Compilation of Changes to the CPC Scheme Between 2015.09 and 2015.10

**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*

- Entries arranged by project. Duplicate entries may appear where multiple projects impact the same symbol.
- 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: MP0117 (G02B)**

* U G02B 6/00  Light guides
  - of the optical waveguide type *(G02B 6/02, G02B 6/24 take precedence; devices or arrangements for the control of light by electric, magnetic, electro-magnetic or acoustic means G02F 1/00; transferring the modulation of modulated light G02F 2/00; optical logic elements G02F 3/00; optical analogue/digital converters G02F 7/00; stores using opto-electronic devices G11C 11/42, {using electro-optical elements G11C 13/047} ; electric waveguides H01P; transmission of information by optical means H04B 10/00; multiplex systems H04J 14/00)*

* U G02B 6/10  · · ·
  · · · of the integrated circuit kind (production or processing of single crystals C30B; electric integrated circuits H01L 27/00 {coupling fibres and integrated optical circuits G02B 6/30})

* U G02B 6/12  · · ·
  · · · Integrated optical circuits characterised by the manufacturing method

* U G02B 6/13  · · · ·
  by using epitaxial growth (epitaxial growth for semiconductors H01L 24/36 H01L 21/02365)

---

**Project: MP0117 in addition to MP0123 (H01L)**

* M H01L  SEMICONDUCTOR DEVICES; ELECTRIC SOLID STATE DEVICES
  NOT OTHERWISE PROVIDED FOR (use of semiconductor devices for measuring G01; resistors in general H01C; magnets, inductors (in general) , transformers H01F; capacitors in general H01G; electrolytic devices H01G 9/00; batteries, accumulators H01M; waveguides, resonators or lines of the waveguide type H01P; line connectors, current collectors H01R; stimulated emission devices H01S; electromechanical resonators H03H; loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers H04R; electric light sources in general H05B; printed circuits, hybrid circuits, casings or constructional details of electric apparatus, manufacture of assemblies of electrical components H05K; use of semiconductor devices in circuits having a particular application, see the subclass for the application)

**NOTES**

1. This subclass covers electric solid state devices which are not 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, piezoelectric, 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.

2. 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.

3. "Integration processes" are processes for the manufacture of at least two different components where the process is especially adapted to their integration, e.g. to take advantage of it or to reduce their manufacturing cost. Example: in a CMOS process, the same ion implant dopes the p-MOS gate and the n-MNOS source and drain. Consequently, a process for the manufacture of a component per se is not considered as an integration process, even though that component will be part of an integrated circuit.

"Assembly" of a device is the building up of the device from its component constructional units and includes the provision of fillings in containers. When referring to the periodic table of the elements, either the new IUPAC notation, i.e. numbering system from 1 to 18, or the previous IUPAC form may be used to indicate an element group, e.g. group IV elements according to the
previous IUPAC form correspond to group 14 elements according to the new notation.

**WARNING**

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

- 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 27/112
- 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 H01L 29/365
- 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 H01L 51/0001
- H01L 51/46 covered by H01L 51/0032
- H01L 51/48 covered by H01L 51/0001
- H01L 51/54 covered by H01L 51/0032

2. Groups H01L 23/562 to 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

3. 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 22/24 : H01L 21/66

4. 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

5. 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

6. Groups H01L 28/00 to 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 48/02
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)

- Manufacture or treatment of semiconductor devices or of parts thereof
  - (Preparing wafers)
    1. This group covers processes for manufacturing wafers prior to the fabrication of any device, i.e. between the sawing of ingots (covered by B28D) and the cleaning of substrates (covered by H01L 21/02041).
    2. This group does not cover:
       - simple use of grinding or polishing machines B24B
       - thermal smoothening H01L 21/324

- (Preparing bulk and homogeneous wafers)
  WARNING
  Not complete, see H01L 21/30 and subgroups

- (Preparing wafers having an insulating layer, e.g. SOI wafers)
  WARNING
  Not complete, see H01L 21/7624 and subgroups

- (Forming layers (deposition in general C23C; crystal growth in general C30B))
  WARNING
  Group Groups H01L 21/02104 and subgroups – H01L 21/02694 are not complete pending reorganisation. See also reclassification of documents from groups H01L 21/06, H01L 21/16, and H01L 21/20, H01L 21/36, Groups H01L 21/02104 – H01L 21/02694, H01L 21/06, H01L 21/20, and H01L 21/16 and subgroups should be considered in order to perform a complete search.

- (Forming insulating materials on a substrate)
  WARNING
  This group and subgroups Groups H01L 21/02107 – H01L 21/02326 are not complete pending the completion reclassification of a reclassification; see also documents from groups H01L 21/312, H01L 21/314, H01L 21/316, and H01L 21/318.
  Groups H01L 21/02107 – H01L 21/02326, H01L 21/312, H01L 21/314, H01L 21/316, and subgroups thereof H01L 21/318 should be considered in order to perform a complete search.
WARNING
Group H01L 21/02365 is incomplete pending reclassification of documents from groups H01L 21/06, H01L 21/16, and H01L 21/20. Groups H01L 21/06, H01L 21/16, and H01L 21/20 should be considered in order to perform a complete search.

U H01L 21/04 · · · the devices having at least one potential-jump barrier or surface barrier, e.g. PN junction, depletion layer, carrier concentration layer. (multistep processes specially adapted for the manufacture of said devices H01L 29/66007, H01L 29/401; details of semiconductor bodies H01L 29/02)

M H01L 21/06 · · · the devices having semiconductor bodies comprising selenium or tellurium in uncombined form other than as impurities in semiconductor bodies of other materials

WARNING
This group Group H01L 21/06 is no longer used for the classification of new documents as from December 1, 2009. The backlog of this group is being continuously reclassified to impacted by reclassification into groups H01L 21/02365 and subgroups – H01L 21/02694. Groups H01L 21/06 and H01L 21/02365 – H01L 21/02694 should be considered in order to perform a complete search.

M H01L 21/16 · · · the devices having semiconductor bodies comprising cuprous oxide or cuprous iodide

WARNING
This group Group H01L 21/16 is no longer used for the classification of new documents as from December 1, 2009. The backlog of this group is being continuously reclassified to impacted by reclassification into groups H01L 21/02365 and subgroups – H01L 21/02694. Groups H01L 21/16 and H01L 21/02365 – H01L 21/02694 should be considered in order to perform a complete search.

U H01L 21/18 · · · the devices having semiconductor bodies comprising elements of the fourth group of the Periodic System or AIIIBV 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 AIIIBV compounds, even if the material used is not explicitly specified.

M H01L 21/20 · · · Deposition of semiconductor materials on a substrate, e.g. epitaxial growth (solid phase epitaxy)

WARNING
This group Group H01L 21/20 is no longer used for the classification of new documents as from December 1, 2009. The backlog of this group is being continuously reclassified to impacted by reclassification into groups H01L 21/02365 and subgroups – H01L 21/02694. Groups H01L 21/20 and H01L 21/02365 – H01L 21/02694 should be considered in order to perform a complete search.

U H01L 21/26 · · · Bombardment with radiation ((H01L 21/3105 takes precedence))

U H01L 21/263 · · · · · · with high-energy radiation (H01L 21/261 takes precedence)
producing ion implantation (ion beam tubes for localised treatment of H01L 37/30)

WARNING
The groups Groups H01L 21/26566, H01L 21/2658 and H01L 21/26593 are not complete, see provisionally also incomplete pending reclassification of documents from groups H01L 21/26506 and H01L 21/2654 and their subgroups.

Groups H01L 21/26566, H01L 21/2658, H01L 21/26593, H01L 21/26506 and H01L 21/2654 should be considered in order to perform a complete search.

Treatment of semiconductor bodies using processes or apparatus not provided for in groups H01L 21/20 to H01L 21/26 (manufacture of electrodes thereof H01L 21/28)

To form insulating layers thereon, e.g. for masking or by using photolithographic techniques (layers forming electrodes H01L 21/28; encapsulating layers H01L 21/56); After treatment of these layers

Organic layers, e.g. photoresist (H01L 21/3105, H01L 21/32 take precedence; photoresists per se G03C)

WARNING
This group and subgroups Groups H01L 21/312 – H01L 21/3128 are no longer used for the classification of new documents as from May 1, 2011. The backlog content of these groups is being continuously reclassified into groups H01L 21/02107 and subgroups thereof – H01L 21/02326.

Groups H01L 21/02107 – H01L 21/02326 should be considered in order to perform a complete search.

{Layers comprising organo-silicon compounds}

{layers comprising polysiloxane compounds}

{layers comprising hydrogen silsesquioxane}

{layers comprising silazane compounds}

{Layers comprising fluoro (hydro)carbon compounds, e.g. polytetrafluoroethylene}

{by Langmuir-Blodgett techniques}

Inorganic layers (H01L 21/3105, H01L 21/32 take precedence)

WARNING
This group and subgroups Groups H01L 21/314 – H01L 21/3185 are no longer used for the classification of new documents as from May 1, 2011. The backlog content of this group is being continuously reclassified into group H01L 21/02107 and subgroups thereof – H01L 21/02326.

Groups H01L 21/02107 – H01L 21/02326 should be considered in order to perform a complete search.

{Deposition using atomic layer deposition techniques [ALD]}

{of nano-laminates, e.g. alternating layers of Al203-Hf02}
(composed of alternated layers or of mixtures of nitrides and oxides or of oxinitrides, e.g. formation of oxinitride by oxidation of nitride layers)

• · · · · · · · {on silicon}

• · · · · · · · {formed by deposition from a gas or vapour}

• · · · · · · · {Carbon layers, e.g. diamond-like layers}

• · · · · · · · {Epitaxial deposition of insulating materials}

• · · · · · · · {Silicon Carbide layers}

• · · · · · · · {Langmuir-Blodgett techniques}

• · · · · · · · composed of oxides or glassy oxides or oxide based glass

WARNING
This group and subgroups are Group H01L 21/316 is no longer used for the classification of new documents as from May 1, 2011. The backlog content of this group is being continuously reclassified to groups H01L 21/02107 and subgroups thereof – H01L 21/02326.

Groups H01L 21/02107 – H01L 21/02326 should be considered in order to perform a complete search.

• · · · · · · · {Deposition from a gas or vapour (H01L 21/31691, H01L 21/31695 take precedence)}

• · · · · · · · {Deposition of SiO2 (H01L 21/31625, H01L 21/31629 and H01L 21/31633 take precedence)}

• · · · · · · · {on a silicon body}

• · · · · · · · {Deposition of Al2O3}

• · · · · · · · {on a silicon body}

• · · · · · · · {Deposition of boron or phosphorus doped silicon oxide, e.g. BSG, PSG, BPSG}

• · · · · · · · {Deposition of halogen doped silicon oxide, e.g. fluorine doped silicon oxide}

• · · · · · · · {Deposition of carbon doped silicon oxide, e.g. SiOC}

• · · · · · · · {Deposition of Tantalum oxides, e.g. Ta2O5}

• · · · · · · · {Deposition of Zirconium oxides, e.g. ZrO2}

• · · · · · · · {Deposition of Hafnium oxides, e.g. HfO2}

• · · · · · · · {formed by oxidation (H01L 21/31691, H01L 21/31695 take precedence)}

• · · · · · · · {of semiconductor materials, e.g. the body itself}
by thermal oxidation, e.g. of SiGe
(of silicon in uncombined form)
(of AIII BV compounds)
(of anodic oxidation)
(of silicon)
(of AIII BV compounds)
(of metallic layers, e.g. Al deposited on the body, e.g. formation of multi-layer insulating structures)
(by anodic oxidation)
(with perovskite structure)
{Deposition of porous oxides or porous glassy oxides or oxide based porous glass}
composed of nitrides
(by thermal oxidation, e.g. of SiGe)
(of silicon in uncombined form)
(of AIII BV compounds)
(of anodic oxidation)
(of silicon)
(of AIII BV compounds)
(of metallic layers, e.g. Al deposited on the body, e.g. formation of multi-layer insulating structures)
(by anodic oxidation)
(with perovskite structure)
{Deposition of porous oxides or porous glassy oxides or oxide based porous glass}
{of silicon nitrides}
Thermal treatment for modifying the properties of semiconductor bodies, e.g. annealing, sintering (H01L 21/20 to H01L 21/288 and H01L 21/302 to H01L 21/322 take precedence)
(for altering the shape, e.g. smoothing the surface)
the devices having semiconductor bodies not provided for in groups (H01L 21/0405, H01L 21/0445) , H01L 21/06, H01L 21/16 and H01L 21/18 with or without impurities, e.g. doping materials
Deposition of semiconductor materials on a substrate, e.g. epitaxial growth
This group is no longer used for the classification of new documents as from December 1, 2009. The backlog of this group is being continuously reclassified to H01L 21/02365 and subgroups
D H01L 21/363 · · · · using physical deposition, e.g. vacuum deposition, sputtering
D H01L 21/365 · · · · using reduction or decomposition of a gaseous compound yielding a solid condensate, i.e. chemical deposition
D H01L 21/368 · · · · using liquid deposition
M H01L 21/44 · · · · Manufacture of electrodes on semiconductor bodies using processes or apparatus not provided for in groups H01L 21/36 H01L 21/38 to H01L 21/428
U H01L 21/46 · · · · Treatment of semiconductor bodies using processes or apparatus not provided for in groups H01L 21/428 (manufacture of electrodes thereon H01L 21/44)
M H01L 21/477 · · · · Thermal treatment for modifying the properties of semiconductor bodies, e.g. annealing, sintering (H01L 21/36 H01L 21/38 to H01L 21/449 and H01L 21/461 to H01L 21/475 take precedence)
M H01L 21/479 · · · · Application of electric currents or fields, e.g. for electroforming (H01L 21/36 H01L 21/38 to H01L 21/449 and H01L 21/461 to H01L 21/477 H01L 21/475 take precedence)
U H01L 21/50 · · · · Assembly of semiconductor devices using processes or apparatus not provided for in a single one of the subgroups H01L 21/06 to H01L 21/326, (e.g. sealing of a cap to a base of a container)

NOTE
Arrangements for connecting or disconnecting semiconductor or other solid state bodies, or methods related thereto, other than those arrangements or methods covered by the following subgroups, are covered by H01L 24/00

D H01L 21/58 · · · · Insulative mounting semiconductor devices on supports (H01L 21/563, H01L 23/49513 take precedence)

WARNING
This group is no longer used for the classification of new documents as from June 1, 2010. The backlog of this group is being continuously reclassified to H01L 24/80 and subgroups

U H01L 21/67 · · · · Apparatus specially adapted for handling semiconductor or electric solid state devices during manufacture or treatment thereof; Apparatus specially adapted for handling wafers during manufacture or treatment of semiconductor or electric solid state devices or components; (Apparatus not specifically provided for elsewhere (processes per se H01L 21/30, H01L 21/46, H01L 23/00; simple temporary support means, e.g. using adhesives, electric or magnetic means H01L 21/68, H01L 21/302; apparatus for manufacturing arrangements for connecting or disconnecting semiconductor or solid-state bodies and for methods related thereto H01L 24/74:))

NOTE
In this subgroup the term substrate designates a semiconductor or electric solid state device or component, or a wafer

U H01L 21/677 · · · · for conveying, e.g. between different workstations
M H01L 21/67703 · · · · (between different workstations)

WARNING
This group and subgroups are not complete pending completion of reorganization; see also H01L 21/677

U H01L 21/67739 · · · · (into and out of processing chamber)
M H01L 21/6776 · · · · (Continuous loading and unloading into and out of a processing chamber, e.g. transporting belts within processing chambers)

WARNING
Not complete pending completion of reorganization; see also H01L 21/677

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)

M 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 H01L 21/02041
- etching H01L 21/311, H01L 21/3213
- masking H01L 21/027, H01L 21/033, H01L 21/31144, H01L 21/32139
- planarizing H01L 21/3105, H01L 21/321

U H01L 21/76801 · · · · · (characterised by the formation and the after-treatment of the dielectrics, e.g. smoothing)

U H01L 21/76802 · · · · · · · · · · · (by forming openings in dielectrics)

M H01L 21/76814 · · · · · · · · · · · (post-treatment or after-treatment, e.g. cleaning or removal of oxides on underlying conductors)

WARNING
Groups H01L 21/76814 – H01L 21/76817 are not complete; see provisionally H01L 21/76802

M H01L 21/76822 · · · · · · · · · · · (Modification of the material of dielectric layers, e.g. grading, after-treatment to improve the stability of the layers, to increase their density etc.)

WARNING
Groups H01L 21/76822 – H01L 21/76837 are not complete; see provisionally H01L 21/76804
Details of semiconductor or other solid state devices (H01L 25/00 takes precedence; {structural arrangements for testing or measuring during manufacture or treatment, or for reliability measurements H01L 22/00; arrangements for connecting or disconnecting semiconductor or solid-state bodies, or methods related thereto H01L 24/00; finger print sensors G06K 9/00006})

NOTE
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.

Arrangements for conducting electric current to or from the solid state body in operation, e.g. leads, terminal arrangements (in general H01R); {Selection of materials therefor}

NOTE
Arrangements for connecting or disconnecting semiconductor or other solid state bodies, or methods related thereto, other than those arrangements or methods covered by the following subgroups, are covered by H01L 24/00

WARNING
The documents of this group dealing with arrangements for connecting semiconductor or other solid state bodies are being continuously reclassified to H01L 24/01 and subgroups

Consisting of lead-in layers inseparably applied to the semiconductor body {(electrodes H01L 29/40)}

WARNING
The documents of this group dealing with arrangements for connecting semiconductor or other solid state bodies are being continuously reclassified to H01L 24/01 and subgroups

Consisting of layered constructions comprising conductive layers and insulating layers, e.g. planar contacts {(H01L 23/4821, H01L 23/4822, H01L 23/4824, H01L 23/4825 take precedence; materials H01L 23/532, bond pads H01L 24/02, bump connectors H01L 24/10)}

WARNING
The documents of this group dealing with arrangements for connecting semiconductor or other solid state bodies are being continuously reclassified to H01L 24/01 and subgroups

Consisting of soldered {or bonded} constructions {(bump connectors H01L 24/01)}

Wire-like {arrangements or pins or rods (using optical fibres H01L 23/48; pins attached to insulating substrates H01L 23/49811)}

WARNING
This group is no longer used for the classification of new documents as from June 1, 2010. The backlog of this group is being continuously reclassified to H01L23/00C2W and subgroups

{Arrangements for connecting or disconnecting semiconductor or solid-state bodies; Methods or apparatus related thereto}

NOTES
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 H05K 1/189;— apparatus or manufacturing processes for printed circuits, which are covered
by groups H05K 3/00 to H05K 3/4685; — 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 H01L 21/568; — 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 23/12 to H01L 23/15 and subgroups; — arrangements for cooling, heating, ventilating or temperature compensation, which are covered by groups H01L 23/34 to H01L 23/4735; — arrangements for conducting electric current, which are covered by groups H01L 23/48 to H01L 23/50, and by groups H01L 23/52 to H01L 23/5389; — 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.

• 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 H05K 1/189;
• apparatus or manufacturing processes for printed circuits, which are covered by groups H05K 3/00 to H05K 3/4685;
• 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 H01L 21/568;
• 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 H01L 23/4735;
• arrangements for conducting electric current, which are covered by groups H01L 23/48 to H01L 23/50, and by groups H01L 23/52 to H01L 23/5389;
• structural electrical arrangements, which are covered by groups H01L 24/80 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

M H01L 24/01
• (Means for bonding being attached to, or being formed on, the surface to be connected, e.g. chip-to-package, die-attach, "first-level" interconnects; Manufacturing methods related thereto)

WARNING
1. Not complete, see provisionally also H01L 23/482, H01L 23/485 and subgroups 2. Pending reorganisation subgroups of this group are not complete; see also this group and the other subgroups
**M H01L 24/02**  
Bonding areas (on insulating substrates, e.g. chip carriers, H01L 23/49816, H01L 23/49838, H01L 23/5389); Manufacturing methods related thereto

**WARNING**
1. Pending reorganisation see provisionally also Groups H01L 24/02 – H01L 24/09 are incomplete pending reclassification of documents from groups H01L 24/02 and H01L 24/10 for Under-Bump Metallization [UBM].
2. Pending reorganisation, subgroups of this group are not.
   Groups H01L 24/02 – H01L 24/09 and H01L 24/10 should be considered in order to perform a complete search.

**M H01L 24/18**  
High density interconnect [HDI] connectors; Manufacturing methods related thereto (interconnection structure between a plurality of semiconductor chips H01L 23/5389)

**WARNING**
1. Pending reorganisation, see provisionally also H01L 24/822.
2. Pending reorganisation, subgroups of this group are not complete; see also this group H01L 24/18 – H01L 24/25.
   Pending reorganisation, subgroups of this group are not complete; see also this group H01L 24/18 – H01L 24/25.
   Subgroups of this group are not complete; see also this group H01L 24/82.
   Groups H01L 24/18 – H01L 24/25 and H01L 24/82 should be considered in order to perform a complete search.

**M H01L 24/34**  
Strap connectors, e.g. copper straps for grounding power devices; Manufacturing methods related thereto

**WARNING**
1. Pending reorganisation see provisionally also Groups H01L 24/34 – H01L 24/41 are incomplete pending reclassification of documents from groups H01L 24/34, H01L 24/01, H01L 24/42, and H01L 24/85.
   Pending reorganisation, subgroups of this group are not complete; see also this group H01L 24/34 – H01L 24/41.
   Groups H01L 24/34 – H01L 24/41 and H01L 24/01, subgroups of this group are not complete; see also this group H01L 24/42.
   H01L 24/85 should be considered in order to perform a complete search.

**M H01L 24/42**  
Wire connectors; Manufacturing methods related thereto

**WARNING**
1. Pending reorganisation see provisionally also Groups H01L 24/43 – H01L 21/4885 and subgroups, H01L 24/42, H01L 24/85.
   Group H01L 24/43 is incomplete pending reclassification of documents from groups H01L 21/4885 and H01L 24/42, H01L 24/85.
   Groups H01L 24/43 and H01L 21/4885, H01L 24/42, and H01L 24/85 should be considered in order to perform a complete search.

**M H01L 24/44**  
Structure, shape, material or disposition of the wire connectors prior to the connecting process

**WARNING**
1. Pending reorganisation see provisionally also Groups H01L 24/44 are incomplete pending reclassification of documents from groups H01L 24/42 and H01L 24/85.
   Groups H01L 24/44 and H01L 24/42, H01L 24/85 should be considered in order to perform a complete search.
M H01L 24/47  · · · {Structure, shape, material or disposition of the wire connectors after the connecting process}

**WARNING**

H01L 24/42, H01L 24/85

*Group H01L 24/47 is incomplete pending reclassification of documents from groups H01L 24/42 and H01L 24/85. Groups H01L 24/47 and H01L 24/42, H01L 24/85 should be considered in order to perform a complete search.*

M H01L 24/48  · · · {of an individual wire connector}

**WARNING**

H01L 24/42, H01L 24/85

M H01L 24/49  · · · {of a plurality of wire connectors}

**WARNING**

H01L 24/42, H01L 24/85

M H01L 24/50  · · {Tape automated bonding [TAB] connectors, i.e. film carriers; Manufacturing methods related thereto (thin flexible metallic tape with or without a film carrier H01L 23/49572, flexible insulating substrates H01L 23/4985, H01L 23/5387)}

**WARNING**

H01L 24/86

*Group H01L 24/50 is incomplete pending reclassification of documents from group H01L 24/86. Groups H01L 24/50 and H01L 24/86 should be considered in order to perform a complete search.*

M H01L 24/80  · {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}

**WARNING**

1. Pending reorganisation see provisionally also H01L21/60
2. Subgroups of this group are not complete; see also this group and the other subgroups

M H01L 24/84  · · {using a strap connector}

**WARNING**

H01L 24/85

*Group H01L 24/84 is incomplete pending reclassification of documents from group H01L 24/85. Group H01L 24/84 and H01L 24/85 should be considered in order to perform a complete search.*

M H01L 24/90  · {Methods for connecting semiconductor or solid state bodies using means for bonding not being attached to, or not being formed on, the body surface to be connected, e.g. pressure contacts using springs or clips}

**WARNING**

H01L21/60E

M H01L 24/93  · {Batch processes}

**WARNING**

H01L24/80 and subgroups and H01L 24/90

*Group H01L 24/93 is incomplete pending reclassification of documents from groups H01L 24/80 – H01L 24/90.*
Groups **H01L 24/93** and **H01L 24/80** – **H01L 24/90** should be considered in order to perform a complete search.

**U H01L 27/00** Devices consisting of a plurality of semiconductor or other solid state components formed in or on a common substrate (processes or apparatus specially adapted for the manufacture or treatment thereof or of parts thereof **H01L 21/70, H01L 31/00** to **H01L 51/00**; details thereof **H01L 23/00, H01L 29/00** to **H01L 51/00**; assemblies consisting of a plurality of individual solid state devices **H01L 25/00**; assemblies of electrical components in general **H01K**)

**NOTE**
In this group, in the absence of an indication to the contrary, classification is made in the last appropriate place.

**U H01L 27/02** · including semiconductor components specially adapted for rectifying, oscillating, amplifying or switching and having at least one potential-jump barrier or surface barrier; including integrated passive circuit elements with at least one potential-jump barrier or surface barrier

**U H01L 27/04** · · the substrate being a semiconductor body

**U H01L 27/10** · · · including a plurality of individual components in a repetitive configuration

**U H01L 27/105** · · · including field-effect components

**NOTE**
In this group and its subgroups classification is made in any appropriate place

**U H01L 27/108** · · · · Dynamic random access memory structures (circuits **G11C 11/24, G11C 11/34**)

**NOTE**
In this group and its subgroups classification is made in any appropriate place

**U H01L 27/10805** · · · · · (with one-transistor one-capacitor memory cells)

**M H01L 27/10826** · · · · · · (the transistor being of the FinFET type)

**WARNING**
not complete pending completion of reclassification; see also **H01L 27/10823**

**U H01L 27/10844** · · · · · · (Multistep manufacturing methods)

**M H01L 27/10847** · · · · · · · (for structures comprising one transistor one-capacitor memory cells)

**WARNING**
not complete pending completion of reclassification; see also **H01L 27/10844**

**U H01L 27/10873** · · · · · · · (with at least one step of making the transistor (making the transistor per se **H01L 29/66409**))

**M H01L 27/10879** · · · · · · · · · (the transistor being of the FinFET type)

**WARNING**
not complete pending completion of reclassification; see also **H01L 27/10876**

**U H01L 27/11** · · · · · Static random access memory structures (and multistep manufacturing processes therefor (circuits **G11C 11/40**))
M H01L 27/1116 · · · · · {Peripheral circuit region}

WARNING
not complete, pending reorganisation, see provisionally also H01L 27/105

U H01L 27/112 · · · · · Read-only memory structures ([ROM] and multistep manufacturing processes therefor)

M H01L 27/11286 · · · · · {Peripheral circuit regions}

WARNING
not complete pending reorganisation, see provisionally also H01L 27/105

U H01L 27/115 · · · · · Electrically programmable read-only memories (and multistep manufacturing processes therefor)

U H01L 27/11502 · · · · · {with ferroelectric memory capacitor}

M H01L 27/11504 · · · · · {Top-view layout}

WARNING
Not complete, see H01L 27/11502

M H01L 27/11512 · · · · · · · · {Boundary region between core and peripheral circuit region}

WARNING
Not complete, see H01L 27/11502

M H01L 27/11514 · · · · · · · · {Three-dimensional arrangements, e.g. cells on different height levels}

WARNING
Not complete, see H01L 27/11502

M H01L 27/11517 · · · · · · · · {with floating gate}

WARNING
Group H01L 27/11517 and subgroups are not complete pending reorganisation. See also H01L 27/115

U H01L 27/11551 · · · · · · {Three-dimensional arrangements, e.g. cells on different height levels}

U H01L 27/11553 · · · · · · · · {with source and drain on different levels, e.g. with sloping channel}

M H01L 27/11556 · · · · · · · · {the channel comprising at least one vertical portion, e.g. U-shaped channel}

WARNING
not complete pending reorganisation, see provisionally also H01L 27/11551

U H01L 27/11563 · · · · · · {with charge trapping gate insulator, e.g. MNOS, NROM}

M H01L 27/11565 · · · · · · · · {Top-view layout}

WARNING
Not complete, see H01L 27/115

M H01L 27/11575 · · · · · · · · {Boundary region between core and peripheral circuit region}

WARNING
Not complete, see H01L 27/115
Three-dimensional arrangements, e.g. cells on different height levels

WARNING
Not complete, see H01L 27/115

(with source and drain on different levels, e.g. with sloping channel)

WARNING
Not complete pending reorganisation, see provisionally also H01L 27/11578

{the channel comprising at least one vertical portion, e.g. U-shaped channel}

WARNING
Not complete pending reorganisation, see provisionally also H01L 27/11578

{with gate electrode comprising a layer which is used for its ferroelectric memory properties, e.g. MFS (metal-ferroelectric-semiconductor), MFMIS (metal-ferroelectric-metal-insulator-semiconductor)}

WARNING
Not complete, see H01L 27/11585

{Top-view layout}

WARNING
Not complete, see H01L 27/11585

{Boundary region between core and peripheral circuit region}

WARNING
Not complete, see H01L 27/11585

{Three-dimensional arrangements, e.g. cells on different height levels}

WARNING
Not complete, see H01L 27/11585

the substrate being other than a semiconductor body, e.g. an insulating body

{comprising a plurality of TFTs formed on a non-semiconducting substrate, e.g. driving circuits for AMLCDs}

WARNING
Subgroups Group H01L 27/1218 – H01L 27/1296 are incomplete pending reclassification of documents from group H01L 27/1214 are not complete pending reorganisation; see provisionally also this group. Groups H01L 27/1218 – H01L 27/1296 and H01L 27/1214 should be considered in order to perform a complete search.

including solid state components for rectifying, amplifying or switching without a potential-jump barrier or surface barrier, e.g. resistance switching non-volatile memory structures

WARNING
Groups H01L 27/2409 to H01L 27/249 are not complete pending reclassification; see provisionally also group H01L 27/24

including components using organic materials as the active part, or using a combination of organic materials with other materials as the active part

with components specially adapted for light emission, e.g. flat-panel displays using organic light-emitting diodes (OLED) (combination of organic light sensitive components with organic light emitting components, e.g. optocoupler H01L 27/288)

{Multi-colour light emission}
WARNING

The subgroups Groups H01L 27/3213 – H01L 27/3218 are incomplete pending reclassification of documents from group H01L 27/3211 are not complete pending.

Groups H01L 27/3213 – H01L 27/3218 and H01L 27/3211 should be considered in order to perform a reorganization, see provisionally also this group complete search.

U H01L 29/00

Semiconductor devices adapted for rectifying, amplifying, oscillating or switching, or capacitors or resistors with at least one potential-jump barrier or surface barrier, e.g. PN junction depletion layer or carrier concentration layer; Details of semiconductor bodies or of electrodes thereof; (Multistep manufacturing processes therefor) (H01L 31/00 - H01L 47/00, H01L 51/05 take precedence; processes or apparatus adapted for the manufacture or treatment thereof or of parts thereof H01L 21/00; details other than of semiconductor bodies or of electrodes thereof H01L 23/00; devices consisting of a plurality of solid state components formed in or on a common substrate H01L 27/00; (passive two-terminal components without a potential-jump or surface barrier for integrated circuits, details thereof and multistep manufacturing processes therefor H01L 28/00; ) resistors in general H01C; capacitors in general H01G, (e.g. ceramic barrier-layer capacitors H01G 4/1272))

NOTE

In this main group, classification is made both in groups H01L 29/02 to H01L 29/51, and in groups H01L 29/66 to H01L 29/94 if both of these sets of groups are relevant.

U H01L 29/02

Semiconductor bodies; (Multistep manufacturing processes therefor)

U H01L 29/06

characterised by their shape; characterised by the shapes, relative sizes, or dispositions of the semiconductor regions; (characterised by the concentration or distribution of impurities within semiconductor regions)

U H01L 29/08

with semiconductor regions connected to an electrode carrying current to be rectified, amplified or switched and such electrode being part of a semiconductor device which comprises three or more electrodes

U H01L 29/0843

{Source or drain regions of field-effect devices}

U H01L 29/0847

{of field-effect transistors with insulated gate (H01L 29/0653 takes precedence; with a passive supplementary region between source or drain and substrate related to punch-through, capacity or isolation phenomena H01L 29/1079; with LDD or DDD structure H01L 29/7833; for thin film transistors H01L 29/78618))

M H01L 29/0852

{of DMOS transistors)

WARNING

This group and subgroups thereof are not complete; see provisionally also Groups H01L 29/0852 – H01L 29/0886 are incomplete pending reclassification of documents from group H01L 29/0847 and H01L 29/7801 and subgroups thereof.

Groups H01L 29/0852 – H01L 29/0886 and H01L 29/0847, H01L 29/7801 should be considered in order to perform a complete search.

U H01L 29/40

Electrodes; (Multistep manufacturing processes therefor)
M H01L 29/401  ·  · (Multistep manufacturing processes)

WARNING
H01L 29/42312 and subgroups

U H01L 29/41  ·  · characterised by their shape, relative sizes or dispositions

U H01L 29/423  ·  ·  · not carrying the current to be rectified, amplified or switched

U H01L 29/42312  ·  ·  ·  · (Gate electrodes for field effect devices)

U H01L 29/42316  ·  ·  ·  ·  · {for field-effect transistors}

U H01L 29/4232  ·  ·  ·  ·  · (with insulated gate)

M H01L 29/42356  ·  ·  ·  ·  ·  · (Disposition, e.g. buried gate electrode (H01L 29/42324 and H01L 29/4234 take precedence))

WARNING
This group and subgroup thereof are not complete, see provisionally also H01L 29/78, H01L 29/7801 and subgroups thereof, H01L 29/7827 and H01L 29/7834

U H01L 29/43  ·  · characterised by the materials of which they are formed

U H01L 29/49  ·  ·  · Metal-insulator-semiconductor electrodes, (e.g. gates of MOSFET (H01L 29/435 takes precedence))

NOTE
This group covers also devices using any other conductor material in place of metal

U H01L 29/4983  ·  ·  ·  · {with a lateral structure, e.g. a Polysilicon gate with a lateral doping variation or with a lateral composition variation or characterised by the sidewalls being composed of conductive, resistive or dielectric material}

M H01L 29/4991  ·  ·  ·  ·  · {comprising an air gap}

WARNING
Not complete, see provisionally also Group H01L 29/4991 is incomplete pending reclassification of documents from group H01L 29/4983. Groups H01L 29/4991 and H01L 29/4983 should be considered in order to perform a complete search.

U H01L 29/66  ·  · Types of semiconductor device; {Multistep manufacturing processes therefor}

U H01L 29/66007  ·  ·  · (Multistep manufacturing processes)

U H01L 29/66075  ·  ·  ·  · {of devices having semiconductor bodies comprising group 14 or group 13/15 materials (comprising semiconducting carbon H01L 29/66015; comprising crystalline silicon carbide H01L 29/66053)}

U H01L 29/66227  ·  ·  ·  · {the devices being controllable only by the electric current supplied or the electric potential applied, to an electrode which does not carry the current to be rectified, amplified or switched, e.g. three-terminal devices}

U H01L 29/66409  ·  ·  ·  ·  · {Unipolar field-effect transistors}

U H01L 29/66477  ·  ·  ·  ·  ·  · (with an insulated gate, i.e. MISFET)

U H01L 29/66674  ·  ·  ·  ·  ·  ·  · {DMOS transistors, i.e. MISFETs with a channel accommodating body or base region adjoining a drain drift region (making lateral high-voltage MISFETs with channel well and drain offset region H01L 29/66659)}

M H01L 29/66681  ·  ·  ·  ·  ·  ·  · {Lateral DMOS transistors, i.e. LDMOS transistors)

WARNING
H01L 29/66674

U H01L 29/66712  ·  ·  ·  ·  ·  ·  · {Vertical DMOS transistors, i.e. VDMOS transistors)
WARNING
H01L 29/66719

With a step of forming an insulating sidewall spacer

WARNING
H01L 29/66712

U H01L 29/68

controllable by only the electric current supplied, or only the electric potential applied, to an electrode which does not carry the current to be rectified, amplified or switched

U H01L 29/76

Unipolar devices, (e.g. field effect transistors)

U H01L 29/778

with two-dimensional charge carrier gas channel, e.g. HEMT; (with two-dimensional charge-carrier layer formed at a heterojunction interface (H01L 29/803 takes precedence))

U H01L 29/78

with field effect produced by an insulated gate ((H01L 29/7725, H01L 29/775, H01L 29/778 take precedence))

U H01L 29/7801

(DMOS transistors, i.e. MISFETs with a channel accommodating body or base region adjoining a drain drift region (lateral high-voltage MISFETs with channel well and drain offset region H01L 29/7835))

U H01L 29/7802

(structurally associated with at least one other device (assemblies H01L 25/00; integrated circuits H01L 27/00))

WARNING
This group and subgroups thereof are not complete, see provisionally also Groups H01L 29/7803 – H01L 29/7808 are incomplete pending reclassification of documents from group H01L 29/7802.

Groups H01L 29/7803 – H01L 29/7808 and H01L 29/7802 should be considered in order to perform a complete search.

M H01L 29/7811

(with an edge termination structure (guard regions per se H01L 29/0619; field plates per se H01L 29/402))

WARNING
This group Group H01L 29/7811 is not complete, see provisionally also incomplete pending reclassification of documents from group H01L 29/7802. H01L 29/7809 and H01L 29/7813

Groups H01L 29/7811 and H01L 29/7802 should be considered in order to perform a complete search.

M H01L 29/7815

(with voltage or current sensing structure, e.g. emulator section, overcurrent sensing cell)

WARNING
This group Group H01L 29/7815 is not complete, see provisionally also incomplete pending reclassification of documents from group H01L 29/7802. H01L 29/7809 and H01L 29/7813

Groups H01L 29/7815 and H01L 29/7802 should be considered in order to perform a complete search.

M H01L 29/7816

(Lateral DMOS transistors, i.e. LDMOS transistors)

WARNING
This group and subgroups thereof are not complete, see provisionally also H01L 29/7801

U H01L 29/7827

(Vertical transistors (H01L 29/7802, H01L 29/78642 take precedence))
M H01L 29/7828  · · · · · · {without inversion channel, e.g. vertical ACCUFETs, normally-on vertical MISFETs}

**WARNING**
This group is not complete, see provisionally also H01L 29/7827

M H01L 29/7842  · · · · · · {means for exerting mechanical stress on the crystal lattice of the channel region, e.g. using a flexible substrate (variation of the composition of the channel H01L 29/1054)}

**WARNING**
The groups H01L 29/7843 to H01L 29/7849 are not complete, see provisionally also H01L 29/7842

M H01L 31/06  · · characterised by at least one potential-jump barrier or surface barrier

**NOTE**
Groups H01L 31/061 to H01L 31/078 are based on IPC2012.01

U H01L 41/02  · · Details

U H01L 41/04  · · of piezo-electric or electrostrictive devices

M H01L 41/047  · · · Electrodes (or electrical connection arrangements)

**WARNING**
Pending reorganisation, the groups H01L 41/0471 to H01L 41/0477 are not complete, see provisionally also H01L 41/047

M H01L 41/053  · · · Mounts, supports, enclosures or casings

**WARNING**
Pending reorganisation, the groups H01L 41/0533 to H01L 41/0536 are not complete, see provisionally also H01L 41/053

M H01L 41/08  · · Piezo-electric or electrostrictive devices

**WARNING**
Pending reorganisation, the groups H01L 41/0805, H01L 41/082, and H01L 41/0825 are not complete, see provisionally also H01L 41/08

M H01L 41/083  · · · having a stacked or multi-layer structure

**WARNING**
Pending reorganisation, the groups H01L 41/0831 to H01L 41/0838 are not complete, see provisionally also H01L 41/083

U H01L 41/09  · · {with electrical input and mechanical output e.g. actuators, vibrators} (in frequency selective networks H03H 9/00)

M H01L 41/0906  · · · {using longitudinal or thickness displacement combined with bending, shear or torsion displacement}

**WARNING**
Pending reorganisation, the groups H01L 41/0913 to H01L 41/092 are not complete, see provisionally also H01L 41/0906

M H01L 41/0926  · · · {using bending displacement, e.g. unimorph, bimorph or multimorph cantilever or membrane benders}

**WARNING**
Pending reorganisation, the groups H01L 41/0933 to H01L 41/098 are not complete, see provisionally also H01L 41/0926
M H01L 41/0986 · · · (using longitudinal or thickness displacement only, e.g. d33 or d31 type devices)

WARNING
Pending reorganisation, this group is not complete, see provisionally also H01L 41/09

M H01L 41/0993 · · · (using shear or torsion displacement, e.g. d15 type devices)

WARNING
Pending reorganisation, this group is not complete, see provisionally also H01L 41/09

M H01L 41/113 · · · with mechanical input and electrical output (e.g. generators, sensors)

WARNING
Pending reorganisation, the groups H01L 41/113 to H01L 41/1138 are not complete, see provisionally also H01L 41/113 and H02N 2/48

U H01L 41/16 · Selection of materials

U H01L 41/18 · · · for piezo-electric or electrostrictive devices (e.g. bulk piezo-electric crystals)

M H01L 41/183 · · · (Composite materials, e.g. having 1-3 or 2-2 type connectivity)

WARNING
Pending reorganisation, this group is not complete, see provisionally also H01L 41/18

M H01L 41/187 · · · Ceramic compositions (i.e. synthetic inorganic polycrystalline compounds incl. epitaxial, quasi-crystalline materials)

WARNING
Pending reorganisation, the groups H01L 41/1871 to H01L 41/1878 are not complete, see provisionally also H01L 41/187]

Project: MP0117 in addition to MP0123 (H01L)

M H01L 45/00 Solid state devices adapted for rectifying, amplifying, oscillating or switching without a potential-jump barrier or surface barrier, e.g. dielectric triodes; Ovshinsky-effect devices; Processes or apparatus peculiar to the manufacture or treatment thereof or of parts thereof (devices consisting of a plurality of solid state components formed in or on a common substrate H01L 27/00; devices using superconductivity H01L 39/00; piezo-electric devices H01L 41/00; bulk negative resistance effect devices H01L 47/00; (memories G11C 11/34; G11C 13/0002; amplifying circuits H03F 11/00; pulse generation H03K 3/02; electronic switching circuits H03K 17/00; logic circuits H03K 19/00))

WARNING
Groups H01L 45/04 - H01L 45/16 do not correspond to former or current IPC groups. IPC concordance of said groups is – H01L 45/04 – H01L 45/16 – H01L 45/00. Groups H01L 45/06 to H01L 45/1691 are not complete pending reclassification; see provisionally also group H01L 45/04
Project: MP0117 (H01L)

U H01L 51/00 Solid state devices using organic materials as the active part, or using a combination of organic materials with other materials as the active part; Processes or apparatus specially adapted for the manufacture or treatment of such devices, or of parts thereof (devices consisting of a plurality of components formed in or on a common substrate H01L 27/28; thermoelectric devices using organic material H01L 35/00, H01L 37/00; piezoelectric, electrostrictive or magnetostrictive elements using organic material H01L 41/00)

U H01L 51/50 · · · specially adapted for light emission, e.g. organic light emitting diodes [OLED] or polymer light emitting devices [PLED]; (organic semiconductor lasers H01S 5/36; (circuit arrangements for OLED or PLED H05B 33/0896; control arrangements for organic electroluminescent displays G09G 3/3208))

U H01L 51/52 · · · Details of devices
U H01L 51/5203 · · · · · · (Electrodes)
M H01L 51/5206 · · · · · · · (Anodes, i.e. with high work-function material)

WARNING
The subgroups Groups H01L 51/5209 – H01L 51/5218 are incomplete pending reclassification of documents from group H01L 51/5206 are not complete pending.
Groups H01L 51/5209 – H01L 51/5218 and H01L 51/5206 should be considered in order to perform a reorganisation, see provisionally also this group complete search.

M H01L 51/5221 · · · · · · · (Cathodes, i.e. with low work-function material)

WARNING
The subgroups Groups H01L 51/5225 – H01L 51/5234 are incomplete pending reclassification of documents from group H01L 51/5221 are not complete pending.
Groups H01L 51/5225 – H01L 51/5234 and H01L 51/5221 should be considered in order to perform a reorganisation, see provisionally also this group complete search.

M H01L 51/5237 · · · · · · · (Passivation; Containers; Encapsulation, e.g. against humidity)

WARNING
The subgroups Groups H01L 51/524 – H01L 51/5259 are incomplete pending reclassification of documents from group H01L 51/5237 are not complete pending.
Groups H01L 51/524 – H01L 51/5259 and H01L 51/5237 should be considered in order to perform a reorganisation, see provisionally also this group complete search.

Project: MP0123 (A61B)

M 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 5/00A61B 5/41 :: A61B 5/00A61B 5/42 :: A61B 5/00A61B 5/43 :: A61B 5/00A61B 5/44 :: A61B 5/00A61B 5/45 :: A61B 5/00A61B 5/48
Apparatus for radiation diagnosis, e.g. combined with radiation therapy equipment (analysis of materials using radiation G01N 23/00, detecting hidden objects by radiation G01V 5/0008, radiodiagnostic or X-ray contrast preparations A61K 49/00; radiation therapy per se A61N 5/00; instruments measuring radiation intensity for application in the field of nuclear medicine, e.g. in vivo counting G01T 1/161; apparatus for taking X-ray photographs G03B 42/02; X-ray photographic processes G03C 5/16; irradiation devices G21K; X-ray apparatus or circuits therefor H05G 1/00)

WARNING
Groups A61B 6/40 to A61B 6/58 do not correspond to former or current IPC groups. Concordance CPC:IPC for these groups is as follows: -

A61B 6/00
A61B 6/40
A61B 6/42
A61B 6/44
A61B 6/46
A61B 6/48
A61B 6/50
A61B 6/52
A61B 6/54
A61B 6/56
A61B 6/58
A61B 6/60

A61B 8/00
Diagnosis using ultrasonic, sonic or infrasonic waves (imaging of objects using sonar G01S 15/00)

WARNING
Groups A61B 8/40 to A61B 8/58 do not correspond to former or current IPC groups. Concordance CPC:IPC for these groups is as follows: -

A61B 8/00
A61B 8/44
A61B 8/445
A61B 8/52
A61B 8/54
A61B 8/58
A61B 8/60

A61B 19/00
Instruments, implements or accessories for surgery or diagnosis not covered by any of the groups A61B 1/00 to A61B 17/00, e.g. for stereotaxis, sterile operation, luxation treatment, wound edge protectors (surgeon’s or patient’s gowns or dresses, surgical masks A41D 13/00; devices for carrying-off, for treatment of, or for carrying-over, body liquids A61M 1/00)

WARNING
Groups A61B 19/20 to A61B 19/56 do not correspond to former or current IPC groups. Concordance CPC:IPC for these groups is as follows: -

A61B 19/00
A61B 19/20
A61B 19/56
A61B 19/00

Project: MP0123 (A61H)

M A61H 19/00
Massage for the genitals; (Devices for improving sexual intercourse (penis erection devices A61F 5/41; vibration or percussion related aspects A61H 23/00))

WARNING
Groups A61H 19/30 to A61H 19/50 do not correspond to former or current IPC groups. Concordance CPC:IPC for these groups is as follows: -

A61H 19/30
A61H 19/50
A61H 19/00
Local anaesthesia (syringes therefor A61M 5/00); Hypothermia (A61M 5/42 takes precedence; cooling blood in a bypass of the arterial system A61M 1/36)

WARNING

Groups A61B 19/20—A61B 19/56 do not correspond to former or current IPC groups.

Concordance CPC : IPC for these groups is as follows:—A61B 19/20—A61B 19/56 : A61B 19/00

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

NOTE

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

WARNING

1. The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:
   - B01L 3/14 B01L 3/14 covered by B01L 3/50
   - Groups B01L 1/50, B01L 3/50, B01L 3/56, B01L 7/50 B01L 7/54, B01L 9/50 B01L 9/547 do not correspond to former or future IPC groups.

Concordance CPC : IPC for these groups is as follows:


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

NOTES

1. This subclass covers particularly apparatus for the release or projection of drops or droplets into the atmosphere or into a chamber to form a mist or the
like. For this purpose, the materials to be projected may be suspended in a stream of gas or vapour.

