtaining holograms or for obtaining an image from them; Details peculiar thereto**

U G03H 1/0005 . {Adaptation of holography to specific applications (holographic optical element **G02B 5/32**; holographic scanner **G02B 26/106**; recognition using holographic mask **G06K 9/76**; holographic memories **G11B 7/0065**, **G11C 13/042**)}

G03H 1/0011 . {-for security or authentication (holograms on information-bearing cards **B42D15/10D** **B42D 25/328**; testing papers with holograms **G07D 7/0013**)}

**Project: N/A (G04B)**

**U G04B 37/00 Cases {Cases with a special shape G04B 45/0069; ornamentation of the case G04B 47/04; cartridges A45C 11/00 to A45C 11/38}**

G04B 37/14 . Suspending devices, supports or stands for time-pieces insofar as they form part of the case {(wrist watch straps, fastening means therefor **A44C 5/00**; **display stands 54G14K**; **display stands 54G14K**)}

**Project: N/A (G04D)**

**U G04D 3/00 Watchmakers` or watch-repairers` machines or tools for working materials {metal working in general class B23}**

G04D 3/06 . Devices for shaping or setting watch glasses {(cutting watch glasses **C03B 33/04**; **fixing spectacle lenses 42HS2A1**; **fixing spectacle lenses 42HS2A1**; grinding or working of spectacle lenses and lenses **B24B**; working plastic materials in general **B29**)}

**Project: N/A (G04F)**

**U G04F 7/00 Apparatus for measuring unknown time intervals by mechanical means**

G04F 7/04

- using a mechanical oscillator

WARNING

The subgroups of ~~G04F/04~~**G04F/04** are not complete pending reclassification; see also this group

**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

This subclass does not cover features of general applicability to regulating systems, e.g. anti-hunting arrangements, which are covered by subclass [G05B](#).

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

- "systems" includes self-contained devices such as speed governors, pressure regulators.

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](#)

<a href="#">A01B 69/00</a>	Agricultural machines or implements
<a href="#">A63H 17/36</a>	Toy vehicles
<a href="#">B60V 1/11</a>	Air-cushion vehicles
<a href="#">B62D 1/00</a>	Steering controls of motor vehicles or trailers, i.e. means for initiating a change of direction
<a href="#">B62D 6/00</a>	Arrangements for automatically controlling the steering depending on driving conditions
<a href="#">B62D 55/116</a>	Chassis of endless-tracked vehicles
<a href="#">B63H 25/00</a>	Marine steering; control of waterborne vessels
<a href="#">B64C 13/00</a>	to <a href="#">B64C 15/00</a> Controlling aircraft
<del><a href="#">B64D 25/11</a></del> <b><a href="#">B64D 25/11</a></b>	Controlling attitude or direction of aircraft ejector seats
<a href="#">B64G 1/24</a>	Cosmonautic vehicles
<a href="#">F41G 7/00</a>	Self-propelled missiles
<a href="#">F42B 15/01</a>	Guided missiles
<a href="#">F42B 19/01</a>	Marine torpedoes
related to <a href="#">G05D 3/00</a>	Places
<a href="#">A43D 119/00</a>	Footwear manufacture
<a href="#">B21K 31/00</a>	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 5/00](#)  
[A24B 7/14](#) Tobacco cutting  
[B05C 11/02](#) Thickness of coating of fluent material on surface  
[B21B 37/16](#) Thickness, width, diameter or other transverse dimensions of the products of metal-rolling mills  
[C03B 18/04](#) Dimension of glass ribbon  
[D21F 7/06](#) Thickness of layer in paper making  
Places related to [G05D 7/00](#)  
[A45D 20/26](#) Air in hair drying helmets  
[A61M 5/168](#) Flow of media to the human body  
[B03C 3/36](#) Gases or vapour in electrostatic separators  
[B05C 11/10](#) Fluent material in coating devices  
[B67D 1/12](#) Dispensing beverages on draught  
[B67D 7/28](#) Transferring liquids  
[C10K 1/28](#) Gas purifiers  
[E21B 21/08](#) Flushing boreholes  
[E21B 43/12](#) Obtaining liquids from wells  
[F01D 17/00](#) Flow in non-positive-displacement machines or systems

[F01M 1/16](#) Lubrication arrangements  
[F01P 7/00](#) Coolant flow in cooling devices  
[F02C 9/16](#) ,  
[F02C 9/50](#) Gas-turbine working fluid  
[F16L 55/027](#) Throttle passages in pipes  
[F24F 11/00](#) Air-flow or supply of heating or cooling fluids in air treatment arrangements  
[F26B 21/12](#) Air or gas flow in dryers  
[G01G 11/08](#) Continuous flow weighing apparatus  
[G21D 3/14](#) Coolant in nuclear power plant  
 Places related to [G05D 9/00](#)  
[B01D 21/34](#) Liquid level in sedimentation arrangements  
[B41L 27/04](#) Ink level in printing, manifolding or duplicating arrangements  
[F22D 5/00](#) Feed water for boilers  
[H01J 1/10](#) , [H01J 13/14](#) Liquid pool electrodes in electric discharge tubes or lamps Places related to [G05D 11/00](#)  
[B01D 21/32](#) Density in sedimentation arrangements  
[B01F 15/04](#) Mixers  
[B24C 7/00](#) Abrasive blasts  
[B28C 7/00](#) Mixtures of clays or cements  
[B65G 53/66](#) Bulk material conveyers  
[F02K 3/075](#) Flow ratio in jet-propulsion plants  
 Places related to [G05D 13/00](#)  
[B21C 1/12](#) Drum speed in metal drawing  
[B23Q 15/00](#) Cutting velocity of tool or work  
[B30B 15/20](#) Ram speed in presses  
[B60K 31/00](#) Setting or limiting speed of vehicles  
[B60L 15/00](#) Electrically-propelled vehicles  
[B64D 31/08](#) Cruising speed of aircraft  
[D01D 1/09](#) Feed rate in manufacture of artificial filaments, threads, fibres, bristles or ribbons  
[D01G 15/36](#) Carding machines  
[D02H 13/14](#) Warping, beaming or leasing machines  
[D03D 51/16](#) Cyclically varying speed of looms  
[G01N 30/32](#) Speed of fluid carrier in chemical analysis  
[G11B 15/46](#) Filamentary or web record carriers or heads for such carriers in information storage systems  
[G11B 19/28](#) Non-filamentary, non-web record carriers, or heads for such carriers in information storage systems Places related to [G05D 15/00](#)  
[B25D 9/26](#) Portable percussive tools  
[B30B 15/22](#) Ram pressure in presses  
[B65H 59/00](#) Tension in filamentary material  
 { [B65H 23/00](#) , [B65H 59/00](#) }  
 Tension in webs, tapes, filamentary material  
[B66D 1/50](#) Rope, cable or chain tension

[D03D 49/04](#) Tension in looms  
[D05B 47/04](#) Tension in sewing machines  
[D21F 3/06](#) Pressure in paper-making machines  
[F26B 13/12](#) Drying fabrics  
[F26B 21/10](#) Pressure in dryers  
[G11B 15/43](#) Record carrier tension in  
information  
storage arrangements Places related to  
[G05D 16/00](#)  
[B60C 23/00](#) Tyre pressure  
[B63C 11/08](#) Air within diving suit  
[B64D 13/00](#) Aircraft air-pressure  
[B65G 53/66](#) Bulk material conveyers  
[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 conveyers Places  
related to [G05D 21/00](#)  
[B01D 21/32](#) Density in sedimentation  
arrangements  
[B01D 53/30](#) Treating gases or vapours  
[G01N 30/34](#) Composition of fluid carrier in  
chemical  
analysis  
  