2. Attention is drawn to the Note following the title of class B05.

3. In this subclass, "means for controlling volume of flow" is used in the most general meaning and includes also means allowing only starting and stopping the flow

4. In this subclass, the meaning of the expression "apparatus carried on or by a person" includes all apparatus comprising at least one container for the material to be sprayed carried on or by a person during use

5. In this subclass, the word "container" is to be understood as the innermost enclosure containing the material to be sprayed

---

**WARNING**

Groups B05B 11/30 to B05B 11/3098 do not correspond to former or current IPC groups. The concordance CPC : IPC for these groups is as follows:

- B05B 11/30 = B05B 11/3098 = B05B 11/00

---

**Project: MP0123 (B05D)**

**B05D 1/00**

Processes for applying liquids or other fluent materials (B05D 5/00, B05D 7/00 take precedence)

**WARNING**

Groups B05D 1/60 to B05D 1/62 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows:

- B05D 1/60 to B05D 1/62 = B05D 1/00, B05D 7/00

**B05D 3/00**

Pretreatment of surfaces to which liquids or other fluent materials are to be applied; After-treatment of applied coatings, e.g. intermediate treating of an applied coating preparatory to subsequent applications of liquids or other fluent materials (successively applying liquids or other fluent materials B05D 1/36; drying ovens F26B)

**WARNING**

Groups B05D 3/20 to B05D 3/207 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows:

- B05D 3/20 to B05D 3/207 = B05D 3/00

**B05D 7/00**

Processes, other than flocking, specially adapted for applying liquids or other fluent materials to particular surfaces or for applying particular liquids or other fluent materials (coating of foodstuffs A23P 1/084, A23P 1/085)

**WARNING**

Groups B05D 7/50 to B05D 7/5885 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows:

- B05D 7/50 to B05D 7/5885 = B05D 7/00
Project: MP0123 (B29C)

M 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}

Project: MP0123 (B29L)

M 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

Project: MP0123 (B65D)

M B65D 83/00  Containers or packages with special means for dispensing contents (dispensing means incorporated in removable or non-permanently secured container closures B65D 47/00; for shops, stores, offices, bars, or the like A47F 1/04; showcases or cabinets with dispensing arrangements A47F 3/02; {for surgical articles A61B 19/026}; magazines for screws or nuts in combination with spanners, wrenches or screw-drivers B25B 23/06; nail dispensers B25C 3/00; for use in connection with the handling of sheets, webs, or filamentary material B65H; coin deliverers G07D 1/00; {coin-freed apparatus for dispensing discrete articles G07F 11/00})

WARNING
Groups B65D 83/75 to B65D 83/759 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: - B65D 83/75 to B65D 83/759 : B65D 83/14

Project: MP0123 (C01G)

M C01G  COMPOUNDS CONTAINING METALS NOT COVERED BY SUBCLASSES C01D OR C01F (metal hydrides {monoborane, diborane or addition complexes thereof} C01B 6/00; salts of oxyacids of halogens C01B 11/00; peroxides, salts or peroxycacids C01B 15/00; thiosulfates, dithionites, polythionates C01B 17/64; compounds containing selenium, or tellurium C01B 19/00; binary compounds of nitrogen with metals C01B 21/06; azides C01B 21/08; {compounds containing nitrogen, other non-metals and metal C01B 21/082}); metal amides C01B 21/092; nitrates C01B 21/50; {compounds of noble gases C01B 23/0005); phosphides C01B 25/08; salts of oxyacids of phosphorus C01B 25/16; carbides C01B 31/30; compounds containing silicon C01B 33/00; compounds containing boron C01B 35/00; compounds having molecular sieve properties but not having base-exchange properties C01B 37/00; compounds having molecular sieve and base-exchange properties, e.g. crystalline zeolites, C01B 39/00; cyanides C01C 3/08; salts of cyanamide C01C 3/16; thiocyanates C01C 3/20}

WARNING
Groups C01G 51/30 to C01G 51/70 and C01G 53/40 to C01G 53/70 do not correspond to former or current IPC groups. The concordance CPC : IPC for these groups is as follows: - C01G 51/30 - C01G 51/70 : C01G 51/00 - C01G 53/40 - C01G 53/70 : C01G 53/00
Project: MP0123 (C01G)

C01G  (continued)

IPC is as follows:  C01G 51/30  C01G 51/70  C01G 51/00  C01G 53/40
C01G 63/70  C01G 53/00

Project: MP0123 (C08G)

M  C08G 77/00  
Macromolecular compounds obtained by reactions forming a linkage containing silicon with or without sulfur, nitrogen, oxygen or carbon in the main chain of the macromolecule

WARNING

Groups C08G 77/70—C08G 77/80 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows:  C08G 77/70: C08G 77/04—C08G 77/80: C08G 77/04

Project: MP0123 (C09B)

M  C09B 68/00  
{Organic pigments surface-modified by grafting, e.g. by establishing covalent or complex bonds, in order to improve the pigment properties, e.g. dispersibility or rheology}

WARNING

Groups C09B 68/00 to C09B 68/485 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows:  C09B 68/40: C09B 67/00 or subgroups; C09B 68/41: C09B 67/00 or subgroups; C09B 68/42: C09B 67/00 or subgroups

Project: MP0123 (C10G)

M  C10G  
CRACKING HYDROCARBON OILS; PRODUCTION OF LIQUID HYDROCARBON MIXTURES, e.g. BY DESTRUCTIVE HYDROGENATION, OLIGOMERISATION, POLYMERISATION (cracking to hydrogen or synthesis gas C01B; cracking or pyrolysis of hydrocarbon gases to individual hydrocarbons or mixtures thereof of definite or specific constitution C07C; cracking to cokes C10B); RECOVERY OF HYDROCARBON OILS FROM OIL-SHALE, OIL-SAND, OR GASES; REFINING MIXTURES MAINLY CONSISTING OF HYDROCARBONS; REFORMING OF NAPHTHA; MINERAL WAXES (inhibiting corrosion or incrustation in general C23F)

NOTES

1. In this subclass,
   • groups C10G 9/00 to C10G 49/00 are limited to one-step processes;
   • combined or multi-step processes are covered by groups C10G 51/00 to C10G 69/00;
   • refining or recovery of mineral waxes is covered by group C10G 73/00

2. In this subclass, the following terms or expressions are used with the meanings indicated:
   • "in the presence of hydrogen" or "in the absence of hydrogen" mean treatments in which hydrogen, in free form or as hydrogen generating compounds, is added, or not added, respectively;
   • "hydrotreatment" is used for conversion processes as defined in group C10G 45/00 or group C10G 47/00;
• "hydrocarbon oils" covers mixtures of hydrocarbons such as tar oils or mineral oils.

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

**WARNING**

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

<table>
<thead>
<tr>
<th>IPC Group</th>
<th>CPC Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>C10G 73/23</td>
<td>C10G 73/06</td>
</tr>
</tbody>
</table>


---

**Project: MP0123 (C10G)**

**M C10G 3/00**

Production of liquid hydrocarbon mixtures from oxygen-containing or organic materials, e.g. fatty oils, fatty acids (production from non-melting solid oxygen-containing carbonaceous materials C10G 1/00; preparation of individual hydrocarbons or mixtures thereof of definite or specified contribution C07C)

**WARNING**

1. Groups C10G 3/40 to C10G 3/62 are not complete pending a reorganization. See also reclassification of documents from group C10G 3/00.

---

**Project: MP0123 (C12M)**

**M C12M**

APPARATUS FOR ENZYMEOLOGY OR MICROBIOLOGY; {APPARATUS FOR CULTURING MICROORGANISMS FOR PRODUCING BIOMASS, FOR GROWING CELLS OR FOR OBTAINING FERMENTATION OR METABOLIC PRODUCTS, i.e. BIOREACTORS OR FERMENTERS}

**NOTES**

1. In this subclass the term microorganism includes prokaryotic and eukaryotic cells. Viruses, human, animal or plant cells, protozoa, tissues and unicellular algae are considered microorganisms.

2. When classifying an apparatus according to its use in group C12M 21/00, classification should also be given in at least one of the groups C12M 23/00-C12M 99/00.

3. This subclass covers apparatus or devices for the fermentation or for growing microorganisms or animal tissues of both laboratory and industrial scale, i.e. bioreactors.

4. This subclass covers also apparatus or devices for the pre-treatment or after-treatment of the biomass or microorganisms to be cultured or that have been cultured.

5. This subclass does not cover the methods or processes taking place in the bioreactors that are not based on the use of the parts of the apparatus.

6. This subclass does not cover:
   - apparatus for culturing plant tissue, which are covered by A01H 4/001;
   - apparatus for preservation of living parts of bodies of humans or animals, which are covered by A01N 1/0242;
• apparatus or devices for testing sterility conditions not linked to a bioreactor or fermenter growing biomass, which are covered by A61L 2/00, G01N 31/226;
• apparatus for biological treatment of water, waste water, sewage or sludge, which are covered by C02F 3/00, C02F 11/00;
• apparatus for brewing of beer, which are covered by C12C;
• apparatus for production of wine or vinegar, which are covered by C12G, C12J 1/10;
• apparatus or devices for DNA and RNA technology, which are covered by B01L 7/52, B01J 19/0046, C12N 15/1003;
• fermentation processes, which are covered by C12P;
• apparatus for bioleaching of ores, which are covered by C22B 3/18;
• removing cellulose from cellulosic substances, which is covered by D21C;
• apparatus or devices for sampling, detection, investigation or analysis of microorganisms or biosensors, which are covered by G01N 33/48;
• apparatus for automatic analysis not linked to a bioreactor or fermenter growing biomass, which are covered by G01N 35/00;
• testing or evaluating the effect of a chemical or biological compound involving human or animal cells, which are covered by G01N 33/5005;
• apparatus for immunological test processes, which are covered by G01N 33/5302.

**WARNING**

Groups C12M 21/00 to C12M 99/00 do not correspond to former or current IPC groups.

**Concordance CPC : IPC for these groups is as follows:**

<table>
<thead>
<tr>
<th>CPC groups</th>
<th>IPC groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>C12M 21/00</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 21/02</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 21/04</td>
<td>C12M 1/107</td>
</tr>
<tr>
<td>C12M 21/06</td>
<td>C12M 3/00</td>
</tr>
<tr>
<td>C12M 21/08</td>
<td>C12M 3/00</td>
</tr>
<tr>
<td>C12M 21/10</td>
<td>C12M 3/10</td>
</tr>
<tr>
<td>C12M 21/12</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 21/14</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 21/16</td>
<td>C12M 1/16</td>
</tr>
<tr>
<td>C12M 21/18</td>
<td>C12M 1/40</td>
</tr>
<tr>
<td>C12M 23/00</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/02</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/04</td>
<td>C12M 1/12</td>
</tr>
<tr>
<td>C12M 23/06</td>
<td>C12M 1/12</td>
</tr>
<tr>
<td>C12M 23/08</td>
<td>C12M 1/24</td>
</tr>
<tr>
<td>C12M 23/10</td>
<td>C12M 1/22</td>
</tr>
<tr>
<td>C12M 23/12</td>
<td>C12M 1/32</td>
</tr>
<tr>
<td>C12M 23/14</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/16</td>
<td>C12M 3/06</td>
</tr>
<tr>
<td>C12M 23/18</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/20</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/22</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/24</td>
<td>C12M 1/04</td>
</tr>
<tr>
<td>C12M 23/26</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/28</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/30</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/32</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/34</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/36</td>
<td>C12M 1/107</td>
</tr>
<tr>
<td>C12M 23/38</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/40</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/42</td>
<td>C12M 3/00</td>
</tr>
<tr>
<td>C12M 23/44</td>
<td>C12M 3/00</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>C12M 23/46</td>
<td>C12M 3/00</td>
</tr>
<tr>
<td>C12M 23/48</td>
<td>C12M 3/00</td>
</tr>
<tr>
<td>C12M 23/50</td>
<td>C12M 3/00</td>
</tr>
<tr>
<td>C12M 23/52</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/54</td>
<td>C12M 3/00</td>
</tr>
<tr>
<td>C12M 23/56</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 23/58</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 25/00</td>
<td>C12M 1/12</td>
</tr>
<tr>
<td>C12M 25/02</td>
<td>C12M 1/12</td>
</tr>
<tr>
<td>C12M 25/04</td>
<td>C12M 1/12</td>
</tr>
<tr>
<td>C12M 25/06</td>
<td>C12M 1/12</td>
</tr>
<tr>
<td>C12M 25/08</td>
<td>C12M 1/12</td>
</tr>
<tr>
<td>C12M 25/10</td>
<td>C12M 1/12</td>
</tr>
<tr>
<td>C12M 25/12</td>
<td>C12M 1/12</td>
</tr>
<tr>
<td>C12M 25/14</td>
<td>C12M 1/12</td>
</tr>
<tr>
<td>C12M 25/16</td>
<td>C12M 1/12</td>
</tr>
<tr>
<td>C12M 25/18</td>
<td>C12M 1/12</td>
</tr>
<tr>
<td>C12M 25/20</td>
<td>C12M 1/12</td>
</tr>
<tr>
<td>C12M 27/00</td>
<td>C12M 1/06</td>
</tr>
<tr>
<td>C12M 27/02</td>
<td>C12M 1/06</td>
</tr>
<tr>
<td>C12M 27/04</td>
<td>C12M 1/04</td>
</tr>
<tr>
<td>C12M 27/06</td>
<td>C12M 1/06</td>
</tr>
<tr>
<td>C12M 27/08</td>
<td>C12M 1/06</td>
</tr>
<tr>
<td>C12M 27/10</td>
<td>C12M 3/04</td>
</tr>
<tr>
<td>C12M 27/12</td>
<td>C12M 3/04</td>
</tr>
<tr>
<td>C12M 27/14</td>
<td>C12M 3/06</td>
</tr>
<tr>
<td>C12M 27/16</td>
<td>C12M 3/06</td>
</tr>
<tr>
<td>C12M 27/18</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 27/20</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 27/22</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 27/24</td>
<td>C12M 1/08</td>
</tr>
<tr>
<td>C12M 29/00</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 29/02</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 29/04</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 29/06</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 29/08</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 29/10</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 29/12</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 29/14</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 29/16</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 29/18</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 29/20</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 29/22</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 29/24</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 29/26</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 31/00</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 31/02</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 31/04</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 31/06</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 31/08</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 31/10</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 31/12</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 33/00</td>
<td>C12M 1/26</td>
</tr>
<tr>
<td>C12M 33/02</td>
<td>C12M 1/00</td>
</tr>
<tr>
<td>C12M 33/04</td>
<td>C12M 1/26</td>
</tr>
<tr>
<td>C12M 33/06</td>
<td>C12M 1/32</td>
</tr>
<tr>
<td>C12M 33/08</td>
<td>C12M 1/26</td>
</tr>
<tr>
<td>C12M 33/10</td>
<td>C12M 1/26</td>
</tr>
<tr>
<td>C12M 33/12</td>
<td>C12M 1/26</td>
</tr>
</tbody>
</table>
- C12M 33/14 - C12M 1/26
- C12M 33/16 - C12M 1/26
- C12M 33/18 - C12M 1/26
- C12M 35/00 - C12M 1/42
- C12M 35/02 - C12M 1/42
- C12M 35/04 - C12M 1/42
- C12M 35/06 - C12M 1/42
- C12M 35/08 - C12M 1/42
- C12M 37/00 - C12M 1/12
- C12M 37/02 - C12M 1/12
- C12M 37/04 - C12M 1/12
- C12M 37/06 - C12M 1/12
- C12M 39/00 - C12M 1/00
- C12M 41/00 - C12M 1/34
- C12M 41/02 - C12M 1/21
- C12M 41/04 - C12M 1/34
- C12M 41/06 - C12M 1/00
- C12M 41/08 - C12M 1/00
- C12M 41/10 - C12M 1/00
- C12M 41/12 - C12M 1/34
- C12M 41/14 - C12M 1/00
- C12M 41/16 - C12M 1/34
- C12M 41/18 - C12M 1/02
- C12M 41/20 - C12M 1/02
- C12M 41/22 - C12M 1/02
- C12M 41/24 - C12M 1/02
- C12M 41/26 - C12M 1/34
- C12M 41/28 - C12M 1/34
- C12M 41/30 - C12M 1/34
- C12M 41/32 - C12M 1/34
- C12M 41/34 - C12M 1/34
- C12M 41/36 - C12M 1/34
- C12M 41/38 - C12M 1/34
- C12M 41/40 - C12M 1/34
- C12M 41/42 - C12M 1/34
- C12M 41/44 - C12M 1/34
- C12M 41/46 - C12M 1/34
- C12M 41/48 - C12M 1/34
- C12M 43/00 - C12M 1/00
- C12M 43/02 - C12M 1/00
- C12M 43/04 - C12M 1/00
- C12M 43/06 - C12M 1/00
- C12M 43/08 - C12M 1/00
- C12M 45/00 - C12M 1/00
- C12M 45/02 - C12M 1/33
- C12M 45/04 - C12M 1/00
- C12M 45/06 - C12M 1/00
- C12M 45/08 - C12M 3/08
- C12M 45/09 - C12M 3/08
- C12M 45/20 - C12M 3/08
- C12M 45/06 - C12M 3/08
- C12M 45/09 - C12M 3/08
- C12M 45/00 - C12M 1/00
- C12M 45/20 - C12M 1/00
- C12M 45/22 - C12M 1/00
- C12M 47/00 - C12M 1/00
- C12M 47/00 - C12M 1/00
- C12M 47/02 - C12M 1/00
Project: MP0123 (C12M)

C12M (continued)

- C12M 47/04: C12M 1/00
- C12M 47/06: C12M 1/00
- C12M 47/08: C12M 1/00
- C12M 47/10: C12M 1/00
- C12M 47/12: C12M 1/00
- C12M 47/14: C12M 1/00
- C12M 47/16: C12M 1/00
- C12M 47/18: C12M 1/00
- C12M 47/20: C12M 1/00

Project: MP0123 (C23C)

M C23

COATING METALLIC MATERIAL; COATING MATERIAL WITH METALLIC MATERIAL; SURFACE TREATMENT OF METALLIC MATERIAL BY DIFFUSION INTO THE SURFACE, BY CHEMICAL CONVERSION OR SUBSTITUTION; COATING BY VACUUM EVAPORATION, BY SPUTTERING, BY ION IMPLANTATION OR BY CHEMICAL VAPOUR DEPOSITION, IN GENERAL (applying liquids or other fluent materials to surfaces in general B05; making metal-coated products by extrusion B21C 23/22; covering with metal by connecting pre-existing layers to articles, see the relevant places, e.g. B21D 39/00, B23K; working of metal by the action of a high concentration of electric current on a workpiece using an electrode B23H; metallising of glass C03C; metallising mortars, concrete, artificial stone, ceramics or natural stone C04B 41/00; paints varnishes, laquers C09D; enamelling of, or applying a vitreous layer to, metals C23D; inhibiting corrosion of metallic material or incrustation in general C23F; single-crystal film growth C30B; manufacture of semiconductor devices H01L; manufacture of printed circuits H05K)

NOTE
In this subclass, an operation is considered as pre-treatment or after-treatment when it is specially adapted for, but quite distinct from, the coating process concerned and constitutes an independent operation. If an operation results in the formation of a permanent sub- or upper layer, it is not considered as pre-treatment or after-treatment and is classified as a multi-coating process.

WARNING
1. Groups C23C 28/30 to C23C 28/44 do not correspond to former or current IPC-groups. Concordance CPC - IPC for these groups is as follows - C23C 28/30 - C23C 28/44 : C23C 28/00
2. The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups:
   - C23C 14/36 - C23C 14/44 covered by C23C 14/34 and subgroups.
   - C23C 18/28 covered by C23C 18/2006 - C23C 18/2093

C23C 14/36 - C23C 14/44 covered by C23C 14/34 and subgroups.
C23C 18/28 covered by C23C 18/2006 - C23C 18/2093
Project: MP0123 (E05B)

M E05B

LOCKS; ACCESSORIES THEREFOR; HANDCUFFS

NOTES
1. Operating or controlling of locks for vehicle wings are classified in groups E05B 77/00–E05B 81/00.
2. Knobs, handles or press buttons for locks of vehicle wings are classified in E05B 79/00–E05B 85/00.

Project: MP0123 (F21K)

M F21K

LIGHT SOURCES NOT OTHERWISE PROVIDED FOR

WARNINGS
1. The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups:
   - F21K 5/04 covered by G03B 15/0457
   - F21K 5/06 " G03B 15/0442
   - F21K 5/08 " F21K 5/02
   - G03B 15/0442
   - F21K 5/10 " G03B 15/0442
   - F21K 5/12 " F21K 5/023
   - F21K 5/14 " F21K 5/026
   - G03B 15/0489
   - F21K 5/16 " G03B 15/0462
   - F21K 5/18 " G03B 15/0462
   - F21K 5/20 " G03B 15/0447
   - F21K 5/22 " G03B 15/0442
   - F21K 9/00 to F21K 9/90: F21K 89/00
2. Groups F21K 9/00 to F21K 9/90 do not correspond to former or current IPC groups.
   - Concordance CPC : IPC for these groups is as follows:

Project: MP0123 (F21S)

U F21S 8/00

Lighting devices intended for fixed installation (F21S 9/00, F21S 10/00 take precedence; using a string or strip of light sources F21S 4/00)

M F21S 8/03

(of surface-mounted type (F21S 8/02, F21S 8/04 take precedence; details of wall or floor bases F21V 21/02))

WARNING
Group F21S 8/03 does not correspond to former or future IPC groups.
Correspondence CPC : IPC for this group is as following:

M F21S 48/00

{Lighting devices or systems specially adapted for vehicles (arrangements or adaptations for ships or waterborne vessels B63B 45/00)}

WARNING
Groups F21S 48/00 to F21S 48/34 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows:

---

34
Project: MP0123 (G01M)

G01M 11/00  Testing of optical apparatus; Testing structures by optical methods not otherwise provided for

WARNING

Groups G01M 11/30 to G01M 11/39 do not correspond to former or future IPC groups. Concordance CPC: IPC for these groups is as follows: G01M 11/30 to G01M 11/39.

Project: MP0123 (G01V)

M G01V 1/00  Seismology; Seismic or acoustic prospecting or detecting

NOTE

Groups G01V 1/44 to G01V 1/52 take precedence over groups G01V 1/00 to G01V 1/39.

WARNING

Group G01V 1/159 does not correspond to former or current IPC groups. Concordance ECLA: IPC for this group is as follows: G01V 1/159.

Project: MP0123 (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 1/13  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

M G02F 1/1336 · · · · · · · · · · (Illuminating devices (in general F21V; associated with display devices for electronic watches G04G 9/0041))

WARNING
Groups G02F 1/1336 – G02F 1/133621 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: - G02F 1/1336 – G02F 1/133621 – G02F 1/13357.

Project: MP0123 (G06F)

M G06F 19/00 Digital computing or data processing equipment or methods, specially adapted for specific applications (G06F 17/00 takes precedence; data processing systems or methods specially adapted for administrative, commercial, financial, managerial, supervisory or forecasting purposes G06Q)

NOTE
This group only covers specific applications related to the fields of healthcare or life sciences, e.g. bioinformatics (-G09F 19/10-), medical informatics (-G06F 19/30-), or chemoinformatics (-G06F 19/70-).

WARNING
Groups G06F 19/30 – G06F 19/709 do not correspond to former or future IPC groups.
Concordance CPC : IPC for said groups is as follows: - G06F 19/30 - G06F 19/366 - G06F 19/00 - G06F 19/70 - G06F 19/709 - G06F 19/00.

Project: MP0123 (G08G)

M G08G 1/00 Traffic control systems for road vehicles (arrangement of road signs or traffic signals E01F 9/00; (automatic vehicle control B62D))

WARNING
Groups G08G 1/22 – G08G 1/20 do not correspond to former or current IPC groups.
Concordance CPC : IPC for these groups is as follows: - G08G 1/20 - G08G 1/123 - G08G 1/22 - G08G 1/16.

Project: MP0123 (G11C)

M G11C 29/00 Checking stores for correct operation; {Subsequent repair}; Testing stores during standby or offline operation (testing of electronic circuits in general G01R 31/28; error detection or error correction in computer memories during normal operation G06F 11/1008, G06F 11/1666; testing of computers during standby G06F 11/22))

WARNING
Groups G11C 29/70 to G11C 29/886 do not correspond to former or current IPC groups.
Concordance CPC : IPC for these groups is the following: - G11C 29/70 - G11C 29/886 - G11C 29/00

Project: MP0123 (H01G)

M H01G 11/00 Hybrid capacitors, i.e. capacitors having different positive and negative electrodes; Electric double-layer [EDL] capacitors [EDLCs]; Processes specially adapted for the manufacture thereof or of parts thereof

NOTE
Group H01G 11/02 takes precedence over groups H01G 11/04 - H01G 11/14

WARNING

Project: MP0123 in addition to MP0117 (H01L)

M H01L SEMICONDUCTOR DEVICES; ELECTRIC SOLID STATE DEVICES NOT OTHERWISE PROVIDED FOR (use of semiconductor devices for measuring G01; resistors in general H01C; magnets, inductors in general), transformers H01F; capacitors in general H01G; electrolytic devices H01G 9/00; batteries, accumulators H01M; waveguides, resonators or lines of the waveguide type H01P; line connectors, current collectors H01R; stimulated emission devices H01S; electromechanical resonators H03H; loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers H04R; electric light sources in general H05B; printed circuits, hybrid circuits, casings or constructional details of electric apparatus, manufacture of assemblages of electrical components H05K; use of semiconductor devices in circuits having a particular application, see the subclass for the application)

NOTES
1. This subclass covers electric solid state devices which are not 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, piezoelectric, 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 resisters, 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.
2. 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.

3. "Integration processes" are processes for the manufacture of at least two different components where the process is especially adapted to their integration, e.g. to take advantage of it or to reduce their manufacturing cost. Example: in a CMOS process, the same ion implant dopes the p-MOS gate and the n-MNOS source and drain. Consequently, a process for the manufacture of a component per se is not considered as an integration process, even though that component will be part of an integrated circuit.

"Assembly" of a device is the building up of the device from its component constructional units and includes the provision of fillings in containers.

When referring to the periodic table of the elements, either the new IUPAC notation, i.e. numbering system from 1 to 18, or the previous IUPAC form may be used to indicate an element group, e.g. group IV elements according to the new IUPAC form correspond to group 14 elements according to the previous IUPAC form.

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

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
<table>
<thead>
<tr>
<th>CPC - 2015.10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project: MP0123 in addition to MP0117 (H01L)</td>
</tr>
</tbody>
</table>

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 21/58
H01L 21/8239 covered by H01L 21/8239
H01L 29/38 covered by H01L 29/04
H01L 29/96 covered by H01L 29/945
H01L 51/30 covered by H01L 51/0032
H01L 51/40 covered by H01L 51/0001
H01L 51/46 covered by H01L 51/0032
H01L 51/48 covered by H01L 51/0001
H01L 51/54 covered by H01L 51/0032

2. Groups H01L 23/562 to 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

3. 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

4. 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

5. 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

6. 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

---

Project: MP0123 (H01L)

M H01L 41/00 Piezo-electric devices in general; Electrostrictive devices in general; Magnetostrictive devices in general; Processes or apparatus specially adapted for the manufacture or treatment thereof or of parts thereof; Details thereof (devices consisting of a plurality of solid-state components formed in or on a common substrate H01L 27/00)

WARNING

1. Groups H01L 41/22 -- H01L 41/47 correspond to IPC2013.01. Concordance CPC : IPC for these groups is as follows:--
H01L 41/22 -- H01L 41/37 : H01L 41/22 -- H01L 41/39 : H01L 41/43 : H01L 41/24 -- H01L 41/45 : H01L 41/26 -- H01L 41/47 : H01L 41/22

2-7. Pending reorganisation, the groups Groups H01L 41/23 to H01L 41/47 are not complete; see provisionally also incomplete pending reclassification of documents from group H01L 41/22.
Groups H01L 41/23 -- H01L 41/47 and H01L 41/22 should be considered in order to perform a complete search.

---
Project: MP0123 in addition to MP0117 (H01L)

M H01L 45/00 Solid state devices adapted for rectifying, amplifying, oscillating or switching without a potential-jump barrier or surface barrier, e.g. dielectric triodes; Ovshinsky-effect devices; Processes or apparatus peculiar to the manufacture or treatment thereof or of parts thereof (devices consisting of a plurality of solid state components formed in or on a common substrate
H01L 27/00; devices using superconductivity H01L 39/00; piezo-electric devices H01L 41/00; bulk negative resistance effect devices H01L 47/00; memories G11C 11/34; G11C 13/0002; amplifying circuits H03F 11/00; pulse generation H03K 3/02; electronic switching circuits H03K 17/00; logic circuits H03K 19/00))

WARNING
Groups H01L 45/04—H01L 45/16 do not correspond to former or current IPC groups. IPC concordance of said groups is — H01L 45/04—H01L 45/16— H01L 45/00. Groups H01L 45/06 to H01L 45/1601 are not complete pending reclassification; see provisionally also group H01L 45/04

Project: MP0123 (H02G)

M H02G 13/00 Installations of lightning conductors; Fastening thereof to supporting structure (indicating, counting or recording lightning strokes G01; lightning arrestors H01C 7/12, H01C 8/04, H01G 9/18, H01T; earth plates, pins or other contacts H01R)

WARNING
Groups H02G 13/20 to H02G 13/80 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: — H02G 13/20— H02G 13/80— H02G 13/00

Project: MP0123 (H03H)

M H03H 11/00 Networks using active elements

WARNING
Group H03H 11/11 does not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: — H03H 11/11— H03H 11/04

Project: MP0123 (H04B)

M H04B 10/00 Transmission systems employing electromagnetic waves other than radio-waves, e.g. infrared, visible or ultraviolet light, or employing corpuscular radiation, e.g. quantum communication

NOTE
Groups H04B 10/03, H04B 10/07, H04B 10/11, H04B 10/25, H04B 10/27, H04B 10/29 and H04B 10/40 to H04B 10/90, and their subgroups are based on IPC2013.01

WARNING
Group H04B 10/2572 does not correspond to former or current IPC groups. Concordance CPC : IPC for this group is as follows: — H04B 10/2572— H04B 10/2507
NOTES
1. This group covers: "Jamming", only when it means purposefully trying to interfere with the physical transmission and reception of communication. Provided this condition is met, this group covers devices and methods for:
   a. jamming of communication:
      i. jamming by intentionally decreasing the signal to noise ratio
      ii. deceptive jamming
      iii. passive jamming
      iv. destructive jamming
   b. countermeasures against jamming
   c. countermeasures against undesired self-jamming resulting from jamming
   d. countermeasures against surveillance, interception or detection
   e. other electronic countermeasures using or against electromagnetic or acoustic waves
   f. signal detection techniques used in relation to
      i. jamming: for interception and monitoring of the jamming target signal
      ii. anti-jamming: for jamming detection,
      iii. anti-surveillance: for surveillance detection
   g. jamming for testing or assessing countermeasures
   h. jamming used to prevent:
      • cellular phone communication
         i. in a vehicle during motion
         ii. in particular areas, including prisons, hospitals, planes, petrol stations, theatres
         iii. to trigger RCIEDs - reception of positioning data using GPS
      • wireless communication in ad hoc networks or in sensor networks
      • exchange of data between wirelessly connected devices or device units, on Bluetooth, infrared or near field links
      • unauthorized access to network, service or information, including:
         i. access to a WLAN network
         ii. access to information stored in contactless carriers, including RFID carriers
      • transmission of an alarm, against burglary or vehicle theft
      • remote control of devices
      • surveillance
         i. of speech in meeting rooms
         ii. of electromagnetic emissions from a computer screen
      • interception or detection of a wirelessly transmitted signal

2. In this group, the following acronyms are used:
   GPS = global positioning system
   RCIED = remote controlled improvised explosive device
   RFID = radio frequency identification
   WLAN = wireless local area network

WARNING
Groups H04K 3/00 - H04K 3/94 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: - H04K 3/00 - H04K 3/94 : H04K 3/00
Project: MP0123 (H04L)

**M H04L 41/00**

{Arrangements for maintenance or administration or management of packet switching networks}

**WARNING**

Groups H04L 41/00—H04L 41/5096 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: H04L 41/00—H04L 41/5096 : H04L 12/24

**M H04L 43/00**

{Arrangements for monitoring or testing packet switching networks (networking arrangements or communications protocols for supporting networked applications for tracking the activity of the application user H04L 67/22; monitoring of computing systems G06F 11/30; monitoring of computer activity G06F 11/34})

**WARNING**

Groups H04L 43/00—H04L 43/50 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: H04L 43/00—H04L 43/50 : H04L 12/26

**M H04L 45/00**

{Routing or path finding of packets in data switching networks (specially adapted for wireless routing H04W 40/00)}

**WARNING**

Groups H04L 45/00—H04L 45/74 do not correspond to former or current IPC groups. Concordance CPC : IPC for this group is as follows: H04L 45/00—H04L 45/74 : H04L 12/56

**M H04L 47/00**

{Traffic regulation in packet switching networks (arrangements for detecting or correcting errors in the information received H04L 1/00)}

**NOTE**

This group covers:
1. Flow control or congestion control
2. Queue scheduling
3. Admission control or resource allocation

**WARNING**

Groups H04L 47/00—H04L 47/829 do not correspond to former or current IPC groups.
Concordance CPC : IPC for these groups is as follows: H04L 47/00—H04L 47/829 : H04L 12/56

**M H04L 49/00**

{Packet switching elements (selecting arrangements for multiplex arrangements using optical switching H04Q 11/0001)}

**WARNING**

Groups H04L 49/00—H04L 49/9057 do not correspond to former or current IPC groups.
Concordance CPC : IPC for these groups is as follows: H04L 49/00—H04L 49/9057 : H04L 12/56

**M H04L 51/00**

{Arrangements for user-to-user messaging in packet-switching networks, e.g. e-mail or instant messages}

**WARNING**

Groups H04L 51/00—H04L 51/38 do not correspond to former or current IPC groups.
Concordance CPC : IPC for these groups is as follows: H04L 51/00—H04L 51/38 : H04L 12/58
M H04L 65/00 {Network arrangements or protocols for real-time communications (computer conference H04L 12/1813; real time or near real time messaging in message switching systems e.g. instant messaging H04L 12/581; television systems H04N 7/00; selective video distribution H04N 21/00; interconnection arrangements between switching centres for working between exchanges having different types of switching equipment where the types of switching equipment comprise PSTN/ISDN equipment and equipment of networks other than PSTN/ISDN H04M 7/1205; systems providing special services to telephonic subscribers H04M 3/42; network applications in general H04L 67/00)}

NOTES

1. {This group covers:
   • only communications which fulfill the following two conditions:
     i. they are based on packet data;
     ii. there is real-time or pseudo-real-time temporal association between source and destination, or source and network, or destination and network;
   • provided that the above two conditions are met, this group covers arrangements relating to
     a. the transmission of the multimedia data itself,
     b. the user-to-user, user-to-network, inter-network or intra-network signalling supporting:
        b1. the establishment of a session for the subsequent transmission of the multimedia data, or
        b2. the maintenance of the session or
        b3. the application services available to the user during the session (unless explicitly excluded in certain cases).}

2. {This group does not cover:
   • non-real-time multimedia file transfer, which is covered by H04L 67/06
   • multimedia store or forward messaging as in e-mail, MMS or the like, which is covered by H04L 12/58
   • analogue video streaming, as in analogue television systems, which is covered by H04N 7/00
   • selective distribution of MPEG elementary or transport streams, containing video and additional data, which is covered by H04N 21/00
   • bit streaming, i.e. not packet-based, as in ISDN which is covered by H04Q 11/0428
   • instant messaging, which is covered by H04L 12/581
   • any other multimodal data communications which do not meet the conditions of being packet-based and real-time or pseudo-real-time—flow control in packet switching networks, which is covered by H04L 12/569.}

3. {In this group the following terms or expressions are used with the meaning indicated:
   • H.323 means International Telecommunication Union Recommendation no. 323, series H, entitled "Packet-based multimedia communications systems"
   • IP means Internet Protocol
   • IMS means IP Multimedia Subsystem
   • ISDN means Integrated Services Digital Network
   • MGC means Media Gateway Control/Controller
   • MGCP means Media Gateway Control Protocol
   • MMS means Multimedia Messaging Service
   • PBX means Private Branch Exchange
   • PSTN means Public Switched Telephone Network
   • QoS means Quality of Service}
• RTP means Real Time Protocol
• RTCP means Real Time Control Protocol
• RTSP means Real Time Streaming Protocol.
• SIP means Session Initiation Protocol
• SPAM means unsolicited electronic mail
• SPIT means SPAM Prevention in IP Telephony

WARNING
Groups H04L 65/00—H04L 65/80 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows:—H04L 65/00—H04L 65/80 : H04L 29/06—

Project: MP0123 (H04R)

M H04R 25/00
Deaf-aid sets {providing an auditory perception; Electric tinnitus maskers providing an auditory perception} (constructions of transducers per se H04R 9/00 to H04R 23/00; {non-electric hearing aids A61F 11/008; replacing direct auditory perception by another kind of perception A61F 11/04; electrical stimulation of auditory nerves to promote the auditory function A61N 1/36032}; structural combination with spectacle frames G02C 11/06; processing of speech signals G10L 21/00)

NOTE
Classification should be directed to groups H04R 25/02, H04R 25/04 or H04R 25/50 and its subgroups, if and only if the technical subject in consideration cannot be classified elsewhere under the main group H04R 25/00

WARNING
Groups H04R 25/30 to H04R 25/75 do not correspond to former or current IPC groups.

Project: MP0123 (H04S)

M H04S 7/00
Indicating arrangements; Control arrangements, e.g. balance control

WARNING
Groups H04S 7/30 to H04S 7/40 do not correspond to former or current IPC groups.

Project: MP0123 (H04W)

M H04W 48/00
Access restriction; Network selection; Access point selection

WARNING
Group H04W 48/17 does not correspond to former or future IPC groups.

Project: MP0124 (A01D)

U A01D 89/00
Pick-ups for loaders, chaff-cutters, balers, field-threshers, or the like {i.e. attachments for picking-up hay or the like field crops (field threshers with windrow pick-up apparatus A01D 41/10)}

U A01D 89/006

• Accessories (feeding devices for baling presses A01F 15/10; for cutting machines A01F 29/10)

M A01D 89/007

• · · Devices for preparing the picking-up of the windowwindrow

44
Project: MP0124 (A41C)

U A41C 1/00 Corsets or girdles (corsets fasteners A41F 1/04; orthopaedic corsets A61F 5/02)
U A41C 1/12 · Component parts
U A41C 1/14 · · Stays; Steels
M A41C 1/16 · · · made er of wire
M A41C 1/20 · · · with protective type caps

Project: MP0124 (A46B)

U A46B 13/00 Brushes with driven brush bodies (or carriers)(power-driven toothbrushes A61C 17/16)
U A46B 13/001 · (Cylindrical or annular brush bodies)
M A46B 13/006 · · {formed by winding a strip tuft in a helix about the body}
U A46B 15/00 Other brushes; Brushes with additional arrangements
U A46B 15/0002 · (Arrangements for enhancing monitoring or controlling the brushing process)
M A46B 15/0038 · · {with signalling means}
M A46B 15/004 · · · {with an acoustic means, e.g. noise}
M A46B 15/0042 · · · · {with musical signalling means}
M A46B 15/0044 · · · · {with light signalling means (A46B 15/0034, A46B 15/0036 takes precedence)}
M A46B 15/0046 · · · {with vibrating signalling means}

Project: MP0124 (A61B)

U A61B 5/01 · Measuring temperature of body parts; {Diagnostic temperature sensing, e.g. for malignant or inflammed tissue}(clinical thermometers G01K 5/22; thermometers for special purposes G01K 13/00)
M A61B 5/015 · · {By temperature mapping of body parts}

Project: MP0124 (A61C)

U A61C 1/00 Dental machines for boring or cutting; {General features of dental machines or apparatus, e.g. hand-piece design}
U A61C 1/08 · · Machine parts specially adapted for dentistry
M A61C 1/088 · · {Illuminating devices or attachments (for examination of the mouth A61B 1/24 and A61B 1/06)}

Project: MP0124 (A61G)

U A61G 7/00 Beds specially adapted for nursing; Devices for lifting patients or disabled persons (equipment for beds, treatment tables, floor frames or the like for extending or stretching A61F5/045 (takes precedence); stretchers with facilities for picking up patients or disabled persons A61G 1/003)
M A61G 7/047 · Beds for special sanitary purposes; {e.g. for giving enemas, irrigations, flushings (A61G 7/02 takes precedence; means for bathing bed-ridden persons A61G 7/005)}
Project: MP0124 (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 7/00  
Devices for suction-kneading massage; Devices for massaging the skin by rubbing or brushing not otherwise provided for (Electro-medical massage devices applying electric current by contact A61N 1/18 (Brushes in general A46; Bathing sponges, brushes, gloves or similar cleaning or rubbing implements not specially for massage A47K 7/02; Suction devices for nursing A61M 1/06, A61M 1/08; Rollers or balls therefore, A61H 15/00))

U A61H 7/007  
· {Kneading}

U A61M 5/31  
· · Details

U A61M 5/32  
· · · Needles; Details of needles pertaining to their connection with syringe or hub (infusion needles A61M 5/158); Accessories for bringing the needle into, or holding the needle on, the body {(A61M 5/42, A61M 5/46 take precedence; guide needles for catheters A61M 25/065); Devices for protection of needles {(apparatus specially adapted for cleaning or sterilising needles A61M 5/001)}

U A61M 5/3205  
· · · · {Apparatus for removing or disposing of used needles or syringes, e.g. containers; Means for protection against accidental injuries from used needles (for sharps A61B 19/0288; disintegrating apparatus in general B02C, e.g. B02C 19/0075, B23H 9/001; disposal of medical waste in general B09B 3/0075; receptacles for refuse disposal in general B65F 1/00)}

U A61M 5/321  
· · · · · {Means for protection against accidental injuries by used needles}

U A61M 5/3243  
· · · · · · · (being axially-extensible, e.g. protective sleeves coaxially slideable on the syringe barrel (devices for protecting guide needles in combination with catheters A61M 25/0612))

U A61M 5/3257  
· · · · · · · · {Semi-automatic sleeve extension, i.e. in which the triggering of the sleeve extension requires a deliberate action by the user, e.g. manual release of spring-biased extension means}

M A61M 5/326  
· · · · · · · · · {Fully automatic, i.e. in which the triggering does not require a deliberate action by the user}
Indoor games using small moving playing bodies, e.g. balls, discs or blocks (board games, raffle games A63F 3/00; roulette games A63F 5/00; miniature bowling games A63D 3/00; bagatelle or similar games A63D 13/00; billiards, pocket billiards A63D 15/00)

Games simulating outdoor ball games, e.g. hockey (or football (or football if physically beneficial for the human body A63B 67/00 if physically beneficial for the human body A63B 67/00))

Auxiliary or complementary information in relation with mixing

Mixing ingredients for bone cement (tools for mixing bone cement A61B 17/88 equipment for handling bone cement A61B 17/8802)

Details of magnetic or electrostatic separation

Magnetic separation whereby the particles are suspended in a liquid
Magnetic separation whereby the particles to be separated are in solid form

DISPOSAL OF SOLID WASTE; RECLAMATION OF CONTAMINATED SOIL (treatment of waste water, sewage or sludge C02F; treating radioactively contaminated solids G21F 9/28)

Apparatus or methods for obtaining or processing clay (filtration in general B01D; separation of solids from solids B03, B07; chemical part C04B; by mining or quarrying E21C 41/16, E21C 41/26, E21C 47/10)

for producing or processing clay suspensions; (e.g. slip) (producing or processing suspensions in general B01)

Brushes

(Toothbrushes Toothbrush)

Presses specially adapted for particular purposes

for baling; Compression boxes therefor (baling hay, straw, or the like A01F)

{Containers provided with, or connectable to, compactor means}

Details of, or accessories for, presses; Auxiliary measures in connection with pressing (safety devices F16P)

 Frames; Guides

(Means preventing deflection of the frame, especially for C-frames)
Project: MP0124 (B60B)

U B60B 3/00 Disc wheels, i.e. wheels with load-supporting disc body (non-metallic B60B 5/00; wheel cover discs B60B 7/00; disc wheels comprising rail-engaging elements B60B 17/006)

U B60B 3/04 with a single disc body not integral with rim, i.e. disc body and rim being manufactured independently and then permanently attached to each other in a second step, e.g. by welding

U B60B 3/041 (characterised by the attachment of rim to wheel disc)

M B60B 3/045 (characterised by the attachment portions)

M B60B 3/047 (comprising specific torque transmitting means)

M B60B 3/048 (the rim being rotatably mounted to the wheel disc)

U B60B 25/00 Rims built up of several main parts (Locking means for the rim parts)(tools for assembling divided rims B60B 31/04)

U B60B 25/04 Rims with dismountable flange rings, seat rings, or lock rings

M B60B 25/045 (on both sides)

Project: MP0124 (B60K)

U B60K 15/00 Arrangement in connection with fuel supply of combustion engines (or other fuel consuming energy converters, e.g. fuel cells); Mounting or construction of fuel tanks (tanks in general B65D, F17C; supplying combustion engines with combustible mixtures or constituents F02M)

U B60K 15/03 Fuel tanks (chassis frame comprising fluid storage compartment B62D 21/16; Details of the fuel feeding system related to the fuel tank F02M 37/0076)

U B60K 15/04 Tank inlets (B60K 15/077 takes precedence)

U B60K 15/0406 (Filler caps for fuel tanks)

M B60K 2015/0419 (Self-sealing closure caps, e.g. means that the cap don’t have to be removed manually)

Project: MP0124 (B60N)

U B60N 2/00 Seats specially adapted for vehicles (for facilitating access of invalids to, or exit of invalids from, vehicles A61G 3/02; railway seats B61D 33/00; cycle seats B62J 1/00; aircraft seats B64D 11/06, B64D 25/04, B64D 25/10)

U B60N 2/02 the seat or part thereof being movable, e.g. adjustable (B60N 2/427 takes precedence); adjustable arm-rests B60N 2/46; adjustable head-rests B60N 2/48)

M B60N 2/0224 (Non-manual adjustment, e.g. with electrical operation (B60N 2/0296, B60N 2/52, B60N 2/6673 take precedence; for adjusting head-rests with electric motors B60N 2/4829, B60N 2/4832))

Project: MP0124 (B60P)

M B60P VEHICLES ADAPTED FOR LOAD TRANSPORTATION OR TO TRANSPORT, TO CARRY, OR TO COMPRIS SPECIAL LOADS OR OBJECTS (vehicles with special provisions for invalids transporting patients or disabled persons, or their personal conveyances A61G 3/00)

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

WARNING The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:
Vehicles adapted to transport, to carry or to comprise special loads or objects (ambulance aspects, vehicles with special provisions for invalids A61G 3/00; ambulances or other vehicles with special provisions for transporting patients or disabled persons, or their personal conveyances A61G 3/00; hearses A61G 21/00; fire-fighting land vehicles A62C 27/00; refuse-collecting vehicles B65F 3/00, B65F 7/00; snow-removing vehicles E01H; armoured or armed vehicles F41H 7/00; self-propelled mine-clearing vehicles F41H 11/16)

(Acoustic efor thermal insulation of passenger compartments (wall or roof liners integrating the insulating function B60R 13/02; insulating floor mats or carpets B60N 3/04))

Aircraft indicators or protectors not otherwise provided for (camouflage F41H 3/00)

(Flight bags, including Adaptations for use of electronic type-flight bags in aircraft; Supports therefor in the cockpit)

Types of refuse collected

Specific machines

for handling web(s)

Winding machines

Winding beds consisting of two rollers

The winding rollers having different properties
Use of agglomerated or waste materials or refuse as fillers for mortars, concrete or artificial stone (use of waste materials for the manufacture of cement C04B 7/24); Treatment of agglomerated or waste materials or refuse, specially adapted to enhance their filling properties in mortars, concrete or artificial stone

NOTE
Fillers with a well defined shape other than granular are considered to be reinforcing elements and thus are classified in E04C 5/00. However, if they are only characterised by their composition, classification is made in C04B only

Agglomerated materials, {e.g. artificial aggregates)

(Lightweight material (C04B 14/12 takes precedence))

{temporarily agglomerated, e.g. agglomerates which fall apart during mixing with the other mortar or concrete ingredients)

Use of materials as fillers for mortars, concrete or artificial stone according to more than one of groups C04B 14/00 to C04B 18/00 and characterised by shape or grain distribution; Treatment of materials according to more than one of the groups C04B 14/00 to C04B 18/00 specially adapted to enhance their filling properties in mortars, concrete or artificial stone; Expanding or defibrillating materials

NOTE
Fillers with a well-defined shape other than granular are considered to be reinforcing elements and thus are classified in E04C 5/00. However, if they are only characterised by their composition, classification is made in C04B only

{characterised by the grain distribution)

{Micro- or nanosized fillers, e.g. micronised fillers with particle size smaller than that of the hydraulic binder (colloidal silica C04B 14/062; colloidal silica C04B 14/062; silica fume C04B 18/146))

Use of inorganic materials as active ingredients for mortars, concrete or artificial stone, e.g. accelerators, {shrink, shrinkage compensating agents)

{Water}

{containing dissolved additives or active agents, i.e. aqueous solutions used as gauging water (C04B 22/002 takes precedence))

Compositions of mortars, concrete or artificial stone, containing only organic binders, {e.g. polymer or resin concrete (mechanical aspects of moulding polymer or resin concrete B29C 67/242))

Porous mortars, concrete, artificial stone or ceramic ware; Preparation thereof (treating slag with gases or gas generating material C04B 5/06; expanded graphite C04B 35/536))

NOTE
Porous materials based on fibres, i.e. materials where the porosity is due to the spaces between the fibres, are not classified in this maingroup, but in one or more of the other relevant maingroups of this subclass, e.g. in C04B 30/02

{Honeycomb structures (from one or more corrugated sheets by winding or stacking)}

{as a mixture of nonomers and prepolymers or oligomers)

{as ceramic preforms for the fabrication of metal matrix comp, e.g. cermets}
NOTES
1. Group C08F 4/00 and subgroups can be incomplete according to the following classification rules:
   • if a catalyst is specifically used for only one type of polymer, it is not classified in C08F 4/00;
   • in such a case, the classification symbol of C08F 4/00 providing for the catalyst may be used as a symbol for a C-Set in the groups providing for the polymer, e.g. (C08F 12/04, C08F 4/62);
   • this method of classification is applied only when a note after the group providing for the polymer explicitly indicates which symbols of C08F 4/00 may be used for forming the C-set.
2. When classifying in group C08F 4/00, the type of catalyst can be further indexed by using indexing codes chosen from C08F 2410/00, C08F 2420/00 or their subgroups
   U C08F 4/42 · Metals; Metal hydrides; Metallo-organic compounds; Use thereof as catalyst precursors
   U C08F 4/44 · selected from light metals, zinc, cadmium, mercury, copper, silver, gold, boron, gallium, indium, thallium, rare earths or actinides
   U C08F 4/60 · · · together with refractory metals, iron group metals, platinum group metals, manganese, rhenium {technetium} or compounds thereof
   NOTES
   1. In groups C08F 4/60 to C08F 4/64, the term "component" comprises the transition metal or a compound thereof, pretreated or not { (pretreating per se C08F 4/61, C08F 4/63 and C08F 4/65) }.
   2. Group C08F 4/60003 takes precedence over groups C08F 4/602 to C08F 4/619.
   U C08F 4/619 · · · · Component covered by group C08F 4/60 containing a transition metal-carbon bond {(C08F 4/60003 - C08F 4/60196 take precedence)}
   M C08F 4/6192 · · · · · (containing at least one cyclopentadienyl ring, condensed condensed or not, e.g. an indenyl or a fluorenyl ring)
   U C08F 4/62 · · · · · · · Refractory metals or compounds thereof
   NOTE
   Group C08F 4/62003 takes precedence over groups C08F 4/622 to C08F 4/639
   U C08F 4/622 · · · · · · · Component covered by group C08F 4/62 with an organo-aluminium compound {(C08F 4/62003 - C08F 4/62196 take precedence)}
   M C08F 4/6228 · · · · · · · (with an alumoxane alumoxane, i.e. a compound containing an -Al-O-Al- group)
   M C08F 4/63 · · · · · · · Pretreating the metal or compound covered by group C08F 4/62 before the final contacting with the metal or compound covered by group C08F 4/44 {(C08F 4/62003 - C08F 4/62196 take precedence)}
   U C08F 4/632 · · · · · · · Pretreating with metals or metal-containing compounds
   M C08F 4/638 · · · · · · · (with metals or metal-containing compounds, not provided for in a single group of groups C08F 4/633 to C08F 4/637)
U C08F 4/64 · · · · · Titanium, zirconium, hafnium or compounds thereof

NOTE
Group C08F 4/6403 takes precedence over groups C08F 4/642 to C08F 4/659

U C08F 4/642 · · · · · Component covered by group C08F 4/64 with an organo-aluminium compound ((C08F 4/6403 - C08F 4/64196 take precedence))

M C08F 4/6428 · · · · · · (with an aluminoxane, i.e. a compound containing an Al-O-Al group)

M C08F 222/00 Copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a carboxyl radical and containing at least one other carboxyl radical in the molecule; Salts, anhydrides, esters, amides, imides, or nitriles thereof

Project: MP0124 (C09K)

U C09K 2205/00 Aspects relating to compounds used in compression type refrigeration systems

U C09K 2205/40 · Replacement mixtures

M C09K 2205/44 · · Type R14B1 R13B1

Project: MP0124 (C11C)

U C11C 3/00 Fats, oils, or fatty acids by chemical modification of fats, oils, or fatty acids obtained therefrom (sulfonated fats or oils C07C 309/62; factice C08H; drying oils C09F)

M C11C 3/14 · by isomerisation ((isomerisation induced by hydrogenation C11C 3/12))

Project: MP0124 (C13K)

M C13K 13/00 (Sugars not otherwise provided for in this class)

Project: MP0124 (C25D)

U C25D 1/00 Electroforming

M C25D 1/006 · Nanostructures, e.g. aluminum anodic oxidation templates (AAO)

U C25D 7/00 Electroplating characterised by the article coated

M C25D 7/12 · Semiconductors (without seed layer)

M C25D 7/123 · · Semiconductors coated first coated with a seed layer, e.g. for filling vias

WARNING
Groups C25D 7/123-C25D 7/126 are not complete, pending reorganization, see also C25D 7/12

U C25D 11/00 Electrolytic coating by surface reaction, i.e. forming conversion layers

U C25D 11/02 · Anodisation

M C25D 11/026 · · Anodisation with spark discharge [ANOF]

M C25D 15/00 Electrolytic or electrophoretic production of coatings containing uncharged embedded materials, e.g. particles, whiskers, wires
Project: MP0124 (E01F)

U E01F 9/00 Arrangement of road signs or traffic signals (signals, signalling systems G08; signs, attachment thereof to supports G09F); Arrangements for enforcing caution, e.g. speed bumps

U E01F 9/011 · Upright bodies, e.g. marker posts or bollards; Supports for road signs, (e.g. posts, frames, gantries) (E01F 9/045, E01F 9/0533, E01F 13/02 take precedence); posts or poles in general E04H 12/00; means for attaching signs to a supporting structure in general G09F 7/18

M E01F 9/019 · · Extensible, collapsible or pivotable, (e.g. telescopic, retractable or otherwise movable to an underground position (E01F 9/093, E01F 13/046, E01F 13/085 take precedence; retractable traffic islands E01F 1/00)

U E01F 9/04 · Road surface markings; Kerbs or road edgings, specially adapted for informing road users, e.g. illuminated (for redirecting vehicles E01F 15/00)

U E01F 9/041 · · {Selection of materials for road surface marking, e.g. wheel-grip improving additives, reflecting particles (specially adapted for kerbs E01F 9/053, for playing grounds A63C 19/06; reflecting or signal paints C09D 5/004); Methods of forming, installing or applying markings in, on or to paving (E01F 9/047, E01F 9/053, E01F 9/06 take precedence; devices therefor E01C)}

M E01F 9/042 · · · {Preformed markings, e.g. materials for sheets or signs, methods of bonding same to road surface (traffic line tapes E01F 9/083)}

Project: MP0124 (E05C)

U E05C 17/00 Devices for holding wings open; Devices for limiting opening of wings or for holding wings open by a movable member extending between frame and wing; Braking devices, stops or buffers, combined therewith (combined with hinges E05D 11/00; combined with operating apparatus for wings E05F; other braking devices, stops, buffers E05F 5/00)

U E05C 17/02 · by mechanical means (E05C 17/60 takes precedence)

M E05C 17/04 · · (Hinges for the with a movable bar or equivalent member extending between frame and wing (E05C 17/163, E05C 17/26, E05C 17/345 take precedence; hinges in general F16C 11/04, E05D))

Project: MP0124 (F01N)

U F01N 3/00 Exhaust or silencing apparatus having means for purifying, rendering innocuous, or otherwise treating exhaust (electric control F01N 9/00; monitoring or diagnostic devices for exhaust-gas treatment apparatus F01N 11/00; (collecting or removing exhaust gases of vehicle engines in workshops B08B 15/00, on highways E01C 1/005))

M F01N 3/02 · for cooling, or for removing solid constituents of, exhaust (by means of electric or electrostatic separators F01N 3/01; (mixing air with exhaust in tailpipes F01N 13/082, F01N 13/20))

U F01N 3/08 · for rendering innocuous (using electric or electrostatic separators F01N 3/01; chemical aspects B01D 53/92)

U F01N 3/10 · · by thermal or catalytic conversion of noxious components of exhaust (by using other chemical processes, chemical aspects of catalytic conversion, e.g. using specified catalysts, B01D 53/34)

U F01N 3/24 · · · characterised by constructional aspects of converting apparatus (filtering in combination with catalytic reactors F01N 3/035)

U F01N 3/28 · · · Construction of catalytic reactors
U F01N 3/2839 (Arrangements for mounting catalyst support in housing, e.g. with means for compensating thermal expansion or vibration)
M F01N 3/2853 (using mats or gaskets between catalyst body and housing)
M F01N 5/00 Exhaust or silencing apparatus combined or associated with devices profiting by exhaust energy (predominant aspects of such devices, see the relevant classes for the devices; using kinetic or wave energy of exhaust gases in exhaust systems for charging F02B; predominant aspects of such devices, see the relevant classes for the devices)
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 Purging the reducing agent out of clogging, e.g. purging the conduits or nozzle

Project: MP0124 (F16H)
U F16H 25/00 Gearings comprising primarily only cams, cam-followers and screw-and-nut mechanisms
U F16H 25/18 for conveying or interconverting oscillating or reciprocating motions
U F16H 25/20 Screw mechanisms (with automatic reversal F16H 25/12)
U F16H 25/22 with balls, rollers, or similar members between the co-operating parts; Elements essential to the use of such members
U F16H 25/2285 with rings engaging the screw shaft with the inner perimeter, e.g. using inner rings of a ball bearing
M F16H 25/2295 Rings which are inclined or can pivot around an axis perpendicular to the screw shaft axis
U F16H 59/00 Control inputs to (control units of) change-speed-, or reversing-gearings for conveying rotary motion
U F16H 59/02 Selector apparatus
NOTE Selection apparatus of general applicability or of interest apart from its use in control of gearings conveying rotary motion is also classified in subclass G05G
U F16H 2059/0239 {Up- and down-shift selection by repeated movement (mechanical step by step selection devices F16H 63/14)}
M F16H 2059/0247 {with lever or paddle behind steering wheel}
U F16H 59/36 Inputs being a function of speed
M F16H 2059/363 {Rate of change of input shaft speed, e.g. of engine or motor speed shaft}

Project: MP0124 (F25B)
M F25B 13/00 Compression machines, plant, or systems with reversible cycle (defrosting cycles F25B 47/02)
U F25B 2309/00 Gas cycle refrigeration machines
U F25B 2309/14 Compression machines, plant or systems characterised by the cycle used
M F25B 2309/1419 Pulse-tube cycles with pulse tube having a basic pulse tube refrigerator [PTR], i.e. comprising a tube with basic schematic
U F25B 2400/00 General features or devices for refrigeration machines, plants or systems, combined heating and refrigeration systems or heat-pump systems, i.e. not limited to a particular subgroup of F25B
M F25B 2400/06 Several compression machines cycles arranged in parallel
Project: MP0124 (F25D)

U F25D 2400/00 General features of, or devices for refrigerators, cold rooms, ice-boxes, or for cooling or freezing apparatus not covered by any other subclass

M F25D 2400/26 · Refrigerating devices for cooling wearing apparel, e.g. garments, hats, shoes or gloves •

U F25D 2700/00 Means for sensing or measuring; Sensors therefor

U F25D 2700/12 · Sensors measuring the inside temperature

M F25D 2700/123 · · more than one sensor measuring the inside air temperature in a compartment

Project: MP0124 (F25J)

U F25J 1/00 Processes or apparatus for liquefying or solidifying gases or gaseous mixtures {(for ammonia in general C01C 1/00; solidification of carbonic acid C01B 31/22; recovering volatile solvents by condensation B01D 5/00; vapor recovery systems combined with filling nozzles B67D 7/54)(not used)}

U F25J 1/02 · requiring the use of refrigeration, e.g. of helium or hydrogen {Details and kind of the refrigeration system used; Integration with other units or processes; Controlling aspects of the process (not used)}

U F25J 1/0228 · · · Coupling of the liquefaction unit to other units or processes, so-called integrated processes (combined plants, e.g. engine plant combined with an industrial process F01K 23/064; gas turbine plants in combination with other processes F02C 6/00)}

U F25J 1/0235 · · · {Heat exchange integration}

U F25J 1/0237 · · · · {integrating refrigeration provided for liquefaction and purification/treatment of the gas to be liquefied, e.g. heavy hydrocarbon removal from natural gas (details related to rectification F25J 3/02; details related to partial condensation F25J 3/06; working-up natural gas C10L 3/10)}

M F25J 1/0238 · · · · · {Purification/treatment step is integrated within one refrigeration cycle only, i.e. the same or single refrigeration cycle provides feed gas cooling (if present) and overhead gas cooling}

Project: MP0124 (G03G)

U G03G 15/00 Apparatus for electrographic processes using a charge pattern (G03G 16/00, G03G 17/00 take precedence; {xerographic printers for data processors per se G06K 15/14})

U G03G 15/50 · {Machine control of apparatus for electrographic processes using a charge pattern, e.g. regulating differents parts of the machine, multimode copiers, microprocessor control (sequencing control G03G 21/14)}

M G03G 15/5004 · · {Power supply control, e.g. power-saving mode, automatic power turn-off}

Project: MP0124 (G04B)

U G04B 21/00 Indicating the time by acoustic means (at preselected times G04B 23/00; by electro-acoustic means G04C 21/04; {indicating the time by means other than acoustically, or by combined means G04B 25/00; indicating the time by visual means G04B 19/00, G04C 17/00; acoustic signalling arrangements G08B 3/00})

M G04B 21/02 · Regular striking mechanisms giving the full hour, half hour, or quarter hour {{electrarily operating striking mechanisms with choice of repertoire mechanism G04C 21/06}}
Project: MP0124 (G06F)

U G06F 8/00 {Arrangements for software engineering (execution of stored program G06F 9/06; testing or debugging G06F 11/36; hardware/software co-design G06F 17/50; software project management G06Q 10/06)}

U G06F 8/30 · (Creation or generation of source code)

M G06F 8/38 · · {to implement Implementation of user interfaces (interaction techniques for graphical user interfaces G06F 3/048)}

U G06F 9/00 Arrangements for programme control, e.g. control unit (programme control for peripheral devices G06F 13/10; in regulating or control systems G05B)

U G06F 9/06 · using stored programme, i.e. using internal store of processing equipment to receive and retain programme

U G06F 9/44 · · Arrangements for executing specific programmes

U G06F 9/4401 · · · · · (Bootstrapping (secure booting G06F 21/575; fault tolerant booting G06F 11/1417; resetting means G06F 1/24; power-on self test G06F 11/2284))

M G06F 9/4405 · · · · · {Initialisation of multiprocessor systems}

Project: MP0124 (H01J)

U H01J 37/32 · Gas-filled discharge tubes, [e.g. for surface treatment of objects such as coating, plating, etching, sterilising or bringing about chemical reactions] (general methods or devices for heat treatments of ferrous or non-ferrous metals or alloys by cathodic discharges C21D 1/38; methods of carburising or nitriding of metals in general C23C 8/00; methods for coating, plating or surface treating of or with metallic material C23C 8/36, C23C 14/32, C23C 16/50; methods for coating, plating or surface treating of or with semiconductors H01L 21/00; heating by discharge H05B)

U H01J 37/32009 · · {Arrangements for generation of plasma specially adapted for examination or treatment of objects, e.g. plasma sources (plasma generation in general H05H 1/24)}

M H01J 37/32082 · · · (Radio frequency generated discharge (H01JH01J 37/32357, H01JH01J 37/32366, H01JH01J 37/32394 and H01JH01J 37/32403 take precedence))

M H01J 37/32192 · · · (Microwave generated discharge (H01JH01J 37/32357, H01JH01J 37/32366, H01JH01J 37/32394, H01JH01J 37/32403 take precedence))

M H01J 37/32321 · · · (Discharge generated by other radiation (H01JH01J 37/32055, H01JH01J 37/32055, H01JH01J 37/32073, H01JH01J 37/32082, H01JH01J 37/32192, H01JH01J 37/32348 take precedence))

Project: MP0124 (H01L)

U H01L 2224/00 Indexing scheme for arrangements for connecting or disconnecting semiconductor or solid-state bodies and methods related thereto as covered by H01L 24/00

U H01L 2224/01 · Means for bonding being attached to, or being formed on, the surface to be connected, e.g. chip-to-package, die-attach, "first-level" interconnects; Manufacturing methods related thereto

U H01L 2224/02 · · Bonding areas; Manufacturing methods related thereto

U H01L 2224/03 · · · Manufacturing methods

U H01L 2224/033 · · · by local deposition of the material of the bonding area

U H01L 2224/0331 · · · · · in liquid form
Continuous flow, e.g. using a micro-syringe, a pump, a nozzle or extrusion

Manufacturing methods related thereto

by local deposition of the material of the bump connector

in liquid form

Continuous flow, e.g. using a micro-syringe, a pump, a nozzle or extrusion

Layer connectors, e.g. plate connectors, solder or adhesive layers; Manufacturing methods related thereto

by local deposition of the material of the layer connector

in liquid form

Continuous flow, e.g. using a micro-syringe, a pump, a nozzle or extrusion

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

by forming build-up interconnects at chip-level, e.g. for high density interconnects [HDI]

Forming a build-up interconnect

by subtractive methods

Generators in which thermal or kinetic energy is converted into electrical energy by ionisation of a fluid and removal of the charge therefrom (discharge tubes functioning as thermionic generators H01J 45/00)

Auxiliary devices or processes, not specially adapted to a procedure covered by only one of the preceding main groups (eye-shields for welders worn on the operator’s body or carried in the hand A61F 9/00 (i.e. A61F 9/02); applicable to metal-working machines other than soldering, welding, or flame-cutting machines B23Q; (laser protective screens B23K 26/427 B23K 26/706; } protective shields for other welding methods F16P 1/06)

Apparatus or processes for cutting, or otherwise severing, specially adapted for the cutting, or otherwise severing, of textile materials (severing for making buttonholes A41H; hand cutting tools in general B26B; cutting machines in general B26D; severing otherwise than by cutting in general B26F; {web delivery apparatus incorporating cutting devices B65H 35/0006}; trimming seamed edges, shearing surfaces of fabrics, shearing lace or embroidery, e.g. cutting loose threads D06C)

Severing by heat or by chemical agents {(by laser beam B23K 26/4055 B23K 26/402)}
Project: RP0065 (H01C)

U H01C 17/00 Apparatus or processes specially adapted for manufacturing resistors (providing fillings for housings or enclosures H01C 1/02; reducing insulation surrounding a resistor to powder H01C 1/03; manufacture of thermally variable resistors H01C 7/02, H01C 7/04)

U H01C 17/22 · adapted for trimming

U H01C 17/24 · · by removing or adding resistive material (H01C 17/23, H01C 17/232, H01C 17/235 take precedence)

H01C 17/242 · · · by laser ((trimming by laser in general B23K 26/0003 B23K 26/351))

Project: RP0077 in addition to RP0117 (A63B)

M A63B APPARATUS FOR PHYSICAL TRAINING, GYMNASTICS, SWIMMING, CLIMBING, OR FENCING; BALL GAMES; TRAINING EQUIPMENT (apparatus for passive exercising, massage A61H)

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

A63B 7/06 covered by A63G 1/00
A63B 21/075 A63B 21/075 covered by A63B 21/072

A63B 21/08 covered by A63B 21/06

A63B 22/08 covered by A63B 22/0605 in absence of A63B 22/0002

A63B 22/10 covered by A63B 22/0605 in combination with A63B 22/0002

A63B 22/12 covered by A63B 22/0605 in combination with A63B 22/001

A63B 29/04 covered by A63B 29/00

A63B 31/16 covered by A63B 31/14

A63B 49/06 covered by A63B 49/02

A63B 51/16 covered by A63B 51/14

A63B 55/06 covered by A63B 55/04

A63B 31/18 A63B 63/02 covered by A63B 63/00

A63B 63/04 covered by A63B 63/00

A63B 69/22 covered by A63B 69/20

A63B 69/28 covered by A63B 69/20

A63B 69/30 covered by A63B 69/20

A63B 71/16 covered by A63B 71/081

A63B 71/14 A63B 71/148
Project: RP0077 (A63B)

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

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

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

A63B 21/0043

• (exercise device) Exercising devices consisting of a pair of user interfaces with the user connected by flexible elements, e.g. two handles connected by elastic bands, skipping ropes (A63B 5/20 takes precedence, resilient element A63B 21/02; skipping ropes A63B 5/20; resilient elements A63B 21/02))

WARNING
not complete, pending the completion of a reclassification.

A63B 21/0058

• (Mechanical means for varying the resistance (A63B 21/06 takes precedence))

WARNING
not complete, pending the completion of a reclassification.

A63B 21/0061

• (Replaceable resistance units of different strengths, e.g. for swapping)

WARNING
not complete, pending the completion of a reclassification.

A63B 21/0065

• (Multiple individual resistance units of different strengths, e.g. additional number of resistance units)

WARNING
not complete, pending the completion of a reclassification.

A63B 21/0069

• (Setting or adjusting the resistance level; Setting, adjusting the resistance level, or compensating for a preload prior to use, e.g. changing length of resistance; or adjusting a valve)

WARNING
not complete, pending the completion of a reclassification.

A63B 21/0076

• (On the fly, i.e. varying the resistance being adjustable during exercise)

WARNING
not complete, pending the completion of a reclassification.

A63B 22/0046

• (Details of the support elements or their connection to the exercising apparatus, e.g. adjustment of size or orientation (attachments of resisters or weights to the body of the user A63B 21/1408; A63B 21/4001; using rollers, wheels, castors or gliding means to be moved over the floor or guide tracks A63B 22/20))

U A63B 37/00

Solid balls; (Rigid hollow balls); Marbles (heavy throwing balls A63B 65/06)
A63B 37/0003

(Golf balls (for practising drives A63B 69/3655, for practising puts A63B 69/3688))

WARNING

Subgroups of A63B 37/0003 are not complete pending reclassification; see also this group.

Project: RP0077 in addition to RP0117 (A63B)

C A63B 49/00

Tennis Stringed rackets, badminton, or like rackets e.g. for tennis (strings therefor A63B 51/00)

NOTES

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

WARNING

Group A63B 49/007, A63B 49/06 are not complete pending a reclassification. See also this group, its subgroups and other groups of A63B.

Group A63B 49/00 is impacted by reclassification into groups A63B 51/00, A63B 60/00, A63B 60/46, A63B 2102/00, A63B 2102/10, A63B 2102/12, A63B 2102/26, A63B 2102/28, A63B 2102/30, and A63B 2102/38.
All groups listed in this Warning should be considered in order to perform a complete search.

C A63B 59/00

Bats, rackets, or the like, for other games not covered by groups A63B 49/00 - A63B 57/00 (bats with a ball tethered thereto A63B 67/20 details A63B 60/00) {Hand-held throwing or catching aids; Details or accessories of bats, rackets or the like, not limited to one of the groups A63B 49/00 to A63B 57/00, or not otherwise provided for}

NOTES

1. In this group, the following term is used with the meaning indicated:
   • "ball" covers also pucks or other objects to be hit during the game.
2. When classifying in group A63B 59/00 and subgroups, subject matter related to details or accessories of golf clubs, bats, rackets or the like are further classified in group A63B 60/00.

WARNING

Group A63B 59/00 is impacted by reclassification into groups A63B 60/00, A63B 60/46, A63B 2102/00, A63B 2102/10, A63B 2102/12, A63B 2102/26, A63B 2102/28, A63B 2102/30, and A63B 2102/38.
All groups listed in this Warning should be considered in order to perform a complete search.

D A63B 59/0025

{contoured according to the anatomy of the user's hand}

WARNING

Not complete, pending the completion of a reclassification.

D A63B 59/0029

{Coverings specially adapted therefor, e.g. sleeves, ribbons}

WARNING

Not complete, pending the completion of a reclassification.
D A63B 59/0033 · · {Caps, ferrules}
WARNING
Not complete, pending the completion of a reclassification

D A63B 59/0037 · · {with grooves or holes for cooling, ventilating or sweat-reduction; with powder dispensers}
WARNING
Not complete, pending the completion of a reclassification

D A63B 59/004 · · {with two handgrips}
WARNING
Not complete, pending the completion of a reclassification

D A63B 59/0044 · · {adjustable in length}
WARNING
Not complete, pending the completion of a reclassification

D A63B 59/0048 · · {with adjustable perimetric length}
WARNING
Not complete, pending the completion of a reclassification

D A63B 59/0051 · · {with means for changing the angular position of the handle about its longitudinal axis}
WARNING
Not complete, pending the completion of a reclassification

D A63B 59/0055 · · {the handle axis being different from the main axis of the bat or racket}
WARNING
Not complete, pending the completion of a reclassification

D A63B 59/0059 · · {adjustable in stiffness}
WARNING
Not complete, pending the completion of a reclassification

Project: RP0117 in addition to RP0077 (A63B)

M A63B APPARATUS FOR PHYSICAL TRAINING, GYMNASTICS, SWIMMING, CLIMBING, OR FENCING; BALL GAMES; TRAINING EQUIPMENT (apparatus for passive exercising, massage A61H)
WARNING
The following IPC groups are not used in the internal classification CPC scheme.
Subject matter covered by these groups is classified in the following CPC groups:
A63B 7/06 covered by A63G 1/00
A63B 21/075 A63B 21/075 covered by A63B 21/072
A63B 22/0002
A63B 22/0605
A63B 22/0605
A63B 22/10 covered by A63B 22/0605 in combination with A63B 22/0002
A63B 22/12 covered by A63B 22/0605 in combination with A63B 22/001
A63B 29/04 covered by A63B 29/00
A63B 31/16 covered by A63B 31/14
  - A63B 49/06 covered by A63B 49/02
  - A63B 51/16 covered by A63B 51/14
  - A63B 55/06 covered by A63B 55/04
  - A63B 31/18 covered by A63B 63/02
A63B 63/04 covered by A63B 63/00
A63B 69/22 covered by A63B 69/20
A63B 69/28 covered by A63B 69/20
A63B 69/30 covered by A63B 69/20
A63B 71/16 covered by A63B 71/081
  - A63B 71/14 - A63B 71/148

Project: RP0117 (A63B)

M A63B 15/00 Clubs for gymnastics or the like {, e.g. for swinging exercises} WARNING Documents are being reclassified to A63B 21/072

C A63B 15/005 · {with a weight movable along the longitudinal axis of the club due to centrifugal forces (in tennis rackets A63B 59/0096)} WARNING Group A63B 15/005 is impacted by reclassification into group A63B 60/04. Groups A63B 15/005 and A63B 60/04 should be considered in order to perform a complete search.

U A63B 23/00 Exercising apparatus specially adapted for particular parts of the body (A63B 22/00 takes precedence; force-resisting aspects A63B 21/00; electric or electronic controls therefor A63B 24/00; devices for exercising or strengthening of fingers, or arms in teaching operation of keyboards G09B 15/06)

U A63B 23/035 · for limbs, i.e. upper or lower limbs, e.g. simultaneously
U A63B 23/03516 · · {For both arms together or both legs together; Aspects related to the co-ordination between right and left side limbs of a user}
U A63B 23/03533 · · · {With separate means driven by each limb, i.e. performing different movements}
M A63B 23/03541 · · · · {Moving independently from each other (A63B 22/00 takes precedence)}

C A63B 47/00 Devices for handling or treating balls; {, e.g. for holding or carrying balls (for maintaining ball pressure A63B 39/02; ball holders combined with racket presses A63B 49/16, with racket covers or cases A63B 49/18, fitted en golf bags A63B 55/02 holders for golf balls A63B 57/20)} WARNING Group A63B 47/00 is impacted by reclassification into group A63B 57/20. Groups A63B 47/00 and A63B 57/20 should be considered in order to perform a complete search.
WARNING
Group A63B 47/001 is impacted by reclassification into groups A63B 57/20. Groups A63B 47/001 and A63B 57/20 should be considered in order to perform a complete search.

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

WARNING
Group A63B 49/02 is impacted by reclassification into groups A63B 49/022, A63B 49/025, A63B 49/028, A63B 49/03, A63B 49/032, A63B 49/035, A63B 49/038, A63B 60/00 and A63B 60/46. All groups listed in this Warning should be considered in order to perform a complete search.
WARNING
Groups A63B 49/022 - A63B 49/038 are incomplete pending reclassification of documents from group A63B 49/02. All groups listed in this Warning should be considered in order to perform a complete search.

N A63B 49/022
String guides on frames, e.g. grommets

D A63B 2049/0223
{with defined head dimensions}

D A63B 2049/0229
{surface area}

D A63B 2049/0235
{height}

D A63B 2049/0241
{width}

D A63B 2049/0247
{with defined overall length}

N A63B 49/025
Means on frames for clamping string ends

D A63B 2049/0252
{with defined weight}

D A63B 2049/0258
{without strings}

D A63B 2049/0264
{head only}

D A63B 2049/027
{Throat section, i.e. sections and elements between head and handle}

D A63B 49/0276
{T-shaped connection elements between head and handle}

N A63B 49/028
Means for achieving greater mobility of the string bed

D A63B 2049/0282
{with two legs having mutually different constructions}

D A63B 49/0288
{with easily dismountable parts, e.g. head, handle or grip}

D A63B 49/0294
{with head subframes for replacing the stringing}

N A63B 49/03
characterised by throat sections, i.e. sections or elements between the head and the shaft

N A63B 49/032
{T-shaped connection elements}

N A63B 2049/0325
{with two legs having mutually different constructions}

N A63B 49/035
with easily dismountable parts, e.g. heads, shafts or grips

N A63B 49/038
with head subframes for replacing strings

D A63B 49/04
with balancing devices {A63B 59/0092, A63B 59/0096 take precedence}

D A63B 49/06
with slits {slits for guiding strings A63B 49/002; slits for cooling or ventilation A63B 59/0037}

C A63B 49/08
with special construction of the handle

WARNING
Group A63B 49/08 is impacted by reclassification into groups A63B 60/00 and A63B 60/46. Groups A63B 49/08, A63B 60/00, and A63B 60/46 should be considered in order to perform a complete search.

C A63B 49/10
made of non-metallic materials, other than wood

WARNING
Group A63B 49/10 is impacted by reclassification into groups A63B 49/11, A63B 60/00, and A63B 60/46. All groups listed in this Warning should be considered in order to perform a complete search.

D A63B 49/106
{with inflatable tubes, e.g. inflatable during fabrication}
N  A63B 49/11

WARNING
Group A63B 49/11 is incomplete pending reclassification of documents from group A63B 49/10.
Groups A63B 49/10 and A63B 49/11 should be considered in order to perform a complete search.

C  A63B 49/12

WARNING
Group A63B 49/12 is impacted by reclassification into groups A63B 60/00 and A63B 60/46.
Groups A63B 49/12, A63B 60/00, and A63B 60/46 should be considered in order to perform a complete search.

C  A63B 49/14

WARNING
Group A63B 49/14 is impacted by reclassification into groups A63B 60/00 and A63B 60/46.
Groups A63B 49/14, A63B 60/00, and A63B 60/46 should be considered in order to perform a complete search.

D  A63B 49/16

Presses, e.g. with ball holders (ball holders in general A63B 47/00)

D  A63B 49/18

Covers (or cases, e.g. with ball holders (ball holders in general A63B 47/00))

M  A63B 51/00

Stringing tennis rackets {, badminton or like rackets (string guides on frames A63B 49/002; clamping strings on frames A63B 49/005)}; Strings therefore; Maintenance of racket strings

WARNING
Group A63B 51/00 is incomplete pending reclassification of documents from group A63B 49/00.
Group A63B 49/00 should be considered in order to perform a complete search.

M  A63B 51/005

{Devices for measuring the tension of the string (for controlling the tension during stringing A63B 51/14; measuring force, in general G01L)}

D  A63B 51/007

{Pre-woven string-sets ready for insertion into a frame}

D  A63B 51/008

{String-aligning tools for rackets}

N  A63B 51/01

Pre-woven string-sets ready for insertion into a frame

N  A63B 51/015

String-aligning tools

M  A63B 51/02

Strings; String substitutes; Products applied on strings, e.g. for protection against humidity or wear (ropes or cables in general D07B; yarns or threads for use in sports applications D02G 3/444; mechanical methods or apparatus in the manufacture of artificial filaments, threads, fibres, bristles or ribbons D01D; strings for musical instruments G10D 3/10)}

U  A63B 51/04

Sheet-like structures used as substitutes

M  A63B 51/06

Double-sided stringing

M  A63B 51/08

Diagonal stringing

M  A63B 51/10

Reinforcements for stringing

D  A63B 51/105

{Intermediate members for string cross-points}

N  A63B 51/11

Intermediate members for the cross-points of the strings

U  A63B 51/12

Devices arranged in or on the racket for adjusting the tension of the strings
C A63B 51/14 Devices, Arrangements for stringing, (e.g. for controlling the tension of the strings during stringing)

**WARNING**
Group A63B 51/14 is impacted by reclassification into group A63B 51/16. Groups A63B 51/14 and A63B 51/16 should be considered in order to perform a complete search.

U A63B 2051/146 Devices simultaneously raising and lowering alternate longitudinal strings previously mounted in a frame, to facilitate the threading of the crossstrings

N A63B 51/16 Apparatus for stringing while manufacturing

**WARNING**
Group A63B 51/16 is incomplete pending reclassification of documents from group A63B 51/14. Groups A63B 51/14 and A63B 51/16 should be considered in order to perform a complete search.

C A63B 53/00 Golf clubs {{cleaning or maintenance A63B 57/0087; measuring, verifying or correcting golf-club characteristics A63B 59/0074; clubs or attachments on clubs for golf training A63B 69/3632}}

**NOTE**
When classifying in group A63B 53/00 and subgroups, subject matter related to details or accessories of golf clubs, bats, rackets or the like are further classified in group A63B 60/00.

**WARNING**
Group A63B 53/00 is impacted by reclassification into groups A63B 60/00 and A63B 60/46. Groups A63B 53/00 and A63B 60/00, A63B 60/46 should be considered in order to perform a complete search.

C A63B 53/02 Joint structures between the head and the shaft

**WARNING**
Group A63B 53/02 is impacted by reclassification into groups A63B 60/00 and A63B 60/46. Groups A63B 53/02, A63B 60/00, and A63B 60/46 should be considered in order to perform a complete search.

C A63B 53/04 Heads

**WARNING**
Group A63B 53/04 is impacted by reclassification into groups A63B 60/00 and A63B 60/46. Groups A63B 53/04, A63B 60/00, and A63B 60/46 should be considered in order to perform a complete search.

C A63B 2053/0491 {with added weights, e.g. changeable, replaceable}

**WARNING**
Group A63B 2053/0491 is impacted by reclassification into group A63B 60/02. Groups A63B 2053/0491 and A63B 60/02 should be considered in order to perform a complete search.

C A63B 53/06 adjustable

**WARNING**
Group A63B 53/06 is impacted by reclassification into groups A63B 60/00 and A63B 60/46.
Groups A63B 53/06, A63B 60/00, and A63B 60/46 should be considered in order to perform a complete search.

U A63B 53/065
  · · · (for putters)

C A63B 53/08
  · with special arrangements for obtaining a variable impact

WARNING
Group A63B 53/08 is impacted by reclassification into groups A63B 60/00, A63B 60/46.
Groups A63B 53/08 and A63B 60/00, A63B 60/46 should be considered in order to perform a complete search.

C A63B 53/10
  · {Shafts, e.g.: nonmetallic shafts (metallic A63B 53/12)}

WARNING
Group A63B 53/10 is impacted by reclassification into groups A63B 60/00 and A63B 60/46.
Groups A63B 53/10, A63B 60/00, and A63B 60/46 should be considered in order to perform a complete search.

C A63B 53/12
  · Metallic shafts

WARNING
Group A63B 53/12 is impacted by reclassification into groups A63B 60/00 and A63B 60/46.
Groups A63B 53/12, A63B 60/00, and A63B 60/46 should be considered in order to perform a complete search.

C A63B 53/14
  · Handles

WARNING
Group A63B 53/14 is impacted by reclassification into groups A63B 60/00 and A63B 60/46.
Groups A63B 53/14, A63B 60/00, and A63B 60/46 should be considered in order to perform a complete search.

D A63B 53/145
  · · {Weighted handles}

D A63B 53/16
  · adjustable

C A63B 55/00
  Bags for golf clubs; Stands for golf clubs for use on the course; Wheeled carriers specially adapted for golf bags

WARNING
Group A63B 55/00 is impacted by reclassification into groups A63B 55/30, A63B 55/40, A63B 60/60, and A63B 60/64.
All groups listed in this Warning should be considered in order to perform a complete search.

D A63B 2055/001
  · {Warning devices for indicating missing golf clubs}

D A63B 2055/002
  · {Security means for locking golf clubs in the bag}

D A63B 55/004
  · {Covers or hoods for golf bags}

D A63B 55/005
  · {releasably attached}

D A63B 55/007
  · {Covers for golf club heads; Connector means therefor}

D A63B 55/008
  · {Releasably mounted accessories fitted outside the bag, e.g., straps or holders (A63B 55/02 and A63B 55/04 take precedence; covers for golf bags A63B 55/004; covers for club heads A63B 55/007)}

D A63B 55/02
  · with special (or detachable) receptacles for the balls

D A63B 55/04
  · Supports, {e.g.,} with devices for anchoring to the ground
D A63B 55/045  · · {Legs opening automatically upon putting the bag on the ground}
D A63B 55/08  · Wheeled carriers for golf bags (running gear or propulsion features B60; (insofar as the features thereof are generic to hand carts B62B))
D A63B 2055/081  · · {Caddies fitted with means for sitting}
D A63B 2055/082  · · {Means for mounting weather shields, e.g. umbrellas, on caddies}
D A63B 2055/083  · · {with means for trailing the caddy other than by hand}
D A63B 2055/085  · · · {by mechanical links attached to the golf players}
D A63B 2055/086  · · · {by remote control}
D A63B 55/087  · · {motorised}
D A63B 2055/088  · · · {Units for converting manually-driven golf carts into motorised ones}
M A63B 55/10  · Stands for golf clubs, {e.g.} for use on the course {j;} {Golf club holders, racks or presses}
N A63B 55/20  · with special receptacles for the balls
N A63B 55/30  · Bags with wheels
WARNING
Group A63B 55/30 is incomplete pending reclassification of documents from group A63B 55/00.
Group A63B 55/00 should be considered in order to perform a complete search.
N A63B 55/40  · Bags with partitions or club holders
WARNING
Group A63B 55/40 is incomplete pending reclassification of documents from group A63B 55/00.
Group A63B 55/00 should be considered in order to perform a complete search.
N A63B 2055/402  · {Warning devices for indicating missing golf clubs}
N A63B 2055/403  · {Security means for locking golf clubs in the bag}
N A63B 55/404  · {Covers or hoods for golf bags}
N A63B 55/406  · · {releasably attached}
N A63B 55/408  · · {Releasably mounted accessories fitted outside the bag, e.g. straps or holders (A63B 55/20 and A63B 55/50 take precedence)}
Q A63B 55/50  · Supports, e.g. with devices for anchoring to the ground
WARNING
Group A63B 55/50 is impacted by reclassification into group A63B 55/57. Groups A63B 55/50 and A63B 55/57 should be considered in order to perform a complete search.
Q A63B 55/53  · · with legs opening automatically upon putting the bag on the ground
WARNING
Group A63B 55/53 is impacted by reclassification into group A63B 55/57. Groups A63B 55/53 and A63B 55/57 should be considered in order to perform a complete search.
N A63B 55/57  · · Bags with tripod or like set-up stands
WARNING
All Groups listed in this Warning should be considered in order to perform a complete search.

Q A63B 55/60 · Wheeled carriers specially adapted for golf bags

WARNING
Group A63B 55/60 is impacted by reclassification into group A63B 55/57. Groups A63B 55/60 and A63B 55/57 should be considered in order to perform a complete search.

N A63B 2055/601 · · {Caddies fitted with means for sitting}
N A63B 2055/602 · · {Means for mounting weather shields, e.g. umbrellas, on caddies}
N A63B 2055/603 · · {with means for trailing the caddy other than by hand}
N A63B 2055/604 · · · {by mechanical links attached to the golf players}
N A63B 2055/605 · · · {by remote control}
Q A63B 55/61 · · {motorised}

WARNING
Group A63B 55/61 is impacted by reclassification into group A63B 55/57. Groups A63B 55/61 and A63B 55/57 should be considered in order to perform a complete search.

N A63B 2055/615 · · · {Units for converting manually-driven golf carts into motorised ones}

C A63B 57/00 Golf gameGolfing accessories, e.g. golf cups, golf tees

WARNING
Group A63B 57/00 is impacted by reclassification into groups A63B 57/12, A63B 57/16, A63B 57/20, A63B 57/30, and A63B 57/35. All groups listed in this Warning should be considered in order to perform a complete search.

U A63B 57/0006 · {Automatic teeing devices (devices for automatically dispensing balls in general A63B 47/002)}
U A63B 57/0012 · {Devices for forming the tees}
D A63B 57/0018 · {Tee; Tee-holders; Devices for inserting or extracting tees}
D A63B 2057/0025 · · {With adjustable height}
D A63B 57/0031 · · {Tee-holders (to be fitted on golf bags or caddies A63B 55/008); Tee-gauges; Tee-repairing devices}
Q A63B 57/0032 · {Tee-gauges; Tee-repairing devices}

WARNING
Group A63B 57/0032 is impacted by reclassification into group A63B 57/203. Groups A63B 57/0032 and A63B 57/203 should be considered in order to perform a complete search.

M A63B 57/0037 · · {Devices for inserting or extracting tees}
D A63B 57/0043 · · {Brush type tee}

WARNING
Not complete, pending the reclassification; see also other subgroups of A63B 57/00

D A63B 57/005 · · {Tethered to something, e.g. ground or second body}

WARNING
Not complete, pending the reclassification; see also other subgroups of A63B 57/00
D A63B 57/0056  • (Cups (with automatic ball ejector A63B 57/0062); Hole or ball traps; Markers therefor, e.g. flags)
D A63B 57/0062  • (Cups with automatic ball ejector means)
D A63B 57/0068  • (For maintenance or repairing, e.g. of courts, greens, sands)
D A63B 57/0075  • (Golf ball position markers or marker holders)
D A63B 57/0081  • (Hole information stands, e.g. tee boxes)
D A63B 57/0087  • (Cleaning or maintenance of golf clubs, putters, shoes or other golf accessories (cleaning balls A63B 47/04; cleaning grips A63B 59/0062; cleaning footwear in general A47L 23/00))
D A63B 2057/0093  • • (Means for heating or drying golf clubs)
Q A63B 57/10  • Golf tees
  WARNING
  Group A63B 57/10 is impacted by reclassification into groups A63B 57/12, A63B 57/13, A63B 57/16, A63B 57/18 and A63B 57/19.
  All groups listed in this Warning should be considered in order to perform a complete search.
N A63B 57/12  • • attached to straps
  WARNING
  Groups A63B 57/12 is incomplete pending reclassification of documents from groups A63B 57/00 and A63B 57/10.
  All groups listed in this Warning should be considered in order to perform a complete search.
N A63B 57/13  • • foldable or separable
  WARNING
  Group A63B 57/13 is incomplete pending reclassification of documents from group A63B 57/10.
  Groups A63B 57/13 and A63B 57/10 should also be considered in order to perform a complete search.
N A63B 57/15  • • height-adjustable
N A63B 57/16  • • Brush-type tees
  WARNING
  Group A63B 57/16 is incomplete pending reclassification of documents from groups A63B 57/00 and A63B 57/10.
  Groups A63B 57/00 and A63B 57/10 should be considered in order to perform a complete search.
N A63B 57/18  • • with writing means
  WARNING
  Groups A63B 57/18 is incomplete pending reclassification of documents from group A63B 57/10.
  Group A63B 57/10 should be considered in order to perform a complete search.
N A63B 57/19  • • with direction indicators
  WARNING
  Group A63B 57/19 is incomplete pending reclassification of documents from group A63B 57/10.
  Group A63B 57/10 should be considered in order to perform a complete search.
N A63B 57/20 · holders, e.g. of tees or of balls

WARNING
Group A63B 57/20 is incomplete pending reclassification of documents from groups A63B 47/00, A63B 47/001, and A63B 57/00. Groups A63B 47/00, A63B 47/001, and A63B 57/00 should be considered in order to perform a complete search.

Q A63B 57/203 · {tee holders (to be fitted on golf bags or caddies A63B 55/408)}

WARNING
Group A63B 57/203 is impacted by reclassification into groups A63B 57/10, A63B 57/12, A63B 57/13, A63B 57/16, A63B 57/18, and A63B 57/19. All groups listed in this Warning should be considered in order to perform a complete search.

Q A63B 57/207 · {golf ball position marker holders}

WARNING
Group A63B 57/207 is impacted by reclassification into group A63B 57/353. Groups A63B 57/207 and A63B 57/353 should be considered in order to perform a complete search.

N A63B 57/30 · markers

WARNING
Groups A63B 57/30 and A63B 57/35 are incomplete pending reclassification of documents from group A63B 57/00. Group A63B 57/00 should be considered in order to perform a complete search.

N A63B 57/35 · with magnets

Q A63B 57/353 · {golf ball position markers}

WARNING
Group A63B 57/353 is impacted by reclassification into group A63B 57/207. Groups A63B 57/353 and A63B 57/207 should be considered in order to perform a complete search.

Q A63B 57/357 · {for golf cups or holes, e.g. flags}

WARNING
Group A63B 57/357 is impacted by reclassification into group(s) A63B 57/40. Groups A63B 57/357 and A63B 57/40 should be considered in order to perform a complete search.

Q A63B 57/40 · golf cups or holes

WARNING
Group A63B 57/40 is impacted by reclassification into group A63B 57/357. Groups A63B 57/40 and A63B 57/357 should be considered in order to perform a complete search.

N A63B 57/405 · {cups with automatic ball ejector means}

N A63B 57/50 · specially adapted for course maintenance

N A63B 57/505 · {hole information stands, e.g. tee-boxes}

N A63B 57/60 · cleaning or maintenance of golf clubs, putters, shoes or other golf accessories (cleaning balls A63B 47/04; devices for cleaning handles or grips of golf clubs or putters A63B 60/36)

N A63B 2057/605 · {means for heating or drying golf clubs}
Project: RP0117 in addition to RP0077 (A63B)

C A63B 59/00 Bats, rackets, or the like, for other games not covered by groups A63B 49/00 - A63B 57/00 (bats with a ball tethered thereto A63B 67/20 details A63B 60/00); {Hand-held throwing or catching aids; Details or accessories of bats, rackets or the like, not limited to one of the groups A63B 49/00 to A63B 57/00, or not otherwise provided for}.

NOTES
1. In this group, the following term is used with the meaning indicated:
   • “ball” covers also pucks or other objects to be hit during the game.
2. When classifying in group A63B 59/00 and subgroups, subject matter related to details or accessories of golf clubs, bats, rackets or the like are further classified in group A63B 60/00.

WARNING
Group A63B 59/00 is impacted by reclassification into groups A63B 60/00, A63B 60/46, A63B 2102/00, A63B 2102/10, A63B 2102/12, A63B 2102/26, A63B 2102/28, A63B 2102/30, and A63B 2102/38. All groups listed in this Warning should be considered in order to perform a complete search.

Project: RP0117 (A63B)

D A63B 2059/0003 · {Resonance frequency related characteristics}
D A63B 2059/0007 · {Striking surfaces coated with high friction abrasive material}
D A63B 2059/0011 · {having special surfaces reducing air resistance}
D A63B 59/0014 · {Handles or grips (A63B 49/08 takes precedence)}
D A63B 2059/0018 · · {Devices measuring hand characteristics to determine correct grip size}
D A63B 2059/0022 · · {Means for indicating or measuring the pressure on the grip}

Project: RP0117 in addition to RP0077 (A63B)

D A63B 59/0025 · · {contoured according to the anatomy of the user's hand}
   WARNING
   Not complete, pending the completion of a reclassification
D A63B 59/0029 · · {Coverings specially adapted therefor, e.g. sleeves, ribbons}
   WARNING
   Not complete, pending the completion of a reclassification
D A63B 59/0033 · · {Caps, ferrules}
   WARNING
   Not complete, pending the completion of a reclassification
D A63B 59/0037 · · {with grooves or holes for cooling, ventilating or sweat reduction; with powder dispensers}
   WARNING
   Not complete, pending the completion of a reclassification
D A63B 59/004 · · {with two handgrips}
   WARNING
   Not complete, pending the completion of a reclassification
D A63B 59/0044 · · {adjustable in length}
WARNING
Not complete, pending the completion of a reclassification

D A63B 59/0048 · · {with adjustable perimetric length}
WARNING
Not complete, pending the completion of a reclassification

D A63B 59/0051 · · {with means for changing the angular position of the handle about its longitudinal axis}
WARNING
Not complete, pending the completion of a reclassification

D A63B 59/0055 · · {the handle axis being different from the main axis of the bat or racket}
WARNING
Not complete, pending the completion of a reclassification

D A63B 59/0059 · · {adjustable in stiffness}
WARNING
Not complete, pending the completion of a reclassification

Project: RP0117 (A63B)

D A63B 59/0062 · · {Devices for cleaning handles or grips}
D A63B 59/0066 · · {Bats or rackets having ball-dispensing means}
D A63B 59/007 · · {Bats or rackets with holding means provided inside, on the edge or on the rear face of the striking surface (A63B 59/02 and A63B 59/04 take precedence)}
D A63B 59/0074 · · {Devices for measuring, verifying, correcting or customizing characteristics of golf clubs, bats or rackets (having a weight movable along the longitudinal axis of the club due to centrifugal forces A63B 15/005)}
D A63B 59/0077 · · {corrugated cross-sections}
WARNING
Not complete, pending the completion of a reclassification

D A63B 2059/0081 · · {Substantially flexible shafts, hinged shafts}
D A63B 2059/0085 · · {Telescopic shafts}
D A63B 59/0088 · · {Bats with through holes}
D A63B 59/0092 · · {Means for damping vibration (A63B 15/005 takes precedence)}
D A63B 59/0096 · · {Movable ballast means for varying the centre of mass during the stroke, e.g. by centrifugal force (A63B 15/005 takes precedence; weights set in movement on impact of the ball for damping vibrations A63B 59/0092)}
D A63B 59/02 · · {for lacrosse, pelota or similar games; {Bats or rackets having means for catching or holding a ball, e.g. pockets, netting, adhesive type surface; Hand-held throwing or catching aids (juggling games with integral catching arrangements A63B 67/083)}
D A63B 59/025 · · {Hand-held throwing or catching aids for use with rings, discs, wheels or cylindrical throwing-bodies, or for use with balls having a central bore}
D A63B 59/04 · · {for table tennis}
D A63B 59/06 · · {for baseball, rounders, or similar games}
D A63B 2059/065 · · {with a continuously tapered barrel}
D A63B 59/08 · · {for cricket}
D A63B 59/10 for croquet, {Mallet form bats (polo mallets A63B 59/16)}
D A63B 59/12 for hockey, {e.g. hurley sticks}
D A63B 59/14 for ice hockey {{A63B 59/12 takes precedence}}
D A63B 59/16 for polo
D A63B 59/18 Circular (or similar planar) bats for other games {{not covered by groups A63B 59/92 to A63B 59/16}}
D A63B 59/185 {Paddles for paddle tennis, pádel tennis or platform tennis (stringed rackets for tennis or the like A63B 49/00)}
Q A63B 59/20 having means, e.g. pockets, netting or adhesive type surfaces, for catching or holding a ball, e.g. for lacrosse or pelota
WARNING Group A63B 59/20 is impacted by reclassification into group(s) A63B 60/00, A63B 60/46.
All groups listed in this Warning should be considered in order to perform a complete search.

N A63B 59/30 forming hand-held throwign or catching aids for use with rings, discs, wheels or cylindrical throwign-bodies, or for use with balls having a central bore
Q A63B 59/40 Rackets or the like with flat striking surfaces for hitting a ball int he air, e.g. for table tennis
WARNING Group A63B 59/40 is impacted by reclassification into groups A63B 59/42, A63B 59/45, A63B 60/00, A63B 60/46, and A63B 2102/16.
All groups listed in this Warning should be considered in order to perform a complete search.

N A63B 59/42 • • with solid surfaces
N A63B 59/45 • • Rubber parts thereof; characterised by bonding between a rubber part and the racket body
N A63B 59/48 • • with perforated surfaces
Q A63B 59/50 Substantially rod-shaped bats for hitting a ball in the air, e.g. for baseball
All groups listed in this Warning should be considered in order to perform a complete search.

N A63B 59/51 • • made of metal
N A63B 59/52 • • made of wood or bamboo
N A63B 59/54 • • made of plastic
N A63B 59/55 • • with non-circular cross-section
N A63B 59/56 • • characterised by the head
N A63B 59/58 • • characterised by the shape {A63B 59/55, A63B 59/56 take precedence}
N A63B 2059/581 • • [with a continuously tapered barrel]
N A63B 59/59 • • with sound generators, e.g. with internal movable members therefor
Q A63B 59/60 of mallet type, e.g. for croquet {or polo}
WARNING Group A63B 59/60 is impacted by reclassification into groups A63B 60/00, A63B 60/46, A63B 2102/34, and A63B 2102/36.
All groups listed in this Warning should be considered in order to perform a complete search.

**Q A63B 59/70**

- with bent or angled lower parts for hitting a ball on the ground, on an ice-covered surface, or in the air, e.g. for hockey or hurling

**WARNING**

Group A63B 59/70 is impacted by reclassification into group A63B 60/00, A63B 60/46, A63B 2102/22, and A63B 2102/24. All groups listed in this Warning should be considered in order to perform a complete search.

**Q A63B 59/80**

- Circular bats or paddles not provided for in groups A63B 59/20 - A63B 59/70

**WARNING**

Group A63B 59/80 is impacted by reclassification into groups A63B 60/00, and A63B 60/46. All groups listed in this Warning should be considered in order to perform a complete search.

**N A63B 60/00**

**Details or accessories of golf clubs, bats, rackets or the like**

**WARNING**

Group A63B 60/00 is incomplete pending reclassification of documents from groups A63B 49/00 - A63B 49/14, A63B 53/00 - A63B 53/14, A63B 59/00, A63B 59/20, A63B 59/40 and A63B 59/60 – A63B 59/80. Groups A63B 59/00, A63B 59/20, A63B 59/40 and A63B 59/60 - A63B 59/80 should also be considered in order to perform a complete search.

**N A63B 2060/002**

- [Resonance frequency related characteristics]

**N A63B 2060/004**

- [striking surfaces coated with high-friction abrasive material]

**N A63B 2060/006**

- [having special surfaces reducing air resistance]

**N A63B 2060/0081**

- [Substantially flexible shafts, hinged shafts]

**N A63B 2060/0085**

- [Telescopic shafts]

**N A63B 60/02**

- Ballast means for adjusting the centre of mass (A63B 60/24, A63B 60/54 take precedence)

**WARNING**

Group A63B 60/02 is incomplete pending reclassification of documents from group A63B 60/42 and A63B 2053/0491. All groups listed in this Warning should be considered in order to perform a complete search.

**N A63B 60/04**

- Movable ballast means ([A63B 15/005 takes precedence])

**WARNING**

Group A63B 60/04 is incomplete pending reclassification of documents from group A63B 15/005. Groups A63B 15/005 and A63B 60/04 should be considered in order to perform a complete search.

**Q A63B 60/06**

- Handles (structurally associated with frames of stringed rackets A63B 49/08)

**WARNING**

Group A63B 60/06 is impacted by reclassification into groups A63B 60/08 and A63B 60/10. All groups listed in this Warning should be considered in order to perform a complete search.

**N A63B 60/08**

- characterised by the material
A63B 60/10 · · with means for indicating correct holding positions (A63B 60/12 takes precedence)

A63B 60/12 · · contoured according to the anatomy of the user's hand

**WARNING**

Group A63B 60/12 is impacted by reclassification into groups A63B 60/08 and A63B 60/10.