Places related to [G05D 22/00](#)  
[A01G 25/16](#) Watering gardens, fields, sports  
grounds  
or the like  
[A01K 41/04](#) Poultry incubators  
[A24B 9/00](#) Tobacco products  
[F24F 11/00](#) Air conditioning  
[F26B 21/08](#) Dryers Places related to  
[G05D 23/00](#)  
[A21B 1/40](#) Bakers` ovens  
[A45D 6/20](#) Hair curlers  
[B21C 31/00](#) Metal extruding  
[B60C 23/00](#) Tyre temperature  
[B64G 1/50](#) Cosmonautic vehicles  
[C03B 18/18](#) ,  
[C03B 18/22](#) Float baths in glass making  
[D01D 1/09](#) Manufacture of artificial filaments,  
threads, fibres, bristles or ribbons  
[D04B 35/30](#) Knitting machines  
[D06F 75/26](#) Hand irons  
[D21F 5/06](#) Paper-making machines  
[F01M 5/00](#) Lubricant in lubrication arrangements  
[F16N 7/08](#) Arrangements for supplying oil or  
unspecified  
lubricant from a reservoir  
[F22G 5/00](#) Steam superheat

<a href="#">F26B 21/10</a>	Dryers	
<a href="#">G01N 30/30</a>	Temperature of fluid carrier in chemical analysis	
<a href="#">H01M 10/50</a>	Electric storage cells	
<a href="#">H05B 6/06</a>	,	
<a href="#">H05B 6/50</a>	,	
<a href="#">H05B 6/68</a>	Dielectric, induction or microwave heating	
<a href="#">H05G 1/36</a>	Anode of X-ray tube	Places
related to	<a href="#">G05D 25/00</a>	
<a href="#">B41B 21/08</a>	Photographic composing machines	
<a href="#">H01S 3/10</a>	,	
<a href="#">H05B 33/08</a>	,	
<a href="#">H05B 35/00</a>	to	
<a href="#">H05B 43/00</a>	Lasers and other light sources	
General references		
<a href="#">A01J 5/007</a>	Milking machines	
<a href="#">B23K 9/095</a>	Welding parameters	
<a href="#">B23Q 35/00</a>	Copying	
<a href="#">B24B 17/00</a>	,	
<a href="#">B24B 49/00</a>	Grinding or polishing	
<a href="#">B24C 7/00</a>	Abrasive blasts	
<a href="#">B67D 1/12</a>	Dispensing beverages on draught	
<a href="#">G03G 21/20</a>	Electrographic, electrophotographic or magnetographic processes	
<a href="#">H02P 5/00</a>	to	
<a href="#">H02P 9/00</a>	Dynamo-electric motors or generators	

**Project: N/A (G06F)**

<b>U</b>	<b>G06F 9/00</b>	<b>Arrangements for programme control, e.g. control unit( programme control for peripheral devices <a href="#">G06F 13/10</a> ; in regulating or control systems <a href="#">G05B</a> )</b>
U	G06F 9/06	• using stored programme, i.e. using internal store of processing equipment to receive and retain programme
	G06F 9/30	• • Arrangements for executing machine-instructions, e.g. instruction decode( for executing micro-instructions <a href="#">G06F 9/22</a> ; for executing subprogrammes <a href="#">G06F-9/40</a> <a href="#">G06F9/40</a> )
	G06F 9/32	• • • Address formation of the next instruction, e.g. incrementing the instruction counter, jump( <a href="#">G06F 9/38</a> takes precedence; sub-programme jump <a href="#">G06F-9/42</a> <a href="#">G06F9/42</a> )
<b>U</b>	<b>G06F 13/00</b>	<b>Interconnection of, or transfer of information or other signals between, memories, input/output devices or central processing units( interface circuits for specific input/output devices <a href="#">G06F 3/00</a> ; multiprocessor systems <a href="#">G06F 15/16</a> ; transmission of digital information in general <a href="#">H04L</a>; selecting <a href="#">H04Q</a>; { multiprogramme control therefor <a href="#">G06F 9/46</a> } )</b>
U	G06F 13/38	• Information transfer, e.g. on bus( <a href="#">G06F 13/14</a> takes precedence )
	G06F 13/40	• • Bus structure{( for computer networks <a href="#">G06F 15/163</a> ; for optical bus networks <a href="#">H04B-10/20</a> <a href="#">H04B10/20</a> )}
<b>U</b>	<b>G06F 17/00</b>	<b>Digital computing or data processing equipment or methods, specially adapted for specific functions</b>
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 <a href="#">G06Q</a> )}

- U G06F 17/30781 · · {of video data( recognising patterns [G06K 9/00](#) ; image analysis [G06T 7/00](#) ; editing or indexing information signals on a record carrier in which information is recorded and accessed based on relative movement between record carrier and transducer [G11B 27/00](#) ; source coding or decoding of digital video signal [H04N 7/26](#) ; selective content distribution, e.g. interactive television, video on demand [H04N 21/00](#) )}
- U G06F 17/30784 · · · {using features automatically derived from the video content, e.g. descriptors, fingerprints, signatures, genre( recognising video content [G06K 9/00711](#) ; extraction of features or characteristics for pattern recognition of the image [G06K 9/46](#) )}
- G06F 17/30787 · · · · {using audio features( general determination or detection of speech characteristics ~~G10L 11/00~~[G10L 11/00](#) ; speech recognition [G10L 15/00](#) ; speaker recognition [G10L 17/00](#) ; contents oriented musical parameter indexing, e.g. tempo [G10H](#) )}
- G06F 2203/00** Indexing scheme relating to [G06F 3/00](#) -~~3/048~~ [G06F 3/048](#)
- G06F 2203/041 · Indexing scheme relating to [G06F 3/041](#) -~~G06F3-045~~ [G06F3-045](#)

**Project: N/A (G06K)**

- U G06K 9/00 **Methods or arrangements for reading or recognising printed or written characters or for recognising patterns, e.g. fingerprints( processing or analysis of tracks of nuclear particles [G01T 5/02](#) ; { information retrieval [G06F 17/30](#) ; medical diagnosis [G06F 19/34](#) ; recognition of molecular sequences [G06F 19/70](#) ; radio frequency identification [G06K 7/00](#) ; recognition of barcodes and similar code images [G06K 7/10](#) ; computer systems based on specific computational models [G06N](#); image analysis, inspection, positioning or tracking [G06T 7/00](#) ; recognition of acoustic speech signals [G10L 15/00](#) ; acoustic speaker identification [G10L 17/00](#) )}**
- NOTE
1. In this group, the following term is used with the meaning indicated:  
- "recognising" includes several functions such as extracting features, clustering, classifying or matching.
  2. IPC subgroups [G06K 9/20](#) , [G06K 9/36](#) , [G06K 9/62](#) and [G06K 9/74](#) refer to methods or arrangements that can be applied to a pattern independently of its nature or to that are applied to specific patterns not included in the subgroups in the range [G06K 9/00006](#) to [G06K 9/00852](#) . The CPC subgroups in the range [G06K 9/00006](#) to [G06K 9/00852](#) refer to the same methods or arrangements when applied or specially adapted to the specific patterns to which these subgroups relate.
  3. The present group does not cover the use of recognised patterns in specific applications, e.g. the use of traced gestures recognised as commands to be input to a computer is covered by the groups under [G06F 3/00](#)
- U G06K 9/00496 · {Recognising patterns in signals and combinations thereof( signature verification [G06K 9/00154](#) ; analysing specific medical signals, e.g. bioelectric signals, blood pressure [A61B 5/00](#) ; processing radar and similar signals [G01S](#) ; analysis of chromatographic signals [G01N 30/86](#) ; processing seismic signals [G01V 1/28](#) , [G01V 1/46](#) ; acoustic speech processing [G10L](#) ; transmission systems [H04B 1/00](#) )}
- G06K 9/00503 · · {Preprocessing, e.g. filtering( electrical circuits for filtering [H03H](#) ; adaptive filters [H03H 21/00](#) ; convolution-based filters [H03H 17/00](#) , ~~H03H 21/00~~[H03H 21/00](#) )}