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

A63B 60/14 · · Coverings specially adapted for handles, e.g. sleeves or ribbons

A63B 60/16 · · Caps; Ferrules

A63B 60/18 · · with means for cooling, ventilating or sweat-reduction, e.g. holes or powder dispensers

A63B 60/20 · · with two handgrips

A63B 60/22 · · Adjustable handles

A63B 60/24 · · · Weighted handles

A63B 60/26 · · · with adjustable stiffness

A63B 60/28 · · · with adjustable length

A63B 60/30 · · · with adjustable circumference

A63B 60/32 · · with means for changing the angular position of the handle about its longitudinal axis

A63B 60/34 · · with the handle axis different from the main axis of the implement

A63B 60/36 · · Devices for cleaning handles or grips

A63B 60/38 · · Structurally associated means for storing and dispensing balls

A63B 60/40 · · having holding means provided inside, on the edge or on the rear face of the striking surface

**WARNING**

Group A63B 60/42 is impacted by reclassification into group A63B 60/02. Groups A63B 60/42 and A63B 60/02 should be considered in order to perform a complete search.

A63B 60/42 · · Devices for measuring, verifying, correcting or customising the inherent characteristics of golf clubs, bats, rackets or the like, e.g. measuring the maximum torque a batting shaft can withstand

**WARNING**

Group A63B 60/42 is incomplete pending reclassification of documents from groups A63B 49/00 - A63B 49/14, A63B 53/00 - A63B 53/14, A63B 59/20, A63B 59/40 and A63B 59/60 - A63B 59/80. Groups A63B 49/00 - A63B 49/14, A63B 53/00 - A63B 53/14, A63B 59/20, A63B 59/40 and A63B 59/60 - A63B 59/80 should be considered in order to perform a complete search.

A63B 60/44 · · Presses for stringed rackets

A63B 60/46 · · Measurement devices associated with golf clubs, bats, rackets or the like for measuring physical parameters relating to sporting activity, e.g. baseball bats with impact indicators or bracelets for measuring the golf swing

**WARNING**

Group A63B 60/46 is incomplete pending reclassification of documents from groups A63B 49/00 - A63B 49/14, A63B 53/00 - A63B 53/14, A63B 59/20, A63B 59/40 and A63B 59/60 - A63B 59/80. Groups A63B 49/00 - A63B 49/14, A63B 53/00 - A63B 53/14, A63B 59/20, A63B 59/40 and A63B 59/60 - A63B 59/80 should be considered in order to perform a complete search.

A63B 2060/462 · · {Devices measuring hand characteristics to determine correct grip size}

A63B 2060/464 · · {Means for indicating or measuring the pressure on the grip}

A63B 60/48 · with corrugated cross-section

A63B 60/50 · with through-holes (A63B 60/18 takes precedence; for stringing purposes A63B 49/00)
N A63B 60/52  ·  with slits
N A63B 60/54  ·  with means for damping vibrations
N A63B 60/56  ·  Devices for protection, storage or transport, e.g. stands or cases

WARNING
Group A63B 60/56 is incomplete pending reclassification of documents from group A63B 71/0036.
Groups A63B 71/0036 and A63B 60/56 should be considered in order to perform a complete search.

N A63B 60/58  ·  ·  specially adapted for rackets
N A63B 60/60  ·  ·  specially adapted for bats

WARNING
Group A63B 60/60 is incomplete pending reclassification of documents from groups A63B 55/00 and A63B 71/0045.
All groups listed in this Warning should be considered in order to perform a complete search.

N A63B 60/62  ·  ·  specially adapted for clubs, e.g. head covers (, connector means therefor)
N A63B 60/64  ·  ·  ·  Sheaths for golf clubs

WARNING
Group A63B 60/64 is incomplete pending reclassification of documents from group A63B 55/00.
Groups A63B 55/00 and A63B 60/64 should be considered in order to perform a complete search.

M A63B 63/00  Targets or goals for ball games (golf cups A63B 57/00, A63B 57/40)
M A63B 63/08  ·  with (substantially) horizontal opening for ball, e.g. for basketball
((A63B 57/0056, A63B 57/40, A63B 63/06 take precedence))

U A63B 65/00  Implements for throwing (throwing toys A63H 33/18; throwing weapons F41B); (Mechanical projectors, e.g. using spring force)
M A63B 65/12  ·  Ball-throwing apparatus with or without catchers - Ball-throwing apparatus with or without catchers ((hand-held throwing or catching aids A63B 59/02, A63B 59/20); Mechanical projectors, e.g. using spring force)

U A63B 69/00  Training appliances or apparatus for special sports (training of parachutists B64D 23/00)
U A63B 69/0073  ·  (Means for releasably holding a ball in position; Balls constrained to move around a fixed point, e.g. by tethering (not used, see subgroups and A63B 69/00))
M A63B 69/0075  ·  ·  (Means for releasably holding a ball in position prior to kicking, striking or the like (golf tees A63B 57/0018, A63B 57/10))
M A63B 69/40  ·  Stationarily-arranged devices for projecting balls {or other bodies} ((ball-dispensing devices A63B 47/002; golf cups with ball ejector means A63B 57/0062, A63B 57/405; targets with means for returning balls by gravity or mechanically A63B 63/00; sling weapons F41B 3/00; traps for clay-pigeon targets F41J 9/18); (sling weapons F41B 3/00; traps for clay-pigeon targets F41J 9/18))

U A63B 71/00  Games or sports accessories not covered in groups A63B 1/00 to A63B 69/00 (starting appliances A63K 3/02)
C A63B 71/0036  · {Accessories for stowing, putting away or transporting exercise apparatus or sports equipment (handling or treating balls A63B 47/00; for golf clubs A63B 55/00, A63B 60/56 take precedence)}

WARNING
Group A63B 71/0036 is impacted by reclassification into group A63B 60/56. Groups A63B 71/0036 and A63B 60/56 should be considered in order to perform a complete search.

C A63B 71/0045  · {specially adapted for games played with rackets or bats (A63B 60/56 takes precedence)}

WARNING
Group A63B 71/0045 is impacted by reclassification into group A63B 60/60. Groups A63B 71/0045 and A63B 60/60 should be considered in order to perform a complete search.

U A63B 71/141  · · · {in the form of gloves (gloves in general A41D 19/00)}
U A63B 71/148  · · · · {Gloves for bowling and other ball games}

N A63B 2102/00  Application of clubs, bats, rackets or the like to the sporting activity {; particular sports involving the use of balls and clubs, bats, rackets, or the like}

NOTE
A63B 2102/00 corresponds to IPC A63B 102/00. A63B 2102/00 is an indexing scheme for all applicable areas of A63B.

WARNING
Group A63B 2102/00 is incomplete pending reclassification of documents from groups A63B 49/00, A63B 59/00, and A63B 2243/00. Groups A63B 49/00, A63B 59/00, A63B 2243/00 and A63B 2102/00 should be considered in order to perform a complete search.

N A63B 2102/02  · Tennis
N A63B 2102/04  · Badminton
N A63B 2102/06  · Squash
N A63B 2102/065  · {Racketball}
N A63B 2102/08  · Paddle tennis, padel tennis or platform tennis
N A63B 2102/10  · Battledore

WARNING
Group A63B 2102/10 is incomplete pending reclassification of documents from groups A63B 49/00 and A63B 59/00. Groups A63B 49/00 and A63B 59/00 should be considered in order to perform a complete search.

N A63B 2102/12  · Hanetsuki

WARNING
Group A63B 2102/12 is incomplete pending reclassification of documents from groups A63B 49/00 and A63B 59/00. Groups A63B 49/00 and A63B 59/00 should be considered in order to perform a complete search.

N A63B 2102/14  · Lacrosse
N A63B 2102/16  · Table tennis
Q  A63B 2102/18  

- Baseball, rounders or similar games

**WARNING**


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

N  A63B 2102/182  

- {Softball}

N  A63B 2102/184  

- {Rounders}

N  A63B 2102/20  

- Cricket

N  A63B 2102/22  

- {Field} hockey

N  A63B 2102/24  

- Ice hockey

N  A63B 2102/26  

- Hurling

**WARNING**

Group A63B 2102/26 is incomplete pending reclassification of documents from groups A63B 49/00 and A63B 59/00. Groups A63B 49/00, A63B 59/00, and A63B 2102/26 should be considered in order to perform a complete search.

N  A63B 2102/28  

- Bandy

**WARNING**

Group A63B 2102/28 is incomplete pending reclassification of documents from groups A63B 49/00 and A63B 59/00. Groups A63B 49/00, A63B 59/00, and A63B 2102/28 should be considered in order to perform a complete search.

N  A63B 2102/30  

- Floorball

**WARNING**

Group A63B 2102/30 is incomplete pending reclassification of documents from groups A63B 49/00 and A63B 59/00. Groups A63B 49/00, A63B 59/00, and A63B 2102/30 should be considered in order to perform a complete search.

N  A63B 2102/32  

- Golf

N  A63B 2102/34  

- Polo

N  A63B 2102/36  

- Croquet

N  A63B 2102/38  

- Gateball

**WARNING**

Group A63B 2102/38 is incomplete pending reclassification of documents from groups A63B 49/00 and A63B 59/00. Groups A63B 49/00, A63B 59/00 should be considered in order to perform a complete search.

C  A63B 2243/00  

**Specific ball sports not provided for in A63B 2102/00** - A63B 2102/38

**WARNING**

Group A63B 2243/00 is impacted by reclassification into group A63B 2102/00. Groups A63B 2243/00 and A63B 2102/00 should be considered in order to perform a complete search.

D  A63B 2243/0004  

- Baseball, softball, rounders
D A63B 2243/0008 · · Softball
D A63B 2243/0012 · · Rounders
D A63B 2243/0016 · · Cricket
U A63B 2243/0025 · · Football (American football A63B 2243/007)
D A63B 2243/0029 · · Golf
U A63B 2243/0033 · · Handball
U A63B 2243/0037 · · Basketball
D A63B 2243/0041 · · Hockey
D A63B 2243/0045 · · Ice hockey
D A63B 2243/005 · · Laresse
D A63B 2243/0066 · · Rugby; American football
U A63B 2243/007 · · American football
D A63B 2243/0075 · · Squash, racketball
D A63B 2243/0079 · · Racketball
D A63B 2243/0083 · · Tennis
D A63B 2243/0087 · · Badminton
D A63B 2243/0091 · · Table tennis

Project: RP0117 (B08B)

B08B CLEANING IN GENERAL; PREVENTION OF FOULING IN GENERAL
(brushes A46; devices for domestic or like cleaning A47L; {cleaning golf- clubs or golf accessories A63B 57/0037A63B 57/00}; cleaning grips of bats on rackets A63B 59/0052A63B 60/36}; separation of particles from liquids or gases B01D; separation of solids B03, B07; spraying or applying liquids or other fluent materials to surfaces in general B05; cleaning devices for conveyers B65G 45/10; concurrent cleaning, filling and closing of bottles B67C 7/00; inhibiting corrosion or incrustation in general C23; cleaning streets, permanent ways, beaches or land E01H; parts, details or accessories of swimming or splash baths or pools, specially adapted for cleaning E04H 4/16; preventing or removing electrostatic charges H05F)

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

the articles cleaned, e.g. bed-pans, urinal or other sanitary devices for bed-ridden persons A61G 9/02, filters, semi-permeable membranes B01D, castings and moulds B22D 29/00, vehicles B60S, coke ovens C10B 43/00, building forms E04G, boilers F22, combustion apparatus F23, furnaces F27; the general nature of the cleaning, e.g. preparing for sugar manufacture A23N, domestic cleaning A47L, treatment of textiles D06, laundry D06F, air-conditioning F24F;

the particular operation performed, e.g. filtering B01D, separating of solids B03, B07, sand-blasting B24C;

the particular apparatus or device, e.g. brushes A46B, mops A47L, centrifuges B04, hand tools B25; { devices for cleaning paint-applying hand tools after use B44D 3/006};

the substance cleaned, e.g. metals B21C, C23, water C02, glass C03B, leather C14B, textile fibres D01;

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

Project: RP0117 (B62D)

B62D 51/00 Motor vehicles characterised by the driver not being seated {(wheeled carriers for golf bags A63B 55/08 A63B 55/60)}

Project: RP0117 (G01C)

G01C 22/00 Measuring distance traversed on the ground by vehicles, persons, animals, or other moving solid bodies, e.g. using odometers, using pedometers (counting mechanisms per se G06M)

G01C 22/004 · {for golf carts (wheeled carriers for golf bags A63B 55/08 A63B 55/60)}

Project: N/A (A01B)

A01B 59/00 Devices specially adapted for connection between animals or tractors and agricultural machines or implements (A01B 63/00 takes precedence; vehicle connections in general B60D; draught assemblies for animal drawn vehicles, in general B62C 5.00)

A01B 59/06 · for machines mounted on tractors
A01B 59/061 · · {specially adapted for enabling connection or disconnection controlled from the driver's seat (not used, see subgroups)}

A01B 71/00 Construction or arrangement of setting or adjusting mechanisms, of implement or tool drive or of power take-off; Means for protecting parts against dust, or the like; Adapting machine elements to or for agricultural purposes (adjusting mechanisms in general G05G)

A01B 71/06 · Special adaptations of coupling means between power take-off and transmission shaft to the implement or machine (couplings for transmitting rotation F16D)
A01B 71/063 · · {for enabling transmission coupling and connection between tractor and implements to be controlled from the driver's seat}

Project: N/A (A01D)

A01D 46/00 Picking of fruits, vegetables, hops, or the like; Devices for shaking trees or shrubs

NOTE In this group, group A01D 46/30 takes precedence over groups A01D 46/02 to A01D 46/28

A01D 46/26 · Devices for shaking trees or shrubs; Fruit catching devices to be used therewith (A01D 46/28 takes precedence)
A01D 46/264 · · {Devices for beating or vibrating the foliage; Fruit catching devices to be used therewith}

A01D 69/00 Driving mechanisms or parts thereof for harvesters or mowers (driving mechanisms for the cutters of mowers or harvesters A01D 34/00)
A01D 69/007  · {with separate hand drive for cutting tools}

Project: N/A (A01K)

A01K 55/00  Bee-smokers; Bee-keepers' accessories, e.g. veils (\textit{smoke-generators for}
\textit{gardens or orchards A01G 13/06}, for killing insects \textit{A01M 13/006}, for killing rats \textit{A01M 17/004}); smoking pipes \textit{A24F})

Project: N/A (A01L)

A01L 11/00  Farriers' tools and appliances (making horseshoes by rolling \textit{B21H 7/12}, by forging \textit{B21K 15/02})

Project: N/A (A21B)

A21B  BAKERS' OVENS; MACHINES OR EQUIPMENT FOR BAKING (\textit{domestic baking equipment A47J 37/00}; combustion apparatus \textit{F23}; \textit{domestic stoves or ranges being wholly or partly ovens F24B, F24C})

A21B 1/00  Bakers' ovens

U A21B 3/00  Parts or accessories of ovens

A21B 3/003  · \textit{Baker's peels}

Project: N/A (A21D)

U A21D 8/00  Methods for preparing dough or for baking (\textit{A21D 2/00} takes precedence)

A21D 8/06  · Baking processes (\textit{bakers' ovens A21B}; \textit{bakers' ovens A21B})

Project: N/A (A23K)

U A23K 1/00  Animal feeding-stuffs (detoxicating or removing bitter tastes from seeds, e.g. lupin seeds for fodder or food \textit{A23L 1/211})

A23K 1/06  · from distillers' or brewers' waste

U A23K 1/14  · from vegetable materials, e.g. potatoes or roots without ensilaging (preserving food \textit{A23B, A23L})

A23K 1/146  · \textit{from vegetable offal material (molasses A23K 1/02; distillers' and brewers' waste A23K 1/06; distillers' and brewers' waste A23K 1/06; from wood or straw A23K 1/12})

Project: N/A (A23L)

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

WARNING

Groups \textit{A23L 1/0002} to \textit{A23L 1/0097} might be incomplete as a number of documents presently classified in groups \textit{A23P 1/00} to \textit{A23P 1/16}, still needs reclassification to groups \textit{A23L 1/0002} to \textit{A23L 1/0097}

U A23L 1/22  · Spices; Flavouring agents or condiments; Artificial sweetening agents; Table salts; Dietetic salt substitutes; \{Other taste or flavour affecting agents\}

U A23L 1/226  · · Synthetic spices or flavouring agents or condiments

U A23L 1/227  · · · containing amino acids

A23L 1/2275  · · · · \{heated in the presence of reducing sugars or the like, e.g. \textit{Maillard's non-enzymatic browning}\}

U A23L 1/31  · Meat products; Meat meal (working-up proteins for foodstuffs \textit{A23J 3/00})

82
Tenderised or flavoured meat pieces, e.g. obtained by injecting solutions; Macerating solutions
(by treatment in a gaseous atmosphere, e.g. aging, ripening; by electrical treatment or irradiation or wave treatment)

Machines or apparatus for other treatment of fruits or vegetables for human purposes; Machines or apparatus for topping or skinning flower bulbs
{treatment of coffee, other than drying or roasting A23F; treatment of cocoa A23G 1/02}

for stripping Brussels sprouts from stalks

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

· Treatment of tobacco products or tobacco substitutes
· by chemical substances
· by organic substances { (A24B 15/281 takes precedence)}
· · · · · {of undetermined constitution characterised by their preparation}
· · · · · {one reactant being an amino acid or a protein, e.g. Maillard's reaction (A24B 15/307 takes precedence)}

SMOKERS' REQUISITES; MATCH BOXES (lighters F23Q)

Tobacco pipes (bee-keepers' pipes A01K 55/00 bee-keepers' pipes A01K 55/00)

Accessories for smokers' pipes

Other smokers' requisites

Stands for smokers' requisites

Smokers' requisites not provided for elsewhere, {e.g. devices to assist in stopping or limiting smoking (devices for opening cigarette packages B65B 69/0033)}

Tobacco pipes; Bad-covers or accessories for smokers' pipes

Bowl-covers or accessories for smokers' pipes

Baby linen (babies' napkins or holders therefor A61F 13/15; (patients' garments specially adapted for babies A41D 13/1272) babies' napkins or holders therefor A61F 13/15; (patients' garments specially adapted for babies A41D 13/1272))

· Babies' pants (combined with swabs or absorbent pads or specially adapted for supporting them A61F 13/15)
Project: N/A (A41D)

A41D 13/00 Professional, industrial, or sporting protective garments, e.g. garments affording protection against blows or punches, surgeon\'s gowns, helmets A42B 3/00; clothing affording protection against heat or harmful chemical agents or for use at high altitudes A62B 17/00; life-saving garments for use at sea, diving-bell suits B63C; bulletproof or armoured clothing F41H; clothing affording protection against radiation G21F 3/02; electric heating elements H05B

U A41D 13/002 with controlled internal environment (ventilating means A41D 27/28)

U A41D 13/005 with controlled temperature

A41D 13/0051 (Heated garments heated divers\' suits B63C 11/28)

A41D 13/02 Overalls patients\' suits A41D 13/1263, babies\' overalls A41B 13/005

U A41D 13/04 Aprons; Fastening devices for aprons

A41D 13/043 Aprons resistant to mechanical aggressions, e.g. butcher\'s aprons

A41D 13/12 Surgeons\' or patients\' gowns or dresses (operating gloves A61B 19/04)

A41D 13/1209 Surgeons\' gowns or dresses

A41D 13/1236 Patients\' garments

U A41D 19/00 Gloves brush bodies shaped as gloves A46B 5/04; gloves for washing the body A47K 7/02; gloves for domestic washing or cleaning A47L 13/18; operating gloves A61B 19/04; swimming gloves A63B 31/02; as accessories for games or sports, e.g. baseball, boxing or golf gloves A63B 71/14; gloves for glove-boxes B25J 1/02

U A41D 19/015 Protective gloves (A41D 19/0055 takes precedence)

U A41D 19/01505 {resistant to mechanical aggressions, e.g. cutting, piercing}

A41D 19/01511 {made of wire-mesh, e.g. butchers\' gloves}

Project: N/A (A41F)

A41F 1/00 Fastening devices specially adapted for garments (for pairing socks A41B 11/002; for fur garments A41D 5/006); fastening devices in general A44B; {for babies\' napkins A61F 13/56; (for babies\' napkins A61F 13/56)}

Project: N/A (A42B)

U A42B 1/00 Hats; Caps; Hoods

U A42B 1/04 Soft caps; Hoods

U A42B 1/08 with protection against blows (head-guards for sporting purposes A63B 71/10)

A42B 1/10 Miners\' caps (A42B 3/04 takes precedence)

A42B 1/16 Ladies\' millinery

A42B 7/00 Fastening means for head coverings; Elastic cords; Ladies\' hat fasteners (hat-pins A44B 9/06)

Project: N/A (A42C)

U A42C 3/00 Miscellaneous appliances for hat-making, e.g. for making wire forms for hat-frames (sewing-machines for straw hats D05B; sewing- machines for making hat-brims D05B); Apparatus for changing the form or size of finished hats

A42C 3/04 Stands for trimming ladies\' hats
Project: N/A (A43D)

U A43D 111/00 Shoe machines with conveyers for jacked shoes (or for shoes or shoe parts)
   A43D 111/003 · {with clamping or gripping mechanism}
   A43D 111/006 · {with special means to place the shoe or shoe part in the following machine}

Project: N/A (A45B)

A45B WALKING STICKS; UMBRELLAS; LADIES' OR LIKE FANS (cane or umbrella stands or holders A47G 25/12)

NOTE
In this subclass, the following term is used with the meaning indicated:
   • "umbrellas" also covers sunshades similar in construction to umbrellas

A45B 27/00 Ladies' or like fans

Project: N/A (A45C)

U A45C 3/00 Flexible luggage; Handbags (collapsible or extensible luggage, bags or the like A45C 7/00; handbag mirrors A45D 42/04; {bags for midwives A61B 17/48; doctors' or nurses' bags A61B 19/0266})
   A45C 3/06 · Ladies' handbags

Project: N/A (A45D)

A45D HAIRDRESSING OR SHAVING EQUIPMENT; MANICURING OR OTHER COSMETIC TREATMENT (wigs, toupees, or the like A41G 3/00, A41G 5/00; hairdressers' chairs A47C 1/04; hair cutting appliances, razors B26B)

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

U A45D 19/00 Devices for washing the hair or the scalp; Similar devices for colouring the hair
   A45D 19/0008 · {Devices for colouring or bleaching separated strands of hair, e.g. highlighting (A45D 19/02 and A45D 19/18 take precedence)}
   A45D 19/0016 · {comprising an open, flat support for strands of hair or for wrapping foils during the application of the dyeing product}
   A45D 19/0025 · {comprising wrapping foils or foldable sheets for enclosing a strand of hair during treatment, e.g. frosting foils}

U A45D 40/00 Casings or accessories for storing or handling solid or pasty toilet or cosmetic substances, e.g. shaving soap, lipstick, make-up (features common to containers for handling powdery or liquid toilet or cosmetic substances A45D 33/00-A45D 37/00; cosmetic or like preparations A61K 8/00, A61Q; sample tables or the like G09F 5/00)

U A45D 42/00 · Casings characterised by a hinged cover
   A45D 40/22 · {Features of the hinge}
   A45D 40/22 · {Means for closing the lid}

U A45D 42/00 Hand, pocket, or shaving mirrors
U A45D 42/08 · Shaving mirrors
A45D 42/12 · · able to be suspended on a person's body

A45D 44/00 Other toilet or cosmetic equipment, e.g. for hairdressers' rooms

A45D 44/02 · Furniture or other equipment specially adapted for hairdressers' rooms and not covered elsewhere (hairdressers' chairs A47C 1/04)

A45D 44/06 · Means specially adapted for suspending hairdressers' machines, e.g. trolleys for electro-motors

Project: N/A (A47B)

U A47B 31/00 Service or tea tables, trolleys, or wagons ((serving trays A47G 23/06); features relating to running gear or to movement by hand B62B)

A47B 31/06 · adapted to the use in vehicles {{with a set of feet and a part resting on someone's lap A47B 23/04; arrangements or adaptations of tables in vehicles B60N 3/00}}

Project: N/A (A47C)

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

A47C 1/04 · Hairdressers' or similar chairs, (e.g. beauty salon chairs)

A47C 1/16 · (Chairs or) seats detachably mounted on stadium benches (detachably mounted children's chairs A47D 1/10)

A47C 4/00 Foldable, collapsible or dismountable chairs (of tubular metal type A47C 5/10; children's foldable chairs A47D 1/02)

U A47C 7/00 Parts, details, or accessories of chairs or stools (attaching to floor A47B 91/08)

U A47C 7/02 · Seat parts (adaptation of seats to mounting in tubular chairs A47C 5/06; such parts not restricted to chairs A47C 23/00; removable upholstered units or cushions A47C 27/00)

U A47C 7/34 · · with springs in compression, e.g. coiled

A47C 7/345 · · · (of adjustable resilience)}

U A47C 19/00 Bedsteads (spring mattresses with rigid frame or forming part of the bedstead A47C 23/00; bed jointing members or fittings for bedsteads F16B)

A47C 19/04 · Extensible bedsteads, e.g. with adjustment of length, width, height (for children's beds A47D 7/00; for children's beds A47D 7/00)

A47C 21/00 Attachments for beds, e.g. sheet holders, bed-cover holders (bed tables supported on the bedstead A47B 23/02; for children's beds A47D 7/00; A47D 15/00; for children's beds A47D 7/00; A47D 15/00); Ventilating, cooling or heating means in connection with bedsteads or mattresses

A47C 21/006 · (Oscillating, balancing or vibrating mechanisms connected to the bedstead (for children's beds A47D 9/02; for children's beds A47D 9/02))

A47C 21/08 · Devices for prevention against falling-out, e.g. detachable sidewalls (for children's beds A47D 7/00; for children's beds A47D 7/00)

Project: N/A (A47D)

A47D 1/00 Children's chairs (chairs generally A47C)
Children's tables {(school desks or tables A47B 41/00; school forms A47B 39/00)}

Children's beds {in general A47C}

Children's furniture convertible into other kinds of furniture, e.g. children's chairs or benches convertible into beds; {Constructional play-furniture} (convertible furniture in general A47B 85/00)

Children's chairs convertible into tables

Children's beds convertible into children's pens

Chairs convertible into children's chairs

Dummies, busts or the like, e.g. for displaying garments (tailors'-dummies A41H 5/00; artificial limbs A61F; dolls in general A63H)

Shop or like accessories (devices for drawing-off and cutting paper from a roll B65H; movably-mounted ladders E06C 9/06)

Hand implements, e.g. grocers' scoops, ladles, paper-bag holders

Table linen {(picnic blankets A47G 9/06; placemats A47G 23/0303)}

Table napkins

{comprising means for attaching to a diner's clothing (separate holding devices A47G 21/165)}

Baking; Roasting; Grilling; Frying (bakers' ovens, non-domestic baking apparatus or equipment A21B; domestic stoves or ranges F24B, F24C)

Vessels uniquely adapted for baking (for use in baker's ovens A21B)

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

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

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

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

U A61B 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 1/24 · for the mouth, i.e. stomatoscopes, e.g. with tongue depressors (tongue depressors per se A61B 13/00); Instruments for opening or keeping open the mouth (combined with saliva removers A61C 17/00; mouth openers for animals A61D 15/00)

A61B 1/247 · · with means for viewing areas outside the direct line of sight, e.g. dentists’ mirrors

U A61B 3/00 apparatus for testing the eyes; Instruments for examining the eyes (eye inspection using ultrasonic, sonic or infrasonic waves A61B 8/10; devices for treatment of the eyes A61F 9/00; exercisers for the eyes A61H 5/00; optical systems in general G02B)

A61B 3/10 · Objective types, i.e. instruments for examining the eyes independent of the patient’s perceptions or reactions

U A61B 5/02 · Detecting, measuring or recording pulse, heart rate, blood pressure or blood flow; Combined pulse/heart-rate/blood pressure determination;
Evaluating a cardiovascular condition not otherwise provided for, e.g. using combinations of techniques provided for in this group with electocardiography or electroauscultation; Heart catheters for measuring blood pressure

U A61B 5/021 · · Measuring pressure in heart or blood vessels (A61B 5/0205 takes precedence)

U A61B 5/022 · · · by applying pressure to close blood vessels, e.g. against the skin; Ophthalmodynamometers
A61B 5/02208 · · · · (using the Korotkoff method)
A61B 5/02225 · · · · (using the oscillometric method)

U A61B 5/44 · (Detecting, measuring or recording for evaluating the integumentary system, e.g. skin, hair or nails (A61B 5/117 takes precedence))

U A61B 5/441 · · (Skin evaluation, e.g. for skin disorder diagnosis)
A61B 5/447 · · · (specially adapted for aiding the prevention of ulcer or pressure sore development, i.e. before the ulcer or sore has developed)

U A61B 5/72 · (Signal processing specially adapted for physiological signals or for diagnostic purposes (algorithms for computer assisted diagnosis G06F 19/34; pattern recognition G06K 9/00))

U A61B 5/7271 · · (Specific aspects of physiological measurement analysis (A61B 5/04012, A61B 5/0452 and A61B 5/048 take precedence))
for compensation of signal variation due to stress unintentionally induced
in the patient, e.g. due to the stress of the medical environment or
examination (deliberately inducing physiological or psychological stress
A61B 5/4884))

**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 17/04** for suturing wounds; Holders or packages for needles or suture materials
(suture materials A61L 17/00)

**A61B 17/0493** [Protective devices for suturing, i.e. for protecting the patient’s organs or the operator]

**U A61B 17/068** [Surgical staplers, e.g. containing multiple staples or clamps] (staplers
containing only one staple A61B 17/10; magazines or containers for staples
A61B 17/105; for performing anastomosis A61B 17/115; {staplers in general
B25C 5/00})

**U A61B 17/072** for applying a row of staples in a single action, [e.g. the staples being applied
simultaneously]

**A61B 17/07292** [Reinforcements for staple line, e.g. pledgets]

**U A61B 17/11** for performing anastomosis; Buttons for anastomosis

**U A61B 17/115** Staplers {for performing anastomosis in a single operation}

**A61B 17/1155** Circular staplers comprising a plurality of staples

**U A61B 17/22** [for squeezing-off ulcers or the like on the inside of] inner organs
of the body; Implements for scraping-out cavities of body organs, e.g. bones;
Calculus removers; Calculus smashing apparatus; {Apparatus for removing
obstructions in blood vessels, not otherwise provided for (dilators A61M 29/00)}

**U A61B 17/22004** [using mechanical vibrations, e.g. ultrasonic shock waves (A61B 17/225
takes precedence)]

**U A61B 17/22012** [in direct contact with, or very close to, the obstruction or concrement (for
removing obstructions in blood vessels by laser A61B 18/245)]

**A61B 2017/22014** [the ultrasound transducer being outside patient’s body; with an
ultrasound transmission member; with a wave guide; with a vibrated guide
wire (not applied in A61B 17/22012)]

**A61B 17/2202** [the ultrasound transducer being inside patient’s body at the
distal end of the catheter]

**A61B 17/54** Chiropodists’ instruments, (e.g. pedicure (chiropractic devices A61H 1/008))

**U A61B 18/00** Surgical instruments, devices or methods for transferring non-mechanical
forms of energy to or from the body (eye surgery A61F 9/007; ear surgery
A61F 11/00)

**U A61B 18/18** by applying electromagnetic radiation, e.g. microwaves (radiation therapy
A61N 5/00)

**A61B 18/1815** [using microwaves]

**A61B 19/02** Protective casings or covers for appliances or instruments, e.g. boxes or sterile
covers; Instrument tables or cupboards; Doctors’ bags (cleaning devices for
surgical instruments A61B 19/34; instrument-protective drapes A61B 19/081;
for sterilising articles A61L 2/00; for cleaning for sterilising hypodermic or
infusion needles or syringes A61M 5/001; for preservation of living parts of the
human or animal body A01N 1/02)}
U A61B 19/026  · · · {Casings for packaging, protecting or dispensing articles (for endoscopes A61B 1/00142; for test samples A61B 10/0096; for sutures A61B 17/06114; for ligaturing clips A61B 17/1222; for gloves or finger-stalls A61B 19/045; for dental floss A61C 15/043; for dental instruments A61C 19/02; for prostheses A61F 2/0095; for contraceptive devices A61F 6/005; for bandages or the like A61F 15/001; for pharmaceutical products A61J 1/00; for catheters A61M 25/002; in general B65D, e.g. with dispensing means B65D 83/00; for ampoules B65D 85/42; for clinical thermometers G01K 1/083; for optical fibres G02B 6/444; for X-ray films G03C 3/003)}

U A61B 19/0264  · · · {Carrying bags, cases, trusses (bags for midwives A61B 17/48; bags in general A45C; first-aid kits A61F 17/00)}

A61B 19/0266  · · · · {Doctors' or nurses' bags}

A61B 2019/028  · · · {carried on the medical practitioner's clothing or back}

U A61B 19/26  · · · {Supports as part of surgical instruments, e.g. articulated arms, headbands (A61B 19/22 takes precedence; holders for articles A61B 19/0256)}

A61B 19/261  · · · {connected to doctor's body, e.g. by a belt}

A61B 19/36  · · · {Implents for cleaning or washing surgeon's skin (hand-held absorbent pads or swabs containing a cleaning liquid, e.g. in a rupturable reservoir, A61M 35/006)}

Project: N/A (A61C)

U A61C 3/00  Dental tools or instruments (implanting tools A61C 8/00; tools for fastening artificial teeth A61C 13/12; visual inspection devices, e.g. dental mirrors, A61B 1/24)

A61C 3/14  · Dentists' forceps or the like for extracting teeth

A61C 3/16  · Dentists' forceps (or clamps) for removing crowns

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

U A61C 13/01  · Palates or other bases or supports for the artificial teeth; Making same

A61C 13/04  · · · {made by casting}

Project: N/A (A61D)

U A61D 1/00  Surgical instruments for veterinary use

A61D 1/12  · Instruments for removing foreign bodies from animals' throats, oesophagus, or stomachs (instruments for removing foreign bodies from the human body A61B 17/50)

A61D 1/14  · Devices for degassing animals' stomachs

A61D 5/00  Instruments for treating animals' teeth

Project: N/A (A61F)

A61F  FILTERS IMPLANTABLE INTO BLOOD VESSELS; PROSTHESES; DEVICES PROVIDING PATENCY TO, OR PREVENTING COLLAPSING OF, TUBULAR STRUCTURES OF THE BODY, E.G. STENTS; ORTHOPAEDIC, NURSING OR CONTRACEPTIVE DEVICES; FOMENTATION; TREATMENT OR PROTECTION OF EYES OR EARS; BANDAGES, DRESSINGS OR ABSORBENT PADS; FIRST-AID KITS (dental prosthetics A61C)

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

A61F 2/48  covered by A61F 2/02
Method or devices for treatment of the eyes; Devices for putting-in contact lenses; Devices to correct squinting; Apparatus to guide the blind; Protective devices for the eyes, carried on the body or in the hand (caps with means for protecting the eyes A42B 1/06; visors for helmets A42B 3/22; {retractors A61B 17/02; manipulators specially adapted for use in surgery A61B 19/22}; appliances to aid invalids to move about A61H 3/00; {exercisers for the eyes A61H 5/00}; eye baths A61H 35/02; sunglasses or goggles having the same features as spectacles G02C)

NOTE
Group A61F 11/14 contains only acoustic protection (other external protectors, see A61F 11/06)

Bandages or dressings (suspending bandages A61F 5/40; {contact-avoiding wound protectors A61F 15/008; bandages or dressings with incorporated medicaments A61L 15/44, A61M 35/006; radioactive dressings A61N 5/1029}); Absorbent pads (chemical aspects of, or use of materials for, bandages, dressings or absorbent pads A61L 15/00; {absorbent pads for tracheostomy A61M 16/047})
A61F 2013/00485  · · · (treating of athlete’s foot)

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

A61F 13/15577  · · · (Apparatus or processes for manufacturing)

A61F 13/15585  · · · (of babies’ napkins, e.g. diapers (A61F 13/15617 to A61F 13/15804 take precedence))

A61F 13/51  · · · characterised by the outer layers (wicking or transfer layers A61F 13/537)

A61F 13/52  · · · (Layers coated or treated to decrease absorbency)

Project: N/A (A61G)

A61G

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

WARNING

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

A61G 3/04  covered by  A61G 3/02
A61G 7/043  covered by  A61G 7/05
A61G 7/12  covered by  A61G 7/10
A61G 7/14  covered by  A61G 7/10
A61G 7/15A   A61G 7/16  covered by  A61G 7/10
A61G 15/04  covered by  A61G 15/02
A61G 15/06  covered by  A61G 15/02
A61G 17/013  covered by  A61G 17/00

A61G 13/00  Operating tables; Auxiliary appliances therefor (illumination of operating tables F21L, F21S or F21V (adjustability of tables in general A47B 9/00; tables for radiation diagnosis A61B 6/04, drainage or irrigation pans, bags, or attachments A61G 7/02, A61G 7/0503))

A61G 13/0018  · (Physician’s examining tables)

A61G 15/00  Operating chairs; Dental chairs (barbers’ chairs A47C 1/04barbers’ chairs A47C 1/04); Accessories specially adapted therefor, e.g. work stands

Project: N/A (A61H)

A61H 39/00  Devices for locating or stimulating specific reflex points of the body for physical therapy, e.g. acupuncture (chiropodists’ instruments A61B 17/54; chiropodists’ instruments A61B 17/54; {for radiation therapy A61N 5/0619})

Project: N/A (A61K)

A61K 39/00  Medicinal preparations containing antigens or antibodies (materials for immunoassay G01N 33/53)

NOTES

1. Groups A61K 39/002 to A61K 39/296 cover preparations containing protozoa, bacteria, viruses, or subunits thereof, e.g. membrane parts.

2. Preparation of antigen or antibody compositions is also classified in subclass C12N, if the step of cultivating the micro-organism is of interest.

3. Documents relating to new peptides, e.g. enzymes, or new DNA or RNA encoding for peptides and their use in medicinal preparations are classified
in subclass C07K or in group C12N 9/00 according to the peptides, with the appropriate indexing codes relating to their medical uses.

4. Documents relating to antibodies or DNA or RNA encoding for antibodies and their use in medicinal preparations are classified in group C07K 16/00 or in group C12N 9/0002 according to the antibodies, with the appropriate indexing codes relating to their medical uses.

5. Documents relating to new therapeutical uses of antibodies or DNA or RNA encoding for antibodies are classified in group C07K 16/00 or in group C12N 9/0002 according to the antibodies, with the appropriate indexing codes relating to their medical uses.

6. Documents relating to medicinal preparations containing different antibodies as active ingredients are classified in group C07K 16/00 according to the different active antibodies, with the appropriate indexing codes relating to their medical uses. However, documents relating to medicinal preparations containing antibodies and other compounds as active ingredients are classified in groups A61K 39/395 to A61K 39/42, in association with symbol A61K 2300/00 in Combination Sets.

U A61K 39/12 · Viral antigens
U A61K 39/245 · · Herpetoviridae, e.g. herpes simplex virus
A61K 39/255 · · · Marek`s disease virus

U A61K 45/00 Medicinal preparations containing active ingredients not provided for in groups A61K 31/00 to A61K 41/00
A61K 45/05 · {Immunological preparations stimulating the reticulo-endothelial system, e.g. against cancer}

U A61K 48/00 Medicinal preparations containing genetic material which is inserted into cells of the living body to treat genetic diseases; Gene therapy

NOTES
1. In this group the following expression is used with the meaning indicated:
"gene therapy" means in vivo delivery of nucleic acids encoding for peptides by administration of these nucleic acids or by implanting cells transfected ex vivo with the nucleic acids encoding for the peptides.

2. Documents relating to new nucleic acids encoding for peptides, e.g. enzymes, and their use in gene therapy are classified in subclass C07K or in group C12N 9/00 according to the encoded peptides, with the appropriate indexing codes relating to gene therapy.

3. Documents relating to new vectors and their use in gene therapy are classified in groups C12N 15/85 - C12N 15/90 according to the vectors, and the appropriate indexing codes, including those relating to gene therapy.

4. Documents describing cells genetically modified to express a gene of interest and their use in gene therapy are classified in C12N 5/06 according to the cells, with the appropriate indexing codes relating to gene therapy.

5. Documents relating to new medical uses of peptides per se, which peptides may be encoded by nucleic acids, and wherein the nucleic acids may be administered directly or by implanting cells transfected ex vivo with the nucleic acids, are classified in the appropriate groups A61K 38/00 or A61K 39/00 according to the encoded peptides, with the indexing codes relating, inter alia, to gene therapy.

A61K 48/0008 · {characterised by an aspect of the "non-active" part of the composition delivered, e.g. wherein such "non-active" part is not delivered simultaneously with the "active" part of the composition}
A61K 48/0016 · · {wherein the nucleic acid is delivered as a "naked" nucleic acid, i.e. not combined with an entity such as a cationic lipid}
Preparations for testing in vivo

- Preparation for luminescence or biological staining
- Luminescence
- Fluorescence in vivo
- Characterised by the fluorescent group
- The fluorescent group being a small organic molecule (oligomeric, polymeric, dendritic molecules: A61K 49/0019)

NOTE: If this fluorescent group is complexed or covalently linked to a carrier, classification is also made according to the nature of the carrier in the appropriate A61K 49/005 subgroup.

- Methine dyes, e.g. cyanine dyes
- Indocyanine green, i.e. ICG, cardiogreen AG1206

Medical syringes, e.g. enemata; Irrigators (A61M 5/00 takes precedence; pistons A61M 5/315)

WARNING: Groups A61M 3/0204 - A61M 3/022 are incomplete pending reclassification of documents from group A61M 3/02. Until reclassification is complete, groups A61M 3/02 and A61M 3/0204 - A61M 3/022 should be considered to perform a complete search.

- Enemata; Irrigators
  - Devices on which the patient can sit, e.g. mounted on a toilet bowl (combined with bidets A61M 3/06); Devices containing liquid pumped by the patient's weight
  - Characterised by liquid supply means, e.g. from pressurised reservoirs
  - The liquid being pumped (by the patient's weight A61M 3/0225)

Devices for bringing media into the body in a subcutaneous, intra-vascular or intramuscular way; Accessories therefor, e.g. filling or cleaning devices, arm-rests ((vaccination appliances for veterinary use A61D 1/025); tube connectors, tube couplings, valves or branch units specially adapted for medical use A61M 39/00; containers specially adapted for medical or pharmaceutical purposes A61J 1/00; combinations of vial and syringe for mixing or transferring their contents A61J 1/20; holders for containers for collecting, storing or administering blood or medical fluids A61J 1/16)

- Syringes
  - Syringes for injection by jet action, without needle, e.g. for use with replaceable ampoules or carpules
  - With specially designed jet passages at the injector's distal end

General characteristics of the apparatus

- Communication
  - Range
  - Remote, e.g. between patient's home and doctor's office
Project: N/A (A62B)

A62B  DEVICES, APPARATUS OR METHODS FOR LIFE-SAVING (valves specially adapted for medical use A61M 39/00; life-saving devices, apparatus or methods specially adapted for use in water B63C 9/00; divers' equipment B63C 11/00; divers' equipment B63C 11/00; specially adopted for use with aircraft, e.g. parachutes, ejector seats, (B64D 17/00, B64D 25/10); rescue devices peculiar to mining E21F 11/00)

U A62B 17/00  Protective clothing affording protection against heat or harmful chemical agents or for use at high altitudes (protective clothing for work or sport A41D 13/00, [e.g. overalls A41D 13/02, surgical gowns A41D 13/12; materials for protecting clothing A41D 31/0011]; protecting eyes or ears A61F 9/00; composition of materials for protective clothing A62D 5/00; life-saving garments for use at sea B63C; diving suits B63C 11/02; flying suits, [anti-g suits] B64D 10/00; space suits B64G 6/00; bullet-proof clothing F41H 1/02)

A62B 17/003  [Fire-resistant or fire-fighters' clothes]

A62B 35/00  Safety belts or body harnesses; Similar equipment for limiting displacement of the human body, especially in case of sudden changes of motion (buckles A44B 11/00; accessories for children's furniture A47D 15/00; children's seats B60N 2/24; accessories for children's furniture A47D 15/00; children's seats B60N 2/24; safety belts or body harnesses for land vehicles B60R 22/00; harnesses for parachutes B64D 17/30; harnessing in aircraft B64D 25/06; releasable fastenings F16B)

Project: N/A (A62C)

U A62C 31/00  Delivery of fire-extinguishing material (pumps F04; [suction or pressure] hoses, [joints or couplings therefor] F16L)

A62C 31/005  [using nozzles (see warning after subclass title)]

WARNING  see warning after subclass title

U A62C 35/00  Permanently-installed equipment (A62C 31/00, A62C 33/00, A62C 37/00 take precedence; for forming water curtains A62C 2/08)

U A62C 35/58  · Pipe-line systems

U A62C 35/60  · · wet, i.e. containing extinguishing material even when not in use

A62C 35/605  · · · [operating and sounding alarm automatically (see warning after subclass title)]

WARNING  see warning after subclass title

U A62C 35/64  · · pressurised

A62C 35/645  · · · [with compressed gas in pipework (see warning after subclass title)]

WARNING  see warning after subclass title

Project: N/A (A63B)

D A63B 21/00003  · Special force transmissions therefor

D A63B 21/00007  · · (using flexible elements for reciprocating movements, e.g. ropes, chain (flexible ropes or chains for transmission between rotating axes or pulleys n.c.))

D A63B 21/0001  · · · (Bowden cables, i.e. wire within a protective casing, like a bike brake cable)
D A63B 21/0014  · · · (wound up and unwound during exercise, e.g. from a reel, rewind reels B65H 75/00)
D A63B 21/0018  · · · (using special pulley assemblies)
D A63B 21/0021  · · · (cam-shaped pulleys or other non-uniform pulleys, e.g. conical)
D A63B 21/0025  · · · (the position of one (or more) pulleys being variable (e.g. for different exercises))
D A63B 21/0029  · · · (Ratchet-wheel links; overrunning clutches, one way clutches)
D A63B 21/0032  · · · (using levers for transmitting forces)
D A63B 21/0036  · · · (Hydraulic transmission, hydraulic resistance A63B 21/0081)
A63B 21/0004  · · · (Exercise device Exercising devices moving as a whole during exercise; bar bells and dumb bells (A63B 21/072 takes precedence; on wheels A63B 22/20 bar bells or dumb bells A63B 21/072; on wheels A63B 22/20))
A63B 21/00047  · · · (Exercise device Exercising devices not moving during use; benches (A63B 21/00087 takes precedence; isometric exercising A63B 21/0023; step exerciser A63B 23/0458 takes precedence; walk exerciser A63B 23/0464 takes precedence benches A63B 21/0029; isometric exercising devices A63B 21/0023; step exercisers A63B 23/0458; walk exercisers A63B 23/0464))
A63B 21/0005  · · · (For specially adapted for head stands)
A63B 21/00054  · · · (For specially adapted for shoulder stands)
A63B 21/00072  · · · (By changing the length of a lever)
A63B 21/00079  · · · (details of the interface with the user related to strength training)
    WARNING
    not complete, pending the completion of a reclassification
D A63B 21/00083  · · · (kind of exercise interface; chairs and stools with exercising means A47C 9/002)
    WARNING
    not complete, pending the completion of a reclassification
D A63B 21/00087  · · · (benches specifically designed for exercising; for bench press A63B 21/078)
    WARNING
    not complete, pending the completion of a reclassification
D A63B 21/0009  · · · (with parts of the bench moving against a resistance during exercise)
    WARNING
    not complete, pending the completion of a reclassification
D A63B 21/00094  · · · (handle, pedal, bar or platform)
    WARNING
    not complete, pending the completion of a reclassification
D A63B 21/00098  · · · (for manipulation by feet/foot)
    WARNING
    not complete, pending the completion of a reclassification
D A63B 21/00101  · · · (for manipulation by hand)
    WARNING
    not complete, pending the completion of a reclassification
D A63B 21/00105 · · · {exercise mats with or without hand or foot grips for personal use, e.g. for Yoga or supine floor exercises; mats for absorbing shocks (A63B 6/00 takes precedence)}

WARNING
not complete, pending the completion of a reclassification

D A63B 21/00109 · · · {contoured to fit to specific body parts: e.g. back, knee or neck support; attachment on user’s body (A63B 21/00138 takes precedence); handles, pedals, bar or platform (A63B 21/00094 takes precedence)}

WARNING
not complete, pending the completion of a reclassification

D A63B 21/00112 · · · {movement of the interface}

WARNING
not complete, pending the completion of a reclassification

D A63B 21/00116 · · · {free movement, unrestricted apart from by the resistance (A63B 21/072 takes precedence; A63B 21/00043 takes precedence)}

WARNING
not complete, pending the completion of a reclassification

D A63B 21/00112 · · · {reciprocating movement of the interface along (in/on) a guide, weights moving along or in guiding means A63B 21/06, for cardio-training A63B 22/201}

WARNING
not complete, pending the completion of a reclassification

D A63B 21/00123 · · · {pivoting movement of the interface, weight pivoting A63B 21/08}

WARNING
not complete, pending the completion of a reclassification

D A63B 21/00127 · · · {the interface rotating about an axis}

WARNING
not complete, pending the completion of a reclassification

D A63B 21/00134 · · · {direct manipulation of the resistance, dumb bells, bar bells or the like (A63B 21/072 takes precedence)}

WARNING
not complete, pending the completion of a reclassification

D A63B 21/00138 · · · {resisting device worn on the body; weights worn on user’s body (A63B 21/065 takes precedence)}

D A63B 21/00138 · · · {Attachments of exercising apparatus to the body of the user, e.g. using special belts, shoes or gloves, weights worn on user’s body (A63B 21/065 takes precedence, exoskeletons B25J 9/0006)}

D A63B 21/00141 · · · {to the head, neck}

D A63B 21/00145 · · · {to the shoulder}

D A63B 21/00149 · · · {to the chest region, including back}

WARNING
not complete, pending the completion of a reclassification

D A63B 21/00152 · · · {to the waist}
D A63B 21/0015  
... (to the lower limbs, means for physically limiting movements of body parts A63B 69/0053)

D A63B 21/0016  
... (to the ankle)

WARNING
not complete, pending the completion of a reclassification

D A63B 21/00163  
... (to the feet)

D A63B 21/00167  
... (to the upper limbs)

WARNING
not complete, pending the completion of a reclassification

D A63B 21/0017  
... (to the wrist)

WARNING
not complete, pending the completion of a reclassification, check A63B 21/00167

D A63B 21/00174  
... (to the hand)

WARNING
not complete, pending the completion of a reclassification, check A63B 21/00167

A63B 21/00178  
... (Apparatus for active exercising which can be used, the apparatus being also usable for passive exercising)

A63B 21/00181  
... (Apparatus comprising additional means assisting the user to overcome part of the resisting force, i.e. assisted-active exercising)

A63B 21/00185  
... (Resistance force using resistance provided by the user himself, e.g. exercising one body part against a resistance provided by another body part (A63B 21/068 takes precedence; isometric exercise A63B 21/0023))

A63B 21/00189  
... (Resistance force using resistance provided by plastic deformable materials having no elasticity, e.g. lead bars, or kneadable masses (resilient force-resistors made of material having high internal friction A63B 21/028))

A63B 21/00192  
... (Resistance force using resistance provided by magnetic means (A63B 21/005 takes precedence))

A63B 21/00196  
... (Pulsed counterforce, using pulsed counterforce, e.g. vibrating resistance means (A61H 1/005 takes precedence))

U A63B 21/002  
... isometric or isokinetic, i.e. substantial force variation without substantial muscle motion (or wherein the speed of the motion is independent of the force applied by the user)

A63B 21/0023  
... (Apparatus for isometric exercising only, i.e. substantial force variation without substantial motion by substantial force application muscle motion)

D A63B 2021/0026  
... (isokinetic exercising, i.e. the speed or the maximum speed being independent of the force applied by the user)

U A63B 21/005  
... using electromagnetic or electric force-resistors

A63B 21/0051  
... (using eddy-currents induced in moved elements, e.g. by permanent magnets)

A63B 21/0053  
... (using an alternator alternators or a dynamo dynamos)

D A63B 2021/0054  
... (for charging a battery)

N A63B 21/0054  
... (for charging a battery)

D A63B 2021/0055  
... (the produced electric power used as a source for other equipment, e.g. the T.V.)
(the produced electric power used as a source for other equipment, e.g. for TVs)

using a motor

using a frequency controlled AC motor

using hydraulic or pneumatic force-resisters (not used, see subgroups)

using hydraulic force-resisters

using a frequency controlled AC motor

using a frequency controlled AC motor

using hydraulic or magnetic-rheological fluids

using pneumatic force-resisters

Suction cups

Suction cups

using resilient force-resisters

Flip-flop, overcentre, toggle systems

whereby the resistance changes abruptly during the exercising movement, e.g. by using toggles

with different springs acting at different parts of the stroke

with springs acting at different parts of the stroke

Bars; Tubes; Leaves Leaf springs (A63B 21/023 takes precedence)

made of material having high internal friction, e.g. rubber, plastic, steel wool, used for compression intended to be compressed (resistance provided by plastic deformable materials A63B 21/00189)

attached to static foundation {}, e.g. a user

(Anchored at two end points, e.g. installed within an apparatus)

With both ends stationary during the actual exercise, i.e. force applied moving only at an intermediate location

(End the ends moving relatively by a pivoting arrangement)

(One or both ends being anchored to a rotating element)

(Anchored at one end only, the other end being manipulated by the user)

having torsion (or bending, or flexion) element

extension element type

Elastic ropes or bands

(Details of the rope or band itself, e.g. form, construction, shape or colour coding, protection coating)

(Details of attachments, e.g. to other parts, i.e. clips, clips or clamps)

User-manipulated weights

(Special physical structures of used masses)

(Fluid-like particles, e.g. gun shot: or sand)

Aggregate Solid masses, e.g. concrete (A63B 21/0603 takes precedence)
A63B 21/0605 · · · {With boxes, baskets or the like for stacking loose weights therein}
A63B 21/0607 · · · {Synthetic Plastic masses, e.g. elastomers; Masses provided with plastic coverings}
A63B 21/0608 · · · {Eccentric weights put into orbital motion by nutating movement of the user (symmetric devices, e.g. hula hoops, put into orbital motion A63B 19/00)}
A63B 21/0609 · · · {Loosely consisting of loosely interconnected, giving elements for progressively changing weight, e.g. heavy chains}
D A63B 21/0611 · · · {to be launched or thrown along guiding means against gravity forces}
D A63B 2021/0612 · · · {with adjustable inclination angle of the guiding means}
D A63B 21/0613 · · · {by moving the guiding means}
D A63B 2021/0614 · · · {with substantially vertical guiding means (A63B 21/062 takes precedence)}
A63B 21/0615 · · · {the weights pivoting about a fixed horizontal fulcrum}
D A63B 2021/0616 · · · {Weight pivot moment being adjustable}
N A63B 21/0616 · · · {with an adjustable moment (A63B 21/0617 takes precedence)}
D A63B 21/0617 · · · {Weight pivot moment changing as a function of the pivot angle}
N A63B 21/0617 · · · {with a changing moment as a function of the pivot angle}
A63B 21/0618 · · · {Weights moving upon in a horizontal plane without substantial friction, e.g. on wheels, i.e. using inertial forces}
A63B 21/062 · · · {including guide for vertical {or non-vertical weights or} array of weights {to move against gravity forces}
N A63B 21/0622 · · · {with adjustable inclination angle of the guiding means}
D A63B 2021/0623 · · · {Weight linking or selecting means}
N A63B 21/0624 · · · {by moving the guiding means}
D A63B 2021/0626 · · · {Weights being lifted by means other than flexible ones}
N A63B 21/0626 · · · {with substantially vertical guiding means}
N A63B 21/0628 · · · {for vertical array of weights}
N A63B 21/063 · · · · · {Weight selecting means}
N A63B 21/0632 · · · · · · {the weights being lifted by rigid means}
A63B 21/065 · · · · · · · · · · · · · · worn on user's body
A63B 21/068 · · · · · · · · · · · · · · using user's body weight
A63B 21/072 · · · · · · · · · · · · · · {Dumb-bells, bar-bells or the like; also other free movable weights, e.g. weight discs having an integral peripheral handle}
D A63B 2021/0722 · · · · · · · · · · · · · · {transformable, e.g. from dumb-bell to bar-bell or club}
N A63B 21/0722 · · · · · · · · · · · · · · {transformable, e.g. from dumb-bell to bar-bell}
A63B 21/0726 · · · · · · · · · · · · · · {Dumb-bells, i.e. with a central bar, for being to be held by a single hand, and with weights at the ends}
A63B 21/0728 · · · · · · · · · · · · · · {Means with means for fixing weights on bars, i.e. fixing olympic discs or bumper plates on bar-bells or dumb-bells}
A63B 21/075 · · · · · · · · · · · · · · {with variable weights, e.g. weight systems with weight selecting means for bar-bells or dumb-bells}
A63B 21/078 · · · · · · · · · · · · · · Devices for bench press exercises, e.g. supports, guiding means; Supports, guiding means, drop limiting means for bar-bells, combined or not combined with benches}
D A63B 2021/0783 · · · · · · · · · · · · · · {Safety or other features related to bar-bells}
N A63B 21/0783 · · · · · · · · · · · · · · {Safety features for bar-bells, e.g. drop limiting means}
D A63B 2021/0786 · · · · · · · · · · · · · · {drop limiting means}
WARNING
This group and its subgroups are not complete pending the completion of a reclassification; see also the other subgroups of A63B 21/00.

{Details of the interface with the user related to strength training}

{Attachments of exercising apparatus to the body of the user, e.g. using special belts, shoes or gloves (A63B 21/065 takes precedence, Exoskeletons B25J 9/0006)}

{Attachements of exercising apparatus to the body of the user, e.g. using special belts, shoes or gloves (A63B 21/065 takes precedence, Exoskeletons B25J 9/0006)}

{Attachments of exercising apparatus to the body of the user, e.g. using special belts, shoes or gloves (A63B 21/065 takes precedence, Exoskeletons B25J 9/0006)}

{Direct manipulation of the resistance (A63B 21/072 takes precedence)}

{Direct manipulation of the resistance (A63B 21/072 takes precedence)}

{Resisting device worn on the body (A63B 21/065 takes precedence)}

{Resisting device worn on the body (A63B 21/065 takes precedence)}

{Kind of exercise interface (chairs and stools with exercising means A47C 9/002)}

{Kind of exercise interface (chairs and stools with exercising means A47C 9/002)}

{Benchs specifically designed for exercising (for bench press A63B 21/079)}

{Benchs specifically designed for exercising (for bench press A63B 21/079)}

{With parts of the bench moving against a resistance during exercise}

{With parts of the bench moving against a resistance during exercise}

{Handle, pedal, bar or platform}

{Handle, pedal, bar or platform}

{For manipulation by hand}

{For manipulation by hand}

{Exercise mats with or without hand or foot grips for personal use, e.g. for Yoga or supine floor exercises (A63B 6/00 takes precedence)}

{Exercise mats with or without hand or foot grips for personal use, e.g. for Yoga or supine floor exercises (A63B 6/00 takes precedence)}

{Contoured to fit to specific body parts; e.g. back, knee or neck support (A63B 21/1403, A63B 21/1465 take precedence)}

{Contoured to fit to specific body parts; e.g. back, knee or neck support (A63B 21/1403, A63B 21/1465 take precedence)}

{Movement of the interface}

{Movement of the interface}

{Free movement, unrestricted apart from by the resistance (A63B 21/0043, A63B 21/072 take precedence)}

{Free movement, unrestricted apart from by the resistance (A63B 21/0043, A63B 21/072 take precedence)}

{Reciprocating movement of the interface along, in or on a guide (weights moving along or in guiding means A63B 21/06, for cardio-training A63B 22/201)}

{Reciprocating movement of the interface along, in or on a guide (weights moving along or in guiding means A63B 21/06, for cardio-training A63B 22/201)}

{Pivoting movement of the interface (weight pivoting A63B 21/08)}

{Pivoting movement of the interface (weight pivoting A63B 21/08)}

{the interface rotating about an axis}

{the interface rotating about an axis}

{SpecialArrangements for force transmissions therefor}

{SpecialArrangements for force transmissions therefor}

{Using flexible elements for reciprocating movements, e.g. ropes, chain or chains}

{Using flexible elements for reciprocating movements, e.g. ropes, chain or chains}

{Bowden-type cables, i.e. wire within a protective casing, like a bike brake cable}

{Bowden-type cables, i.e. wire within a protective casing, like a bike brake cable}

{Wound-up and unwound during exercise, e.g. from a reel (rewind reels B65H 75/00)}

{Wound-up and unwound during exercise, e.g. from a reel (rewind reels B65H 75/00)}

{Using using special pulley-assemblies}

{Using using special pulley-assemblies}
A63B 21/156 · · · · {the position of one or more the pulleys being variable, e.g. for different exercises}
A63B 21/157 · · · {Ratchet-wheel links; Overrunning clutches; Overrunning clutches; One-way clutches}
A63B 21/158 · · · {Hydraulic transmissions (hydraulic resistance A63B 21/0081, hydraulic force resistors A63B 21/008)}
U A63B 21/16 · Supports for anchoring force-resisters
D A63B 2021/1609 · · (on a chair)
N A63B 21/1609 · · {for anchoring on a chair (chairs with exercising means A47C 9/002)}
A63B 21/1618 · · (not used, see subgroups and on a door or a A63B 21/16 door frame)
A63B 21/1627 · · · {for anchoring on or between the vertical posts of a door frame}
A63B 21/1636 · · · {for anchoring on the horizontal part of a door frame}
A63B 21/1645 · · · {for anchoring on a door}
A63B 21/1654 · · · {clamped for anchoring between a door and the floor}
A63B 21/1663 · · · {clamped for anchoring between a door and the door frame}
D A63B 2021/1672 · · (on beds, mattresses)
N A63B 21/1672 · · {for anchoring on beds or mattresses}
A63B 21/1681 · · · · {mounted for anchoring between horizontal surfaces, e.g. the floor and the ceiling}
D A63B 2021/169 · · · · (mounted on or against a wall)
N A63B 21/169 · · · · {for anchoring on or against a wall}
A63B 21/22 · Resisting devices with rotary bodies; (e.g. by overcoming gyroscopic forces (A63B 21/0608 takes precedence))
D A63B 2021/222 · · (by overcoming gyroscopic forces, e.g. by turning the spin axis)
N A63B 21/222 · · (by overcoming gyroscopic forces, e.g. by turning the spin axis)
U A63B 21/225 · · · · {with alternate changes of changing the rotational sense direction alternately}
A63B 21/227 · · · · · Devices for two persons operating in opposition (or in cooperation)
N A63B 21/40 · · · {Interfaces with the user related to strength training; Details thereof}
N A63B 21/4001 · · · · {Arrangements for attaching the exercising apparatus to the user’s body, e.g. belts, shoes or gloves specially adapted therfor (weights worn on the user’s body A63B 21/065; exoskeletons in general B25J 9/0006, for aiding patients or disabled persons to walk about A61H 3/00)}
N A63B 21/4003 · · · · (to the head; to the neck)
N A63B 21/4005 · · · · (to the shoulder)
N A63B 21/4007 · · · · (to the chest region, e.g. to the back chest)
N A63B 21/4009 · · · · (to the waist)
N A63B 21/4011 · · · · (to the lower limbs (means for physically limiting movements of body parts A63B 69/0057))
N A63B 21/4013 · · · · (to the ankle)
N A63B 21/4015 · · · · (to the foot)
N A63B 21/4017 · · · · (to the upper limbs)
N A63B 21/4019 · · · · (to the hand)
N A63B 21/4021 · · · · (to the wrist)
N A63B 21/4023 · · · · (the user operating the resistance directly, without additional interface (A63B 21/072 takes precedence))
(Resistance devices worn on the user's body (A63B 21/065 takes precedence))

(Specific exercise interfaces (chairs or stools with exercising means A47G 9/002))

(Benches specifically adapted for exercising (for bench press exercises A63B 21/078))

(with parts of the bench moving against a resistance during exercise)

(Handles, pedals, bars or platforms)

(for operation by feet)

(for operation by hand)

(Exercise mats for personal use, with or without hand-grips or foot-grips, e.g. for Yoga or supine floor exercises (mats for absorbing shocks A63B 6/00))

(contoured to fit to specific body parts, e.g. back, knee or neck support (arrangements for attaching exercising apparatus to the user's body A63B 21/4001; handles, pedals, bars or platforms A63B 21/4033))

(characterised by the movements of the interface)

(Free movement, i.e. the only restriction coming from the resistance (A63B 21/00043, A63B 21/072 take precedence))

(Reciprocating movement along, in or on a guide (weights moving along or in guiding means A63B 21/06; for cardio-training A63B 22/201))

(Pivoting movement (weight pivoting A63B 21/0615))

(Rotational movement)

Exercising apparatus specially adapted for conditioning the cardio-vascular system, for training agility or co-ordination of movements (force-resisting aspects A63B 21/00; } for particular parts of the body, e.g. to strengthen particular limbs or muscles A63B 23/00; } electric or electronic controls therefor A63B 24/00)

NOTE
In this subclass, multi-aspect classification is applied, so that subject matter characterised by aspects covered by more than one of its groups, which is considered to represent information of interest for search, may also be classified in each of those groups.
U A63B 2022/0028 · · {the movement path being non-parallel to the body-symmetrical-plane, e.g. support elements moving at an angle to the body-symmetrical-plane}
U A63B 2022/0033 · · {Lower limbs performing together the same movement, e.g. on a single support element}
U A63B 2022/0035 · · {Upper limbs performing together the same movement, e.g. on a single support element}
U A63B 2022/0038 · · {One foot moving independently from the other, i.e. there is no link between the movements of the feet}
U A63B 2022/0041 · · {one hand moving independently from the other hand, i.e. there is no link between the movements of the hands}
U A63B 2022/0043 · · {the movements of the limbs of one body half being synchronised, e.g. the left arm moving in the same direction as the left leg}
U A63B 22/0048 · · {with cantilevered support elements pivoting about an axis (A63B 22/0076 takes precedence)}
U A63B 22/0064 · · {the pivoting movement being in a plane inclined with respect to the horizontal plane, e.g. a step and twist movement}
D A63B 2022/0066 · · · {the movement of the support elements being downward-inward, i.e. the support elements are moving towards the body-symmetrical-plane}
N A63B 22/0066 · · · {the support elements movement being downward-inward, i.e. towards the body-symmetrical-plane}
A63B 22/0076 · · · {Rowing machines for conditioning the cardio-vascular system (seats moving during exercise A63B 22/0087; training appliances for rowing or sculling on boats A63B 69/06)}
U A63B 22/02 · · with movable endless bands (e.g. treadmills (other training appliances for running on the spot A63B 69/028))
D A63B 2022/0207 · · · {having shock absorbing means}
N A63B 22/0207 · · · {having shock absorbing means}
D A63B 2022/0214 · · · {between the belt supporting deck and the frame}
N A63B 22/0214 · · · {between the belt supporting deck and the frame}
D A63B 2022/0221 · · · {on the frame or sub-frame supporting the rollers}
N A63B 22/0221 · · · {on the frame supporting the rollers}
D A63B 2022/0228 · · · {with variable resilience}
N A63B 22/0228 · · · {with variable resilience}
U A63B 22/0235 · · · {driven by a motor}
U A63B 22/0242 · · · {with speed variation}
D A63B 2022/025 · · · · {electrically, e.g. with D.C. motors or eddy current machines}
N A63B 22/025 · · · · {electrically, e.g. D.C. motors with variable speed control}
D A63B 2022/0264 · · · · {hydraulically}
N A63B 22/0264 · · · · {hydraulically}
A63B 2022/0271 · · · {omnidirectional}
A63B 2022/0278 · · · {with reversible direction of the running surface}
D A63B 2022/0292 · · · {with separate belts for each leg, e.g. dual deck}
N A63B 22/0292 · · · {separate for each leg, e.g. dual deck}
U A63B 22/06 · · with {support elements performing a} rotating cycling movement, {i.e. a closed path movement}(support stands for bicycles A63B 69/16; unicycles B62K 1/00)
D A63B 22/08 · · · for the legs, {i.e. only for the legs}
· with elements, (i.e. platforms,) having a circulating, {nutating} or rotating movement, generated by oscillating movement of the user, (e.g. platforms wobbling on a centrally arranged spherical support)(hoop exercising apparatus A63B 19/00; (eccentric weights put into orbital motion by nutating movement of the user A63B 21/0608; pots rotating or rocking by moving the whole body A63G 23/00))

A63B 2022/185 · · (specially adapted for using with a single foot or hand)

U A63B 22/20 · using rollers, wheels, castors or the like, (e.g. gliding means,) to be moved over the floor or other surface, (e.g. guide tracks,) during exercising

A63B 22/201 · · {for moving a support element in reciprocating translation, e.g. for sliding back and forth on a guide track}

A63B 35/00

Swimming framework, (i.e. apparatus fixed to or held by the swimmer or diver), with driving mechanisms operated by the swimmer or by a motor (other vessels or like floating structures for pleasure or sport B63B 35/71, B63B 35/73; divers` sleds or like craft B63C 11/46; divers` sleds or like craft B63C 11/46)

NOTE

References listed below indicate CPC places which could also be of interest when carrying out a search in respect of the subject matter covered by the preceding group:

Effecting propulsion of vessels by muscle power B63H 16/00

D A63B 2053/0404 · · {For}

U A63B 69/36 · for golf

A63B 2069/3602 · · {Player's game information devices (not used)}

U A63B 69/3623 · · {for driving (A63B 69/3608, A63B 69/3658, A63B 69/3661, A63B 69/3667 and A63B 69/3691 take precedence)}

U A63B 2069/3626 · · · {Details (not used)}

A63B 2069/3629 · · · · {Visual means not attached to the body for positioning the trainee's head or for detecting head movement, e.g. by parallax}

A63B 69/3667 · · {Golf stance aids, e.g. means for positioning a golfer's feet}

U A63B 69/3676 · · {for putting (A63B 69/3608, A63B 69/3661, A63B 69/3667 and A63B 69/3697 take precedence)}

U A63B 2069/3679 · · · {Details (not used)}

A63B 2069/3682 · · · · {Visual means not attached to the body for positioning the trainee's head or for detecting head movement, e.g. by parallax}

U A63B 71/02 · for large-room or outdoor sporting games

U A63B 71/023 · · {Supports, e.g. poles}

U A63B 2071/026 · · · {stabilised by weight}

A63B 2071/027 · · · {using player's own weight, e.g. on a platform}

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 5/1473 archer's finger tabs F41B 5/1473)

U A63B 2230/00 Measuring physiological parameters of the user

A63B 2230/01 · User's weight
Snowboard bindings

- characterised by details of the shoe holders
- Shoe holders for passing over the shoe
  - with means to ease introduction of the shoe, e.g. by collapsing upstanding shoe holder parts
- using parts which are fixed on the shoe, e.g. means to facilitate step-in
  - on the sides of the shoe
  - to the front and back of the shoe
- Interfaces, e.g. in the shape of a plate
  - between two superimposed binding systems, e.g. cradle
- characterised by auxiliary devices or arrangements on the bindings
  - Pads as foot or binding supports, e.g. pads made of foam

Roller skates; Skate-boards

- Accessories
- Devices used in combination with the skate but not fixed to it, e.g. supporting frames, sail, sticks, auxiliary wheel aid
- with a castor wheel, i.e. a swiveling follow-up wheel
- with auxiliary wheels not contacting the riding surface during steady riding
- Skateboards (A63C 17/02 to A63C 17/28 take precedence; rolling devices on skis A63C 5/035)
  - with steering mechanisms
  - with a truck, i.e. with steering mechanism comprising an inclined geometrical axis to convert lateral tilting of the board in steering of the wheel axis
  - with parallelograms, follow up wheels or direct steering action
  - Wheel arrangements
  - with wheels arranged in two pairs
  - with wheels arranged in one track
  - Production or mounting thereof
- with wheels arranged otherwise than in two pairs ([A63C 17/01 takes precedence])
- Roller skis
- single-track type
  - with relative movement of sub-parts on the chassis
  - with a pivotal frame or cradle around transversal axis for relative movements of the wheels
  - comprising steered wheels, i.e. wheels supported on a vertical axis
  - with adjustable position of the foot plate or shoe relative to the chassis
  - Production or mounting thereof
- with brakes, e.g. toe stoppers, freewheel roller clutches
- (contacting one or more of the wheels)
  - with radial movement against the roll surface of the wheel
  - the brake contacting other wheel associated surfaces, e.g. hubs, brake discs or wheel flanks
U A63C 17/26 • with special auxiliary arrangements, e.g. illuminating, marking, or push-off devices

A63C 17/262 • {with foot bindings or supports therefor}
A63C 17/265 • {with handles or hand supports}
A63C 17/267 • {combined with wings or sails}

Project: N/A (A63D)
A63D 9/00 Pins

NOTE
In this group, the following term is used with the meaning indicated:
• "Bagatelle" means a modification of billiards in which the player's object is to strike the balls so that they, and perhaps other balls, shall fall into numbered holes that determine the score.

Project: N/A (A63F)
U A63F 5/00 Roulette games (aspects of games using an electronically generated display having two or more dimensions showing representations related to the game A63F 13/00)

U A63F 5/04 • Disc roulettes; Dial roulettes; Teetotums; Dice-tops
A63F 5/048 • {with symbols viewable through holes or windows}
A63F 7/0664 • {Electric}

U A63F 9/00 Games not otherwise provided for (aspects of games using an electronically generated display having two or more dimensions showing representations related to the game A63F 13/00 {;miscellaneous sporting games A63B 67/00})

U A63F 9/06 • Patience; Other games for self-amusement
U A63F 9/08 • Puzzles provided with elements movable in relation, (i.e. movably connected), to each other
A63F 9/0826 • • • {Three-dimensional puzzles with slidable or rotatable elements or groups of elements, the main configuration remaining unchanged, e.g. Rubik's cube (elements rotatable about just one axis, e.g. discs stacked as a cylinder A63F 9/0811)}

U A63F 9/0838 • • • • {with an element, e.g. invisible core, staying permanently in a central position having the function of central retaining spider and with groups of elements rotatable about at least three axes intersecting in one point}
A63F 9/0842 • • • • • {each group consisting of again a central element and a plurality of additional elements rotatable about at least three axes at both ends, the additional elements being rotatable about at least two axes, e.g. Rubik's cube}
A63F 9/088 • • • {Puzzles with elements that are connected by straps, strings or hinges, e.g. Rubik's Magic}

U A63F 9/24 • {Electric games;} Games using electronic circuits not otherwise provided for ((video games A63F 13/00, computers for game playing per se G06F 19/00; computerized gaming systems G07F 17/32))

U A63F 2009/2448 • • {Output devices}
U A63F 2009/245 • • {visual}
U A63F 2009/2457 • • • • {Display screens, e.g. monitors, video displays}
A63F 2009/2458 • • • • • {LCD's LCD's}
Features of games using an electronically generated display having two or more dimensions, e.g. on a television screen, showing representations related to the game

- characterised by details of the game platform
- Game information storage, e.g. cartridges, CD ROM's, DVD's, smart cards

Dolls {(puppets or marionettes for shows or theatres A63J 19/006)}

- Details; Accessories
- Dolls' eyes
- Dolls' hair or wigs; Eyelashes; Eyebrows (wigs, eyelashes, eyebrows for humans A41G)
- Dolls' houses, furniture, or other equipment {(simulating liquid flow A63H 33/3022); Dolls' clothing (dolls' footwear A43B 3/28; dolls' footwear A44B 3/28)

Toy aircraft; Other flying toys (toys with parachutes A63H 33/20); {Starting or launching devices therefor}

- Model aircraft
- Helicopters (A63H 27/04 takes precedence); Flying tops

Imitations of miscellaneous apparatus not otherwise provided for, e.g. telephones, weighing-machines, cash-registers (savings boxes A45C 1/12; toy ticket punches G07B 9/02)

Auxiliaries for producing special effects on stages, or in circuses or arenas (illuminating arrangements therefor F21S)

- {enhancing the performance by involving senses complementary to sight or hearing}
- {moving the spectator's body}

Performing operations; transporting

- Notes
  1. The following notes are meant to assist in the use of {classes B01 to B09}; they must not be read as modifying in any way the elaborations.
  2. In this sub-section, the separation of different materials, e.g. of different matter, size, or state, is predominantly found in the following subclasses:

- B01D
- B03B, B03C, B03D
- B04B, B04C
- B07B, B07C

2. The classifying characteristics of these subclasses are:
• the physical state of the matter to be separated
• the principle of the process used
• particular kinds of apparatus

The first of these characteristics involves six different aspects, assembled in three groups.

a. liquid/liquid or liquid/gas and gas/gas
b. solid/liquid or solid/gas
c. solid/solid

3. Theses subclasses are to be used according to the following general rules:
   • B01D is the most general class as far as separation other than solids from solids is concerned.
   • Apparatus for separating solids from solids are covered by B03B when the process concerned is regarded as the equivalent of "washing" in the sense of the mining art, even if such apparatus is a pneumatic one, especially pneumatic tables or jigs. Screens PER SE are not covered by this subclass but are classified in B07B even if they are being used in a wet process. All other apparatus for the separation of solids from solids according to dry methods are classified in B07B.
   • If the separation takes place as a result of the detection or measurement of some feature of the material or articles to be sorted it is classified in B07C.
   • It should also be noted that the separation of isotopes of the same chemical element is covered by B01D 59/00, whatever process or apparatus is employed.

2. The following scheme illustrates the classification according to these rules.

   a. LIQUID/LIQUID
      LIQUID/GAS
      GAS/GAS

   Subclasses dealing with
   Operations                                   Method
   Apparatus

   General                                    B01D
   B01D by centrifugal force, using centrifuges or free-vortex apparatus B01D
   B04B, B04C using magnetic or electrostatic effect B03C

   LIQUID/LIQUID
   LIQUID/GAS
   GAS/GAS

   Subclasses dealing with
   Operations                                   Method
   Apparatus

   General                                    B01DB01D
   B01DB01D by centrifugal force, using centrifuges or free-vortex apparatus B01DB04B, B04C
   using magnetic or electrostatic effect B03CB03G

   b. SOLID/LIQUID
   SOLID/GAS
### Subclasses dealing with Operations Apparatus Method

<table>
<thead>
<tr>
<th>General</th>
<th>B01D</th>
</tr>
</thead>
<tbody>
<tr>
<td>by centrifugal force</td>
<td>B01D</td>
</tr>
<tr>
<td>using centrifuges or free-vortex apparatus</td>
<td>B01D</td>
</tr>
<tr>
<td>using magnetic or electrostatic effect</td>
<td>B03C</td>
</tr>
</tbody>
</table>

#### SOLID/LIQUID

#### SOLID/GAS

### Subclasses dealing with Operations Method Apparatus

<table>
<thead>
<tr>
<th>General</th>
<th>B01D</th>
</tr>
</thead>
<tbody>
<tr>
<td>by centrifugal force</td>
<td>B01D</td>
</tr>
<tr>
<td>using centrifuges or free-vortex apparatus</td>
<td>B01D</td>
</tr>
<tr>
<td>using magnetic or electrostatic effect</td>
<td>B03C</td>
</tr>
</tbody>
</table>

#### c. SOLID/SOLID

### Dry Methods

### Subclasses dealing with Operations Method Apparatus

<table>
<thead>
<tr>
<th>General for material in bulk</th>
<th>B07B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual sorting</td>
<td>B07C</td>
</tr>
<tr>
<td>Screening, sifting, pneumatic sorting</td>
<td>B07B</td>
</tr>
<tr>
<td>using pneumatic tables or jigs</td>
<td>B03B</td>
</tr>
<tr>
<td>by magnetic or electrostatic effect</td>
<td>B03C</td>
</tr>
<tr>
<td>by centrifugal force</td>
<td>B07B</td>
</tr>
<tr>
<td>using centrifuges or free-vortex apparatus</td>
<td>B07B</td>
</tr>
<tr>
<td>using magnetic or electrostatic effect</td>
<td>B03C</td>
</tr>
</tbody>
</table>

### Wet Methods

### Subclasses dealing with Operations Method Apparatus

<table>
<thead>
<tr>
<th>General</th>
<th>B03B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Dry Methods

<table>
<thead>
<tr>
<th>Operations</th>
<th>Method</th>
<th>Apparatus</th>
</tr>
</thead>
<tbody>
<tr>
<td>General for material in bulk</td>
<td>B07B07B</td>
<td></td>
</tr>
<tr>
<td>Individual sorting</td>
<td>B07CB07C</td>
<td></td>
</tr>
<tr>
<td>Screening, sifting, pneumatic sorting</td>
<td>B07BB07B</td>
<td></td>
</tr>
<tr>
<td>using pneumatic tables or jigs</td>
<td>B03BB03B</td>
<td></td>
</tr>
<tr>
<td>by magnetic or electrostatic effect</td>
<td>B03CB03C</td>
<td></td>
</tr>
<tr>
<td>by centrifugal force</td>
<td>B07BB07B</td>
<td></td>
</tr>
<tr>
<td>using centrifuges or free-vortex apparatus</td>
<td>B07BB04B, B04C</td>
<td></td>
</tr>
</tbody>
</table>

### Wet Methods

<table>
<thead>
<tr>
<th>Operations</th>
<th>Method</th>
<th>Apparatus</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>B03BB03B</td>
<td></td>
</tr>
<tr>
<td>flotation, differential sedimentation</td>
<td>B03BB03D</td>
<td></td>
</tr>
<tr>
<td>screening</td>
<td>B07BB07B</td>
<td></td>
</tr>
</tbody>
</table>

### Combinations = dry methods - wet methods: B03B

**SOLID/SOLID**

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

### NOTES

1. This subclass covers:
   - evaporation, distillation, crystallisation, filtration, dust precipitation, gas cleaning, adsorption, adsorption;
   - similar processes which are not concerned with, or limited to, separation (except in the case of absorption or adsorption).

2. In this subclass the terms or expressions are used with the meaning indicated:
   - "filtration" and analogous terms include straining solids from fluids;
   - "filter medium" is a porous material or porous arrangement of material used to filter solids from fluids;
   - "filtering element" is a section of filter medium in addition to parts to which the medium is demountably or permanently fixed, including other sections
of medium, end caps, peripheral frames or edge strips, but excluding housings;
• "filter housing" is the fluid-constraining impervious vessel, whether open or closed, which contains, or is adapted to contain, one or more filtering elements or filter media;
• "filter chamber" is the space within a housing, where filtering elements or filter media are located. Partitions may divide a single housing into a plurality of chambers;
• "filtering apparatus" consists of filtering elements combined with housings, cleaning arrangements, motor or the like parts, which are characteristic of the particular type of apparatus. Ancillary devices such as pumps or valves are considered part of a filtering apparatus when inside the apparatus. Ancillary devices performing similar or different unit operation such as comminutors, mixers or non-filtering separators, whether or not inside the apparatus, are not considered part of a filtering apparatus. The term does not extend to apparatus, e.g. washing machines, of which the filter forms only a part.

3. For apparatus used in drying or evaporation, F26 takes precedence over B01D.

4. Group B01D 59/00 takes precedence over the other groups of this subclass and over other subclasses in class B01

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

   B01D 19/0454

   B01D 9/00

   B01D 15/04

   covered by

   B01J 49/02

   B01D 17/022

   covered by

   B01D 17/0202

   B01D 17/025

   covered by

   B01D 17/0208

   B01D 17/028

   covered by

   B01D 17/0211

   B01D 17/032

   covered by

   B01D 17/0214

   B01D 17/035

   covered by

   B01D 17/0205

   B01D 17/038

   covered by

   B01D 17/0217

   B01D 17/05

   covered by

   B01D 17/047

   B01D 17/09

   covered by

   B01D 17/00

B01D 17/12

covered by

B01D 17/00

B01D 25/133

covered by

B01D 25/285

B01D 25/168

covered by

B01D 25/285

B01D 25/241

covered by

B01D 25/21

B01D 25/164

B01D 29/075

covered by

B01D 29/62,

B01D 29/76

B01D 29/37

covered by

B01D 29/336,

B01D 29/356

B01D 33/052

covered by

B01D 33/64

B01D 35/01

covered by

B01D 36/001

B01D 61/26

covered by

A61M 1/1656
2. 5. The group B01D 24/00 was introduced in March 1989. This group includes subject matter of B01D 23/00, B01D 25/06, B01D 25/10, B01D 29/0027, B01D 33/0032 and B01D 33/0054.

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

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

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

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

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

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

U B01D 17/00  
Separation of liquids, not provided for elsewhere, e.g. by thermal diffusion (devices for separating or removing fatty or oily substances or similar floating material from water, waste water, or sewage C02F 1/40; cleaning or keeping clear the surface of open water from oil or like materials E02B 15/04; arrangements for separating lubricants from refrigerants F25B 43/02)

NOTE  
in this group, documents are classified and arranged according to a combination system limited to the symbols of the group and subgroups of B01D 17/00. In this system each combination is indicated, also of subgroups depending from the same group, e.g. B01D 17/041 + B01D 17/042

B01D 17/08  · {Thickening liquid suspensions by filtration}
B01D 17/10  · {with stationary filtering elements}

U B01D 21/00  
Separation of suspended solid particles from liquids by sedimentation (separation of ores or the like by sedimentation B03B 5/48 to B03B 5/60; differential sedimentation B03D 3/00; purification of water, waste water, sewage or sludge C02F, e.g.) devices for separating or removing fatty or oily substances or similar floating material from water, waste water or sewage C02F 1/40)

WARNING  
The following groups are not complete: B01D 21/0006, see also B01D 21/00
B01D 21/0018, see also B01D 21/00
B01D 21/0054, see also B01D 21/00
B01D 21/0057, see also B01D 21/00
B01D 21/003, see also B01D 21/00
B01D 21/0036, see also B01D 21/00
B01D 21/0087, see also B01D 21/00
B01D 21/10  · {Settling tanks with multiple outlets for the separated liquids}
B01D 21/12  · · {with moving scrapers}
B01D 21/14  · · · {with rotating scrapers}
B01D 21/16  · · {provided with flocculating compartments}

U B01D 25/00  Filters formed by clamping together several filtering elements or parts of such elements (disc filters B01D 29/39)

WARNING
See WARNING after subclass title, particularly items (7), (8), (12), (13) and (14)

B01D 25/08  · {with rigid self-supporting filtering elements}
B01D 25/16  · {Edge filtering elements, i.e. using contiguous impervious surfaces}
B01D 25/18  · · {of flat, stacked bodies}

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)

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

U B01D 29/0002  · {Aspects of other filters with filtering elements stationary during filtration, or of filtering elements thereof}
B01D 29/0072  · · {Filters integrally combined with devices for controlling the filtration (for shutting-off elements or changing over from one element to another B01D 35/12, B01D 35/14; controlling filtration processes B01D 37/04)}

U B01D 61/00  Processes of separation using semi-permeable membranes, e.g. dialysis, osmosis, ultrafiltration; Apparatus, accessories or auxiliary operations specially adapted therefor

NOTE
In groups B01D 61/00 to B01D 61/58 it is desirable to add the indexing codes relating to process operations and control chosen from groups B01D 2311/00 to B01D 2311/2696, to details relating to membrane modules and apparatus indexing codes chosen from B01D 2313/00 to B01D 2313/90, to details relating to the membrane module operation indexing codes chosen from B01D 2315/00 to B01D 2315/16, to details relating to the module arrangement within a plant or an apparatus indexing codes chosen from B01D 2317/00 to B01D 2317/08 and to details relating to the membrane assembly within one housing indexing codes chosen from B01D 2319/00 to B01D 2319/06

U B01D 61/24  · Dialysis; {Membrane extraction (dialysate solution flow A61M 1/1656)}
B01D 61/243  · · {Dialysis}
Components to be removed

Organic compounds not provided for in groups B01D 2257/00 to B01D 2257/602

Volatile organic compounds V.O.C.'s

Mixing, e.g. dispersing, emulsifying, according to the phases to be mixed ({C08J 3/02 takes precedence})

gases or vapours with liquids (mixing non-alcoholic beverages with gases A23L 2/54; {for medical purposes A61M 16/14})

Introducing a gas or vapour into a liquid medium, e.g. producing aerated liquids (methods for the preparation of non-alcoholic beverages, e.g. of carbonated water A23L 2/00; bottling liquids, e.g. combined with aerating or carbonating B67C 3/00; dispensing beverages on draught combined with carbonating B67D 1/0057, B67D 1/025, B67D 1/0406, B67D 1/0418; dispensing beverages by gas pressure from storage containers, e.g. syphons B67D 1/04; biological treatment of water, waste water or sewage C02F 3/00; impregnating wine with carbon dioxide C12G 1/06; gas introduction means for enzymology or microbiology apparatus C12M 1/04)

using driven stirrers with completely immersed stirring elements (B01F 3/04453 takes precedence; surface aerating with stirrers near to the surface B01F 3/04765; flotation machines B03D 1/16)

characterised by the introduction of the gas along the axis of the stirrer or along the stirrer elements

Parts; Accessories

Mixing receptacles, e.g. tanks, vessels, reactors, being completely closed, e.g. hermetically closed

Flow mixers (sprayers, atomisers B05B); Mixers for falling materials, e.g. solid particles (B01F 13/04 takes precedence; centrifugal mixers B04)

Falling-particle mixers with moving (or vibrating) means, e.g. stirrers, for increasing the mixing (B01F 5/24 takes precedence)

using one central conveyor or several separate conveyors, e.g. belt or screw conveyors, vibrating tables, for discharging flows from receptacles, e.g. in layers

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

Containers for the purpose of retaining a material to be analysed, e.g. test tubes (devices for taking samples of blood A61B 5/14)

{with fluid transport, e.g. in multi-compartment structures (centrifugal-type cuvettes G01N 21/07; analysis by separation into components G01N 30/00; automatic analysers G01N 35/00)}

{by integrated micro-fluidic structures, i.e. dimensions of channels and chambers are such that surface tension forces are important, e.g. lab-on-a-chip (B01L 3/5023 takes precedence; micromixers B01F 13/0059; micoreactors for synthesis B01J 19/0093; micro-capillary devices in general B81B 1/00)}
Spraying apparatus for discharge of liquids or other fluent materials from two or more sources, e.g. of liquid and air, of powder and gas (B05B 3/00, B05B 5/00 (B05B 11/06) take precedence; outlets not specially modified for two media B05B 1/00)

Incorporating means for heating (or cooling) the material to be sprayed (spraying by means of explosions B05B 7/0006)

With means for heating the material to be sprayed or an atomizing fluid in a supply hose or the like

Single-unit, i.e. unitary, hand-held apparatus (comprising a container and a discharge nozzle attached thereto), in which flow of liquid or other fluent material is produced by (the muscular energy of) the operator at the moment of use (or by an equivalent manipulator independent from the apparatus (apparatus with an external source or the possibility of permanent accumulation of pressure for discharging the liquid or fluid material B05B 7/00, B05B 9/00))

The flow being effected by a pump

Arrangements or special adaptations of delivery controlling means in spraying systems (controlling in general G05 (; valves in spray head or nozzles B05B 1/30 and sub-groups ))

Comprising sensors for monitoring the delivery, e.g. by displaying the sensed value or generating an alarm (B05B 12/08 takes precedence; Registering or indicating the condition or the working of machines or other apparatus in general G07C 3/00)

Pressure or flow rate sensors

For supplying a selected one of a plurality of liquids or other fluent materials (or several in selected proportions) to a (spray apparatus, e.g. to a) single spray outlet

For supplying several liquids or other fluent materials in selected proportions to a single spray outlet (Controlling ratio of two or more flows of fluid G05D 11/02)

For a condition of a first liquid or other fluent material in a first supply line controlling a condition of a second one in a second supply line

Not complete, see also B05B 12/14

Not complete, see also B05B 7/32, B05B 12/14

Not complete, see also B05B 12/14

Not complete, see also B05B 7/32, B05B 12/14
WARNING

1. not complete, see also B05B 12/14

2. WARNING not complete, see B05B 7/32, B05B 12/14

Project: N/A (B05C)

U B05C 17/00

Hand tools or apparatus using hand held tools, for applying liquids or other fluent materials to, for spreading applied liquids or other fluent materials on, or for partially removing applied liquids or other fluent materials from, surfaces (casings or accessories for storing or handling solid or pasty toilet or cosmetic substances A45D 40/00; brushes A46B; shoe polish applicators A47L 23/05; surgical glue applicators A61B 17/00491; absorbent pads, e.g. swabs, for applying media to the human body A61F 13/15; hand-held applicators for applying or spreading media, e.g. remedies, on the human body A61M 35/003; implements for writing or drawing B43K; hand-held desk devices for applying liquid, e.g. adhesive, by contact to surfaces B43M 11/06; implements or apparatus for removing dry paint from surfaces B44D 3/16; container closures with pads or like contents-applying means B65D 47/42)

U B05C 17/005

· · · for discharging material from a reservoir or container located in or on the hand tool through an outlet orifice by pressure without using surface contacting members like pads or brushes

U B05C 17/01

· · · with (manually) mechanically or electrically actuated piston or the like ((B05C 17/00533 takes precedence))

B05C 17/0103

· · · · with electrically actuated piston or the like

Project: N/A (B06B)

U B06B 1/00

Methods or apparatus for generating mechanical vibrations of infrasonic, sonic, or ultrasonic frequency

U B06B 1/02

· making use of electrical energy (B06B 1/18, B06B 1/20 take precedence)

U B06B 1/06

· · · operating with piezo-electric effect or with electrostriction (piezo-electric or electrostrictive devices per se H01L 41/00)

U B06B 1/0607

· · · · using multiple elements (B06B 1/064 and B06B 1/0688 take precedence)

U B06B 1/0611

· · · · · · (in a pile)

B06B 1/0618

· · · · · · · of piezo- and non-piezo-electric elements, e.g. Tonpilz

Project: N/A (B09B)

B09B

DISPOSAL OF SOLID WASTE

NOTES

1. This subclass covers only single or combined, e.g. multistage, operations not fully classifiable in a single other subclass

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

   · "disposal" means the discarding, e.g. dumping, or destroying of waste or its transformation into something useful or harmless;
   · "solid waste" includes waste which, although it has liquid content, is for practical purposes handled as solid

3. Attention is drawn to the following places:

   A23J 1/16 Obtaining proteins from waste water of starch
manufacturing plants of like wastes

A23K 1/06 Animal feeding-stuffs from distillers’ or brewers’ waste
A23K 1/08 Animal feeding-stuffs from waste products of dairy plants
A23K 1/10 Animal feeding-stuffs from kitchen waste
A43B 1/12 Footwear made of rubber waste
A61L 11/00 Disinfection or sterilisation methods specially adapted for refuse
A62D 3/00 Chemical means for combatting harmful chemical agents; processes for making harmful chemical agents harmless
B01D 53/34 Chemical purification of smoke or fumes, e.g. flue gas
B02C 18/0084 Disintegrating by knives or other cutting or tearing members, which chop material into fragments, specially adapted for disintegrating garbage, waste or sewage
B03B 7/00 Combinations of wet processes or apparatus with other processes or apparatus, e.g. for dressing ores or garbage
B03B 9/06 General arrangement of separating plant, e.g. flow sheets, specially adapted for refuse
B05B 15/04 Control of spray area of spraying plant, e.g. masking, side shields; Means for collection or re-use of excess material
B08B 15/00 Prevent escape of dirt or fumes from the area where they are produced; Collecting or removing dirt or fumes from that area
B23D 25/14 Machines or arrangements for shearing stock while the latter is travelling otherwise than in the direction of the cut without regard to the exact dimensions of the resulting material, e.g. for cutting up scrap
B27B 33/20 Edge trimming saw blades or tools combined with means to disintegrate waste
B29B 17/00 Recovery of plastics or other constituents of waste material containing plastics
B30B 9/32 Presses for consolidating scrap metal or for compacting used cars
B30B 17/06 Waste materials or refuse used as fillers for mortars, concrete, artificial stone or the like
B30B 7/24 Hydraulic cements from oil shales, residues or waste other than slag
B30B 11/26 Calcium sulfate cements from phosphogypsum or from waste, e.g. purification products of smoke
B30B 18/04 Waste materials or refuse used as fillers for mortars, concrete, artificial stone or the like
B30B 22/0006 Waste inorganic materials used as active ingredients for mortars, concrete, artificial stone or the like
Waste organic materials used as active ingredients for mortars, concrete, artificial stone or the like

Fertilisers made from household or town refuse

Recovery of waste materials of macromolecular substances

Compositions of reclaimed rubber

Destructive distillation, specially adapted for particular solid raw materials or solid raw materials in special form

Other processes not covered before; Features of destructive distillation processes in general

Production of liquid hydrocarbon mixtures from rubber or rubber waste

Solid fuels essentially based on sewage, house or town refuse

Solid fuels essentially based on industrial residues and waste materials

Working-up used lubricants based on mineral oils

Recovery of fats, fatty oils, or fatty acids from waste materials

Recovery of glycerol from a saponification liquor

Recovery of by-products

Recovery of alcohol from press residues or other waste material

Biochemical production of ethanol from waste

Working-up raw materials other than ores, e.g. non-ferrous metals or compounds thereof

Obtaining zinc or zinc oxide from muffle furnace residues

Obtaining zinc or zinc oxide from metallic residues or scrap

Obtaining tin from scrap

Mechanical treatment of natural fibrous or filamentary material to obtain fibres or filaments, e.g. for spinning

Carbonising rags to recover animal fibres

Recovery of starting material, waste material or solvents during the manufacture of artificial filaments or the like

Disintegrating fibre-containing articles to obtain fibres for re-use

Arrangements for confining or removing dust, fly, or the like

Regeneration of used chemical baths used for dry-cleaning or washing fibres, fabrics or the like

Dry treatment of waste paper or rags for making paper or for the production of cellulose

Defibrating waste paper

Processes for obtaining cellulose by working-up waste paper

Regeneration of pulp liquors by wet combustion

Re-use of pulp-water in wet end machines for making continuous webs of paper

Waste products added to the pulp or used in
paper-impregnating material

E03F  Sewers, Cesspools

E04F 17/10 Arrangements in building for the disposal of refuse

F23B 5/00 Combustion apparatus arrangements for burning uncombusted material from primary combustion

F23G  Consuming waste products by combustion

F23J  Removal or treatment of combustion products or combustion residues

G03C 11/24 Removing emulsion from waste photographic material

H01B 15/00 Apparatus or processes for salvaging material from electric cables

H01M 6/52 Reclaiming serviceable parts of waste cells or batteries

H01M 10/54 Reclaiming serviceable parts of waste accumulators

Project: N/A (B21B)

U  B21B 35/00 Drives for metal-rolling mills, {e.g. hydraulic drives}

U  B21B 35/14 · Couplings, driving spindles, or spindle carriers specially adapted for, or specially arranged in, metal-rolling mills (couplings or shafts in general F16)

U  B21B 35/142 · · · (Yielding spindle couplings; Universal joints for spindles (yielding couplings in general F16D 3/00))

B21B 35/145 · · · · · · (Hooke’s joints or the like with each coupling part pivoted with respect to an intermediate member (Hooke’s joints in general F16D 3/26))

Project: N/A (B21D)

U  B21D 53/00 Making other particular articles (making wire fabrics B21F; making chains or chain parts B21L)

B21D 53/38 · locksmith’s goods, e.g. handles

Project: N/A (B21K)

B21K 13/00 Making locksmiths’ goods, e.g. handles for cases

B21K 15/00 Making blacksmiths’ goods

Project: N/A (B22D)

U  B22D 7/00 Casting ingots, {e.g. from ferrous metals}(equipment for conveying molten metal B22D 35/00).

U  B22D 7/06 · Ingot moulds or their manufacture

B22D 7/10 · · Hot tops therefor {(heating the top discard of ingots B22D 27/06) 06]

Project: N/A (B23K)

B23K 26/00 Working by laser beam, e.g. welding, cutting, boring or boring (lasers per se H01S 3/00; {laser assisted deposition C23C; laser inspection or alignment G01B; laser sintering of metallic powder B22F 3/105; of plastics B29C 67/00; of glass C03B 19/06; of ceramics C04B 35/64; applying identification marks by laser B41M 5/24})

NOTES
1. This subclass covers:
• laser working for making a weakened layer, with or without removing material;
• laser shock processing;
• apparatus for laser surface treatment;
• laser ablation.

2. This subclass does not cover:
• laser assisted deposition which is covered by subclass C23C;
• laser sintering which is covered by group B22F 3/105 for metallic powder, by group B29C 67/04 for plastics, by group C03B 19/06 for glass or by group C04B 35/64 for ceramics;
• laser assisted chemical etching which is covered by group C23F 1/00.

WARNING
Group B23K 26/00 is impacted by reclassification into groups B23K 26/346 – B23K 26/348, B23K 26/352 – B23K 26/359 and B23K 26/50 – B23K 26/57. All groups listed in this Warning should be considered in order to perform a complete search.

D B23K 26/0003 · {Trimming, tuning}
B23K 26/0006 · {taking account of the properties of the material involved (B23K 26/20 B23K 26/32, B23K 26/36 B23K 26/40 take precedence)}
D B23K 26/0009 · · {Metallic material}
D B23K 26/0012 · · · {Non ferrous metals or alloys}
D B23K 26/0015 · · · · {Refractory metals}
D B23K 26/0018 · · · · {Light metals}
D B23K 26/0021 · · · {Non metallic material (laser surface treatment of glass not in the form of fibres or filaments C03C 23/0025, of glass in the form of fibres or filaments C03C 25/6233)}
D B23K 26/0024 · · · · {Organic material}
D B23K 26/0027 · · · · {Material from living organisms, e.g. skin (surgical instruments, devices or methods for applying laser energy to the body A61B 18/20; dental laser A61C 1/0046; eye surgery using laser A61F 9/008)}
D B23K 26/003 · · · · {Fabrics}
D B23K 26/0033 · · · · {Paper}
D B23K 26/0036 · · · · {Plastics}
D B23K 26/0039 · · · · {Inorganic material}
D B23K 26/0042 · · · · {Semiconductor material, e.g. Si or Ge based}
D B23K 26/0045 · · · · {Ceramics}
D B23K 26/0048 · · · {Composite material, e.g. fibre reinforced, sandwich steel plate}
D B23K 26/0051 · · · {Surface treated material, e.g. plated, painted}
B23K 26/009 · {using a non-absorbing, e.g. transparent, reflective or refractive, layer on the workpiece (using a mask on the workpiece B23K 26/666 B23K 26/666)}
B23K 26/0093 · {combined with mechanical machining or metal-working covered by other subclasses than B23K (combined with an electric arc B23K 26/1429; combined welding or cutting procedures or apparatus B23K 28/02); Heating a metal workpiece by laser during machining B23P 25/006}.
B23K 26/02 · Positioning or observing the workpiece, e.g. with respect to the point of impact; Aligning, aiming or focusing the laser beam

WARNING
Group B23K 26/02 is incomplete pending reclassification of documents from group B23K 26/037.
Groups B23K 26/02 and B23K 26/037 should be considered in order to perform a complete search.