- U G06K 9/36
- Image preprocessing, i.e. processing the image information without deciding about the identity of the image( image data processing or generation, in general [G06T](#) )
- NOTE  
Group [G06K 9/58](#) takes precedence over groups [G06K 9/38](#) to [G06K 9/54](#)
- U G06K 9/46
- • Extraction of features or characteristics of the image{( segmentation of touching or overlapping patterns [G06K 9/34](#) ; edge detection for feature extraction [G06K 9/4604](#) ; segmentation or edge detection for general image processing [G06T 7/0079](#) )}
- U G06K 9/4604
- • • {Detecting partial patterns, e.g. edges or contours, or configurations, e.g. loops, corners, strokes, intersections( extracting features by contour coding [G06K 9/48](#) ; edge-based segmentation for general image processing [G06T 7/0083](#) ; edge detection for general image processing [G06T 7/0085](#) )}
- U G06K 9/4609
- • • • {by matching or filtering}
- G06K 9/4614
- • • • • {filtering with Haar-like subimages, e.g. computation thereof with the integral image technique( biologically-inspired filters such as Gabor wavelets or local ICA kernels [G06K 9/4619](#) ; local approaches in face detection or representation [G06K 9/00248](#) , ~~G06K9/00F2L~~[G006K9/00F2L](#) )}

**Project: RP0064 (G06K)**

- U G06K 19/00
- Record carriers for use with machines and with at least a part designed to carry digital markings( record carriers adapted for controlling specific machines, see the appropriate subclass for the machine, e.g. [B23Q](#), [D03C](#), [G10F](#), [H04L](#); form printing [B41](#); file cards [B42F 19/00](#) ; record carriers in general [G11](#) )**
- U G06K 19/06
- characterised by the kind of the digital marking, e.g. shape, nature, code
- U G06K 19/08
- • using markings of different kinds{or more than one marking of the same kind}in the same record carrier, e.g. one marking being sensed by optical and the other by magnetic means
- G06K 19/10
- • • at least one kind of marking being used for authentication, e.g. of credit or identity cards {~~identification cards not to be read by a machine [B42D 15/10](#) }~~[B42D 25/00](#); }verification of coded identity or credit cards in mechanisms actuated by them [G07F 7/12](#) -{; {~~printed identity or similar identification-bearing cards not for use with a machine [B42D 15/10](#)~~ [B42D 25/00](#)}

**Project: N/A (G06T)**

- U G06T 7/00
- Image analysis, e.g. from bit-mapped to non bit-mapped**
- U G06T 7/0002
- {Inspection of images, e.g. flaw detection( [G06T 7/004](#) takes precedence )}
- WARNING  
This group is being reorganised in the 5 following sub-groups
- G06T 7/0012
- • {Biomedical image inspection}
- WARNING  
Groups ~~G06T/00B2R~~[G06T/00B2R](#) and [G06T 7/0016](#) are not complete pending reclassification. See also this group
- U G06T 11/00
- 2D [Two Dimensional] image generation**

- U G06T 11/003 · {Reconstruction from projections, e.g. tomography}
- WARNINGS  
As from 06.2011 documents of this group are being continuously reclassified to its subgroups
- G06T 11/005 · · {Specific pre-processing for tomographic reconstruction, e.g. calibration, source positioning, rebinning, scatter correction, retrospective gating}
- WARNINGS  
Not complete pending the completion of a reclassification; see also **G11/00T****G11/00T**

**Project: N/A (G09G)**

- U G09G 3/00 **Control arrangements or circuits, of interest only in connection with visual indicators other than cathode-ray tubes (optical scanning systems in general [G02B 26/10](#))**
- U G09G 3/20 · for presentation of an assembly of a number of characters, e.g. a page, by composing the assembly by combination of individual elements arranged in a matrix {no fixed position being assigned to or needed to be assigned to the individual characters or partial characters}
- U G09G 3/34 · · by control of light from an independent source
- G09G 3/3406 · · · { Control of illumination source (illumination devices structurally associated with liquid crystal cells **G02F 1/13357****G02F1/13357**)}

**Project: N/A (G10H)**

- 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 ergonomics, shape, sound or other characteristic of a specific acoustic musical instrument category
- G10H 2230/355 · · Spint spint, i.e. electrophonic musical instruments with features of acoustic instruments covered by **G10D17****G10D 17/00**, electrophonic aspects of acoustic instruments covered by **G10D17****G10D 17/00**, e.g. aeolian harps, MIDI-like control therefor

**Project: N/A (G11B)**

- U G11B 9/00 **Recording or reproducing using a method not covered by one of the main groups [G11B 3/00](#) to [G11B 7/00](#) ; Record carriers therefor( [G11B 11/00](#) takes precedence ){ driving or moving of heads [G11B 21/02](#) }**
- U G11B 9/06 · using record carriers having variable electrical capacitance; Record carriers therefor( [G11B 9/02](#) takes precedence )
- U G11B 9/061 · · {Record carriers characterised by their structure or form or by the selection of the material; 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. [B05D](#) , [F16N](#) , [C08L](#) )}
- U G11B 9/063 · · · {characterised by the selection of the material}
- G11B 9/065 · · · · {Additional layers for lubrication, wear protection or elimination of electrostatic charges of the interface between record carrier and head( [G11B 9/066](#) , [G11B 9/067](#) and **G11BR4R****G11BR4R** take precedence )}

**Project: N/A (G11C)**

- 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](#) , [G11C 11/4193](#)[G11C11/4193](#) )
- U G11C 11/00** Digital stores characterised by the use of particular electric or magnetic storage elements; Storage elements therefor( [G11C 14/00](#) to [G11C 21/00](#) take precedence )
- U G11C 11/21** · using electric elements
- U G11C 11/34** · · using semiconductor devices{( processes or apparatus for the manufacture or treatment of semiconductor or solid state devices [H01L 21/00](#) ; integrated circuit devices [H01L 27/00](#) ; generating electric pulses, e.g. bistable devices using semiconductor devices [H03K 3/00](#) )}
- U G11C 11/40** · · · using transistors
- U G11C 11/41** · · · · forming{static}cells with positive feedback, i.e. cells not needing refreshing or charge regeneration, e.g. bistable multivibrator or Schmitt trigger
- G11C 11/412** · · · · · using field-effect transistors only{( latent image memory [G11C 7/20](#) ; multi-port cells [G11C 8/160](#)[G11C8/160](#) )}

**Project: N/A (H01J)**

**H01J** **ELECTRIC DISCHARGE TUBES OR DISCHARGE LAMPS(spark-gaps [H01T](#); arc lamps with consumable electrodes [H05B](#); particle accelerators [H05H](#))**

**NOTES**

This subclass covers only devices for producing, influencing, or using a flow of electrons or ions, e.g. for controlling, indicating, or switching of electric current, counting electric pulses, producing light or other electromagnetic oscillations, such as X-rays, or for separating or analysing radiation or particles, and having a closed or substantially closed casing containing a chosen gas, vapour, or vacuum, upon the pressure and nature of which the characteristics of the device depend. Light sources using a combination (other than covered by group [H01J 61/96](#) of this subclass) of discharge and other kinds of light generation are dealt with in [H05B 35/00](#) .