D B23K 26/023

- (Aligning, aiming or focusing the laser beam by pressing on the workpiece; e.g. pressing roller foot)

D B23K 26/026

- (Aligning the laser beam (B23K 26/023 takes precedence; automatically aligning the laser beam B23K 26/041))

B23K 26/03

- Observing, {e.g. monitoring,} the workpiece; {protective devices for the eye; carried on the body or in the hand A61F 9/02, A61F 9/04})

B23K 26/034

- (Observing the temperature of the workpiece)

N B23K 26/0342

- (Observing magnetic fields related to the workpiece)

N B23K 26/0344

- (Observing the speed of the workpiece)

N B23K 26/035

- Aligning the laser beam (automatically B23K 26/042)

D B23K 26/036

- (by pressing on the workpiece, e.g. pressing roller foot)

WARNING

Group B23K 26/037 is impacted by reclassification into group B23K 26/02. Groups B23K 26/037 and B23K 26/02 should be considered in order to perform a complete search.

D B23K 26/038

- (Observing speed of the workpiece)

U B23K 26/04

- Automatically aligning, aiming or focusing the laser beam, e.g. using the back-scattered light

D B23K 26/041

- (Automatically aligning the laser beam)

N B23K 26/042

- Automatically aligning the laser beam

U B23K 26/043

- (along the beam path, i.e. alignment of laser beam axis relative to laser beam apparatus)

N B23K 26/044

- Seam tracking

D B23K 26/045

- (for tracking lines during welding or cutting, e.g. seam tracking)

B23K 26/046

- (Automatically focusing the laser beam)

B23K 26/046

- Shaping the laser beam, e.g. by masks or multi-focusing; {optical elements, systems, or apparatus, in general G02B (beam shaping for applications of laser not covered in this group H01S 3/005)}

WARNING

Group B23K 26/06 is impacted by reclassification into group B23K 26/062. Groups B23K 26/06 and B23K 26/062 should be considered in order to perform a complete search.

U B23K 26/0604

- (by a combination of beams)

B23K 26/0608

- (in the same heat affected zone [HAZ] B23K 26/0613, B23K 26/0621 B23K 26/0619 take precedence))

B23K 26/0613

- (having a common axis (B23K 26/0621 B23K 26/0619 takes precedence))

N B23K 26/0619

- (with spots located on opposed surfaces of the workpiece)

N B23K 26/062

- by direct control of the laser beam

WARNING

Group B23K 26/062 is incomplete pending reclassification of documents from group B23K 26/06. Groups B23K 26/06 and B23K 26/062 should be considered in order to perform a complete search.

D B23K 26/0621

- (with spots located on opposed surfaces of the workpiece)
by shaping pulses

using ultrashort pulses, i.e. pulses of 1ns or less

Energy control of the laser beam (temporal shaping of laser beam
H01S 3/0057 B23K 26/0622 takes precedence)

Pulse shaping

using ultrashort pulses, i.e. pulses of 1ns or less

by means of optical elements

by means of optical elements, e.g. lenses, mirrors or prisms

comprising mirrors

comprising lenses

comprising prisms

comprising a mask (for lithography G03F)

by using masks

disposed on the workpiece

Devices involving relative movement between laser beam and workpiece

Devices involving movement of the laser beam relative to the laser head, i.e. scanning devices

using multifaceted mirrors, e.g. polygonal mirror (scanning devices using multifaceted mirrors, in general G02B 26/12)

Scanning systems, i.e. devices involving movement of the laser beam relative to the laser head

using multifaceted mirrors, e.g. polygonal mirror

in a special atmosphere, e.g. in an enclosure

in a liquid, e.g. underwater

in vacuum

in an atmosphere of gases chemically reacting with the workpiece (chemical etching of glass C03C 15/00, C03C 25/68; chemical etching of metallic material C23F 1/00; etching of crystallised non-metallic material with defined structure in gas atmosphere C30B 33/12)

using a fluid stream, e.g. a jet of gas, in conjunction with the laser beam;

Nozzles therefor (B23K 26/12 takes precedence)

for the removal of by-products, e.g. by aspiration

the flow containing particles, e.g. powder

the flow containing a liquid

for the removal of by-products

involving specially adapted flow control means

for pressure control

for flow rate control

for directional control

the fluid stream containing particles, e.g. powder

for pressure control

for debit control

for directional control

Nozzles; Features related to nozzles

the fluid stream containing a liquid
N B23K 26/1462 · · (Nozzles; Features related to nozzles)
U B23K 26/1464 · · · (Supply to, or discharge from, nozzles of media, e.g. gas, powder, wire)
B23K 26/147 · · · (Features outside the nozzle for feeding media the fluid stream towards the workpiece)
B23K 26/1476 · · · (Features inside the nozzle for feeding media the fluid stream through the nozzle)
B23K 26/1482 · · · (Detachable nozzles, e.g. exchangeable or provided with breakaway lines)
U B23K 26/1488 · · · (Means for protecting nozzles, e.g. the tip surface (by breakaway lines B23K 26/1482))
U B23K 26/1494 · · · (Maintenance of nozzles)
B23K 26/16 · Removing Removal of by-products, e.g. particles or vapours produced during treatment of a workpiece (by a flow of gas B23K 26/14 by a fluid stream B23K 26/142)
B23K 26/18 · using absorbing layers on the material being worked workpiece, e.g. for marking or protecting purposes ((observing devices provided with laser radiation protection devices B23K 26/03; using masks on the workpiece for shaping the laser beam B23K 26/0661; interposing material for facilitating bonding B23K 26/203; laser anti-reflection devices, e.g. optical isolators H01S 3/0064))
B23K 26/20 · Bonding, e.g. welding (soldering by means of radiant energy B23K 1/005; joining of preformed plastics parts by heating using laser beam B29C 65/16)
WARNING
Group B23K 26/20 is impacted by reclassification into group B23K 26/21. Groups B23K 26/20 and B23K 26/21 should be considered in order to perform a complete search.

D B23K 26/203 · · with interposition of material for facilitating bonding (with interposition of adhesive being heated by laser C09J 5/06; with interposition of solder B23K 1/0056))
N B23K 26/21 · · by welding
WARNING
Group B23K 26/21 is incomplete pending reclassification of documents from group B23K 26/20. Groups B23K 26/20 and B23K 26/21 should be considered in order to perform a complete search.

N B23K 26/211 · · · with interposition of special material to facilitate connection of the parts
B23K 26/22 · · · Spot welding
B23K 26/24 · · · Seam welding
N B23K 26/242 · · · · · Fillet welding, i.e. involving a weld of substantially triangular cross section joining two parts
D B23K 26/243 · · · · (Fillet welding)
N B23K 26/244 · · · · Overlap seam welding
D B23K 26/246 · · · · (Overlap welding)
B23K 26/26 · · · · · · of rectilinear seams
N B23K 26/262 · · · · · · · of longitudinal seams of tubes
D B23K 26/265 · · · · · · (Longitudinal seams of tubes)
B23K 26/28 · · · · · · of curved planar seams
N B23K 26/282 · · · · · · · of tube sections
D B23K 26/285 · · · · · · (Tube sections)
B23K 26/30 · · · · · · · of three-dimensional seams

124
of helicoidal seams

taking account of the properties of the material involved

**WARNING**

Group **B23K 26/32** is incomplete pending reclassification of documents from group **B23K 26/322**.

Groups **B23K 26/32** and **B23K 26/322** should be considered in order to perform a complete search.

---

involving coated metal parts (using absorbing layers on the workpiece **B23K 26/18**)

**WARNING**

Group **B23K 26/322** is impacted by reclassification into group **B23K 26/32**.

Groups **B23K 26/322** and **B23K 26/32** should be considered in order to perform a complete search.

---

involving parts made of dissimilar metallic material

---

joining glass to glass by fusing with laser **C03B 23/20**, by processes other than by fusing using laser **C02C 27/06**; joining ceramics **C04B 37/00**)

---

(dentistry **A61C 1/00**; eye laser surgery **A61F 9/00**; Treatment of micro-organisms with electric or wave energy **C12N 13/00**)

---

joining glass to glass by fusing with laser **C03B 23/20**, by processes other than by fusing using laser **C02C 27/06**; joining ceramics **C04B 37/00**)

---

in combination with welding or cutting covered by groups **B23K 5/00** - **B23K 25/00**, e.g. in combination with resistance welding

**WARNING**

Groups **B23K 26/346** - **B23K 26/348** are incomplete pending reclassification of documents from group **B23K 26/00**. Until reclassification is complete, group **B23K 26/00** should be considered in order to perform a complete search.

---

in combination with arc heating, e.g. TIG [tungsten inert gas], MIG [metal insert gas] or plasma welding (laser beam for starting a welding or cutting arc **B23K 9/067**)

---

for trimming or tuning of electrical components
N  B23K 26/352 • for surface treatment

**WARNING**

Groups **B23K 26/352 - B23K 26/359** are incomplete pending reclassification of documents from group **B23K 26/00**.

Groups **B23K 26/00** and **B23K 26/352 - B23K 26/359** should be considered in order to perform a complete search.

N  B23K 26/354 • • by melting

N  B23K 26/356 • • by shock processing

N  B23K 26/359 • • by providing a line or line pattern, e.g. a dotted break initiation line

B23K 26/36 • Removing material {{laser wire stripping H02G 1/128; cleaning by laser treatment B08B 7/0042, B23K 26/55, B23K 26/57 take precedence}}

**WARNING**

Group **B23K 26/36** is impacted by reclassification into groups **B23K 26/36 and B23K 26/55 - B23K 26/57**.

Groups **B23K 26/36 and B23K 26/55 - B23K 26/57** should be considered in order to perform a complete search.

N  B23K 26/361 • • for deburring or mechanical trimming (**B23K 26/351** takes precedence)

B23K 26/362 • (Mechanical trimming - Laser etching (trimming of electric components B23K 26/0003); Deburring; Searing or desurfacing)

N  B23K 26/364 • • for making a groove or trench, e.g. for scribing a break initiation groove

D  B23K 26/365 • {Laser etching, i.e. the material is removed superficially or partially through the workpiece by the laser beam (laser etching for decorative purposes B44C 1/22, laser etching for manufacturing printed circuit boards H05K 3/00)}

D  B23K 26/367 • • {for making a groove or trench, e.g. scribing a break initiation groove}

U  B23K 26/38 • • by boring or cutting

D  B23K 26/381 • • (Boring (Via connections through an SC device substrate H01L 21/486))

N  B23K 26/382 • • by boring

D  B23K 26/383 • • • {of specially shaped holes}

N  B23K 26/384 • • • {of specially shaped holes}

D  B23K 26/385 • • • {of blind holes (Laser ablation of PCB substrate blind holes having a metal layer at the bottom H05K 3/0035)}

B23K 26/386 • • • {Trepanning of blind holes}

B23K 26/388 • • • {of fluid openings Trepanning, e.g. nozzles, jets boring by moving the beam spot about an axis (Laser machining of inkjet nozzles B41J 2/1634)}

N  B23K 26/389 • • • {of fluid openings, e.g. nozzles, jets (laser machining of inkjet nozzles B41J 2/1634)}

U  B23K 26/40 • • taking account of the properties of the material involved

D  B23K 26/4005 • • {Metallurgical material}

D  B23K 26/401 • • • {Non-ferrous metals or alloys}

D  B23K 26/4015 • • • {Refractory metals}

B23K 26/402 • • • {Light metals involving non-metallic material, e.g. isolators}

D  B23K 26/4025 • • • {Non-metal material}

D  B23K 26/403 • • • {Organic material}

D  B23K 26/4035 • • • {Material from living organisms, e.g. skin (devices or method using laser on the body A61B 18/20; dental laser A61C 1/0046; eye laser surgery A61F 9/008; Treatment of micro-organisms with electric or wave energy C12N 13/00; Introduction of foreign genetic material into plant cells by physical or non-biological means G12N 15/3206)}
D B23K 26/404  · · · · {Leather (clicking, perforating, or cutting leather C14B 5/00)}
D B23K 26/4045  · · · · {Wood or similar (working or preserving wood or similar material B27B–B27M)}
D B23K 26/405  · · · · {Fibrous material}
D B23K 26/4055  · · · · {Fabrics}
D B23K 26/406  · · · · {Paper (metallic paper B23K 26/4005)}
D B23K 26/4065  · · · · {Plastics}
D B23K 26/407  · · · · {Brittle material, e.g. semi-conductor wafers (severing glass using laser C03B 33/0222, C03B 33/091)}
D B23K 26/408  · · · · {Composites, e.g. fibre reinforced, sandwich steel plate}
D B23K 26/409  · · · · {Multi-layered material wherein at least one layer is non-metallic}
D B23K 26/4095  · · · · {Surface treated material, e.g. plated, painted}
D B23K 26/41  · Preliminary treatment; Auxiliary operations or equipment (B23K 26/16 takes precedence)
D B23K 26/421  · · · · {Preliminary treatment}
D B23K 26/422  · · · · {Auxiliary equipment}
D B23K 26/423  · · · {Cooling arrangements (by using a fluid stream B23K 26/14)}
D B23K 26/425  · · · {Beam dispersers, e.g. beam wells}
D B23K 26/426  · · · {Beam measuring device (beam monitoring per se G01J 1/4257)}
D B23K 26/427  · · · {Protective screens (goggles or eye masks for welders carried on the body or in the hand A61F 9/02, A61F 9/06)}
D B23K 26/428  · · · · {for monitoring laser beam transmission optics}
N B23K 26/50  · Working by transmitting the laser beam through or within the workpiece

WARNING
Groups B23K 26/50 - B23K 26/57 are incomplete pending reclassification of documents from groups B23K 26/00 and B23K 26/36.
Groups B23K 26/00, B23K 26/36 and B23K 26/50 - B23K 26/57 should be considered in order to perform a complete search.

N B23K 26/53  · · · · for modifying or reforming the material inside the workpiece, e.g. for producing break initiation cracks
N B23K 26/55  · · · · for creating voids inside the workpiece, e.g. for forming flow passages or flow patterns
N B23K 26/57  · · · · the laser beam entering a face of the workpiece from which it is transmitted through the workpiece material to work on a different workpiece face, e.g. for effecting removal, fusion splicing, modifying or reforming
N B23K 26/60  · Preliminary treatment
N B23K 26/70  · Auxiliary operations or equipment
N B23K 26/702  · · · · {Auxiliary equipment}
N B23K 26/703  · · · · {Cooling arrangements (by using a fluid stream B23K 26/14)}
N B23K 26/704  · · · · {Beam dispersers, e.g. beam wells}
N B23K 26/705  · · · · {Beam measuring device}
N B23K 26/706  · · · · {Protective screens}
N B23K 26/707  · · · · {for monitoring laser beam transmission optics}
U B23K 2201/00  Articles made by soldering, welding or cutting by applying heat locally
Coated articles, e.g. plated or painted; Surface treated articles

**WARNING**

Group B23K 2201/34 impacted by reclassification into group B23K 2201/35. Groups B23K 2201/34 and B23K 2201/35 should be considered in order to perform a complete search.

Surface treated articles

**WARNING**

Group B23K 2201/35 is incomplete pending reclassification from B23K 2201/34. Groups B23K 2201/34 and B23K 2201/35 should be considered in order to perform a complete search.

**Materials to be soldered, welded or cut**

**WARNING**

Group B23K 2203/00 is impacted by reclassification into groups B23K 2203/50 – B23K 2203/56. Groups B23K 2203/00 and B23K 2203/50 – B23K 2203/56 should be considered in order to perform a complete search.

Iron or ferrous alloys

**WARNING**

Group B23K 2203/04 is impacted by reclassification into group B23K 2203/05. Groups B23K 2203/04 and B23K 2203/05 should be considered in order to perform a complete search.

Stainless steel

**WARNING**

Groups B23K 2203/05 is incomplete pending reclassification from B23K 2203/04. Groups B23K 2203/04 and B23K 2203/05 should be considered in order to perform a complete search.

Non-ferrous metals or alloys

**WARNING**

Groups B23K 2203/08 is impacted by reclassification into group B23K 2203/15. Groups B23K 2203/08 and B23K 2203/15 should be considered in order to perform a complete search.

Magnesium or alloys thereof

**WARNING**

Group B23K 2203/15 is incomplete pending reclassification of documents from group B23K 2203/08. Groups B23K 2203/08 and B23K 2203/15 should be considered in order to perform a complete search.

Composite materials, e.g. fibre reinforced

**WARNING**

Group B23K 2203/16 is impacted by reclassification into groups B23K 2203/166 – B23K 2203/172.
Groups B23K 2203/16 and B23K 2203/166 – B23K 2203/172 should be considered in order to perform a complete search.

N B23K 2203/166 · · Multilayered materials

**WARNING**
Groups B23K 2203/166 - B23K 2203/172 are incomplete pending reclassification from B23K 2203/16.
Groups B23K 2203/16 and B23K 2203/166 – B23K 2203/172 should be considered in order to perform a complete search.

N B23K 2203/172 · · · wherein at least one of the layers is non-metallic

B23K 2203/18 · Dissimilar materials

**WARNING**
Group B23K 2203/18 is impacted by reclassification into group B23K 2203/26.
Groups B23K 2203/18 and B23K 2203/26 should be considered in order to perform a complete search.

N B23K 2203/26 · · Alloys of Nickel and Cobalt and Chromium

**WARNING**
Group B23K 2203/26 is incomplete pending reclassification of documents from group B23K 2203/18.
Groups B23K 2203/26 and B23K 2203/18 should be considered in order to perform a complete search.

N B23K 2203/30 · Organic material

**WARNING**
Groups B23K 2203/30 - B23K 2203/42 are incomplete pending reclassification from B23K 2203/00.
Groups B23K 2203/00 and B23K 2203/30 – B23K 2203/42 should be considered in order to perform a complete search.

N B23K 2203/32 · · Material from living organisms, e.g. skins
N B23K 2203/34 · · Leather
N B23K 2203/36 · · Wood or similar materials
N B23K 2203/38 · · Fabrics, fibrous materials
N B23K 2203/40 · · Paper
N B23K 2203/42 · · Plastics (B23K 2203/16 takes precedence)
N B23K 2203/50 · · Inorganic material, e.g. metals, not provided for in B23K 2203/02 – B23K 2203/26

**WARNING**
Groups B23K 2203/50 - B23K 2203/56 are incomplete pending reclassification from B23K 2203/00 and B23K 2203/50.
Groups B23K 2203/00 and B23K 2203/50 – B23K 2203/56 should be considered in order to perform a complete search.

N B23K 2203/52 · · Ceramics
N B23K 2203/54 · · Glass
N B23K 2203/56 · · semiconducting (semiconducting devices B23K 2201/40)
Project: N/A (B24B)

U B24B 9/00  
Machines or devices designed for grinding edges or bevels on work or for removing burrs; Accessories therefor (B24B 21/00 takes precedence; for sharpening cutting edges on tools B24B 3/00; removing burrs by loose abrasive material B24B 31/00)

U B24B 9/02  
· characterised by a special design with respect to properties of materials specific to articles to be ground

U B24B 9/06  
· · of non-metallic inorganic material, e.g. stone, ceramics, porcelain

B24B 9/16  
· · · of diamonds; of jewels or the like; Diamond grinders* dops; Dop holders or tongs (for grinding sharp pointed diamonds or sapphires B24B 19/16)

U B24B 31/00  
Machines or devices designed for polishing or abrading surfaces on work by means of tumbling apparatus or other apparatus in which the work and/or the abrasive material is loose; Accessories therefor (abrasive blasting machines B24C 3/26)

B24B 31/12  
· Accessories; Protective equipment or safety devices; Installations for exhaustion of dust or for sound absorption specially adapted for machines covered by group B24B 31/00 (in general B24B 55/00)

Project: N/A (B25B)

B25B 7/00  
Pliers; Other hand-held gripping tools with jaws on pivoted limbs; Details applicable generally to pivoted-limb hand tools (implements for fastening, connecting, or tensioning wire or strip B25B 25/00; adapted for other fitting or separating purposes B25B 27/00; for marking animals A01K 11/00; dentists’ forceps A61C 3/00; dentists’ forceps A61C 3/00; bending wire eyes B21F 1/06; hand-held metal-shearing or metal-cutting devices B23D 29/00; hand cutting tools B26B; for punching or perforating B26F 1/36; devices for securing ends of binding material in bundling machines B65B 13/24; specially designed for watch-making or comparable work G04D 1/00)

B25B 9/00  
Hand-held gripping tools other than those covered by group B25B 7/00 (wrenches B25B 13/00; specially adapted for watchmakers’ or like use G04D; specially adapted for watchmakers’ or like use G04D)

U B25B 27/00  
Hand tools, specially adapted for fitting together or separating parts or objects whether or not involving some deformation, not otherwise provided for (machines for simply fitting together or separating metal parts or objects B23P 19/00)

U B25B 27/14  
· for assembling objects other than by press fit or detaching same

B25B 27/30  
· · positioning or withdrawing springs, e.g. coil or leaf springs (B25B 27/26 takes precedence; watchmakers’ or watch-repairers’ tools G04D; watchmakers’ or watch-repairers’ tools G04D)

Project: N/A (B25D)

U 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 {(portable non-percussive drilling tools driven by fluid pressure or pneumatic power B23B 45/04)}

B25D 9/005  
· {Devices for testing the tool’s performance}

Project: N/A (B25F)

U B25F 1/00  
Combination or multi-purpose hand tools (associations of tools for different working operations with one portable power-drive means B25F 3/00; {combined stapling and punching tools B25C 5/0214})
Project: N/A (B25F)

B25F 1/003

- (of pliers, scissors or wrench-type with at least one movable jaw (B25F 1/006 takes precedence))

Project: N/A (B25H)

B25H 5/00

Tool, instrument or work supports or storage means used in association with vehicles (means for holding wheels or parts thereof B60B 30/00); Workers' supports, e.g. mechanics' creepers ((collecting or removing exhaust gases in workshops B08B 15/002; vehicle lifting devices, e.g. jacks, platforms or ramps B66F))

Project: N/A (B26D)

U B26D 3/00

- Cutting work characterised by the nature of the cut made; Apparatus therefor

B26D 3/16

- Cutting rods or tubes transversely ((cutting tubes longitudinally B26D 3/001)); (Note: B26D 3/161 takes precedence over groups B26D 3/162 to B26D 3/168)

NOTE

B26D 3/161 takes precedence over groups B26D 3/162 to B26D 3/168

Project: N/A (B27F)

B27F

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

NOTE

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

Project: N/A (B27G)

B27G

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

WARNING

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

B27G 17/08 covered by B25D 3/00

Project: N/A (B29C)

U B29C 47/00

- Extrusion moulding, i.e. expressing the moulding material through a die or nozzle which imparts the desired form; Apparatus therefor (extrusion blow-moulding B29C 49/04; extrusion presses in general B30B 11/22)

U B29C 47/08

- Component parts, details or accessories; Auxiliary operations

U B29C 47/10

- Feeding the material to the extruder

B29C 47/1009

- (Raw material dosing)
B29C 47/1018  · · · (Raw material pre-treatment while feeding (pre-treatment of the material to be shaped in general B29B 15/00; handling of the material to be shaped in general B29C 31/00; B29C 47/78 takes precedence))

U B29C 49/00  Blow-moulding, i.e. blowing a preform or parison to a desired shape within a mould; Apparatus therefor (extrusion moulding of tubular films B29C 47/0026; enlarging tube ends using pressure difference B29C 57/08)

U B29C 49/42  · · · Component parts, details or accessories; Auxiliary operations

U B29C 49/64  · · · Heating or cooling preforms, parisons or blown articles

U B29C 49/6409  · · · (Thermal conditioning of preforms (B29C 49/68 takes precedence))

U B29C 49/6436  · · · (producing a temperature differential)

B29C 49/6454  · · · · (along the preform thickness)

Project: N/A (B29K)

INDEXING SCHEME ASSOCIATED WITH SUBCLASSES B29B, B29C OR B29D, RELATING TO MOULDING MATERIALS

NOTES
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:
     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 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
   Copolymers are indexed with the same indexing code as the majority polymers

WARNINGS
1. 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 2705/00
   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: B29K1/00 - B29K105/00
   Compositions for reinforcements: B29K201/00 - B29K313/00
   Compositions for fillers: B29K401/00 - B29K511/00
   Compositions for preformed parts: B29K601/00 - B29K713/00
   Compositions for moulds: B29K801/00 - B29K913/00
   Properties of moulding materials, reinforcements, fillers, preformed parts or moulds: B29K995/00
   Compositions for moulding materials;
Condition, form or state of moulded material

2. 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

Use of {unspecified rubbers as moulding material (as such C08L 21/00)}

- B29K 2021/00
  - {Thermoplastic elastomers}
  - {Thermosetting elastomers}

Use of {unspecified rubbers as reinforcement (as such C08L 21/00)}

- B29K 2221/00
  - {Thermoplastic elastomers}
  - {Thermosetting elastomers}

Use of {unspecified rubbers as filler (as such C08L 21/00)}

- B29K 2421/00
  - {Thermoplastic elastomers}
  - {Thermosetting elastomers}

Use of {unspecified rubbers for preformed parts, e.g. inserts (as such C08L 21/00)}

- B29K 2621/00
  - {Thermoplastic elastomers}
  - {Thermosetting elastomers}

INDEXING SCHEME ASSOCIATED WITH SUBCLASS B29C, RELATING TO PARTICULAR ARTICLES

NOTE

This subclass constitutes an indexing scheme for non-obligatory use only. The indexing scheme may be used to identify information which supplements subject matter already classified in subclass B29C. The indexing codes of this subclass, of which only the pertinent ones should be selected, are added in conformity with paragraph 82 of the Guide so as to provide information concerning the articles produced.

This subclass constitutes an indexing scheme associated with subclass B29C (and group B29B 17/00. Parts of specified articles are indexed with the same index codes as the articles)

Tubular articles (B29L 2024/00 takes precedence; {catheters B29L 2031/7542})

- B29L 2023/00
  - {Drinking straws}

Wheels, pinions, pulleys, castors or rollers, (Rims (inner tubes B29L 2023/245; gears B29L 2015/003; tyres B29L 2030/00))

- B29L 2031/32
  - {made wholly of plastics}

(Rollers or cylinders having an axial length of several times the diameter, e.g. embossing, pressing or printing)

- B29L 2031/324
  - {made wholly of plastics}

Paint rollers

- B29L 2031/767
  - {Printing equipment or accessories therefor}
Project: N/A (B29L)

B29L 2031/7678  · · {Ink or toner cartridges}

Project: N/A (B30B)

U B30B 11/00  Presses specially adapted for forming shaped articles from material in particulate or plastic state, e.g. briquetting presses, tableting presses (for clay or mixtures containing cement B28B; for plastics materials B29)

U B30B 11/22  · · Extrusion presses; Dies therefor (extruding by the use of roller-and-ring machines B30B 11/20)

U B30B 11/24  · · using screws or worms

B30B 11/241  · · · {Drive means therefor; screw bearings}

Project: N/A (B31B)

U B31B 2201/00  Specific operations carried out during box making

U B31B 2201/02  · · Feeding or positioning webs, blanks or boxes

U B31B 2201/0235  · · · from stacks

B31B 2201/0282  · · · from above a magazine

U B31B 2201/28  · · Opening or distending flattened boxes

U B31B 2201/287  · · · pneumatically

B31B 2201/289  · · · with several suction devices on a rotating element

U B31B 2201/62  · · Coating; Impregnating; Water proofing; Decoating

B31B 2201/625  · · · by immersing in a bath

Project: N/A (B32B)

B32B  LAYERED PRODUCTS, i.e. PRODUCTS BUILT-UP OF STRATA OF FLAT OR NON-FLAT, e.g. CELLULAR OR HONEYCOMB, FORM

NOTES
1. This subclass covers:
   · layered products comprising different kinds of material or layered products not characterised by the particular kind of material used;
   · a product similar to a layered product but comprising only material in the form of a sheet or network embedded in a mass of plastics or of physically-similar substances which mass penetrates the said sheet or network and lies on both sides of the latter (e.g. so that the sheet or network reinforces the plastics substance) PROVIDED that the embedded sheet or network extends coherently or connectedly over substantially the whole area of the product; thus the embedded sheet or network may be a fabric or a series of rods connected by cross wires. The manner of making such a product is, however, classified in this subclass only if it is essentially a process of building-up an assembly of layers of which at least one outer layer is preformed. If the embedded material comprises only a series of unconnected rods, the product is not classified in this subclass.
2. This subclass does not cover:
   · processes or apparatus used in, or in connection with, the production or treatment of any product, if the process or apparatus is fully classifiable in a single other class or subclass for processes or apparatus, e.g. B05, B29, B44D, C08J, C09J, C23;
   · compositions or preparation or treatment thereof, unless they are essentially restricted to layered products and cannot be fully classified in another class without ignoring this restriction;
3. In this subclass:
   • a film formed on a layer by spreading a substance thereon is not considered to constitute a layer itself if it serves only as an adhesive or its purpose is merely to finish a surface of a product;
   • groups designating products cover also methods or apparatus specially adapted for producing such products.

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

5. In this subclass,
   • "First place rule" is used in the following groups B32B 9/04, B32B 11/04, B32B 13/04, B32B 15/04, B32B 19/04, B32B 21/04, B32B 23/046 - B32B 23/12, B32B 25/04, B32B 27/06, B32B 29/002.

However, when these groups are not characterised by the specific material adjacency to be classified, then, multiple classification is given, e.g. a layered product having a stone layer next to a bituminous layer would be classified in B32B 9/04 and in B32B 11/04. For a cellulosic plastic layer next to a metal layer or to a wood layer B32B 23/042 or B32B 23/044, respectively, take precedence (i.e. first rule does not apply). For layered products comprising at least two ceramic layers, products comprising only ceramic layers are classified in group B32B 18/00 and products comprising two ceramics layers and at least one layer of another material are classified in B32B 18/00 and B32B 9/04.

WARNING

The following IPC are not used in the CPC scheme Subject matter covered by these groups is classified in the following CPC groups
   - B32B 1/04 covered by B32B 3/02 - B32B 3/08
   - B32B 1/06 covered by B32B 13/02
   - B32B 3/08 - B32B 3/22 covered by B32B 3/08 - B32B 3/22 covered by B32B 3/22 - B32B 3/22
   - B32B 3/24 covered by B32B 3/266
   - B32B 5/28 covered by B32B 2260/021 - B32B 2260/023
Layered products characterised by the non-homogeneity or physical structure {i.e. comprising a fibrous, filamentary, particulate or foam layer; Layered products characterised by having a layer differing constitutionally or physically in different parts}

**NOTE**

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

- **B32B 5/22** characterised by the presence of two or more layers which {are next to each other and are fibrous, filamentary, formed of particles or foamed (B32B 19/06, B32B 19/048, B32B 19/047, B32B 29/005 to B32B 29/04 take precedence)}

**B32B 13/00** Layered products comprising a {a layer of} water-setting substance, e.g. concrete, plaster, asbestos cement, or like builders' material

**B32B 37/00 - B32B 43/00** Methods or apparatus for making layered products; Treatment of the layers or of the layered products

**NOTE**

In groups B32B 37/00- { , B32B 38/00, B32B 41/00} and B32B 39/00, the following expressions are used with the meaning indicated:

- "lay-up" is considered to be the action of combining separate layers, one on top of the other, in order to form a half-product for entering the laminating process
- "laminating" means the action of combining previously unconnected {but possibly laid up} layers to become one product whose layers will remain together;
- "partial laminating" occurs when one layer does not fully cover a surface of another layer, whereby the layer with the greater surface area is laminated on only part of its surface;
- "adhesive" means a layer, or part of a layer, applied in any state or in any manner which is incorporated for the purpose of bonding.

- **B32B 37/10** {using vacuum and fluid pressure}

- **B32B 19/00** Apparatus or machines for carrying out printing operations combined with other operations {auxiliary perforating apparatus associated with printing devices B41G 7/00; coding or marking in association with packaging B65B 61/00; label dispensers having printing equipment B65C}

- **B41F 19/02** with embossing (printing with a printer’s forme combined with embossing B41M 1/24)
Project: N/A (B41M)

B41M 1/00  Inking and printing with a printer’s forme

Project: N/A (B44B)

B44B 1/00  Artist’s machines or apparatus equipped with tools or work holders moving or able to be controlled three-dimensionally for making single sculptures or models (copying devices for machine tool use B23Q 35/00)

B44B 3/00  Artist’s machines or apparatus equipped with tools or work holders moving or able to be controlled substantially two-dimensionally for carving, engraving, or guilloching shallow ornamenting or markings (marking or engraving metal by the action of a high concentration of electric current B23H 9/06; forme engraving B41C, B41D; engraving by photo-mechanical reproduction G03F)

U B44B 2700/00  Machines, apparatus, tools or accessories for artistic work
U B44B 2700/02  · Artist’s machines or apparatus equipped with tools or work holders moving or able to be controlled substantially two-dimensionally for carving, engraving, or guilloching shallow ornamenting or markings

Project: N/A (B60B)

U B60B 21/00  Rims (non-metallic B60B 5/00; of high resiliency B60B 9/00; capable of carrying more than one tyre B60B 11/04; multiple rims on a single wheel body B60B 11/06; of multi-part type B60B 25/00; metal tyres B60C)
U B60B 21/12  · Appurtenances, e.g. lining bands
U B60B 21/125  · · {Bead clamping elements}

Project: N/A (B60C)

U B60C 11/00  Tyre tread bands; Tread patterns; Anti-skid inserts
U B60C 11/14  · Anti-skid inserts, e.g. vulcanised into the tread band
U B60C 11/16  · · of plug form, e.g. made from metal, textile
U B60C 11/1606  · · · {retractable plug}
U B60C 11/1612  · · · · {actuated by fluid, e.g. using fluid pressure difference}
U B60C 25/00  Apparatus or tools adapted for mounting, removing, repairing or inspecting pneumatic or solid tyres (apparatus or tools for mounting or dismounting wheels B60B 29/00; apparatus or tools characterised by the means for holding wheels or parts thereof B60B 30/00)
U B60C 25/16  · {Tools for repairing damaged tyres}
U B60C 27/00  Non-skid devices temporarily attachable to resilient tyres or resiliently-tyred wheels {(vehicle mounted non-skid chains B60B 39/00)}
U B60C 27/02  · extending over restricted arcuate parts of the circumference of the tread (B60C 27/20 takes precedence)
U B60C 27/0207  · · {involving lugs or rings taking up wear, e.g. chain links, chain connectors (chain couplings for e.g. hoisting F16G 15/00)}
U B60C 27/0223  · · · {Studded links, i.e. traction enhancing parts located on the link or inserted into the link}

Project: N/A (B60G)

U B60G 2206/00  Indexing codes related to the manufacturing of suspensions: constructional features, the materials used, procedures or tools
Project: N/A (B60G)

U B60G 2206/01 · Constructional features of suspension elements, e.g. arms, dampers, springs
U B60G 2206/011 · Modular constructions
B60G 2206/0116 · · Integrated distribution control units with valves, accumulators, PCB's or the like

Project: N/A (B60H)

U B60H 1/00 Heating, cooling or ventilating devices (heating, cooling or ventilating devices providing other air treatment, the other treatment being relevant, B60H 3/00; ventilating solely by opening windows, doors, roof parts, or the like B60J; heating or ventilating devices for vehicle seats B60N 2/56; vehicle window or windscreen cleaners using air, e.g. defrosters, B60S 1/54)

NOTE
In this group and its subgroups, as well as in patent documents, the following abbreviation is used:
- HVAC Heating, Ventilating and Air Conditioning

U B60H 1/00642 · {Control systems or circuits, control members or indication devices for heating, cooling or ventilating devices (B60H 1/3201 - B60H 1/3208, B60H 1/3225 take precedence; dashboards B60K 37/00; systems for controlling or regulating non-electric variables in general G05D)}

U B60H 1/00735 · · {Control systems or circuits characterised by their input, i.e. by the detection, measurement or calculation of particular conditions, e.g. signal treatment, dynamic models}

B60H 1/00742 · · · {by detection of the vehicle occupants' presence; by detection of conditions relating to the body of occupants, e.g. using radiant heat detectors)

Project: N/A (B60K)

U B60K 17/00 Arrangement or mounting of transmissions in vehicles (clutches per se, e.g. construction thereof, F16D; gearing per se, e.g. construction thereof, F16H)

U B60K 17/04 · characterised by arrangement, location, or kind of gearing (electric equipment or propulsion of electrically-propelled vehicles B60L)

U B60K 17/16 · · of differential gearing
B60K 17/18 · · · {in which the differential movement is obtained by resilient means}
B60K 17/20 · · · {in which the differential movement is limited}

U B60K 17/34 · for driving both front and rear wheels, e.g. four wheel drive vehicles (arrangement or mounting of control devices for changing number of driven wheels B60K 23/08)

B60K 17/358 · · {all driven wheels being steerable}

U B60K 20/00 Arrangement or mounting of change-speed gearing control devices in vehicles (movable cabs having special adaptations of vehicle control devices B62D 33/06; such control devices per se F16H)

U B60K 20/02 · · of initiating means (control mechanisms in general G05G)
B60K 20/14 · · {fluid}
Vehicle fittings, acting on a single sub-unit only, for automatically controlling, i.e. preventing speed from exceeding an arbitrarily established velocity or maintaining speed at a particular velocity, as selected by the vehicle operator (fittings acting on two or more sub-units B60W 30/14; propulsion unit control in general, see the relevant classes or subclasses, e.g. F02D; speedometers G01P; systems or devices for controlling speed in general G05D 13/00; {in traffic anti-collision system for road vehicles G08G 1/16})

NOTE
In this group:
- the means ordinarily includes a device, e.g. a servomechanism, for operating a velocity-affecting element of the vehicle, e.g. the throttle;
- a means for preventing a vehicle from exceeding a particular speed is often referred to as a "governor", whereas a means for maintaining the vehicle within a relatively narrow speed range is generally designated as "speed control". Since these two functions are frequently interrelated, no attempt has been made to identify such means as being particularly adapted to perform only one, or the other of the functions.

Electric devices on electrically-propelled vehicles for safety purposes;
Monitoring operating variables, e.g. speed, deceleration, power consumption (measuring in general G01)

Dead-man's devices

for particular purposes or particular vehicles

for children (B60N 2/30 takes precedence)

Seats readily mountable on, and dismountable from, existing seats (or other parts) of the vehicle

{Children’s cots; Hammocks (children’s chairs in general A47D 1/00 children’s chairs in general A47D 1/00)}

Arrangements or adaptations of optical signalling or lighting devices (for lighting vehicle interior B60Q 3/00; {circuit arrangements for electric light sources in general H05B 37/00})

the devices being primarily intended to indicate the vehicle, or parts thereof, or to give signals, to other traffic {{such devices mounted on the vehicle rear part F21S 48/20; means for the lighting or illuminating of aerials, e.g. for purpose of warning H01Q 1/06}}
U B60Q 1/34 · · for indicating change of drive direction (B60Q 1/22 takes precedence)
B60Q 1/346 · · · (with automatic actuation)
U B60Q 1/44 · · for indicating braking action or preparation for braking, (e.g. by detection of the foot approaching the brake pedal)
B60Q 1/441 · · · (Electric switches operable by the driver’s pedals (electric switches in general H01H))

Project: N/A (B60R)
U B60R 5/00 Compartments within vehicle body primarily intended or sufficiently spacious for trunks, suit-cases, or the like (primarily intended for stowing loads in load-transporting vehicles B60P; arrangements for stowing spare wheels B62D 43/00)
B60R 5/003 · · (Luggage racks, e.g. for busses (primarily intended for passengers; property smaller than suitcases B60R 7/04; B60R 7/08; luggage racks for rail vehicles B61D 37/003))
U B60R 13/00 Elements for body-finishing, identifying, or decorating; Arrangements or adaptations for advertising purposes
B60R 13/005 · · (Manufacturers’ emblems, name plates, bonnet ornaments, mascots or the like; Mounting means therefor)
B60R 13/08 · · Insulating elements, e.g. for sound insulation ((sound insulating linings for trains B61D 17/185; drivers’ cabs for load-carrying vehicles insulated against vibrations or noise B62D 33/0604; drivers’ cabs for load-carrying vehicles insulated against vibrations or noise B62D 33/0604; thermal or acoustic insulation of engines F02B 77/11; damping of sounds using compensation by electro-acoustic methods G10K 11/178))
U B60R 19/00 Wheel guards; Radiator guards, (e.g. grilles); Obstruction removers; Fittings damping bouncing force in collisions (reinforcement elements for side doors B60J 5/0412; mudguards B62D)
B60R 19/02 · · Bumpers, i.e. impact receiving or absorbing members for protecting vehicles or fending off blows from other vehicles or objects ((B60R 19/56 takes precedence; initiating brake action by contact of bumper with an external object B60T 7/22; for rail vehicles B61F 19/04; safety equipment for cycles B62J 27/00; integral with waterborne vessels or specially adapted therefor B63B 59/02; integral with waterborne vessels or specially adapted therefor B63B 59/02))
U B60R 19/24 · · Arrangements for mounting bumpers on vehicles
B60R 19/247 · · · (Fastening of bumpers’ side ends)
U B60R 22/00 Safety belts or body harnesses in vehicles (safety belts or body harnesses in general A62B 35/00)
B60R 22/10 · · specially adapted for children or animals (children’s seats B60N 2/24children’s seats B60N 2/24)

NOTE
Groups B60R 22/02 (B60R 22/022) to B60R 22/08, B60R 22/18 to B60R 22/48 take precedence over group B60R 22/10

B60R 22/105 · · · (for children (adaptation of children’s seats for seat belts B60N 2/265, B60N 2/2803; adaptation of children’s seats for seat belts B60N 2/265, B60N 2/2803))
U B60R 22/12 · · Construction of belts or harnesses (B60R 21/18 takes precedence; (woven fabrics for safety belts D03D 1/0005))
incorporating enlarged restraint areas, e.g. vests, nets {, crash pads, optionally for children (crash pads for occupants\(^{21}\) safety on vehicles in general B60R 21/02)}

**Project: N/A (B60T)**

**U B60T 7/00**  Brake-action initiating means

- for automatic initiation; for initiation not subject to will of driver or passenger (limiting speed of vehicles other than rail vehicles B60K 31/00)

**B60T 7/14**  operated upon collapse of driver (deadman\'s devices for electrically propelled vehicles B60L 3/02; deadman\'s devices for electrically propelled vehicles B60L 3/02)

**U B60T 15/00**  Construction arrangement, or operation of valves incorporated in power brake systems and not covered by groups B60T 11/00 or B60T 13/00 (valve structures responsive to a speed condition B60T 8/34; valves in general F16K)

**U B60T 15/02**  Application and release valves

**B60T 15/04**  Driver\'s valves

**Project: N/A (B62B)**

**U B62B 5/00**  Accessories or details specially adapted for hand carts ((B62B 3/1404), B62B 9/00 take precedence; wheels, axles, or axle bearing for vehicles B60B; castors for vehicles, castors in general B60B 33/00)

**B62B 5/08**  Children\'s seats (B62B 3/14 takes precedence); {Seats or supports for other persons}

**B62B 5/082**  Children\'s seats

**B62B 7/00**  Carriages for children; Perambulators, e.g. dolls\(^{21}\)\' perambulators

**U B62B 7/04**  having more than one wheel axis; Steering devices therefor

**B62B 7/12**  convertible, e.g. into children\'s furniture or toy (children\'s chairs convertible to pushchairs A47D 1/06; children\'s chairs convertible to pushchairs A47D 1/06)

**B62B 9/00**  Accessories or details specially adapted for children\'s carriages or perambulators (providing for travelling on snow B62B 19/00)

**U B62B 13/00**  Sledges with runners (ice boats or sailing sledges B62B 15/00)

**B62B 13/005**  {comprising articulated sledge segments}

**U B62B 15/00**  Other sledges; Ice boats or sailing sledges

**U B62B 15/001**  {propelled by sails}

**B62B 15/002**  {having skis or runners}

**Project: N/A (B62D)**

**U B62D 33/00**  Superstructures for load-carrying vehicles (having impact absorbing means B62D 21/15; \(^{1}\) in which a load-carrying element is movable B60P; liners B60R 13/00; \{joining sheets or plates to one another or to strips or bars parallel to them F16B 5/00\})

**B62D 33/06**  Drivers\' cabs (overhead guards, e.g. against loads falling down B60R 21/11; roll-over protection B60R 21/13)

**U B62D 53/00**  Tractor-trailer combinations; Road trains (traction couplings other than fifth wheel coupling B60D (tracked vehicles comprising at least two articulated parts B62D 55/0655))
B62D 53/04 · comprising a vehicle carrying an essential part of the other vehicle's load by having supporting means for the front or rear part of the other vehicle

Project: N/A (B62J)
U B62J 17/00 Weather guards for riders; Fairings or stream-lining parts not otherwise provided for (protective garments A41D 13/00; crash helmets A42B 3/00; hoods or fairings for sidecars B62K)

B62J 17/02 · shielding only the rider's front

Project: N/A (B62K)
B62K CYCLES; CYCLE FRAMES; CYCLE STEERING DEVICES; RIDER-OPERATED TERMINAL CONTROLS SPECIALLY ADAPTED FOR CYCLES; CYCLE AXLE SUSPENSIONS; CYCLE SIDE-CARS, FORECARS, OR THE LIKE

NOTE
In this subclass, each of the main groups B62K 7/00 to B62K 15/00 takes precedence over all the preceding main groups, e.g. a child's bicycle is classified in B62K 9/00 and not in B62K 3/00

Project: N/A (B62M)
U B62M 1/00 Rider propulsion of wheeled vehicles (rider propulsion with additional source of power B62M 6/00; propulsion by ground-engaging rods B62M 29/02)

NOTE
Groups B62M 1/12-B62M 1/34 correspond to IPC2013.01

B62M 1/18 · by movement of rider's saddle

U B62M 7/00 Motorcycles characterised by position of motor or engine (rider propulsion with additional source of power, e.g. auxiliary combustion engine or electric motor B62M 6/00; frames characterised by position of engine B62K 11/00)

U B62M 7/14 · with the engine on an auxiliary wheeled unit, e.g. trailer, sidecar (trailers B60P, B62D; sidecars B62K 27/00)

B62M 7/16 · · with wheel of unit driven by the engine

U B62M 11/00 Transmissions characterised by the use of inter-engaging toothed wheels or frictionally-engaging wheels (with roller engaging the periphery of ground wheel B62M 13/00)

U B62M 11/04 · of changeable ratio

U B62M 11/06 · with spur gear wheels (B62M 11/14 takes precedence)

B62M 11/08 · · with a radially-shiftable intermediate gear wheel

Project: N/A (B63B)
U B63B 13/00 Conduits for emptying or ballasting; Self-bailing equipment; Scuppers (draining means for hatches B63B 19/26; centrifugal bilge-water separators B04; {arrangements of installations for treating ballast water B63J 4/002; } pipes in general F16L)

B63B 13/02 · Ports for passing water through vessels' sides (jet propulsors with clogging prevention means B63H 11/01)
Loading or unloading cargo or passengers (self-discharging barges or lighters B63B 35/30; shore-based B65G (elevators, escalators or moving walkways per se B66B; floating cranes B66C 23/52; loading or unloading devices per se, see the relevant subclasses, e.g. B65G, B66C, B67D))

WARNING
The scope of this group is broader than the scope of the corresponding IPC group, and includes the scope of the IPC2 subgroups B63B 27/02, B63B 27/06, and B63B 27/20

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B63B 27/02</td>
<td>with intermittent action</td>
</tr>
<tr>
<td>B63B 27/04</td>
<td>Ships' derricks, i.e. employing ships' masts (derricks in general B66C)</td>
</tr>
<tr>
<td>B63B 27/20</td>
<td>with continuous action</td>
</tr>
</tbody>
</table>

Equipment to decrease pitch, roll, or like unwanted vessel movements; Apparatus for indicating vessel attitude (for amphibious vehicles B60F 3/0038)

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B63B 39/00</td>
<td>Equipment to decrease ship's vibrations produced externally to the ship, e.g. wave-induced vibrations (propulsion mountings for anti-vibration purposes B63H 21/30; vibration dampers, suppression of vibration in systems F16F)</td>
</tr>
</tbody>
</table>

Arrangement or adaptation of signalling or lighting devices (arrangement of signalling or lighting devices, the mounting or supporting thereof or circuits therefor, for vehicles in general B60Q; life-buoys, -belts, -jackets, -suits or the like, characterised by signalling means B63C 9/20; lighting devices or systems therefor F21L, F21S)

WARNING
Not complete, pending a reorganisation; see B63C 9/21

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B63B 45/06</td>
<td>the devices being intended to illuminate vessels' decks or interior</td>
</tr>
</tbody>
</table>

Building of the ship's hull

Equipment for dwelling or working underwater; Means for searching for underwater objects (composition of chemical substances for use in breathing apparatus A62D 9/00; swimming aids or equipment A63B 31/00 to A63B 35/00; submarines B63G 8/00)

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B63C 11/00</td>
<td>Divers' equipment</td>
</tr>
<tr>
<td>B63C 11/30</td>
<td>Ballast (weights worn on user's body for exercising A63B 21/065)</td>
</tr>
<tr>
<td>B63C 11/46</td>
<td>Divers' sleds or like craft, i.e. craft on which man in diving-suit rides (devices fixed to the body of a swimmer, e.g. diver, or held in his hands, and propelling the swimmer by muscle power or by a motor A63B 35/00)</td>
</tr>
</tbody>
</table>

Propulsive elements directly acting on water (jet propulsion B63H 11/00; attachment of propellers on shafts B63H 23/34)

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B63H 1/00</td>
<td>of rotary type (endless-track type B63H 1/34)</td>
</tr>
<tr>
<td>B63H 1/12</td>
<td>with rotation axis substantially in propulsive direction</td>
</tr>
<tr>
<td>B63H 1/14</td>
<td>Propellers (pitch changing B63H 3/00)</td>
</tr>
</tbody>
</table>

WARNING
this group is pending a reorganisation; also documents covered by group B63H 1/15 are within this group]
Blades

Effecting propulsion by muscle power (swimming frameworks, i.e. apparatus fixed to or held by the swimmer or diver) with swimmer-operated driving mechanism A63B 35/00; land-based training equipment for rowing or sculling A63B 69/06

Other apparatus for converting muscle power into propulsive effort (general features of propulsion elements, see the relevant groups)

WARNING
This group is no longer used for classification of new documents as from 01.01.2012. The backlog of this group is being continuously reclassified to groups B63H 16/16 to B63H 16/20

For propelled drive

WARNING
This group is no longer used for classification of new documents as from 01.01.2012. The backlog of this group is being continuously reclassified to groups B63H 16/16 to B63H 16/20

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

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

WARNING
this group is pending a reorganisation; also documents covered by group B63H 21/36 are within this group

THE VESSELS BEING SMALL CRAFT, E.G. RACING BOATS

Dropping, ejecting, releasing, or receiving articles, liquids, or the like, in flight (with respect to weapon sights devices F41G takes precedence, parachutes per se B64D 17/00; ejectable seats B64D 25/10; ejectable capsules B64D 25/12; refuelling during flight B64D 39/00; launching apparatus for projecting projectiles or missiles F41F 1/00, F41F 7/00; rocket or torpedo launchers F41F 3/00)

Taking-up articles from earth’s surface

Passenger or crew accommodation; Flight-deck installations not otherwise provided for

Stowage devices for passengers’ personal luggage

Landing aids; Safety measures to prevent collision with earth’s surface
B64G  COSMONAUTICS; VEHICLES OR EQUIPMENT THEREFOR (apparatus for, or methods of, winning materials from extraterrestrial sources E21C 51/00)

NOTES
1. This subclass covers only vehicles, equipment or the like, which are specially adapted for cosmonautics.
2. This subclass does not cover vehicles and equipment applicable to both cosmonautics and aeronautics, which are covered by the appropriate aeronautical subclasses of class B64.
3. In this subclass, the following term is used with the meaning indicated:
   - "cosmonautics" includes all transport outside the earth's atmosphere, and thus includes artificial earth satellites, and interplanetary and interstellar travel.


U B64G 1/00  Cosmonautic vehicles
U B64G 1/22  - Parts of, or equipment specially adapted for fitting in or to, cosmonautic vehicles
U B64G 1/24  - Guiding or controlling apparatus, e.g. for attitude control (jet-propulsion plants F02K; navigation or navigational instruments, see the relevant subclass, e.g. G01C; automatic pilots G05D 1/00)
B64G 1/32  - using earth's magnetic field
B64G 1/62  - Systems for re-entry into the earth's atmosphere; Retarding or landing devices

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 A45F; {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
1. In this subclass, the indexing codes of B65D 2519/00004 - B65D 2519/00995 should be added, if applicable
2. This subclass covers:
   - containers, packaging elements or packages with auxiliary 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 B65R.

3. This subclass, which is intended to be as comprehensive as possible, only excludes containers or packages of a nature clearly confined to a single other subclass, which are classified in that subclass.

4. In this subclass, groups B65D 5/00, B65D 27/00, B65D30/00 or B65D 65/00 include constructional features of foldable or erectable container or wrapper blanks as well as the containers or wrappers formed by folding or erecting such blanks.

5. Containers, packaging elements or packages classified in group B65D 85/00, are also classified according to the constructional or functional features, if such features are of interest [6].

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].

7. Tamper-indicating means for containers or closures are classified in the group appropriate to the type of container of closure, e.g. B65D 5/54, B65D 17/00, B65D 27/30, B65D 27/30, B65D 27/34, B65D 33/34, B65D 41/32, B65D 47/36, B65D 49/12, B65D 51/20, B65D 55/06 [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:

<table>
<thead>
<tr>
<th>IPC Group</th>
<th>CPC Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>B65D 5/34</td>
<td>covered by B65D 5/325</td>
</tr>
<tr>
<td>B65D 5/35</td>
<td>covered by B65D 5/32</td>
</tr>
<tr>
<td>B65D 5/355</td>
<td>covered by B65D 5/0005</td>
</tr>
<tr>
<td>B65D 5/43</td>
<td>covered by B65D 5/42</td>
</tr>
<tr>
<td>B65D 5/462</td>
<td>covered by B65D 5/46008 to</td>
</tr>
<tr>
<td>B65D 5/46032</td>
<td>covered by B65D 5/46008 to</td>
</tr>
<tr>
<td>B65D 5/465</td>
<td>covered by B65D 5/46008 to</td>
</tr>
<tr>
<td>B65D 5/46032</td>
<td>covered by B65D 5/46008 to</td>
</tr>
</tbody>
</table>
B65D 5/468 covered by B65D 5/4608
B65D 5/472 covered by B65D 5/46048
B65D 5/475 covered by B65D 5/46008
B65D 5/478 covered by B65D 5/46056
B65D 5/4805 covered by B65D 5/48002
B65D 5/49 covered by B65D 5/499
B65D 5/63 covered by B65D 5/72
B65D 6/00 covered by B65D 6/40
B65D 7/00, covered by B65D 9/00, B65D 11/00, B65D 15/00
B65D 8/00 covered by B65D 8/22
B65D 19/22 covered by B65D 19/0004
B65D 19/24 covered by B65D 19/0004
B65D 19/26 covered by B65D 19/0004
B65D 19/28 covered by B65D 19/0004
B65D 19/30 covered by B65D 19/0004
B65D 19/31 covered by B65D 19/0004
B65D 19/34 covered by B65D 19/0004
B65D 17/28 covered by B65D 17/48, B65D 17/52
B65D 19/32 covered by 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 covered by B65D 30/28
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 covered by B65D 35/54
B65D 47/2018
B65D 39/18 covered by B65D 39/00
+B65D 40/00
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 B65D 50/06 covered by B65D 50/08
B65D 50/10 covered by B65D 50/12
B65D 50/14 covered by B65D 50/16
B65D 55/26 covered by B65D 55/32
B65D 75/58
B65D 65/34 covered by B65D 75/66
B65D 65/36 covered by B65D 75/58
U B65D 17/00 Containers specially constructed to be opened by cutting or piercing, or by tearing of frangible member or portion (opening devices for containers made by winding, bending, or folding paper B65D 3/00, B65D 5/00; frangible inner closure members associated with caps, lids, or covers B65D 51/20; opening devices added or incorporated during filling or closing of containers B65D 77/30; separate devices for opening closed containers B67B 7/00)

B65D 17/02 · (of curved cross-section, e.g. cans of circular or elliptical cross-section)
B65D 17/04 · (of polygonal cross-section)
B65D 17/06 · (integral, or permanently secured, end or side closures)
B65D 17/08 · · (Closures secured by folding or rolling and pressing)
B65D 17/10 · · · (with interposed packing rings)
B65D 17/12 · · · (Closures secured by soldering, welding, or otherwise uniting opposed surfaces)
B65D 17/14 · · · (by cold or hot pressing of plastic sealing material)

U B65D 17/16 · Opening arrangements or devices incorporated in or attached to, containers ((B65D 17/50 takes precedence))

B65D 17/18 · · (Attached can-cutting devices)
B65D 17/20 · · (Tearing-strips or -wires)
B65D 17/22 · · · (with tongues or tags for engagement by slotted keys)
B65D 17/24 · · · (Lines of weakness)
B65D 17/26 · · · (Attachments of slotted keys to preserving cans or tins)

U B65D 85/00 Containers, packaging elements or packages specially adapted for particular articles or materials (B65D 71/00, B65D 83/00 take precedence; hand implements, travelling equipment A45C; cosmetic or toilet equipment A45D; (for surgical instruments or appliances A61B 19/026) ; containers specially adapted for medical or pharmaceutical purposes A61J 1/00; paint cans B44D 3/12; oil cans F16N 3/04; containers for carrying smallarms F41C 33/06; packaging of ammunition or explosive charges F42B 39/00; containers for record carriers, specially adapted for co-operation with the recording or reproducing apparatus G11B 23/00)

NOTE
Attention is drawn to Note (4) following the title of this subclass

B65D 85/54 · (for articles of special shape not otherwise provided for)
Project: N/A (B65D)

B65D 85/70  · {for materials not otherwise provided for}

U  B65D 2215/00  Child-proof means
B65D 2215/06  · based on the difference in size between children’s and adults’ hands

Project: N/A (B65G)

B65G

TRANSPORT OR STORAGE DEVICES, e.g. CONVEYERS FOR LOADING OR TIPPING; SHOP CONVEYER SYSTEMS; PNEUMATIC TUBE CONVEYERS {{preventing fire in special objects or places A62C 3/00}}; transport or storage devices used in a particular handling or treatment of articles or materials, see the relevant subclass, e.g. in metal-working B21D 43/00, B23Q 7/00, B23Q 41/02; vehicle, railway, sea or aircraft aspects B60 to B64; in packaging B65B; handling thin or filamentary materials B65H; hoisting, lifting, hauling, e.g. truck loaders B66; handling liquids B67; (transport or storage containers for preparing or distributing road building materials E01C; construction or assembling of bulk storage containers employing civil engineering techniques in site or off the site E04H 7/00); specially adapted to underground conditions in mines E21F 13/00; storing or distributing gases or liquids F17; in handling radioactive materials G21C 19/00)

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

B65G 33/28  covered by
B65G 33/265
B65G 47/10  covered by
B65G 1/1373
B65G 47/86  covered by
B65G 47/847
B65G 49/07  covered by
B65G 49/07

Project: N/A (B65H)

B65H

HANDLING THIN OR FILAMENTARY MATERIAL, e.g. SHEETS, WEBS, CABLES

NOTES
1. This subclass does not cover methods or devices intimately associated with other operations on thin or filamentary material, e.g. sheets, webs, cables or means for performing such operations, which are classified in the relevant subclasses for these operations, e.g.:

B07C  Postal sorting, similar sorting of documents, e.g. cheques
B08B 1/02  Cleaning travelling work, e.g. webs, by methods involving the use of tools, brushes or like members
B21B 41/00  Metal rolling involving guiding, conveying or accumulating easily-flexible work, e.g. wire, sheet metal bands, in loops or curves
B21C 47/00, Winding-up, coiling, winding-off or temporarily
B21C 49/00 accumulating metal wire, metal band or other
flexible metal material, characterised by features relevant to metal processing only, other than by rolling
B21D 43/00 Feeding, positioning or storing devices, combined with, or arranged in, or specially adapted for use in connection with, apparatus for working or processing sheet metal without essentially removing material
B23K 9/12 Means for automatic feeding of electrodes for spot or seam welding or cutting
B29C 31/00 Handling for shaping or joining of plastics, for shaping of substances in a plastic state in general or for after-treatment of shaped products, e.g. feeding the material to be shaped
B41B 15/32, Film-handling mechanisms in photographic
B41B 21/32 composing machines
B41F 13/02 Conveying or guiding webs through rotary printing presses or machines
B41J 11/00 to Handling of copy- or impression-transfer material
B41J 17/00 in typewriters or selective printing mechanisms
B41K 3/44 Means for handling copy matter in stamping or numbering apparatus or devices
B41L Handling sheets or webs in apparatus or devices for manifolding, duplicating or printing for office or other commercial purposes, or on addressing machines or like series-printing machines
B42B Handling relating to permanently attaching together sheets, quires, or signatures
B42C Handling sheets in book-binding
B65B Handling of sheets or webs in apparatus for, or methods of, packaging articles, not of interest apart from their application in packaging machines
B65C Handling of labels in labelling or tagging apparatus
C14B 1/62 Winding or stacking hides or leather in machines or devices for manufacturing leather
D01 to D07 Spinning, weaving, braiding, lace-making, knitting, sewing, making ropes or cables
D21F 2/00 Transferring webs from wet ends to press sections in paper-making
F26B 13/00 Handling fabrics, fibres, yarns or other
material in long lengths in drying apparatus
G03B  Film-strip handling or handling of pictures
in apparatus for taking photographs or for projecting or viewing them
G06K 13/00 Conveying record carriers from one station to another
G06M 7/00 Counting of flat articles, e.g. sheets, carried by a conveyer
G11B 15/00 to Information storage based on relative movement
G11B 19/00, involving handling record carriers for recording or reproducing
G11B 25/00
H01F 41/06 Manufacturing coils for magnets, inductances, transformers, by winding
H01G 13/02 Machines for winding capacitors
H04N 1/00 Sheet handling not of interest apart from its use in systems for transmission or reproduction of pictures or patterns not varying in time, e.g. facsimile transmission

2. In this subclass:
• the groups relating to thin material, as defined under (i) of Note (3) below, are primarily intended to cover the handling of articles made of paper or cardboard, but also include the handling of articles made of other materials which have similar characteristics or present similar handling problems, e.g. articles made of sheet-plastics or leather;
• the groups relating to filamentary material (groups B65H 49/00 onwards) as defined in Note (3) below, cover only methods or devices of general application or interest.

3. In this subclass, the following terms or expressions are used with the meanings indicated:
• "handling" includes feeding, folding (other than in the manufacture of products), guiding, orientating, storing, unwinding, and winding;
• "thin material" includes:
  i. sheets, signatures, envelopes, blanks, and thin and thin piles thereof (hereinafter referred to as "articles"), and
  ii. webs, tapes, and films, e.g. of paper, fabric, metal foil, or plastics;
• "filamentary material" includes thread, wires, ropes, cables, and hoses;
• "package" means a mass of filamentary material, formed by coiling, depositing, or winding, with or without a supporting core or former or an enclosing container or receptacle.
  • {"yarn" also covers similar filamentary materials.}

WARNING
The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:
- B65H 35/07 covered by B65H 35/0006
- B65H 77/00 covered by B65H 23/00,
B65H 59/00
- B65H 83/00, B65H 83/02
covered by B07C 1/025,
G07D 11/00 and s.gr
- B65H 85/00, B65H 85/02
covered by G03B 27/62,
G03B 27/6264, G03B 27/6257
Kinds or types of lifts in, or associated with, buildings or other structures (characterised by control systems B66B 1/00; apparatus for raising or lowering persons on stages of theatres A63J 5/12)

- Inclined, e.g. serving blast furnaces
- Associated with stairways, e.g. for transporting disabled persons (facilitating access of invalids to vehicles A61G 3/02)

- Details

Other constructional features or details

- Details of compartments for driving engines or motors or of operator's stands or cabins

- Operator's stands or cabins

Crane comprising essentially a beam, boom, or triangular structure acting as a cantilever and mounted for translatory of swinging movements in vertical or horizontal planes or a combination of such movements, e.g. jib-crane, derrick, tower crane (base supporting structures with legs B65C 5/00)

- With pneumatic or hydraulic motors, e.g. for actuating jib-crane on tractors

- Of the reciprocating type

- Derricks

- Employing ships' masts (B66C 23/525 takes precedence)

Hand- or power-operated devices for opening closed containers (nail pullers or extractors B25C 11/00; for expelling solid content, e.g. pills, from blister packs B65B 69/0058) attached to, or incorporated in, containers or container closures B65D; (dispensers for pills from blister packs B65B 69/0058)

- Hole-piercing devices

- Combined with spouts

- And associated with receptacle hodlers

- Power-operated cutting devices (machines for domestic use with a plurality of interchangeable units A47J 43/06, A47J 44/00)

Apparatus or devices for transferring liquids from bulk storage containers or reservoirs into vehicles or into portable containers, e.g. for retail sale purposes (general disposition of plant in stations for supplying fuel to vehicles B60S 5/02; for filling or emptying locomotive water tanks, e.g. water columns, B61K 11/00; for refuelling aircraft during flight B64D 39/00; liquid-handling ground installations specially adapted for fuelling stationary aircraft B64F 1/29)
for transferring fuels, lubricants or mixed fuels and lubricants

(Sensors)

· · · · · · (of the car)

· · · · · · (by calculating from a reference position, e.g. the car’s silhouette, reference marks)

· · · · · · (of the fuel tank flap and/or fuel tank opening)

· · · · · · (by calculating from a reference position, e.g. the car’s silhouette, reference marks)

Saddling equipment for riding- or pack-animals

· Fastening stirrups to saddles; Stirrup-leathers (stirrups B68C 3/00)

· · · with safety arrangements for loosening the connection between stirrup and saddle, e.g. in case of rider’s fall

Silicon; Compounds thereof ([C01B 6/00], C01B 21/00, C01B 23/00 take precedence; persilicates C01B 15/14; carbides C01B 31/36)

· Silicates (persilicates C01B 15/14; (containing aluminium C01B 33/26))

· · · Aluminium-containing silicates, {i.e. silico-aluminates)

· · · · · (Base exchange silicates, e.g. zeolites (regeneration B01J 49/00))

· · · · · (Zeolitic silicoaluminates with a tridimensional crystalline structure possessing molecular sieve properties; Isomorphous compounds wherein a part of the aluminium ore of the silicon present may be replaced by other elements such as gallium, germanium, phosphorus; Preparation of zeolitic molecular sieves from molecular sieves of another type or from preformed reacting mixtures (not used, see subgroups))

· · · · · (of type A (UNION CARBIDE trade name; corresponds to GRACE’s types Z-12 or Z-12L))

· · · · · (of fajusite type, or type X or Y (UNION CARBIDE trade names; correspond to GRACE’s types Z-14 and Z-14HS, respectively))

· · · · · Alkali metal silicates ([C01B 33/24], C01B 33/26 take precedence]

Compounds having molecular sieve and base-exchange properties, e.g. crystalline zeolites; Their preparation; After-treatment, e.g. ion-exchange or dealumination (treatment to modify the sorption properties, e.g. shaping using a binder, B01J 20/10; treatment to modify the catalytic properties, e.g. combination of treatments to make the zeolites appropriate to their use as a catalyst, B01J 29/04; treatment to improve the ion-exchange properties B01J 39/14; regeneration or reactivation of ion-exchange properties B01J 49/00; preparation of stabilised suspensions used in detergents C11D 3/12)

NOTES

1. In this group, the following term is used with the meaning indicated:
   • "zeolites" means:
     i. crystalline aluminosilicates with base-exchange and molecular sieve properties, having three dimensional, microporous lattice framework structure of tetrahedral oxide units;
ii. compounds isomorphous to those of the former category, wherein
the aluminium or silicon atoms in the framework are partly or wholly
replaced by atoms of other elements, e.g. by gallium, germanium,
phosphorus or boron.

2. Compounds classified in main group C01B 39/00 are also classified in other
groups of class C01 according to their composition

C01B 39/54
· Phosphates, e.g. APO or SAPO compounds

NOTE
Phosphates having either a poorly defined or a weak base-exchange capacity
such as MAPO`s, SAPO`s or BAPO`s are classified in C01B 37/00

Project: N/A (C01G)

U C01G 30/00 Compounds of antimony
U C01G 30/006 · {Halides (C01G 30/001 takes precedence)}
C01G 30/007 · · {of binary type SbX3 or SbX5 with X representing a halogen, or mixed of the
type SbX3X'2 with X,X' representing different halogens}

Project: N/A (C02F)

U C02F 11/00 Treatment of sludge; Devices therefor
U C02F 11/12 · by de-watering, drying, or thickening
U C02F 11/121 · · {Processes for mechanical dehydration of sludge, e.g. by filters}
C02F 11/122 · · · {using press filters (C02F 11/123 takes precedence)}
C02F 11/123 · · · {using belt or band filters}
C02F 11/125 · · · {using screw filters}
C02F 11/126 · · · {using drum filters}
C02F 11/127 · · · {by centrifugation}
C02F 11/128 · · · {Batch processes}
U C02F 2101/00 Nature of the contaminant
C02F 2101/003 · {Explosive compounds, e.g. TNT}
C02F 2101/006 · {Radioactive compounds}
U C02F 2101/10 Inorganic compounds
C02F 2101/101 · · {Sulfur compounds}
C02F 2101/103 · · {Arsenic compounds}
C02F 2101/105 · · {Phosphorus compounds}
C02F 2101/106 · · {Selenium compounds}
C02F 2101/108 · · {Boron compounds}
U C02F 2101/16 · · Nitrogen compounds, e.g. ammonia
C02F 2101/163 · · · {Nitrites}
C02F 2101/166 · · · {Nitrites}
U C02F 2101/20 · · Heavy metals or heavy metal compounds
C02F 2101/203 · · · {Iron or iron compound}
C02F 2101/206 · · · {Manganese or manganese compounds}
U C02F 2101/30 Organic compounds
C02F 2101/301 · · {Detergents, surfactants}
C02F 2101/303 · Complexing agents
C02F 2101/305 · Endocrine disruptive agents
C02F 2101/306 · Pesticides
C02F 2101/308 · Dyes; Colorants; Fluorescent agents
U C02F 2101/32 · Hydrocarbons, e.g. oil
C02F 2101/322 · Volatile compounds, e.g. benzene
C02F 2101/325 · Emulsions
C02F 2101/327 · Polyaromatic Hydrocarbons (PAH's)
U C02F 2101/34 · containing oxygen
C02F 2101/345 · Phenols
U C02F 2101/36 · containing halogen
C02F 2101/363 · PCB's; PCP's
C02F 2101/366 · Dioxine; Furan

U C02F 2103/00 Nature of the water, waste water, sewage or sludge to be treated
C02F 2103/001 · Runoff or storm water
C02F 2103/002 · Grey water, e.g. from clothes washers, showers or dishwashers
C02F 2103/003 · Wastewater from hospitals, laboratories and the like, heavily contaminated by pathogenic microorganisms
C02F 2103/005 · Black water originating from toilets
C02F 2103/006 · Dental effluents
C02F 2103/007 · Contaminated open waterways, rivers, lakes or ponds
C02F 2103/008 · Originating from marine vessels, ships and boats, e.g. bilge water or ballast water
U C02F 2103/02 · Non-contaminated water, e.g. for industrial water supply
C02F 2103/023 · Water in cooling circuits
C02F 2103/026 · Treating water for medical or cosmetic purposes
U C02F 2103/32 · from the food or foodstuff industry, e.g. brewery waste waters
C02F 2103/322 · from vegetable oil production, e.g. olive oil production
C02F 2103/325 · from processes relating to the production of wine products
C02F 2103/327 · from processes relating to the production of dairy products
U C02F 2103/34 · from industrial activities not provided for in groups C02F 2103/12 to C02F 2103/32
C02F 2103/343 · from the pharmaceutical industry, e.g. containing antibiotics
C02F 2103/346 · from semiconductor processing, e.g. waste water from polishing of wafers
U C02F 2103/36 · from the manufacture of organic compounds
C02F 2103/365 · from petrochemical industry (e.g. refineries)

Project: N/A (C04B)

C04B LIME, MAGNESIA; SLAG; CEMENTS; COMPOSITIONS THEREOF, e.g. MORTARS, CONCRETE OR LIKE BUILDING MATERIALS; ARTIFICIAL STONE (roofing granules E04D 7/005); CERAMICS (devitrified glass-ceramics C03C 10/00); REFRACTORIES; TREATMENT OF NATURAL STONE

NOTES
1. In this subclass, the following terms or expressions are used with the meanings indicated:
   • "fillers" includes pigments, aggregates and fibrous reinforcing materials;
• "active ingredients" includes processing aids or property improvers, e.g. grinding aids used after the burning process or used in the absence of a burning process;
• "mortars", "concrete" and "artificial stone" are to be considered as a single group of materials, and therefore, in the absence of an indication to the contrary, they include mortar, concrete and other cementitious compositions.

2. In groups C04B 7/00 to C04B 32/00, in the absence of an indication to the contrary, classification is made in the last appropriate place.

3. A composition classified in groups C04B 26/00 or C04B 28/00 is also classified in groups C04B 14/00 to C04B 24/00 if a filler or active ingredient is of interest.

4. In groups C04B 2/00 to C04B 32/00 and C04B 38/00 to C04B 41/00 it is desirable to classify the individual constituents of the mixtures, or other aspects relating to the mixtures or constituents, using Combination Sets with symbols chosen from groups C04B 2/00 to C04B 41/00.

5. In groups C04B 2/00 to C04B 32/00 and C04B 38/00 to C04B 41/00 it is desirable to classify the function of the individual constituents of the mixtures, or other aspects relating to the properties or uses of the mixtures or products obtained, using Combination Sets with symbols chosen from groups C04B 2103/00 to C04B 2111/00.

6. Groups C04B 20/123 and C04B 20/126 are used for indexing purposes only of documents classified in C04B 20/12

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

- C04B 5/02 covered by B01J 2/00
- C04B 33/132 to C04B 33/138 covered by C04B 33/13
- C04B 35/035 covered by C04B 35/26
- C04B 35/582 covered by C04B 35/581
- C04B 35/806
- C04B 35/5833, C04B 35/5835 covered by C04B 35/806
- C04B 35/599 covered by C04B 35/597
- C04B 35/81 covered by C04B 35/78
- C04B 35/84 covered by C04B 35/628
- C04B 35/78

**U C04B 11/00**

**Calcium sulfate cements**

- obtaining anhydrite, (e.g. **Keene’s** cement) (C04B 11/028 takes precedence)
Compositions of mortars, concrete or artificial stone, containing inorganic binders or the reaction product of an inorganic and an organic binder, e.g. polycarboxylate cements

NOTE
While using Combination Sets in this main group, the presence of an organic binder is indicated with symbols chosen from group C04B 24/00, and the presence of a supplementary inorganic binder with symbols chosen from groups C04B 7/00 to C04B 12/00.

containing calcium sulfate cements (gypsum-paper plates E04C)

containing anhydrite, (e.g. Keene’s cement)

Function or property of ingredients for mortars, concrete or artificial stone
Living organisms, e.g. micro-organisms, or enzymes
Seeds
Unintentionally added compounds, such as impurities in raw materials, e.g. alkali sulfates in construction grade cement
Compounds chosen for the nature of their cations
Organic ammonium compounds
Alkali metal or inorganic ammonium compounds
K
Li
Inorganic ammonium compounds
Alkaline earth metal or Mg-compounds
Ba
Mg
Iron group metal compounds
Fe
Noble metal or copper compounds
Cu
Refractory metal compounds
Cr
Ti
Compounds of elements having a valency of 2
Compounds of elements having a valency of 3
Compounds of elements having a valency of 4
Compounds of elements having a valency of 5
Compounds of elements having a valency of 6
Compounds of the transition metals
Compounds of unusual isotopes, e.g. heavy water
Standardised cement types
according to API
Type A
Type B
Type C
Type D
Type E
C04B 2103/0034 · · · {Type F}
C04B 2103/0035 · · · {Type G}
C04B 2103/0036 · · · {Type H}
C04B 2103/0037 · · · {Type J}
C04B 2103/0038 · · · {Type K}
C04B 2103/0039 · · {according to ASTM}
C04B 2103/004 · · {according to DIN}
C04B 2103/0041 · {Non-polymeric ingredients chosen for their physico-chemical characteristics}
C04B 2103/0042 · {Amorphous materials}
C04B 2103/0043 · {Compounds chosen for their specific Moh’s hardness}
C04B 2103/0044 · {Compounds chosen for their abrasion resistance, e.g. determined according to the L.A. test}
C04B 2103/0045 · {Polymers chosen for their physico-chemical characteristics}
C04B 2103/0046 · · {added as monomers or as oligomers}
C04B 2103/0048 · · {as oligomers}
C04B 2103/0049 · {Water-swellable polymers}
C04B 2103/005 · · {Alkali-swellable polymers}
C04B 2103/0051 · {Water-absorbing polymers, hydrophilic polymers}
C04B 2103/0052 · {Hydrophobic polymers}
C04B 2103/0053 · {Water-soluble polymers}
C04B 2103/0054 · {Water dispersible polymers}
C04B 2103/0055 · {Water-insoluble polymers}
C04B 2103/0056 · {Thermohardening polymers}
C04B 2103/0057 · {added as redispersable powders}
C04B 2103/0058 · {Core-shell polymers}
C04B 2103/0059 · {Graft (co-)polymers}
C04B 2103/006 · · {Comb polymers}
C04B 2103/0061 · {Block (co-)polymers}
C04B 2103/0062 · {Cross-linked polymers}
C04B 2103/0063 · {obtained by an unusual polymerisation process, e.g. by changing the molar ratio of the different monomers during the polymerisation process (C04B 2103/0058 to C04B 2103/0061 take precedence)}
C04B 2103/0064 · {Polymers unstable in the presence of hydraulic binders, e.g. polymers flocculating in concrete mixtures}
C04B 2103/0065 · {Polymers characterised by their glass transition temperature (Tg)}
C04B 2103/0066 · {Film forming polymers}
C04B 2103/0067 · {the ingredients being formed in situ by chemical reactions or conversion of one or more of the compounds of the composition}
C04B 2103/0068 · {Ingredients with a function or property not provided for elsewhere in C04B 2103/00}
C04B 2103/0069 · {the ingredients being characterised by their physical state}
C04B 2103/007 · · {Supercritical fluids}
C04B 2103/0071 · {Phase-change materials, e.g. latent heat storage materials used in concrete compositions}
C04B 2103/0072 · {Biodegradable materials}
Self-degrading materials, e.g. materials undergoing a hydrolytic degradation in the course of time

Anti-static agents

Anti-dusting agents

Packaging material remaining in the mixture after the mixing step, e.g. soluble bags containing active ingredients

Sorbent materials

Rheology influencing agents

Flocking or deflocking agents

Deflocking agents

Segregation-preventing agents; Sedimentation-preventing agents

Bleeding-preventing agents

Polyelectrolytes

Thixotropic agents

Chelating or complexing agents

Ion-exchanging agents

Compounds chosen for their latent hydraulic characteristics, e.g. pozzuolanes

Agents for reducing heat of hydration

Anhydrous vehicles for hydraulic cement compositions

Organic co-binders for mineral binder compositions

for improving green strength

Organic cosolvents

Agents for altering or buffering the pH; Ingredients characterised by their pH

Oxidising agents

Reducing agents

Anion- and far-infrared-emitting materials

Radioactive materials

Aspecific ingredients, i.e. high number of alternative specific compounds mentioned for the same function or property

Accelerators; Activators

for reactions involving organo-silicon compounds

Water reducers, plasticisers, air-entrainers, flow improvers

Water reducers

Air-entrainers

Fluidisers with reduced air-entraining effect

Slump-loss preventing agents

Flow improvers

Surface-active agents, dispersants

anionic
C04B 2103/404  · · (cationic)
C04B 2103/406  · · (non-ionic)
C04B 2103/408  · · (Dispersants)
U C04B 2103/44  · Thickening, gelling or viscosity increasing agents
U C04B 2103/445  · · (Gelling agents)
U C04B 2103/46  · Water-loss or fluid-loss reducers, hygroscopic or hydrophilic agents, water retention agents
C04B 2103/465  · · (Water-sorbing agents, hygroscopic or hydrophilic agents)
U C04B 2103/56  · Opacifiers
C04B 2103/58  · · (Shrinkage reducing agents)
U C04B 2103/60  · Agents for protection against chemical, physical or biological attack
C04B 2103/601  · · (Agents for increasing frost resistance)
C04B 2103/603  · · (Agents for controlling alkali-aggregate reactions)
C04B 2103/605  · · (UV-stabilising agents)
C04B 2103/606  · · (Agents for neutralising Ca(OH)\(_2\) liberated during cement hardening)
C04B 2103/608  · · (Anti-oxidants)
U C04B 2111/00  · Mortars, concrete or artificial stone or mixtures to prepare them, characterised by specific function, property or use
C04B 2111/00008  · · (Obtaining or using nano-technology related materials)
C04B 2111/00017  · · (Aspects relating to the protection of the environment)
C04B 2111/00025  · · (Aspects relating to the protection of the health, e.g. materials containing special additives to afford skin protection (avoiding chromium eczema by using chromium VI-free or very low chromium VI-content materials C04B 2111/1081))
C04B 2111/00034  · · (Physico-chemical characteristics of the mixtures)
C04B 2111/00043  · · (Anhydrous mixtures)
NOTE
Code C04B 2111/00043 is only used in combination with groups C04B 26/00 to C04B 26/32.
C04B 2111/00051  · · (Mortar or concrete mixtures with an unusual low cement content, e.g. for foundations)
C04B 2111/0006  · · · (for obtaining materials with the consistency of soil)
C04B 2111/00068  · · (Mortar or concrete mixtures with an unusual water/cement ratio)
C04B 2111/00077  · · (Partially hardened mortar or concrete mixtures)
C04B 2111/00086  · · (Mixtures with prolonged pot-life)
C04B 2111/00094  · · (Sag-resistant materials)
C04B 2111/00103  · · (Self-compacting mixtures)
C04B 2111/00112  · · (Mixtures characterised by specific pH values)
C04B 2111/00112  · · (Thixotropic mixtures)
C04B 2111/00129  · · (Extrudable mixtures)
C04B 2111/00137  · · (Injection moldable mixtures)
C04B 2111/00146  · · (Sprayable or pumpable mixtures)
C04B 2111/00155  · · (Sprayable, i.e. concrete-like, materials able to be shaped by spraying instead of by casting, e.g. gunite)
C04B 2111/00163  · · · (by the dry process)
C04B 2111/00172  · · · (by the wet process)
Mixtures specially adapted for three-dimensional printing (3DP), stereolithography or prototyping

Compositions or ingredients of the compositions characterised by analysis-spectra, e.g. NMR

Characterisation or quantities of the compositions or their ingredients expressed as mathematical formulae or equations

Compositions defined by their elemental analysis

Mortar or concrete mixtures defined by their oxide composition

Green materials, e.g. porous green ceramic preforms

Temporary foams

Physical properties of the materials not provided for elsewhere in C04B 2111/00

Compositions or ingredients of the compositions characterised by the crystal structure

Electromagnetic wave absorbing or shielding materials

Materials permeable to vapours or gases

Materials impermeable to vapours or gases

Materials permeable to liquids

Materials impermeable to liquids

Non-porous materials, e.g. macro-defect free [MDF] products

Heavy materials, e.g. concrete used as ballast material

Materials characterised by relatively small dimensions, e.g. small thickness

Materials with a smooth surface, e.g. obtained by using glass-surfaced moulds

Materials with friction-reduced moving parts, e.g. ceramics lubricated by impregnation with carbon

Sliding parts

Friction materials, e.g. used as brake linings, anti-skid materials

Materials containing oriented fillers or elements

The oriented elements being fibres

Anisotropic materials

Only the surface part being anisotropic

Materials with a gradually increasing or decreasing concentration of ingredients or property from one layer to another

Materials having an inhomogeneous concentration of ingredients or irregular properties in different layers

Magnetic properties

Refractory materials

Physico-chemical properties of the materials not provided for elsewhere in C04B 2111/00

Low heat cements

Odorless cements

Heat conducting materials

Uses not provided for elsewhere in C04B 2111/00

Coating or impregnation materials

Primers
C04B 2111/005  · · · {for frescoes}
C04B 2111/00508  · · · {Cement paints}
C04B 2111/00517  · · · {for masonry}
C04B 2111/00525  · · · {for metallic surfaces}
C04B 2111/00534  · · · {for plastic surfaces, e.g. polyurethane foams}
C04B 2111/00543  · · · {for wet surfaces}
C04B 2111/00551  · · · {Refractory coatings, e.g. for tamping}
C04B 2111/0056  · · · {for ship decks}
C04B 2111/00568  · · · {Multiple coating with same or similar material}
C04B 2111/00577  · · · {applied by spraying (mixtures shapable by spraying C04B 2111/00155)}
C04B 2111/00586  · · · {Roofing materials}
C04B 2111/00594  · · · {Concrete roof tiles}
C04B 2111/00603  · · · {Ceiling materials}
C04B 2111/00612  · · · {as one or more layers of a layered structure}
C04B 2111/0062  · · · {Gypsum-paper board like materials}
C04B 2111/00629  · · · {the covering sheets being made of material other than paper}
C04B 2111/00637  · · · {as glue or binder for uniting building or structural materials}
C04B 2111/00646  · · · {Masonry mortars}
C04B 2111/00655  · · · {Profiles}
C04B 2111/00663  · · · {as filling material for cavities or the like}
C04B 2111/00672  · · · {Pointing or jointing materials}
C04B 2111/00681  · · · {of the drying type}
C04B 2111/00689  · · · {of the setting type}
C04B 2111/00698  · · · {for cavity walls}
C04B 2111/00706  · · · {around pipelines or the like}
C04B 2111/00715  · · · {for fixing bolts or the like}
C04B 2111/00724  · · · {in mining operations, e.g. for backfilling; in making tunnels or galleries}
C04B 2111/00732  · · · {for soil stabilisation}
C04B 2111/00741  · · · {Preventing erosion}
C04B 2111/0075  · · · {for road construction}
C04B 2111/00758  · · · {for agri-, sylvi- or piscicultural or cattle-breeding applications}
C04B 2111/00767  · · · {for waste stabilisation purposes}
C04B 2111/00775  · · · {the composition being used as waste barriers or the like, e.g. compositions used for waste disposal purposes only, but not containing the waste itself}
C04B 2111/00784  · · · {for disposal only}
C04B 2111/00793  · · · {as filters or diaphragms}
C04B 2111/00801  · · · {Membranes; Diaphragms}
C04B 2111/0081  · · · {as catalysts or catalyst carriers}
C04B 2111/00818  · · · {Enzyme carriers}
C04B 2111/00827  · · · {Photocatalysts; (Materials containing photocatalysts to avoid staining by air pollutants C04B 2111/2061)}
C04B 2111/00836  · · · {for medical or dental applications}
C04B 2111/00844  · · · {for electronic applications}
C04B 2111/00853  · · · {in electrochemical cells or batteries, e.g. fuel cells}
C04B 2111/00862  · · · {for nuclear applications, e.g. ray-absorbing concrete}
C04B 2111/0087 · · {for metallurgical applications}
C04B 2111/00879 · · {Non-ferrous metallurgy}
C04B 2111/00887 · · {Ferrous metallurgy}
C04B 2111/00896 · · {as prepgs}
C04B 2111/00905 · · {as preforms}
C04B 2111/00922 · · · · {Preforms as such}
C04B 2111/00931 · · · · {Coated or infiltrated preforms, e.g. with molten metal}
C04B 2111/00939 · · · {for the fabrication of moulds or cores}
C04B 2111/00948 · · {for the fabrication of containers}
C04B 2111/00956 · · {for making sculptures or artistic casts}
C04B 2111/00965 · · {for household applications, e.g. use of materials as cooking ware}
C04B 2111/00974 · · {for pyrotechnic applications, e.g. blasting}
C04B 2111/00982 · · {as construction elements for space vehicles or aeroplanes}
C04B 2111/00991 · · {for testing}
U C04B 2111/10 · Compositions or ingredients thereof characterised by the absence or the very low content of a specific material
C04B 2111/1006 · · {Absence of well-defined organic compounds}
C04B 2111/1012 · · {Organic solvents}
C04B 2111/1018 · · {Gypsum free or very low gypsum content cement compositions}
C04B 2111/1025 · · {Alkali-free or very low alkali-content materials}
C04B 2111/1031 · · {Lime-free or very low lime-content materials}
C04B 2111/1037 · · {Cement free compositions, e.g. hydraulically hardening mixtures based on waste materials, not containing cement as such}
C04B 2111/1043 · · · {Calciumaluminate-free refractories}
C04B 2111/105 · · {Alumina-free or very low alumina-content materials}
C04B 2111/1056 · · {Silica-free or very low silica-content materials}
C04B 2111/1062 · · {Halogen free or very low halogen-content materials}
C04B 2111/1068 · · {Halogens other than chlorine}
C04B 2111/1075 · · {Chromium-free or very low chromium-content materials}
C04B 2111/1081 · · · {Chromium VI, e.g. for avoiding chromium eczema (materials containing special additives for affording skin protection C04B 2111/00025) }
C04B 2111/1087 · · · {Carbon free or very low carbon content fly ashes; Fly ashes treated to reduce their carbon content or the effect thereof}
C04B 2111/1093 · · · {Reducing the effect of the carbon content, without removing the carbon}
U C04B 2111/12 · Absence of mineral fibres, e.g. asbestos
C04B 2111/125 · · {Mineral fibres other than asbestos}
U C04B 2111/20 · Resistance against chemical, physical or biological attack
C04B 2111/2007 · · {Avoiding unauthorised or unwanted use or treatment}
C04B 2111/2015 · · {Sulfate resistance}
C04B 2111/2023 · · {Resistance against alkali-aggregate reaction}
C04B 2111/203 · · {Oil-proof or grease-repellant materials}
C04B 2111/2038 · · {Resistance against physical degradation}
C04B 2111/2046 · · · {Shock-absorbing materials}
C04B 2111/2053 · · · {Earthquake- or hurricane-resistant materials}

163
C04B 2111/2061  ・ ・ ・ (Materials containing photocatalysts, e.g. TiO₂, for avoiding staining by air pollutants or the like)
C04B 2111/2069  ・ ・ ・ (Self cleaning materials, e.g. using lotus effect (using photocatalysts C04B 2111/2061))
C04B 2111/2076  ・ ・ ・ (Discolouring resistant materials (self cleaning materials C04B 2111/2069))
C04B 2111/2084  ・ ・ ・ (Thermal shock resistance)
C04B 2111/2092  ・ ・ ・ (Resistance against biological degradation)
U C04B 2111/26  ・ ・ ・ Corrosion of reinforcement resistance
C04B 2111/265  ・ ・ ・ (Cathodic protection of reinforced concrete structures)
U C04B 2111/27  ・ ・ ・ Water resistance, e.g. waterproof or water-repellant materials
C04B 2111/275  ・ ・ ・ (Making materials water insoluble)
U C04B 2111/28  ・ ・ ・ Fire resistance, i.e. materials resistant to accidental fires or high temperatures
C04B 2111/285  ・ ・ ・ (Intumescent materials)
C04B 2111/29  ・ ・ ・ (Frost-thaw resistance)
U C04B 2111/32  ・ ・ ・ Expansion-inhibited materials
C04B 2111/325  ・ ・ ・ (the expansion being inhibited in one direction only)
U C04B 2111/34  ・ ・ ・ Non-shrinking or non-cracking materials
C04B 2111/343  ・ ・ ・ (Crack resistant materials)
C04B 2111/346  ・ ・ ・ (Materials exhibiting reduced plastic shrinkage cracking)
U C04B 2111/50  ・ ・ ・ Flexible or elastic materials
NOTE
・ "flexibility" means ability to bend without breaking;
・ "elasticity" means property to resist and recover from deformation produced by a force.
C04B 2111/503  ・ ・ ・ (Elastic materials)
C04B 2111/506  ・ ・ ・ (Bendable material)
U C04B 2111/54  ・ ・ ・ Substitutes for natural stone, artistic materials or the like
C04B 2111/542  ・ ・ ・ (Artificial natural stone)
C04B 2111/545  ・ ・ ・ (Artificial marble)
C04B 2111/547  ・ ・ ・ (Imitating ancient compositions, e.g. mediaeval mortars; Compositions specially designed for restauration of ancient buildings or building elements)
U C04B 2111/72  ・ ・ ・ Repairing or restoring existing buildings or building materials
C04B 2111/723  ・ ・ ・ (Repairing reinforced concrete)
C04B 2111/726  ・ ・ ・ (by chemical conversion of unwanted deposits, e.g. for the restauration of marble monuments)
U C04B 2111/76  ・ ・ ・ Use at unusual temperatures, e.g. sub-zero
C04B 2111/763  ・ ・ ・ (High temperatures)
C04B 2111/766  ・ ・ ・ (Low temperatures, but above zero)
U C04B 2111/80  ・ ・ ・ Optical properties, e.g. transparency or reflectibility
C04B 2111/802  ・ ・ ・ (White cement)
C04B 2111/805  ・ ・ ・ (Transparent material)
C04B 2111/807  ・ ・ ・ (Luminescent or fluorescent materials)
U C04B 2111/90  ・ ・ ・ Electrical properties
C04B 2111/905  ・ ・ ・ (Anti-static materials)
Compounds having carboxyl groups bound to carbon atoms of rings other than six-membered aromatic rings

NOTE
The oxidation mixture of naphthenes containing naphthenic acids, is classified in C07C 61/005

C07C 61/005
- {Naphthenic acids}

Compounds having carboxyl groups bound to a carbon atom of six-membered aromatic rings

- Polycyclic acids
- with all carboxyl groups bound to non-condensed rings
- 4,4' - Diphenyldicarboxylic acids

Preparation of compounds containing amino groups bound to a carbon skeleton

- by condensation or addition reactions, e.g. Mannich reaction, addition of ammonia or amines to alkenes or to alkynes or addition of compounds containing an active hydrogen atom to Schiff's bases, quinone imines, or aziranes

Preparation of urea or its derivatives, i.e. compounds containing any of the groups \( \text{N} \text{C} \text{O} \text{N} \) , the nitrogen atoms not being part of nitro or nitroso groups

- of substituted ureas
- \{with formation of the \( \text{N} \text{C} \text{O} \text{N} \) moiety\}
- \{from \( -\text{N} = \text{C} - \text{O} \) and \( \text{XNR}\text{R} \) \( \text{XRNR}'\text{R}' \) \}

Compounds containing elements of the 5th Group of the Periodic System

- Phosphorus compounds (sugar phosphates C07H 11/04; nucleotides C07H 19/00, C07H 21/00; nucleic acids C07H 21/00)
- with one or more P-C bonds
- Phosphonic acids RP(=O)(OH)2; Thiophosphonic acids (i.e. RP(=X)(XH)2 (\( X = S, \text{Se} \));
- \{the acid moiety containing a substituent or a structure which is considered as characteristic\}
- (Esters of arylalkanephosphonic acids (C07F 9/4025 takes precedence))
- \{n-C(=O)-(CH2)m-Ar, (X, Y = O, S, Se; n>=1, m>=0)\}

Peptides containing up to four amino acids in a fully defined sequence; Derivatives thereof

- containing at least one abnormal peptide link
- \{containing the structure -NH-(X)4-C(=0), e.g. isosters, replacing two amino acids\}
Peptides having more than 20 amino acids; Gastrins; Somatostatins; Melanotropins; Derivatives thereof

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 C12N 2710/00-C12N 2795/00

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

DNA viruses
Herpetoviridae, e.g. pseudorabies virus
Marek's disease virus
from animals; from humans
from vertebrates
from mammals

{not used}
(Alzheimer's disease; Amyloid plaque core protein)

POLYSACCHARIDES; DERIVATIVES THEREOF (polysaccharides containing less than six saccharide radicals attached to each other by glycosidic linkages C07H; fermentation or enzyme-using processes C12P 19/00; sugar industry C13; production of cellulose D21)

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

- C08B 37/06 covered by C08B 37/0045
- C08B 37/10 covered by C08B 37/0075
- C08B 37/12 covered by C08B 37/0039

Preparation of starch, degraded or non-chemically modified starch, amylose, or amylpectin

{from cereals or grains}
{from corn or maize}
{from wheat}
{from potatoes}

Preparation of polysaccharides not provided for in groups C08B 1/00 to C08B 35/00; Derivatives thereof (cellulose D21; {microbiological processes C12P})
Project: N/A (C08B)

U C08B 37/0051  · · · {beta-D-Fructofuranans, e.g. beta-2,6-D-fructofuranan, i.e. levan; Derivatives thereof}
C08B 37/0054  · · · {Inulin, i.e. beta-2,1-D-fructofuranan; Derivatives thereof}

Project: N/A (C08F)

U C08F 22/00  Homopolymers and copolymers of compounds having one or more unsaturated aliphatic radicals each having only one carbon-to-carbon double bond, and at least one being terminated by a carboxyl radical and containing at least one other carboxyl radical in the molecule; Salts, anhydrides, esters, amides, imides or nitriles thereof

U C08F 22/36  · Amides or imides
U C08F 22/38  · · · (Monomers containing two or more (meth)acrylamide groups, e.g. N,N\textquotesingle-methylenebisacrylamide)

U C08F 122/00  Homopolymers of compounds having one or more unsaturated aliphatic radicals each having only one carbon-to-carbon double bond, and at least one being terminated by a carboxyl radical and containing at least one other carboxyl radical in the molecule; Salts, anhydrides, esters, amides, imides or nitriles thereof

U C08F 122/36  · Amides or imides
U C08F 122/38  · · · (Monomers containing two or more (meth)acrylamide groups, e.g. N,N\textquotesingle-methylenebisacrylamide)

Project: N/A (C08G)

U C08G 18/00  Polymeric products of isocyanates or isothiocyanates (preparatory processes of porous or cellular materials, in which the monomers or catalysts are not specific C08J)

U C08G 18/06  · with compounds having active hydrogen
U C08G 18/08  · · Processes
C08G 18/14  · · · (Manufacture of cellular products)
U C08G 18/70  · · characterised by the isocyanates or isothiocyanates used
U C08G 18/72  · · Polyisocyanates or polyisothiocyanates
U C08G 18/74  · · · cyclic
U C08G 18/76  · · · · aromatic
U C08G 18/7614  · · · · · · (containing only one aromatic ring)
U C08G 18/7628  · · · · · · · (containing at least one isocyanate or isothiocyanate group linked to the aromatic ring by means of an aliphatic group)
C08G 18/765  · · · · · · · · (alpha, alpha, alpha\textsuperscript{2}, alpha\textsuperscript{2}, -tetraalkylxylylene diisocyanate or homologues substituted on the aromatic ring)

U C08G 65/00  Macromolecular compounds obtained by reactions forming an ether link in the main chain of the macromolecule

U C08G 65/02  · form cyclic ethers by opening of the heterocyclic ring
U C08G 65/26  · from cyclic ethers and other compounds
NOTES
1. In this group classification is made according to the metal in the compounds, if any.
2. In this group boron is considered a metal and magnesium as an alkaline earth metal.

U C08G 65/2642  · · · {characterised by the catalyst used}

U C08G 65/2645  · · · · {Metals or compounds thereof, e.g. salts}
C08G 65/2663  · · · · · {Metal cyanide catalysts, i.e. DMCs DMCS}

U C08G 2101/00  Foams
C08G 2101/0008  · {flexible}
C08G 2101/0016  · {semi-rigid}
C08G 2101/0025  · {rigid}
C08G 2101/0033  · {having integral skins}
C08G 2101/0041  · {having specified density}
C08G 2101/005  · · {< 50 kg/m}
C08G 2101/0058  · · {> 50 and < 150 kg/m}
C08G 2101/0066  · · {> 150 Kg/m including micro-cellular foams}
C08G 2101/0075  · {prepared with an isocyanate index of 60 or lower}
C08G 2101/0083  · {prepared using water as the sole blowing agent}
C08G 2101/0091  · {Aerogels; Xerogels}

Project: N/A (C08J)
U C08J 9/00  Working-up of macromolecular substances to porous or cellular articles or materials; After-treatment thereof (mechanical aspects B29C 44/00; foamed polymeric products of isocyanates or isothiocyanates characterised by the monomers or catalysts used C08G 18/00)
U C08J 9/0061  · {characterized by the use of several polymeric components}

Project: N/A (C08K)
U C08K 5/00  Use of organic ingredients
U C08K 5/36  · Sulfur-, selenium-, or tellurium-containing compounds {(C08K 5/0091 takes precedence)}
U C08K 5/37  · · Thiols
C08K 5/372  · · · Sulfides, {e.g. R-(S)x-R-}
U C08K 5/49  · Phosphorus-containing compounds {(C08K 5/0091 takes precedence)}
U C08K 5/51  · · Phosphorus bound to oxygen
U C08K 5/53  · · bound to oxygen and to carbon only
C08K 5/5313  · · · Phosphinic compounds, e.g. R2=P(:0)OR-'
C08K 5/5317  · · · Phosphonic compounds, e.g. R-P(:0)(OR-')2
C08K 5/5377  · · · Phosphinous compounds, e.g. R2=P-OR-'
C08K 5/5393  · · · Phosphonous compounds, e.g. R-P(OR-')2

Project: N/A (C09B)
U C09B 45/00  Complex metal compounds of azo dyes
C09B 45/02  · Preparation from dyes containing in o-position a hydroxyl group and in o'-position hydroxyl, alkoxy, carboxyl, amino or keto groups
C09B 45/34 · Preparation from o-monohydroxy azo compounds having in the o`-position an atom or functional group other than hydroxyl, alkoxy, carboxyl, amino or keto groups
C09B 45/36 · · by oxidation of hydrogen in o`-position

**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 PREPARATION OF INORGANIC MATERIALS WHICH ARE NO SINGLE CHEMICAL COMPOUNDS AND WHICH ARE MAINLY USED AS PIGMENTS OR FILLERS}

**NOTES**
1. In this subclass, in the absence of an indication to the contrary, a compound is classified in the last appropriate place
2. Treatment by polymerisation onto particle is classified in C08F 292/00. Only treatment by already polymerised agents is classified in C09C
3. Whenever in groups C09C 1/00 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
4. Preparations of those materials which are no single chemical compounds comprise those of many ceramic pigments (C09C 1/0009), consisting of solid solutions or polycrystalline structures, and those defined as composite materials (C09C 1/0081)
5. Preparation and treatment steps are not always easy to distinguish from each other, e.g. preparation in the presence of treating agents (by precipitation or calcination), precise reacting conditions, affecting pigmentary effects. It is common practice to include these complex topics in C09C 1/00 while avoiding redundancy
6. When classifying in this subclass, the indexing codes of subclass C01P are used to identify structural or physical aspects of solid inorganic compounds

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

C09C 1/68 covered by C09K 3/14
Project: N/A (C09D)

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

NOTES

1. In this subclass, the following terms or expressions are used with the meanings indicated:
   - "use of materials for coating compositions" means the use of known or new polymers or products;
   - "rubber" includes:
     a. natural or conjugated diene rubbers;
     b. rubber in general (for a specific rubber, other than a natural rubber or a conjugated diene rubber, see the group provided for coating compositions based on such macromolecular compounds);
   - "based on" is defined by means of Note 3, below;
   - "filling pastes" means materials used to fill up the holes or cavities of a substrate in order to smooth its surface prior to coating.