In this subclass, groups [H01J 1/00](#) to [H01J 7/00](#) relate only to:

details of an unspecified kind of discharge tube or lamp, or details mentioned in a specification as applicable to two or more kinds of tubes or lamps as defined by groups [H01J 11/00](#) , [H01J 13/00](#) , [H01J 15/00](#) , [H01J 17/00](#) , [H01J 21/00](#) , [H01J 25/00](#) , [H01J 27/00](#) , [H01J 31/00](#) , [H01J 33/00](#) , [H01J 35/00](#) , [H01J37/00](#)[H01J 37/00](#) , [H01J 40/00](#) , [H01J 41/00](#) , [H01J 47/00](#) , [H01J 49/00](#) , [H01J 61/00](#) , [H01J 63/00](#) or [H01J 65/00](#) , hereinafter called basic kinds. A detail only described with reference to, or clearly only applicable to, tubes or lamps of a single basic kind is classified in the detail group appropriate to tubes or lamps of that basic kind, e.g. [H01J 17/04](#) .

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

- "lamp" includes tubes emitting ultra-violet or infra-red

light.

Attention is drawn to the definition of the expression "spark gaps" given in the Note following the title of subclass [H01T](#).

Apparatus or processes specially adapted for the manufacture of electric discharge tubes, discharge lamps, or parts thereof are classified in group [H01J 9/00](#).

**H01J 2211/00** Plasma display panels with alternate current induction of the discharge, e.g. AC-PDPs(~~plasma display panels making use of direct current~~ ~~T01J217~~ *plasma display panels making use of direct current T01J217*)

**H01J 2237/00** Discharge tubes exposing object to beam, e.g. for analysis treatment, etching, imaging

NOTES

For features of general interest which may be found in other types of discharge tubes, an indexing code corresponding to general schemes ~~T01J204~~ ~~T01J201~~ to ~~T01J207~~ ~~T01J207~~ is given, e.g. for cathodes, vessels, cooling means or the like

Same rules apply for manufacturing procedures (~~T01J209~~ ~~T01J209~~), unless really specific to the tube concerned.

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](#) to ~~T01J237/248D2~~ ~~T011J237/248D2~~

Imaging or analysing: [H01J 2237/25](#) to [H01J 2237/2857](#)

particle beam processing: [H01J 2237/30](#) to [H01J 2237/31798](#)

plasma processing: [H01J 2237/32](#) to [H01J 2237/339](#)

**Project: N/A (H01L)**

**H01L**

**SEMICONDUCTOR DEVICES; ELECTRIC SOLID STATE DEVICES NOT OTHERWISE PROVIDED FOR**(use of semiconductor devices for measuring [G01](#); resistors in general [H01C](#); magnets, inductors{in general} , transformers [H01F](#); capacitors in general [H01G](#); electrolytic devices [H01G 9/00](#) ; batteries, accumulators [H01M](#); waveguides, resonators or lines of the waveguide type [H01P](#); line connectors, current collectors [H01R](#); stimulated emission devices [H01S](#); electromechanical resonators [H03H](#); loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers [H04R](#); electric light sources in general [H05B](#); printed circuits, hybrid circuits, casings or constructional details of electric apparatus, manufacture of assemblages of electrical components [H05K](#); use of semiconductor devices in circuits having a particular application, see the subclass for the application )

NOTES

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 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, except where such processes relate to single step processes for which provision exists elsewhere.

In this subclass:

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.

"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

#### WARNINGS

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](#) to **H01L29/36D**  
[H01L 29/96](#) covered by [H01L 29/68](#) to [H01L 29/945](#) [H01L 51/30](#) covered by  
[H01L 51/0032](#)  
[H01L 51/40](#) covered by **H01L51/00A**  
[H01L 51/46](#) covered by [H01L 51/0032](#)  
[H01L 51/48](#) covered by **H01L51/00A**  
[H01L 51/54](#) covered by [H01L 51/0032](#)

Groups [H01L 23/562](#) to ~~[H01L23/576](#)~~[H01L 23/576](#) do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: - [H01L 23/562](#) - [H01L 23/564](#) : [H01L 23/00](#) - [H01L 23/57](#) : [H01L 23/58](#)

Groups [H01L 22/00](#) to [H01L 22/34](#) do not correspond to a former or current IPC group. Concordance CPC : IPC for these groups is as follows: - [H01L 22/00](#) - [H01L 22/34](#) : [H01L 21/66](#)

Groups [H01L 24/00](#) to [H01L 24/98](#) do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: - [H01L 24/00](#) - [H01L 24/98](#) : [H01L 23/00](#)

Group [H01L 25/50](#) does not correspond to a former or current IPC group. Concordance CPC : IPC for this group is as follows: - [H01L 25/50](#) : [H01L 21/98](#)

Groups [H01L 28/00](#) - [H01L 28/92](#) do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: - [H01L 28/00](#) - [H01L 28/92](#) : [H01L 49/02](#)

**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](#) to [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 21/02104

· · {Forming layers(deposition in general [C23C](#); crystal growth in general [C30B](#))}

**WARNING**

Group [H01L 21/02104](#) and subgroups are not complete pending reorganisation. See also groups [H01L 21/20](#) , [H01L 21/36](#) , [H01L 21/06](#) , [H01L 21/16](#) and subgroups

U H01L 21/02107

· · · {Forming insulating materials on a substrate}

**WARNING**

This group and subgroups are not complete pending the completion of a reclassification; see also [H01L 21/312](#) , [H01L 21/314](#) , [H01L 21/316](#) , and [H01L 21/318](#) and subgroups thereof

- U H01L 21/02296 . . . . {characterised by the treatment performed before or after the formation of the layer( [H01L 21/02227](#) and subgroups take precedence )}
- NOTE  
This group and subgroups only cover processes which are directly linked to the layer formation; routine anneals, i.e. thermal treatment without further features like a special atmosphere, presence of a plasma, thermally induced chemical reactions, change of phase (crystal structure) etc. are not classified here; for cleaning see [H01L 21/02041](#) and subgroups; for etching processes see [H01L 21/311](#) and subgroups; for planarization processes see [H01L 21/31051](#) and subgroups; for processes to repair etch damage see [H01L 21/3105](#) and subgroups
- U H01L 21/02318 . . . . . {post-treatment}
- NOTE  
This group only covers processes that are part of the layer formation; treatments which are performed after completion of the insulating layer are covered by [H01L 21/3105](#) and subgroups
- H01L 21/02334 . . . . . {in-situ cleaning after layer formation, e.g. removing process residues(cleaning compositions per se ~~C30D~~[C30D](#); cleaning in general [B08B](#))}
- NOTE  
Subject matter relating to the cleaning processes for semiconductor devices in general is covered by [H01L 21/02041](#) and subgroups
- 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](#) )}
- U H01L 21/18 . . . the devices having semiconductor bodies comprising elements of the fourth group of the Periodic System or AllIBV compounds with or without impurities, e.g. doping materials{( [H01L 21/041](#) to [H01L 21/0425](#) , [H01L 21/045](#) to [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 of the Periodic System or AllIBV compounds, even if the material used is not explicitly specified.
- U H01L 21/26 . . . . Bombardment with radiation{( [H01L 21/3105](#) takes precedence )}
- U H01L 21/263 . . . . . with high-energy radiation( [H01L 21/261](#) takes precedence )
- H01L 21/265 . . . . . producing ion implantation( ion beam tubes for localised treatment [H01J 37/30](#) )
- WARNING  
The groups ~~H10L-21/26566~~[H10L21/26566](#) , [H01L 21/2658](#) and [H01L 21/26593](#) are not complete, see provisionally also [H01L 21/26506](#) and [H01L 21/2654](#) and their subgroups

- 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 )
- 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](#) to [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 [H02L 21/02041](#)~~H02L21/02041~~
- 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](#)

**U H01L 24/00****{Arrangements for connecting or disconnecting semiconductor or solid-state bodies; Methods or apparatus related thereto}****NOTE**

1. This group does not cover: - details of semiconductor bodies or of electrodes of devices provided for in group [H01L 29/00](#) , which details are covered by that group; - details peculiar to devices provided for in a single main group of groups [H01L 31/00](#) to [H01L 51/00](#) , which details are covered by those groups. - printed circuits, which are covered by groups [H05K 1/00](#) to [H05K1/18F](#); - apparatus or manufacturing processes for printed circuits, which are covered by groups [H05K 3/00](#) to [H05K3/46D](#); - manufacture or treatment of parts, which are covered by group [H01L 21/48](#) and subgroups except [H01L 21/4885](#) to [H01L 21/4896](#) ; - assemblies of semiconductor devices, which are covered by groups [H01L 21/50](#) to [H01L21/56T](#); - applying interconnections to be used for carrying current between separate components within a device, which is covered by group [H01L 21/768](#) and subgroups; - containers or seals, which are covered by groups [H01L 23/02](#) to [H01L 23/10](#) ; - mountings, which are covered by groups [H01L 23/12](#) to [H01L 23/15](#) and subgroups; - arrangements for cooling, heating, ventilating or temperature compensation, which are covered by groups [H01L 23/34](#) to [H01L23/473J](#); - arrangements for conducting electric current, which are covered by groups [H01L 23/48](#) to [H01L 23/50](#) , and by groups [H01L 23/52](#) to [H01L23/538V](#); - structural electrical arrangements, which are covered by groups [H01L 23/58](#) to [H01L 23/66](#) ; - assemblies of semiconductor or other solid state devices, which are covered by groups [H01L 25/00](#) to [H01L 25/18](#) . 2. In this group the following indexing codes are used : [H01L 24/00](#) [H01L 2224/00](#) , [H01L 2924/00](#) , and subgroups thereof

**WARNING**

[H01L 21/4885](#) , [H01L 21/58](#) , [H01L 23/48](#) , [H01L 23/482](#) , [H01L 23/485](#) , [H01L 23/488](#)

H01L 24/80	<ul style="list-style-type: none"> <li>· {Methods for connecting semiconductor or other solid state bodies using means for bonding being attached to, or being formed on, the surface to be connected}</li> </ul> <p><u>WARNING</u></p> <p>1. Pending reorganisation see provisionally also <del>H01L 21/60</del><b>H01L21/60</b> 2. Subgroups of this group are not complete; see also this group and the other subgroups</p>
<b>H01L 25/00</b>	<p><b>Assemblies consisting of a plurality of individual semiconductor or other solid state devices</b>{; Multistep manufacturing processes thereof} ({ lead frames with assemblies of semiconductor devices thereon <a href="#">H01L 23/49575</a> ; assembling semiconductor devices using processes or apparatus not provided for in a single one of the subgroups <a href="#">H01L 21/06</a> to <a href="#">H01L 21/326</a> , e.g. sealing of a cap to a base of a container, <a href="#">H01L 21/50</a> } ; devices consisting of a plurality of solid state components formed in or on a common substrate <a href="#">H01L 27/00</a> ; assemblies of photoelectric cells <a href="#">H01L 31/042</a> , { <a href="#">H01G 9/20</a> } ; <del>generators using solar cells or solar panels</del>{<del>H02S</del>} ; <del>generators using solar cells or solar panels</del>{<del>H02S</del>} ; details of complete circuit assemblies for which provision exists in another subclass, e.g. details of television receivers, see the relevant subclass, e.g. <a href="#">H04N</a> ; details of assemblies of electrical components in general <a href="#">H05K</a>)</p>
<b>H01L 2224/00</b>	<p>Indexing scheme for arrangements for connecting or disconnecting semiconductor or solid-state bodies and methods related thereto as covered by <del>H01L24</del><a href="#">H01L 24/00</a></p>
<b>U H01L 2225/00</b>	<p>Details relating to assemblies covered by the group <a href="#">H01L 25/00</a> but not provided for in its subgroups</p>
U H01L 2225/03	<ul style="list-style-type: none"> <li>· All the devices being of a type provided for in the same subgroup of groups <a href="#">H01L 27/00</a> to <a href="#">H01L 51/00</a></li> </ul>
U H01L 2225/04	<ul style="list-style-type: none"> <li>· · the devices not having separate containers</li> </ul>
U H01L 2225/065	<ul style="list-style-type: none"> <li>· · · the devices being of a type provided for in group <a href="#">H01L 27/00</a></li> </ul>
U H01L 2225/06503	<ul style="list-style-type: none"> <li>· · · · Stacked arrangements of devices</li> </ul>
H01L 2225/06596	<ul style="list-style-type: none"> <li>· · · · · Structural arrangements for testing( testing or measuring during manufacture or treatment <del>H01L 21/66</del><b>H01L21/66</b> ; testing electrical properties or locating electrical faults <a href="#">G01R 31/00</a> )</li> </ul>
<b>U H01L 2924/00</b>	<p><b>Indexing scheme for arrangements or methods for connecting or disconnecting semiconductor or solid-state bodies as covered by <a href="#">H01L 24/00</a></b></p>
U H01L 2924/0001	<ul style="list-style-type: none"> <li>· Technical content checked by a classifier</li> </ul> <p><u>NOTE</u></p> <p>Codes <a href="#">H01L 2924/0001</a> to <a href="#">H01L 2924/0002</a> are used to describe the status of reclassification; they do not relate to technical features as such</p>
H01L 2924/0002	<ul style="list-style-type: none"> <li>· · Not covered by any one of groups <del>H01L24</del><a href="#">H01L 24/00</a>, <del>T01L24</del><b>T01L24</b> and <del>T01L224</del><b>T01L224</b></li> </ul>
U H01L 2924/10	<ul style="list-style-type: none"> <li>· Details of semiconductor or other solid state devices to be connected</li> </ul>
U H01L 2924/102	<ul style="list-style-type: none"> <li>· · Material of the semiconductor or solid state bodies</li> </ul>
U H01L 2924/1025	<ul style="list-style-type: none"> <li>· · · Semiconducting materials</li> </ul>
U H01L 2924/1026	<ul style="list-style-type: none"> <li>· · · · Compound semiconductors</li> </ul>
U H01L 2924/1032	<ul style="list-style-type: none"> <li>· · · · · III-V</li> </ul>
H01L 2924/10327	<ul style="list-style-type: none"> <li>· · · · · · Boron arsenide [BAs, <del>B12A</del><b>B12A</b>s<sub>2</sub>]</li> </ul>

**Project: N/A (H01M)**

- U H01M 2/00** **Constructional details or processes of manufacture of the non-active parts**  
H01M 2/02  
· Cases, jackets or wrappings (~~working of plastics or substances in plastic state~~~~B29~~*working of plastics or substances in plastic state B29*)
- U H01M 8/00** **Fuel cells; Manufacture thereof**  
NOTE  
Fuel cells are electrochemical generators wherein the reactants are supplied from outside
- U H01M 8/14** · Fuel cells with fused electrolytes  
H01M 8/146  
· · { Fuel cells with molten hydroxide (~~molten hydroxide electrolyte T01M300/B6H~~*molten hydroxide electrolyte T01M300/B6H*)}
- U H01M 14/00** **Electrochemical current or voltage generators not provided for in groups**  
H01M 14/005 **H01M 6/00 - H01M 12/00; Manufacture thereof**  
· { Photoelectrochemical storage cells (light sensitive devices [H01G 9/20](#), semiconductors sensitive to light ~~H01L31/00~~~~H01L31/00~~)}

**Project: N/A (H01R)**

- 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](#) )}**  
H01R 13/66  
· Structural association with built-in electrical component (Coupling devices having concentrically or coaxially-arranged contacts ~~H01R 24/38-24/56~~*H01R 24/56*)
- H01R 23/00** **Two-part coupling devices having four or more poles, with or without additional protective earth connection; Separate parts thereof**  
WARNINGS  
This group is no longer used for the classification of new documents as from January 01, 2011. The backlog of this group is being continuously reclassified to [H01R 24/00](#) and its subgroups. See also ~~H01R 107/00~~~~H01R107/00~~ 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 23/02  
· having parallelly-arranged contacts for sliding engagement with their counter-contacts  
WARNINGS  
This group and it subgroups is no longer used for the classification of new documents as from January 01, 2011. The backlog of this group and it subgroups is being continuously reclassified to [H01R 24/00](#) and its subgroups. See also ~~H01R 107/00~~~~H01R107/00~~ 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 23/26  
· having concentrically or coaxially arranged contacts  
WARNINGS  
This group is no longer used for the classification of new documents as from January 01, 2011. The backlog of this group is being continuously reclassified to [H01R 24/38](#) and its subgroups. See also ~~H01R 107/00~~~~H01R107/00~~ 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 24/00**

**Two-part coupling devices, or either of their cooperating parts, characterised by their overall structure (specially adapted for printed circuits, flat or ribbon cables, or like structures [H01R 12/00](#); specially adapted for supporting apparatus [H01R 33/00](#))**

NOTES

In this group, it is desirable to add the indexing codes of groups

~~H01R 101/00~~**H01R101/00** to ~~H01R 107/00~~**H01R107/00**

WARNINGS

This group and its subgroups are not complete pending reclassification; see also groups **H01R15/00**, [H01R 2201/16](#), **H01R19/00**, [H01R 2201/16](#), **H01R21/02** and their respective subgroups, and [H01R 23/00](#), [H01R 23/26](#), [H01R 23/27](#)

**Project: N/A (H01S)****U H01S 5/00**

**Semiconductor lasers{( superluminescent diodes [H01L 33/0045](#) )}**

H01S 5/50

- Amplifier structures not provided for in groups [H01S 5/02](#) to [H01S 5/30](#) ( as repeaters in transmission systems ~~H04B 10/17~~**H04B10/17** )

**Project: N/A (H03G)****U H03G 1/00**

**Details of arrangements for controlling amplification{ for arrangements combined with means for generating a controlling signal, or these means per se, see the other main groups of [H03G](#) }**

U H03G 1/0005

- {Circuits characterised by the type of controlling devices operated by a controlling current or voltage signal}

U H03G 1/0017

- • {the device being at least one of the amplifying solid state elements of the amplifier}

H03G 1/0023

- • • {in emitter-coupled or cascode amplifiers(~~H03GB4F~~**H03GB4F** takes precedence)}

**Project: N/A (H04B)****U H04B 7/00**

**Radio transmission systems, i.e. using radiation field( [H04B 10/00](#) , [H04B 15/00](#) take precedence )**

U H04B 7/14

- Relay systems( interrogator-responder radar systems [G01S 13/74](#) ; { CATV (community antenna television) systems [H04H 20/78](#) ; adapted for television [H04N 7/20](#) } )

U H04B 7/15

- • Active relay systems

U H04B 7/185

- • • Space-based or airborne stations;{Stations for satellite systems}( [H04B 7/204](#) takes precedence )

H04B 7/18521

- • • • {Systems of inter linked satellites, i.e. inter satellite service( for optical links between satellites ~~H04B 10/105~~**H04B10/105** )}

**Project: N/A (H04H)****U H04H 60/00**

**Arrangements for broadcast applications with a direct linking to broadcast information or broadcast space-time; Broadcast-related systems**

U H04H 60/56

- Arrangements characterised by components specially adapted for monitoring, identification or recognition covered by groups [H04H 60/29](#)-[H04H 60/54](#)

H04H 60/58

- • of audio {(determination or detection of speech characteristics in general ~~G10L 11/00~~**G10L 11/00**; speech recognition in general [G10L 15/00](#))}

**Project: N/A (H04L)**

- U H04L 1/00 Arrangements for detecting or preventing errors in the information received( correcting synchronisation [H04L 7/00](#) ; { for digital computers [G06F 11/00](#) } ; arrangements in the transmission path [H04B](#) )**
- U H04L 1/0001 · {Systems modifying transmission characteristics according to link quality, e.g. power backoff( adaptive data allocation for multicarrier modulation [H04L 5/0044](#) ; controlling transmission power for radio systems [H04W 52/04](#) )}
- U H04L 1/0023 · · {characterised by the signalling}
- U H04L 1/0028 · · · {Formatting}
- H04L 1/0031 · · · · {Multiple signaling transmission( [H04L 1/1664](#) ,[F15](#) [F15](#) take precedence )}
- H04L 1/20 · using signal quality detector
- WARNING
- see [95C2095C20](#) , [G01R 29/02](#)
- U H04L 12/00 Data switching networks( interconnection of, or transfer of information or other signals between, memories, input/output devices or central processing units [G06F 13/00](#) )**
- U H04L 12/02 · Details
- U H04L 12/24 · · Arrangements for maintenance or administration
- WARNING  
This subgroup is no longer used for classification as from 01.05.2012. The backlog of this subgroup is being continuously reclassified to subgroups of [H04L 41/00](#)
- U H04L 12/2401 · · · {involving integration or standardization}
- WARNING  
This subgroup is no longer used for classification as from 01.05.2012. The backlog of this subgroup is being continuously reclassified to [H04L 41/02](#)
- H04L 12/2404 · · · · {Multivendor or multistandard integration}
- WARNING  
WARNING: This subgroup is no longer used for classification as from 01.05.2012. The backlog of this subgroup is being continuously reclassified to [H04L 41/02](#) ~~C~~ [H04L41/02C](#) ]
- U H04L 25/00 Baseband systems**
- U H04L 25/02 · Details( circuits in general for handling pulses [H03K](#) ; in line transmission systems in general [H04B 3/02](#) );{Arrangements for supplying electrical power along data transmission lines( systems for transmitting signals via power distribution lines [H04B 3/54](#) )}
- U H04L 25/03 · · Shaping networks in transmitter or receiver, e.g. adaptive shaping networks( impedance networks per se [H03H](#) );{Receiver end arrangements for processing baseband signals}
- U H04L 25/03006 · · · {Arrangements for removing intersymbol interference}
- U H04L 2025/03433 · · · · {characterised by equaliser structure}
- U H04L 2025/03439 · · · · · {Fixed structures}
- U H04L 2025/03445 · · · · · · {Time domain}
- H04L 2025/03471 · · · · · · · {Tapped delay lines(~~T04L25/0B13F1N~~[T04L25/0B13F1N](#) takes precedence)}

- U H04L 63/00** {Network architectures or network communication protocols for network security( cryptographic mechanisms or cryptographic arrangements for secret or secure communication [H04L 9/00](#) ; network architectures or network communication protocols for wireless network security [H04W 12/00](#) ; security arrangements for protecting computers or computer systems against unauthorised activity [G06F 21/00](#) )}

WARNING

[N: WARNING Groups [H04L 63/00](#) - [H04L 63/20](#) do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: - [H04L 63/00](#) - [H04L 63/20](#) : [H04L 29/06](#)

- U H04L 63/04** · {for providing a confidential data exchange among entities communicating through data packet networks}
- U H04L 63/0428** · · {wherein the data content is protected e.g. by encrypting or encapsulating the payload}
- H04L 63/045** · · · {wherein the sending and receiving network entities apply hybrid encryption, i.e. combination of symmetric and asymmetric encryption(~~cryptographic mechanisms or cryptographic arrangements using a plurality of keys or algorithms~~ [H0L9/14](#)*cryptographic mechanisms or cryptographic arrangements using a plurality of keys or algorithms* [H0L9/14](#))}

**Project: N/A (H04M)**

- U H04M 3/00** **Automatic or semi-automatic exchanges {(constructional details of telephone exchanges [H04Q 1/02](#))}**
- U H04M 3/42** · Systems providing special services or facilities to subscribers
- U H04M 3/56** · · Arrangements for connecting several subscribers to a common circuit, i.e. affording conference facilities ({ computer conferences [H04L 12/1813](#)}; video conference systems [H04N 7/15](#))
- U H04M 3/568** · · · { audio processing specific to telephonic conferencing, e.g. spatial distribution, mixing of participants (echo suppression in two-way loud-speaking telephone systems [H04M 9/02](#); sound field processing per se [H04S 7/30](#))}
- H04M 3/569** · · · {using the instant speaker's algorithm } (speech detection per se [G10L 25/78](#)[G10L 25/78](#))

**Project: N/A (H04N)**

- 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](#) , [G06T/00R7S](#)[G06T/00R7S](#) )}

## U H04N 21/00

**Selective content distribution, e.g. interactive television, VOD [Video On Demand]( broadcast communication [H04H](#) ; arrangements, apparatus, circuits or systems for communication control or processing being characterised by a protocol [H04L 29/06](#) ; { broadcast or conference over packet-switching networks [H04L 12/18](#) , } real-time bi-directional transmission of motion video data [H04N 7/14](#) )**

NOTES

1. This group covers : • interactive video distribution processes, systems, or elements thereof, which are characterised by point-to-multipoint system configurations, and which are mainly used for motion video data unidirectional distribution or delivery resulting from interactions between systems operators, e.g. access or service providers, or users e.g. subscribers, and system elements. • such systems include dedicated communication systems, such as television distribution systems, which primarily distribute or deliver motion video data in the manner indicated, which may, in addition, provide a framework for further, diverse data communications or services in either unidirectional or bi-directional form. However, video will occupy most of the downlink bandwidth in the distribution process. • typically, system operators interface with transmitter-side elements or users' interface with receiver-side elements in order to facilitate, through interaction with such elements, the dynamic control of data processing or data flow at various points in the system. This interaction is typically occasional or intermittent in nature. • processes, systems or elements thereof specially adapted to the generation, distribution and processing of data, which is either associated with video content, e.g. metadata, ratings, or related to the user or his environment and which has been actively or passively gathered. This data is either used to facilitate interaction or to alter or target the content. 2. 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 3. In this main group, the following terms and expressions are used with the meaning indicated:

additional data - designates still pictures, textual, graphical or executable data such as software. It is used to convey supplemental information and can be generated prior to or during the distribution process itself, e.g. metadata, keys.

content designates video or audio streams, which may be combined with additional data. Video data will always be present and occupy most of the downlink bandwidth in the distribution process

server - designates an apparatus designed for adapting the content received from the content provider to the distribution network. It also manages the distribution to client devices or intermediate components over a network. Further servers may also be present for gathering or generating additional data, e.g. rights management server

additional data server - designates a server, which sole purpose is the distribution or management of additional data. It is not in charge of the distribution of video or audio data

client - designates an apparatus such as a TV receiver, a set-top-box, a PC-TV, a mobile appliance (e.g. mobile phone or receiver in a vehicle), for receiving video, audio and possibly additional data from one or several servers or intermediate components via a network for further processing, storing or displaying. It can also transmit this data on a home-based local network to further devices, e.g. a home server transmitting video to PCs and set-top-boxes within a home.

local network - pertains to a restricted area, e.g. a home or a vehicle, and designates the link between a client and its peripheral devices

network - is to be distinguished from "local network": "network" designates the link between the server and the clients, or between the server and the intermediate components, or between the intermediate components and the clients, or between remotely located clients

distribution - encompasses broadcasting, multicasting and unicasting techniques for transmitting content from one or more sources to one or more receiving stations. The distribution follows a request by a receiving station to the source, e.g. VOD or from a customization of the content by the source, e.g. targeting advertisements to a demographic group in a unidirectional or bidirectional system. Additionally, distribution encompasses techniques where the client acts as a source and another client acts as a receiving station, e.g. a peer-to-peer system for sharing video among client devices

end-user - designates a physical person, e.g. a TV viewer, who consumes the content using the client device. He is the final recipient of the content distributed by the server

interaction - covers actions occurring between or among two or more objects that have an effect upon one another, wherein objects comprise users, system operators, system elements, or content. The user may interact with content locally at the client device, e.g. for requesting additional data stored within the client device. The user may interact with content remotely through a server e.g. for VOD playback control or for uploading video to a server. The client device may interact with the content e.g. selecting content based upon the user profile. The client device may interact with a server using a return channel, e.g. for authenticating client or uploading client hardware capabilities. The server may interact with a client device, e.g. to force a client to tune to an advertisement channel

upstream - designates the direction of data flow towards the source, e.g. a server receiving a request via a mobile phone network

downstream - designates the direction of data flow towards a client, e.g. a client receiving data originating from a server elementary stream An elementary stream (ES) as defined by the MPEG system layer designates the output of an audio or video encoder

U H04N 21/60

- {using}Network structure or processes{specifically adapted}for video distribution between server and client or between remote clients( data switching networks [H04L 12/00](#) ; wireless communication networks [H04W](#) ); Control signaling{specific to video distribution}between clients, server and network components{, e.g. to video encoder or decoder}; Transmission of management data between server and client{e.g. sending from server to client commands for recording incoming content stream}; Communication details between server and client( Protocols for communication control and processing in data networks [H04L 29/06](#) ; Protocols for client-server architecture [H04L 67/42](#) )

H04N 21/61

- · {Network physical structure; Signal processing([H04B](#)[H04B](#) takes precedence)}

Project: N/A (H04R)

H04R 2499/00

Aspects covered by [T04R](#)[T04R](#) or [T04S](#)[T04S](#) not otherwise provided for in their subgroups

Project: N/A (H04T)

H04T

**INDEXING SCHEME RELATING TO STANDARDS FOR ELECTRIC COMMUNICATION TECHNIQUE(CLASS [H04](#))**

NOTES

This scheme constitutes an non-associated internal scheme for indexing exclusively documents issued by standardisation bodies (herein called standards) for electric communication technique ([H04](#)[H04](#)).

As standardisation bodies organize their documents in different ways, the present scheme is subdivided into main groups related to a particular CPC range to allow different indexing approaches.

Scheme index:

Wireless communication standards	<a href="#">H04T 2001/00</a>	-
<del>H04T-2001/99</del> <b>H04T2001/99</b>		
Standards related to data switching networks in general	<a href="#">H04T 2012/00</a>	-
<del>H04T-2012/99</del> <b>H04T2012/99</b>		
Internet standards	<a href="#">H04T 2029/00</a>	-
<del>H04T-2029/99</del> <b>H04T2029/99</b>		

## H04T 2001/00

### Standards for wireless communication networks

#### NOTE

The indexing codes of this scheme are to be used mainly with classification in CPC subgroups [H04W](#) , ~~H04Q 7/20~~**H04Q7/20** to ~~H04Q 7/3883~~**H04Q7/3883** . In order to keep the structure adopted by the standardisation bodies considered, a matrix type of scheme is used as indicated below:

- [H04T 2001/101](#) to ~~H04T-2001/199~~**H04T2001/199**

codes are used for information relating to the physical aspects,

e.g. radio resources, core network resources...

- [H04T 2001/201](#) to ~~H04T-2001/299~~

~~H04T2001/299~~ codes are used for information relating to functional aspects, e.g.

physical layer, traffic/transport...

For complete indexing it is mandatory to allocate at least one and preferably only one combination of ~~H04T-2001/100~~**H04T2001/100** and ~~H04T-2001/200~~**H04T2001/200** codes to a document.

Searching in this scheme is done by combining the above indicated codes, i.e. ~~H04T-2001/100~~**H04T2001/100** and ~~H04T-2001/200~~**H04T2001/200**

## Project: N/A (H05K)

### H05K

**PRINTED CIRCUITS; CASINGS OR CONSTRUCTIONAL DETAILS OF ELECTRIC APPARATUS; MANUFACTURE OF ASSEMBLAGES OF ELECTRICAL COMPONENTS( details of instruments or comparable details of other apparatus not otherwise provided for [G12B](#); thin-film or thick-film circuits [H01L 27/01](#) , [H01L 27/13](#) ; ~~non-printed means for electric connections to or between printed circuits, {electric connections or line connectors, apparatus or processes for manufacturing, assembling, maintaining or repairing such connections or connectors}~~**H01R**; ~~non-printed means for electric connections to or between printed circuits, {electric connections or line connectors, apparatus or processes for manufacturing, assembling, maintaining or repairing such connections or connectors}~~**H01R**; casings for, or constructional details of, particular types of apparatus, see the relevant subclasses; processes involving only a single technical art, e.g. heating, spraying, for which provision exists elsewhere, see the relevant classes)**

#### NOTES

This subclass covers:

- combinations of a radio or television receiver with apparatus having a different main function;- printed circuits structurally

associated with non-printed electric components; - {printed connectors (non printed connectors [H01R](#))}

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

- "printed circuits" covers all kinds of mechanical constructions of circuits that consist of an insulating base or support carrying the conductor and are combined structurally with the conductor throughout their length, especially in a two-dimensional plane, the conductors of which are secured to the base in a non-dismountable manner, and also covers the processes or apparatus for manufacturing such constructions, e.g. forming the circuit by mechanical or chemical treatment of a conductive foil, paste, or film on an insulating support.

### Project: RP0044 (H05K)

- U H05K 3/00 **Apparatus or processes for manufacturing printed circuits( photomechanical production of textured or patterned surfaces, materials or originals therefor, apparatus specially adapted therefor, in general [G03F](#) ; involving the manufacture of semiconductor devices [H01L](#) )**
- U H05K 3/40
  - Forming printed elements for providing electric connections to or between printed circuits
- U H05K 3/4007
  - {Surface contacts, e.g. bumps( [H05K 3/4092](#) takes precedence; deposition of finish layers on pads [H05K 3/24](#) ; forming solder bumps [H05K 3/3457](#) )}
- D H05K 2003/4023
  - • {combined with holes through the substrate}

### Project: RP0043 (H05K)

- U H05K 7/00 **Constructional details common to different types of electric apparatus( casings, cabinets, drawers [H05K 5/00](#) )**
- U H05K 7/14
  - Mounting supporting structure in casing or on frame or rack{( [H05K 7/18](#) takes precedence; test adapters [G01R 31/2808](#) )}
- U H05K 7/1422
  - {Printed circuit boards receptacles, e.g. stacked structures, electronic circuit modules or box like frames}
- U H05K 7/1435
  - • {Expandable constructions}

### Project: N/A (H05K)

- D H05K 7/1437
  - • • {for programmable controllers}
  - WARNING**  
As of 1.2.2012 this group is no longer used for classifying new documents; the backlog of this group is continuously reclassified to H05K 7/1462 and subgroups thereof
- U H05K 7/20
  - Modifications to facilitate cooling, ventilating, or heating{( of printed circuits [H05K 1/0201](#) ; of resistors [H01C](#); of capacitors [H01G](#); of individual semiconductor components [H01L 23/34](#) , [H01L 31/024](#) ; of LEDs [H01L 33/64](#) ; of personal computers [G06F 1/20](#) )}
- U H05K 7/20009
  - {using a gaseous coolant in electronic enclosures( in cabinets of standardized dimensions [H05K 7/20536](#) ; in server cabinets [H05K 7/20709](#) ; in vehicle electronic casings [H05K 7/20845](#) ; in power control electronics [H05K 7/2089](#) ; in displays [H05K 7/20954](#) )}
- D H05K 2007/20018
  - • {with forced ventilation, e.g. by fans}
- D H05K 2007/20027
  - • • {in enclosures}
- D H05K 2007/20036
  - • • {in cabinets or racks}
- D H05K 2007/20045
  - • • • {Drawers for fans}

- D H05K 2007/20054 . . . . {with directed air flow, e.g. ducts, plenums}
- D H05K 2007/20063 . . . . . {divided into a plurality of air streams}
- D H05K 2007/20072 . . . . {directly onto components; Baffles}
- D H05K 2007/20081 . . . . {in combination with heat sinks}
- D H05K 2007/2009 . . . . {Fan mounting or specification; Filters}
- D H05K 2007/201 . . . . {Fail safe systems, e.g. for non-stop cooling}
- D H05K 2007/20109 . . . . {Control circuits therefor}
- D H05K 2007/20118 . . . {using an internal cooling separated from the external cooling, e.g. with heat-exchange}
- U H05K 7/20218 . . {using a liquid coolant without phase change in electronic enclosures( in cabinets of standardized dimensions [H05K 7/20536](#) ; in server cabinets [H05K 7/20709](#) ; in vehicle electronic casings [H05K 7/20845](#) ; in power control electronics [H05K 7/2089](#) ; in displays [H05K 7/20954](#) )}
- D H05K 2007/20227 . . . {using evaporating liquids, e.g. freon cooling, heat pipes}
- U H05K 7/2039 . . {characterised by the heat transfer by conduction from the heat generating element to a dissipating body( arrangements for increasing/decreasing heat-transfer, e.g. fins details, [F28F 13/00](#) )}
- D H05K 2007/204 . . . {from one or a few components}
- D H05K 2007/20527 . . {characterised by a construction combining different cooling means, e.g. heat sinks in combination with heat pipes}
- U H05K 9/00**      **Screening of apparatus or components against electric or magnetic fields( devices for absorbing radiation from an aerial [H01Q 17/00](#) ; { screening of semiconductor devices [H01L 24/00](#) , [H01L 23/58](#) ; screening structurally associated with dynamo-electric machines [H02K 11/00](#) ; shielding against nuclear radiation [G21F](#) )}**
- U H05K 9/0007 . . {Casings( standardised racks **H05K9/00C**)}
- U H05K 9/0009 . . . {with provisions to reduce EMI leakage through the joining parts}
- D H05K 2009/0011 . . . {Containing synthetic resin}
- D H05K 2009/0013 . . . {superconductor achieving a magnetic shielding}