2. In this subclass, coating compositions containing specific macromolecular substances are classified only according to the macromolecular substance, non-macromolecular substances not being taken into account.

Example: a coating composition containing polyethene and aminopropyltrimethoxysilane 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.

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

Examples:
A coating composition containing 80 parts of polyethene and 20 parts of polyvinylchloride is classified in group **C09D 123/06**;

A coating composition containing 40 parts of polyethene and 40 parts of polyvinylchloride is classified in groups **C09D 123/06** and **C09D 127/06**.

4. Documents classified up until 04.2012: after the notation of group **C09D 4/06**, and separated therefrom by a + sign, notations concerning the macromolecular compound may be added. The notations are selected from the main groups **C08F 251/00** to **C08F 291/00** and from the subgroups of **C08F 290/00** 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**.

5. From April 2012 onwards, after the notation **C09D 4/00**, classification concerning the monomer may be added, in the form of C-sets. The notation is selected from **C08F 210/00** 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** ).

6. Documents classified up until 09-2003: Classification is given in the form of C-Sets. The polymer in majority is given a **C09D 101/00 - C09D 201/10** symbol, and the minor components are characterised by Indexing Codes taken from the list below. The Indexing Codes are linked. The polymer in majority is always first in the C-set. List of **C08L** codes: **C08L 23/00**, **C08L 23/26**, **C08L 25/00**, **C08L 27/00**, **C08L 27/04**, **C08L 27/12**, **C08L 29/00**, **C08L 31/00**, **C08L 33/00**, **C08L 35/00**, **C08L 37/00**, **C08L 51/00**, **C08L 53/00**, **C08L 55/02**, **C08L 61/04**, **C08L 61/20**, **C08L 63/00**, **C08L 67/00**, **C08L 67/02**, **C08L 67/25**, **C08L 67/03**, **C08L 67/04**, **C08L 67/06**, **C08L 67/07**, **C08L 69/00**, **C08L 69/005**, **C08L 71/00**, **C08L 75/04**, **C08L 77/00**, **C08L 77/08**, **C08L 79/08**, **C08L 79/085**, **C08L 81/00**, **C08L 83/00**, **C08L 85/00**, **C08L 91/06**, **C08L 95/00** or **C08L 2666/00 - C08L 2666/86**. Documents from group **C09D 123/00 - C09D 123/36**, **C09D 145/00 - C09D 145/02** and **C09D 149/00** have all been reclassified following Note 3 below. An additive is classified in the last appropriate place in the list as selected for each **C09D** group.

Examples:

a. A coating composition based on a polyamide and a graft polymer is classified in ( **C09D 177/00, C08L 2666/24**).

b. A coating composition based on polyvinylchloride and containing CaCO₃ is classified according to note 4 of **C08K**, i.e. in **C08K 3/26** and **C09D 127/06**. If this coating composition contains also a polyamide, then the classification will be ( **C09D 127/06, C08L 77/00, C08K 3/26**).

c. A coating composition based on a polysiloxane ( **C09D 183/04** ) and containing a second polysiloxane, a phenol and silica is classified in ( **C09D 183/04, C08L 83/04, C08L 2666/34, C08L 2666/54**).

7. From 01.09.2003 until April 2012: Classification is given in the form of C-Sets. The polymer in majority is given a **C09D** symbol, and the minor components are characterised by Indexing Codes taken from **C08L** or **C08K** and they are linked or unlinked. The polymer in majority is always first in the C-set. List of indexing codes in the C-Sets: **C08L 1/00**, **C08L 81/00**, **C08L 83/00**, **C08L 91/06**, **C08L 95/00** or **C08L 2666/02 - C08L 2666/08, C08L 2666/14 - C08L 2666/26**.

Examples:

a. A coating of 60 parts polyvinylchloride ( **C09D 127/06** ) and 40 parts polyamide is classified in ( **C09D 127/06, C08L 2666/20**).

b. A coating of 50 parts polyvinylchloride ( **C09D 127/06** ) and 50 parts polyamide ( **C09D 177/00** ) is classified in ( **C09D 127/06, C08L 2666/20**), and **C08L 77/00**, as well as ( **C09D 177/00, C08L 2666/04** ) and **C08L 27/06**.
c. A coating composition based on polyvinylchloride and containing CaCO₃ is
classified according to [N: Note 4 of C08K, i.e. in C08K 3/26, C09D 127/06].
If this composition contains also a polyamide, then the classification will be
(C09D 127/06, C08L 2666/20) and C08K 3/26.
d. A composition based on a first polysiloxane (C09D 183/04) and containing
a second polysiloxane, a phenol and silica is classified in (C09D 183/04,
C08L 83/00, C08K 5/13, C08K 3/36) and C08L 2205/02.

8. From April 2012 onwards, after the notation of groups C09D 101/00 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
- C08L 2555/86 or C08K and they may be linked or unlinked: - C08L 1/00 -
C08L 101/10 are linked. - C08L 2201/00 - C08L 2555/86 are unlinked. The
polymer in majority is always first in the C-set. Examples:
a. A coating composition containing polyethylene and amino-
propyltrimethoxysilane is classified in groups C09D 123/06 and
C08K 5/544 (unlinked).
b. A coating composition containing 80 parts of polyethene and 20 parts of
polyvinylchloride is classified in (C09D 123/06, C08L 27/06).
c. A coating composition containing 40 parts of polyethene and 40 parts
of polyvinylchloride is classified in (C09D 123/06, C08L 27/06) and
(C09D 127/06, C08L 23/06).
d. A coating composition containing 90% of polysiloxane (C09D 183/04)
 further containing 10% of polyester (C08L 67/00) and an alcohol is
classified in (C09D 183/04, C08L 67/00, C08K 5/05).

WARNING
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, C09D 5/23 covered by H01F 41/16
C09D 5/25 covered by H01B 3/308
C09D 5/33 covered by C09D 5/004
C09D 5/46 covered by C09D 5/03
C09D 161/08, C09D 161/10 covered by C09D 161/06
C09D 161/06 covered by C09D 163/02
C09D 171/08, C09D 171/08 covered by C09D 171/10
C09D 171/02 covered by C09D 171/10
C09D 171/12 covered by C09D 183/05
C09D 183/07 covered by C09D 183/04,
C09D 183/06

U C09D 5/00
Coating compositions, e.g. paints, varnishes or lacquers, characterised by
their physical nature or the effects produced; Filling pastes ((magnetisable
or magnetic paints H01F 1/00; electrically insulating paints H01B 3/00;
paints for electrophoretic applications C25D 13/00))

C09D 5/06
- Artists' paints

C09D 17/00
Pigment pastes, e.g. for mixing in paints (artists' paints C09D 5/06 artists' paints C09D 5/06)
ADHESIVES; NON-MECHANICAL ASPECTS OF ADHESIVE PROCESSES IN GENERAL; ADHESIVE PROCESSES NOT PROVIDED FOR ELSEWHERE;
USE OF MATERIALS AS ADHESIVES (surgical adhesives A61L 24/00; processes for applying liquids or other fluent materials to surfaces in general B05D; adhesives on the basis of non specified organic macromolecular compounds used as bonding agents in layered products B32B; organic labelling fabrics or comparable materials or articles with deformable surface using adhesives and thermo-activatable adhesives respectively B65C 5/02, B65C 5/04; organic macromolecular compounds C08; production of multi-layer textile fabrics D06M 17/00; preparation of glue or gelatine C09H; adhesive labels, tag tickets or similar identification of indication means G09F 3/10)

NOTES

1. In this subclass, the following terms or expressions are used with the meanings indicated:
   - "use of materials as adhesives" means the use of known or new polymers or products;
   - "rubber" includes:
     a. natural or conjugated diene rubbers;
     b. rubber in general (for a specific rubber, other than a natural rubber or a conjugated diene rubber, see the group provided for adhesives based on such macromolecular compounds);
   - "based on" is defined by means of Note 3, below.

2. In this subclass, adhesives containing specific macromolecular substances are classified only according to the macromolecular substance, non-macromolecular substances not being taken into account.
   Example: an adhesive containing polyethylene 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 polyethylene 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 explictely stated, are also classified in this subclass. Adhesives characterised by other features, e.g. additives, are classified in group C09J 11/00, unless the macromolecular constituent is specified.

3. In this subclass, adhesives comprising two or more macromolecular constituents are classified according to the macromolecular constituent or constituents present in the highest proportion, i.e. the constituent on which the adhesive is based. If the adhesive is based on two or more constituents, present in equal proportions, the adhesive is classified according to each of these constituents.
   Examples: An adhesive containing 80 parts of polyethylene and 20 parts of polyvinylchloride is classified in group C09J 123/06;
   An adhesive containing 40 parts of polyethylene and 40 parts of polyvinylchloride is
4. An adhesive composition containing polyethylene and aminopropyltrimethoxysilane is classified in groups C09J 123/06 and C09J 127/06.

5. Documents classified up until 09-2003: Classification is given in the form of C-Sets. The polymer in majority is given a C09J 101/00 - C09J 201/10 symbol, and the minor components are characterised by Indexing Codes taken from the list below. The Indexing Codes are linked. The polymer in majority is always first in the C-set.

List of C08L codes: C08L 23/00, C08L 23/26, C08L 25/00, C08L 27/04, C08L 25/00, C08L 27/04, C08L 37/00, C08L 51/00, C08L 53/00, C08L 55/02, C08L 61/04, C08L 61/20, C08L 63/00, C08L 67/00, C08L 67/02, C08L 67/025, C08L 67/03, C08L 67/04, C08L 67/06, C08L 67/07, C08L 69/00, C08L 69/005, C08L 71/00, C08L 75/04, C08L 77/00, C08L 77/08, C08L 77/12, C08L 79/08, C08L 79/085, C08L 81/00, C08L 83/00, C08L 85/00, C08L 91/06, C08L 95/00 or C08L 2666/00 - C08L 2666/86. An additive is classified in the last appropriate place in the list as selected for each C09J group. Examples:

a. An adhesive composition based on a polyamide and a graft polymer is classified in (C09J 177/00, C08L 2666/24).

b. An adhesive composition based on polyvinylchloride and containing CaCO3 is classified according to note 4 of C08K, i.e. in C08K 3/26 and C09J 127/06. If this adhesive composition contains also a polyamide, then the classification will be (C09J 127/06, C08L 77/00, C08K 3/26).

c. An adhesive composition based on a polysiloxane (C09J 183/04) and containing a second polysiloxane, a phenol and silica is classified in (C09J 183/04, C08L 83/04, C08L 2666/34, C08L 2666/54).

6. From April 2012, after the notation C09J 4/00, classification concerning the monomer may be added, in the form of C-sets. The notation is selected from C08F 210/00 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).

7. From 01.09.2003 until April 2012: Classification is given in the form of C-Sets. The polymer in majority is given a C08L class, and the minor components are characterised by Indexing Codes taken from C08L or C08K and they are linked or unlinked. The polymer in majority is always first in the C-set. List of indexing codes in the C-Sets: C08L 1/00, C08L 81/00, C08L 83/00, C08L 91/06, C08L 95/00 or C08L 2666/02 - C08L 2666/08, C08L 2666/14 - C08L 2666/26.

Examples:

a. An adhesive blend of 60 parts polyvinylchloride (C09J 127/06) and 40 parts polyamide is classified in (C09J 127/06, C08L 2666/20, C08L 77/00).

b. An adhesive blend of 50 parts polyvinylchloride (C09J 127/06) and 50 parts polyamide (C09J 177/00) is classified in (C09J 127/06, C08L 2666/20, C09J 177/00, C08L 2666/04, C08L 77/00 and C08L 27/06).

c. An adhesive composition based on polyvinylchloride and containing CaCO3 is classified according to [N: Note 4 of C08K, i.e. in C08K 3/26, C09J 127/06. If this composition contains also a polyamide, then the classification will be (C09J 127/06, C08L 2666/20 and C08K 3/26).

d. A composition based on a first polysiloxane (C09J 183/04) and containing a second polysiloxane, a phenol and silica is classified in (C09J 183/04, C08L 83/04, C08L 2666/34, C08L 2666/54).

8. 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.
- C08L 2555/86 or C08K and they may be linked or unlinked:
  - C08L 1/00 - C08L 101/16 are linked.
  - C08L 2201/00 - C08L 2555/86 are unlinked. The polymer in majority is always first in the C-set.

Examples:

a. An adhesive composition containing polyethylene and amino-
   propyltrimethoxysilane is classified in groups C09J 123/06 and C08K 5/544
   (unlinked).

b. An adhesive containing 80 parts of polyethene and 20 parts of
   polyvinylchloride is classified in group (C09J 123/06, C08L 27/06).

c. An adhesive containing 40 parts of polyethene and 40 parts of
   polyvinylchloride is classified in groups (C09J 123/06, C08L 27/06) and
   (C09J 127/06, C08L 23/06).

d. An adhesive containing 90% of polysiloxane (C09J 183/04) further
   containing of polyester (C08L 67/00) and an alcohol is classified in
   (C09J 183/04, C08L 67/00, C08K 5/05).

WARNING

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 7/00 Adhesives in the form of films or foils

NOTE

In this group, the indexing codes of subclass M09J are used

U C09J 7/02 C09J 7/0207 · · {characterised by pressure-sensitive adhesive}

U C09J 9/00 Adhesives characterised by their physical nature or the effects produced,
   e.g. glue sticks (C09J 7/00 takes precedence)

C09J 9/005 · {Glue sticks}

Project: N/A (C09K)

U C09K 11/00 Luminescent, e.g. electroluminescent, chemiluminescent materials

U C09K 11/08 · containing inorganic luminescent materials

NOTES

1. In groups C09K 11/08 to C09K 11/897, in the absence of an indication to the
   contrary, classification of materials is made in the last appropriate place

2. { In this group, magnesium is considered as an alkaline earth metal }

WARNING

Groups C09K 11/0805 to C09K 11/0894, with the exception of C09K 11/0883
for classifying nitrides, are no longer used for classification of new documents.
The backlog of this group is being continuously reclassified to subgroups
C09K 11/54 to C09K 11/897

U C09K 11/58 · · containing copper, silver or gold

U C09K 11/582 · · · {Chalcogenides}

C09K 11/586 · · · {with alkaline earth metals}

U C09K 11/70 · · containing phosphorus

C09K 11/705 · · · {Halogenides (C09K 11/701, C09K 11/706 and C09K 11/708 take
   precedence)}
Project: N/A (C10H)

C10H 7/00  Acetylene gas generators with water feed by Kipp’s principle
C10H 9/00  Acetylene gas generators according to Dobereiner’s principle with fixed carbide bell

Project: N/A (C10L)

U C10L 1/00  Liquid carbonaceous fuels
U C10L 1/10  · containing additives
C10L 1/106  · · (mixtures of inorganic compounds with organic macromolecular compounds)

NOTES
1. In groups C10L 1/12 to C10L 1/30, in the absence of an indication to the contrary, a compound is always classified in the last appropriate place.
2. A metal salt or an ammonium salt of a compound is classified as that compound, e.g. a chromium sulfonate is classified as a sulfonate in group C10L 1/24 and not in group C10L 1/30.
3. When classifying in this group, it is desirable to classify the individual additional components using Combination Sets with symbols chosen from groups C10L 1/12 to C10L 1/30.
4. Mixtures of additives are classified in the corresponding main group. Individual additives can be classified using Combination Sets according to the Note above.
5. When several alternatives for the same individual additive are mentioned, e.g. as a Markush-formula, classification may be done in the corresponding main group only, the alternatives being classified using Combination Sets, according to the Note above.
6. Documents classified until April 2003, have been classified with Combination Sets as explained in the Notes above, however using symbols chosen from groups C10L 1/10 to C10L 1/30.

Project: N/A (C11B)

C11B  PRODUCING (pressing, extraction), REFINING AND PRESERVING FATS, FATTY SUBSTANCES (e.g. lanolin), FATTY OILS AND WAXES, INCLUDING EXTRACTION FROM WASTE MATERIALS; ESSENTIAL OILS; PERFUMES (drying-oils)

NOTE
In this subclass, boron and silicon are considered as metals

U C11B 1/00  Production of fats or fatty oils from raw materials
U C11B 1/10  · by extracting
C11B 1/104  · · (using super critical gases or vapours)
DETERGENT COMPOSITIONS (preparations specially adapted for washing the hair A61Q 5/02, A61K 8/00; methods or apparatus for disinfection or sterilisation A61L; special washing compositions for cleaning semi-permeable membranes B01D 5/06); 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 10/047, 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:

- C11D 1/68 covered by C11D 3/2003
- C11D 1/70 covered by C11D 3/2003
- C11D 3/44 covered by C11D 3/43
- C11D 3/60 covered by C11D 3/00
- C11D 7/18 covered by C11D 3/39
- C11D 7/38 covered by C11D 3/39
- C11D 7/42 covered by C11D 3/386
- C11D 7/52 covered by C11D 7/50
- C11D 7/54 covered by C11D 3/395
- C11D 7/56 covered by C11D 3/395
- C11D 7/60 covered by C11D 7/00
- C11D 9/20 covered by partly covered by C11D 9/444
- C11D 9/50 covered by C11D 3/48
- C11D 9/60 covered by C11D 9/00
- C11D 10/02 covered by C11D 3/00
- C11D 10/06 covered by C11D 9/00

Project: N/A (C12N)

U C12N 1/00 Micro-organisms, e.g. protozoa; Compositions thereof (medicinal preparations containing material from micro-organisms A61K 35/66; preparing medicinal bacterial antigen or antibody compositions, e.g. bacterial vaccines A61K 39/00); Processes of propagating, maintaining or preserving micro-organisms or compositions thereof; Processes of preparing or isolating a composition containing a micro-organism; Culture media therefor

U C12N 1/14 Fungi (culture of mushrooms A01G 1/04; as new plants per se A01H 15/00; (fungi per se C12R 1/645 to C12R 1/885))Culture media therefor

U C12N 1/16 Yeasts; Culture media therefor
C12N 1/18 Baker’s yeast; Brewer’s yeast

Project: N/A (C12Q)

U C12Q 2326/00 Chromogens for determinations of oxidoreductase enzymes
U C12Q 2326/10 Benizidines
C12Q 2326/12 3,3'-5,5'-Tetramethylbenzidine, i.e. TMB
C12Q 2326/14 · · Ortho-Tolidine, i.e. 3,3′-dimethyl-(1,1′-biphenyl-4,4′-diamine)
C12Q 2326/30 · 2,2′-Azinobis (3-ethylbenzothiazoline-6-sulfonic acid), i.e. ABTS

Reactions demanding special reaction conditions (not used)
U C12Q 2527/00 Reaction conditions characterised by (metal/ion C12Q 2563/137)(not used)
C12Q 2527/10 · · the enzyme inhibitor or activator used [N0644]

U C12Q 2527/127

C12R PROCESSES USING MICRO-ORGANISMS

NOTE

D C14B 17/00 Details of apparatus or machines for manufacturing or treating skins, hides, leather, or furs
C14B 17/16 · {Inspecting hides or furs}

C22C 32/00 Non-ferrous alloys containing at least 5% by weight but less than 50% by weight of oxides, carbides, borides, nitrides, silicides or other metal compounds, e.g. oxynitrides, sulfides whether added as such or formed in situ

NOTE
This group comprises also dispersion hardened alloys with less than 5% of dispersed compounds
C22C 32/0089 · {with other, not previously mentioned inorganic compounds as the main non-metallic constituent, e.g. sulfides, glass}

C23C 28/00 Coating for obtaining at least two superposed coatings either by methods not provided for in a single one of groups C23C 2/00 to C23C 26/00 or by combinations of methods provided for in subclasses C23C and C25C or C25D

U C23C 28/02 · only coatings (only including layers) of metallic material
C23C 28/021 · {including at least one metal alloy layer}
C23C 28/022 · · {with at least one MCrAlX layer}
U C23C 28/023 · {only coatings of metal elements only}
C23C 28/025 · · {with at least one zinc-based layer}
C23C 28/026 · {including at least one amorphous metallic material layer}
C23C 28/027 · {including at least one metal matrix material comprising a mixture of at least two metals or metal phases or metal matrix composites, e.g. metal matrix with embedded inorganic hard particles, CERMET, MMC.}
C23C 28/028 · {Including graded layers in composition or in physical properties, e.g. density, porosity, grain size}

U C23C 28/04 · only coatings of inorganic non-metallic material
C23C 28/042 · {including a refractory ceramic layer, e.g. refractory metal oxides, ZrO2, rare earth oxides}
C23C 28/044 · · {coatings specially adapted for cutting tools or wear applications.}

Project: N/A (C23D)

U C23D 5/00 Coating with enamels or vitreous layers {{including applying fused refractory layers C23C 4/10, C23C 24/10}}
C23D 5/10 · · {with refractory materials}

WARNING
Group C23D 5/10 is no longer used for classification. Documents are in the state of being reclassified to C23C 4/10 and C23C 24/10.

Project: N/A (C25B)

U C25B 11/00 Electrodes; Manufacture thereof not otherwise provided for
U C25B 11/02 · characterised by shape or form
U C25B 11/03 · · perforated or foraminous
C25B 11/035 · · · {Porous electrodes}

Project: N/A (C25D)

C25D PROCESSES FOR THE ELECTROLYTIC OR ELECTROPHORETIC PRODUCTION OF COATINGS; ELECTROFORMING (decorating textiles by metallising D06Q 1/04; manufacturing printed circuits by metal deposition H05K 3/18); APPARATUS THEREFOR

WARNING
The following IPC groups are not used in the CPC system. Subject matter covered by these groups is classified in the following CPC groups:
- C25D 5/24 covered by C25D 5/34
- C25D 5/26 covered by C25D 5/36
- C25D 5/28 covered by C25D 5/38
- C25D 5/32 covered by C25D 5/46
- C25D 13/06 covered by C09D 5/44
- C25D 13/08 covered by C09D 5/4476
- C25D 13/10 covered by C09D 5/448
- C25D 19/00 covered by C25D 17/00

Project: N/A (C30B)

C30B SINGLE-CRYSTAL-GROWTH (by using ultra-high pressure, e.g. for the formation of diamonds B01J 3/06); UNIDIRECTIONAL SOLIDIFICATION OF EUTECTIC MATERIAL OR UNIDIRECTIONAL DEMIXING OF EUTECTOID MATERIAL; REFINING BY ZONE-MELTING OF MATERIAL (zone-refining of metals or alloys C22B); PRODUCTION OF A HOMOGENEOUS POLYCRYSTALLINE MATERIAL WITH DEFINED STRUCTURE (casting of metals, casting of other substances by the same processes or devices B22D; working of plastics B29; modifying the physical structure of metals or alloys C21D, C21F); SINGLE CRYSTALS OR HOMOGENEOUS POLYCRYSTALLINE MATERIAL WITH DEFINED STRUCTURE; AFTER-TREATMENT OF SINGLE CRYSTALS OR A HOMOGENEOUS POLYCRYSTALLINE MATERIAL WITH DEFINED STRUCTURE (for producing semiconductor devices or parts thereof H01L); APPARATUS THEREFORE

NOTES
1. In this subclass, the following expressions are used with the meaning indicated:
• "single-crystal" includes also twin crystals and a predominantly single crystal product;
• "homogeneous polycrystalline material" means a material with crystal particles, all of which have the same chemical composition;
• "defined structure" means the structure of a material with grains which are oriented in a preferential way or have larger dimensions than normally obtained.

2. In this subclass:
• the preparation of single crystals or a homogeneous polycrystalline material with defined structure of particular materials or shapes is classified in the group for the process as well as in group C30B 29/00;
• an apparatus specially adapted for a specific process is classified in the appropriate group for the process. Apparatus to be used in more than one kind of process is classified in group C30B 35/00.

3. After the notation of C30B and separated therefrom by a + sign, notations concerning the particular composition or shape of the material may be added. These notations are selected from C30B 29/00.

Example: A crystal-growth process by zone-melting directly related to Al2O3 crystal material is classified in C30B 13/00 + C30B 29/20

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

C30B 29/64, C30B 29/66 covered by C30B 29/60

U C30B 29/00 Single crystals or homogeneous polycrystalline material with defined structure characterised by the material or by their shape (alloys C22C)

NOTE
In groups C30B 29/02 to C30B 29/58, in the absence of an indication to the contrary, a material is classified in the last appropriate place.

U C30B 29/10 · Inorganic compounds or compositions
U C30B 29/40 · AIII-BV compounds {wherein A is B, Al, Ga, In or Tl and B is N, P, As, Sb or Bi}
· · AIII{Al, Ga, In, or Tl} nitrides
C30B 29/403 · · · {Gallium nitride}
C30B 29/406

Project: N/A (D01D)

D01D MECHANICAL METHODS OR APPARATUS IN THE MANUFACTURE OF ARTIFICIAL FILAMENTS, THREADS, FIBRES, BRISTLES OR RIBBONS

NOTES
1. Attention is drawn to the note following the title of Class D01.
2. Apparatus specially adapted for the manufacture of carbon filaments are classified in group D01F 9/12

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

D01D 5/10 covered by D01D 5/08 and subgroups
Project: N/A (D03D)

U D03D 51/00 Driving, starting, or stopping arrangements; Automatic stop motions {{loom control associated with fabric inspection on the loom D03J 1/007}}

D03D 51/002

· {Avoiding starting marks}

WARNING
Not complete, see D03D 51/00

Project: N/A (D03J)

D03J AUXILIARY WEAVING APPARATUS; WEAVERS' TOOLS; SHUTTLES

D03J 3/00 Weavers' tools, e.g. knot-tying tools

Project: N/A (D04H)

D04H MAKING TEXTILE FABRICS, e.g. FROM FIBRES OR FILAMENTARY MATERIAL (weaving D03; knitting D04B; braiding (or lace-making) D04C; net-making (or making knotted carpets) D04G; sewing D05B; tufting D05C, (e.g. D05C 15/04); finishing non-woven fabrics D06); FABRICS MADE BY SUCH PROCESSES OR APPARATUS, e.g. FELTS, NON-WOVEN FABRICS; COTTON-WOOL; WADDING {Non NON-woven fabrics from staple fibres WOVEN FABRICS FROM STAPLE FIBRES, filaments or yarns FILAMENTS OR YARNS, bonded with at least one web BONDED WITH AT LEAST ONE WEB-like material during their consolidation 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
1. In this subclass, the following expression is used with the meaning indicated:
   • "non-woven fabrics" means fabrics formed wholly or partly of textile material by processes comprising operations other than the weaving, knitting, braiding, lacing, or knotting of yarns, threads, or filaments for which provision is made in other subclasses of Section D. This expression includes felts, cotton-wool, and wadding.

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

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

4. In this subclass, a number of groups, e.g. D04H 1/067, correspond to IPC2012.01

WARNING
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: N/A (D06F)**

D06F

LAUNDERING, DRYING, IRONING, PRESSING OR FOLDING TEXTILE ARTICLES (apparatus for blocking, pressing, steaming, or stretching hats A42C; treating textile materials by liquids, gases or vapours D06B; chemical matters, see D06L, D06M)

NOTES
1. This subclass covers:
   - domestic or laundry dry-cleaning apparatus using volatile solvents;
   - domestic, laundry, or tailors ironing or other hot-pressing of clothes, linen, or other textile articles.

2. This subclass does not cover:
   - apparatus for wringing, washing, dry-cleaning, ironing, or other hot-pressing of textiles in manufacturing operations, which is covered by subclass D06B, D06C.

---

**Project: N/A (D06M)**

U D06M 2101/00

Chemical constitution of the fibres, threads, yarns, fabrics or fibrous goods made from such materials, to be treated

NOTES
1. This subclass constitutes an internal scheme for indexing only.
2. The indexing codes relate to the fibres to be treated and are to be used with the groups D06M 11/00, D06M 13/00, D06M 15/00, D06M 16/00 and D06M 23/00

Examples:
- the swelling of cellulose with alkaline hydroxides is classified and indexed in D06M 11/38 // D06M 2101/06
- the treatment of cellulose with amines is classified and indexed in D06M 13/325 // D06M 2101/06
- the treatment of polyester fibres with polyester is classified and indexed in D06M 15/507 // D06M 2101/32
- the treatment of wool with pepsin is classified and indexed in D06M 16/00 // D06M 2101/12
- the treatment of cellulose with silicon tetrachloride in the form of a foam is classified and indexed in D06M 17/58, D06M 23/04 // D06M 2101/06.

D06M 2101/005
- {Asbestos fibres}

NOTE
Blends of fibres are indexed according to each constituent fibre

---

**Project: N/A (D06N)**

U D06N 2213/00

Others characteristics

---
Perforated layer

The coating layer does not completely close the openings between the fibres.

**PULP COMPOSITIONS; PREPARATION THEREOF NOT COVERED BY SUBCLASSES D21C or D21D; IMPREGNATING OR COATING OF PAPER; TREATMENT OF FINISHED PAPER NOT COVERED BY CLASS B31 OR SUBCLASS D21G; PAPER NOT OTHERWISE PROVIDED FOR**

**NOTES**

1. This subclass covers also pulp compositions for the preparation of fireboard or other fibrous articles by wet processes.

2. In this subclass, the following terms are used with the meaning indicated:
   - "pulp" means a dispersion, (e.g. an aqueous suspension,) comprising paper-making fibres and optional additives, which is to be processed, and covers the term "stock"; it also means dry paper-making fibres which are to be made into paper by either wet or dry processes;
   - "paper" means paper, cardboard or wet-laid non-woven fabrics.

3. In groups D21H 11/00 to D21H 15/00, in the absence of an indication to the contrary, classification is made in the last appropriate place.

4. Attention is drawn to the use of Combination Sets as specified in the Notes after groups D21H 17/00, D21H 17/69, D21H 17/71, D21H 19/00, D21H 21/00, D21H 21/14, D21H 23/00, D21H 23/22, D21H 25/00 and D21H 27/00.

**Non-fibrous material added to the pulp, characterised by its constitution; Paper-impregnating material characterised by its constitution**

**NOTES**

1. In this group, in the absence of an indication to the contrary, a material is classified in the last appropriate place.

2. In this group, it is desirable to classify the individual constituents of fibres used in the pulp or paper using Combination Sets with symbols chosen from groups D21H 11/00 to D21H 15/00.

**Mixtures of material** (D21H 17/69 takes precedence)(Pulp or paper comprising several different materials not incorporated by special processes (D21H 23/10, D21H 23/70, D21H 23/76 take precedence))

**NOTE**

In this group, it is desirable to classify the individual components of the mixtures using Combination Sets with symbols chosen from groups D21H 17/00 or D21H 21/00.

**Guards for preventing a person's foot being trapped in grooved rails**

**Material constitution of bridges**

- Concrete, stone or stone-like material
- Concrete
U E01D 2101/26 · · · reinforced
E01D 2101/262 · · · · with steel fibres
E01D 2101/264 · · · · with glass fibres
E01D 2101/266 · · · · with fibres other than steel or glass
E01D 2101/268 · · · · (Composite concrete-metal)
U E01D 2101/28 · · · · prestressed
E01D 2101/285 · · · · (Composite prestressed concrete-metal)

Project: N/A (E01F)

E01F ADDITIONAL WORK, SUCH AS EQUIPPING ROADS OR THE CONSTRUCTION OF PLATFORMS, HELICOPTER LANDING STAGES, SIGNS, SNOW FENCES, OR THE LIKE

WARNING
The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following groups:
E01F 15/10 E01F 15/10 covered by E01F 15/02

Project: N/A (E01H)

E01H STREET CLEANING; CLEANING OF PERMANENT WAYS; CLEANING BEACHES; DISPERSING (or preventing OR PREVENTING) FOG IN GENERAL (Cleaning street or railway furniture or tunnel walls CLEANING STREET OR RAILWAY FURNITURE OR TUNNEL WALLS)(cleaning in general B08B)

Project: N/A (E02F)

E02F DREDGING; SOIL-SHIFTING (winning peat E21C 49/00)

NOTE
This subclass covers :
• primarily equipment for excavating or loosening earth or for moving loose earth;
• equipment for working similarly on other materials and similar equipment for loading or unloading materials

WARNING
The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:
E02F 3/32 E02F 3/32 covered by E02F 3/30,
E02F 3/425
E02F 5/04 E02F 5/04 covered by E21B
E02F 5/06 E02F 5/06 covered by E02F 3/08
E02F 5/08 E02F 5/08 covered by E02F 3/18
E02F 5/16 E02F 5/16 covered by E21B
E02F 5/18 E02F 5/18 covered by E21B
E02F 5/20 E02F 5/20 covered by E21B
Project: N/A (E03F)

U E03F 1/00 Methods, systems, or installations for draining-off sewage or storm water

   E03F 1/001 · {into a body of water}
   U E03F 1/002 · {with disposal into the ground, e.g. via dry wells}
   E03F 1/003 · · {via underground elangated vaulted elements}
   E03F 1/005 · · {via box-shaped elements}

Project: N/A (E04F)

E04F FINISHING WORK ON BUILDINGS, e.g. STAIRS, FLOORS (windows, doors E06B)

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

- E04F 11/09 covers E04F 11/02
- E04F 11/17 covers E04F 11/16

Project: N/A (E04G)

E04G 1/00 - E04G 7/00 Workmen’s Workmen’s or safety scaffolds

U E04G 21/00 Preparing, conveying, or working-up building materials or building elements in situ; Other devices or measures for constructional work (conveying in general B65G; lifting devices B66; working stone-like materials B28D; measuring instruments G01)

U E04G 21/14 · Conveying or assembling building elements (roofing E04D; finishing work E04F)

U E04G 21/16 · · Tools or apparatus (devices for erecting fences E04H 17/26)

U E04G 21/18 · · · Adjusting tools; Templates; {workshop marking tools B25H; for coverings or linings E04F 21/18}

E04G 21/1808 · · · · Holders for bricklayers’ lines, bricklayers’ bars; Sloping braces (cord-line chalkers B44D 3/38)

E04G 21/1833 · · · · · Line-holders for setting-out builders’ work, e.g. foundations

Project: N/A (E04H)

U E04H 1/00 Buildings or groups of buildings for dwelling or office purposes; General lay-out, e.g. modular co-ordination, staggered storeys {small buildings} (E04H 3/00 takes precedence; buildings for two or more purposes, e.g. drive-in buildings E04H 14/00; building construction in general E04B 1/00)

E04H 1/12 · Small buildings or other erections for limited occupation, erected in the open air or arranged in buildings, e.g. kiosks, waiting shelters for bus stops or for filling stations, roofs for railway platforms, watchmen’s huts, dressing cubicles (movable screens as household equipment A47G 5/00)

Project: N/A (E05B)

U E05B 17/00 Accessories in connection with locks (buffers E05F 5/00; means for preventing rattling of wings E05F 7/04; means for taking the weight of the wing E05F 7/06)

E05B 17/0004 · {Lock assembling or manufacturing {making locksmith’s goods of sheet metal B21D 53/38; making locksmith’s goods of sheet metal B21D 53/38; assembling in general B23P 21/00}}
Devices for locking portable objects against unauthorised removal; Miscellaneous locking devices {{motorcycle helmets A42B 3/0413, B62J 11/005; gun racks A47B 81/005; showcases with theft protection A47F 3/002; anti-theft means for peg-boards, grids or rods for hanging merchandise A47F 5/0861; show stands, hangers, shelves with provision against unauthorised removal A47F 7/024; for self-service hand-carts A47F 10/04; locking skis A63C 11/004; locking bolts, nuts or pins F16B 41/00}}

(for office machines, e.g. PC's, portable computers, typewriters, calculators)

Fastening devices specially adapted for two wings

NOTE
If a fastening device merely secures one wing to another wing which is already closed it is not regarded as specially adapted for two wings

for wings which abut when closed {{pillarless vehicle doors E05B 83/38}}

Sliding bolts mounted on or in the edge of a normally closed wing of a double-door or -window

Accessories for sliding or lifting wings, e.g. pulleys, safety catches {{closers or openers for horizontally sliding wings E05F 1/02, E05F 1/08; counterbalance devices for swinging wings} E05F 1/00, E05F 3/00}

{Counterbalance devices}

(with springs)

(with weights)

Bank protection devices {E05G 1/12, E05G 7/00 take precedence; closed circuit television systems H04N 7/18}

{Cashier's counters or receptacles for holding valuables readily accessible for handling, with safeguard mechanisms for the valuables in case of hold-up}
Project: N/A (E06B)

U E06B 3/00 Window sashes, door leaves, or like elements for closing [wall or like] openings; Layout of fixed or moving closures, e.g. windows [in wall or like openings]; Features of rigidly-mounted outer frames relating to the mounting of wing frames (E06B 5/00 takes precedence; shutters or the like E06B 9/00; glass panes C03)

U E06B 3/32 · Arrangements of wings characterised by the manner of movement; Arrangements of movable wings in openings; Features of wings or frames relating solely to the manner of movement of the wing ([fittings or supporting means, separable from the frame, for guiding or controlling the movement of wings, arrangements of wings characterised by particular forms of such means E05D])

U E06B 3/34 · with only one kind of movement (E06B 3/48 takes precedence)

U E06B 3/42 · · Sliding wings; Details of frames with respect to guiding ([E06B 3/2637 and E06B 3/92 take precedence])

U E06B 3/44 · · · Vertically-sliding wings

E06B 3/4423 · · · · {disappearing in a wall pocket}; Pockets therefor}

Project: N/A (E21B)

U E21B 43/00 Methods or apparatus for obtaining oil, gas, water, soluble or meltable materials or a slurry of minerals from wells (applicable only to water E03B; obtaining oil-bearing deposits or soluble or meltable materials by mining techniques E21C 41/00; pumps F04)

E21B 43/25 · Methods for stimulating production (dump bailers E21B 27/02; vibration generating arrangements E21B 28/00); by vibrating earth formations E21B 43/003; chemical compositions therefor C09K 8/60; chemical compositions therefor C09K 8/60)

Project: N/A (E21C)

E21C MINING OR QUARRYING

NOTES
1. This subclass covers methods or apparatus specific to mining or quarrying
2. This subclass does not cover, even though they may be disclosed only for mining or quarrying, drill bits, bore reamers, core taking devices, drilling pipes or rods, handling, racking or connecting arrangements for drilling pipes or rods, counterboring or enlarging drilled holes, flame drilling, or other drilling apparatus, which are covered by subclass E21B

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

<table>
<thead>
<tr>
<th>E21B 3/02</th>
<th>covered by</th>
<th>E21B 3/02</th>
<th>covered by</th>
<th>E21B 3/02</th>
</tr>
</thead>
<tbody>
<tr>
<td>E21B 3/035</td>
<td>&quot;&quot;</td>
<td>E21B 3/035</td>
<td>&quot;&quot;</td>
<td>E21B 3/035</td>
</tr>
<tr>
<td>E21B 3/035</td>
<td>&quot;&quot;</td>
<td>E21B 3/035</td>
<td>&quot;&quot;</td>
<td>E21B 3/035</td>
</tr>
<tr>
<td>E21B 3/03</td>
<td>&quot;&quot;</td>
<td>E21B 3/03</td>
<td>&quot;&quot;</td>
<td>E21B 3/03</td>
</tr>
<tr>
<td>E21B 3/03</td>
<td>&quot;&quot;</td>
<td>E21B 3/03</td>
<td>&quot;&quot;</td>
<td>E21B 3/03</td>
</tr>
<tr>
<td>E21B 6/00</td>
<td>&quot;&quot;</td>
<td>E21B 6/00</td>
<td>&quot;&quot;</td>
<td>E21B 6/00</td>
</tr>
<tr>
<td>E21C3/08 E21C 3/08</td>
<td>&quot;&quot;</td>
<td>&quot;</td>
<td>B25D 9/06, B25D 15/00</td>
<td></td>
</tr>
<tr>
<td>B25D15/00</td>
<td>&quot;&quot;</td>
<td>&quot;</td>
<td>B25D 15/00</td>
<td></td>
</tr>
<tr>
<td>E21C3/10 E21C 3/10</td>
<td>&quot;&quot;</td>
<td>&quot;</td>
<td>B25D 15/00 B25D15/02</td>
<td></td>
</tr>
</tbody>
</table>
### Methods of underground or surface mining (E21C 45/00 takes precedence)

Lay-outs therefor (for peat E21C 49/00)

**WARNING**

Groups E21C 41/14 to E21C 41/16 are no longer used for classification. Documents are reclassified to groups E21C 41/16, E21C 41/26 and E21C 41/32

---

#### U E21C 41/00

Methods of underground or surface mining (E21C 45/00 takes precedence);

Lay-outs therefor (for peat E21C 49/00)

**WARNING**

Groups E21C 41/28 to E21C 41/14 are no longer used for classification. Documents are reclassified to groups E21C 41/16, E21C 41/26 and E21C 41/32

---

#### E21C 41/14

- [for other specified minerals, e.g. gold, mercury, other heavy metals, sulfur, slate; for clay]

---

### Project: N/A (F01D)

#### F01D

**NON-POSITIVE DISPLACEMENT MACHINES OR ENGINES, e.g. STEAM TURBINES (machines or engines for liquids F03; non-positive displacement pumps F04D)**

**NOTES**

1. This subclass covers:
   - non-positive-displacement engines for elastic fluids, e.g. steam turbines;
   - non-positive-displacement engines for liquids and elastic fluids;
   - non-positive-displacement machines for elastic fluids;
• non-positive-displacement machines for liquids and elastic fluids.

2. Attention is drawn to the Notes preceding class F01, especially as regards the definitions of "reaction type", e.g. with airfoil-like blades, and "impulse type", e.g. bucket turbines.

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

- F01D 5/32
- F01D 5/32
  covered by F01D 5/30

Project: N/A (F01K)

U F01K 1/00
Steam accumulators (use of accumulators in steam engine plants F01K 3/00)
- for storing steam in a liquid, e.g. Ruth's type (in alkali to increase steam pressure F22B 1/20)

Project: N/A (F02B)

F02B 49/00
Methods of operating air-compressing compression-ignition engines involving introduction of small quantities of fuel in the form of a fine mist into the air in the engine's intake

Project: N/A (F02D)

U F02D 33/00
Controlling delivery of fuel or combustion-air, not otherwise provided for (using exhaust gas sensors F02D 35/0023, F02D 35/0046)
- (Controlling the feeding of liquid fuel from storage containers to carburettors or fuel-injection apparatus (control of electrical fuel pumps F02D 41/3082; controlling fuel flow to a common rail F02D 41/3845); Failure or leakage prevention; Diagnosis or detection of failure; Arrangement of sensors in the fuel system; Electric wiring; Electrostatic discharge)

U F02D 41/00
Electrical control of supply of combustible mixture or its constituents (F02D 43/00 takes precedence)
- (using means for generating position or synchronisation signals)
- (using means for generating speed signals)

Project: N/A (F02M)

F02M 1/00
Carburettors with means for facilitating engine's starting or its idling below operational temperatures

NOTE
- in this group the following indexing codes are used: F02M 2700/4302

U F02M 35/00
Combustion-air cleaners, air intakes, intake silencers, or induction systems specially adapted for, or arranged on, internal-combustion engines (air cleaners in general B01D)

U F02M 35/02
- Air cleaners
U F02M 35/04
- specially arranged with respect to engine, {to intake system or specially adapted to vehicle}; Mounting thereon; {Combinations with other devices (combined with silencers F02M 35/14)}
F02M 35/06
- combined or associated with engine's cooling blower or fan, or with flywheel
CPC - 2015.10

Project: N/A (F04B)

U F04B 47/00 Pumps or pumping installation specially adapted for raising fluids from great depths, e.g. well pumps (by using positive or negative pressurised fluid medium acting directly on the liquid to be pumped [F04F 1/00])

U F04B 47/14 · Counterbalancing

F04B 47/145 · · [with fluid means]

Project: N/A (F05B)

U F05B 2270/00 Control

U F05B 2270/10 · Purpose of the control system

U F05B 2270/1066 · to produce clean exhaust gases

F05B 2270/1062 · · with as little NOx's as possible

U F05B 2270/50 · Control logic embodiment by

F05B 2270/504 · · electronic means, e.g. electronic tubes, transistors or IC's within an electronic circuit

Project: N/A (F05D)

U F05D 2270/00 Control

U F05D 2270/50 · Control logic embodiments

F05D 2270/54 · · by electronic means, e.g. electronic tubes, transistors or IC's within an electronic circuit

Project: N/A (F16D)

F16D COUPLINGS FOR TRANSMITTING ROTATION; CLUTCHES; BRAKES

NOTE

Attention is drawn to the following places:

A01D 69/08, A01D 69/10 Clutches or brakes of harvesting machines for grass or cereals;
A61C 1/18 Clutches in dental machines for boring or cutting;
B21B 35/14 Drive couplings for metal-rolling mills;
B30B 15/10 Brakes specially adapted for presses;
B30B 15/12 Clutches specially adapted for presses;
B41J 33/52 Braking devices for ribbon-feed devices in selective printing mechanisms;
B60K 17/00 Arrangement or location of clutches in vehicles;
B61H Brakes peculiar to rail vehicles;
B62B 5/04 Braking mechanisms for hand carts;
B62B 9/08 Braking mechanisms for children's carriages or perambulators;
B62C 7/00 Braking mechanisms for animal-drawn vehicles;
B62L Cycle brakes;
B66D 5/00 Braking devices for lifting or hoisting gear;
E21B 17/02 Couplings for drilling rods;
H02P 3/04 Brakes for electric motors, generators, dynamo-electric converters;
H04L 13/04  Clutches for apparatus for transmission of coded digital information.

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:
- 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 3/00 Yielding couplings, i.e. with means permitting movement between the connected parts during the drive (couplings disconnectable simply by axial movement F16D 1/10; slip couplings F16D 7/00)

U  F16D 3/16 Universal joints in which flexibility is produced by means of pivots or sliding or rolling connecting parts

F16D 3/26 · · Hooke’s joints or other joints with an equivalent intermediate member to which each coupling part is pivotally or slidably connected (F16D 3/18, F16D 3/20 take precedence)

U  F16D 23/00 Details of mechanically-actuated clutches not specific for one distinct type

U  F16D 23/02 · Arrangements for synchronisation, also for power-operated clutches (shape or mounting of interengaging parts of clutch members to facilitate engagement F16D 11/08)

F16D 23/025 · · {Synchro rings}

U  F16D 65/00 Parts or details (similar members for clutches F16D 13/58)

U  F16D 65/02 · Braking members; Mounting thereof (friction linings or attachment thereof F16D 69/00)

F16D 2065/024 · · {the braking surface being inclined with respect to the rotor’s axis of rotation at an angle other than 90 degrees, e.g. comprising a conical rotor}

U  F16D 2121/00 Type of actuator operation force

F16D 2121/005 · · {unspecified force for releasing a normally applied brake}

U  F16D 2125/00 Components of actuators

U  F16D 2125/02 · Fluid-pressure mechanisms

F16D 2125/023 · · {Pumps}

F16D 2125/026 · · {Pressure-to-pressure converters, e.g. hydropneumatic}

U  F16D 2125/18 · Mechanical mechanisms

U  F16D 2125/20 · · converting rotation to linear movement or vice-versa

U  F16D 2125/34 · · acting in the direction of the axis of rotation

U  F16D 2125/40 · · · · Screw-and-nut

F16D 2125/405 · · · · · {with differential thread}

U  F16D 2125/44 · · · transmitting rotation

U  F16D 2125/56 · · · Shafts for transmitting torque directly

F16D 2125/565 · · · · {flexible}

U  F16D 2125/58 · · · transmitting linear movement

F16D 2125/582 · · · · {Flexible element, e.g. spring, other than the main force generating element}

F16D 2125/585 · · · · {arranged in parallel with a force-applying member}

F16D 2125/587 · · · · {Articulation e.g. ball-socket}
U F16D 2125/64 · · · Levers
F16D 2125/645 · · · {with variable leverage, e.g. movable fulcrum}

U F16D 2127/00 Auxiliary mechanisms
F16D 2127/001 · {for automatic or self-acting brake operation}
F16D 2127/002 · · {speed-responsive}
F16D 2127/004 · · {direction-responsive}
F16D 2127/005 · · {force- or torque-responsive}
F16D 2127/007 · {for non-linear operation}
F16D 2127/008 · {Trigger mechanisms}
U F16D 2127/08 · Self-amplifying or de-amplifying mechanisms
F16D 2127/085 · {having additional fluid pressure elements}

U F16D 2129/00 Type of operation source for auxiliary mechanisms
U F16D 2129/04 · Mechanical
F16D 2129/043 · · {Weights}
F16D 2129/046 · · {Flywheels}
U F16D 2129/06 · Electric or magnetic
F16D 2129/065 · · {Permanent magnets}

Project: N/A (F16F)

U F16F 15/00 Suppression of vibrations in systems {{damping of non-rotary systems using inertia effect F16F 7/10; prevention or isolation of vibrations in machine tools B23Q 11/0032; suppression of driveline vibrations in hybrid vehicle transmissions B60W 30/20} ; vehicle seat suspension devices B60N 2/50; {methods or devices for protecting against, or damping of, acoustic waves, e.g. sound G10K 11/16}); Means or arrangements for avoiding or reducing out-of-balance forces, e.g. due to motion {{vibration absorbing or balancing means for aircraft propellers B64C 11/008, for rotorcraft rotors B64C 27/001} ; testing static and dynamic balance of machines or structures G01M 1/00)

U F16F 15/02 · Suppression of vibrations of non-rotating, e.g. reciprocating systems; Suppression of vibrations of rotating systems by use of members not moving with the rotating systems {{F16F 15/005 takes precedence} ; layered products B32B; suppression of vibration in ships B63; {relieving load on bearings, using magnetic means F16C 39/06))

U F16F 15/04 · · using elastic means (single elements or their attachment F16F 1/00 to F16F 13/00); {{F16F 15/023, F16F 15/03 take precedence}}

F16F 15/08 · · with rubber springs {{grommet- or bushing-type resilient mountings F16F 1/3732, F16F 1/38}; with springs made of rubber and metal (arrangement of internal-combustion or jet-propulsion units B60K 5/12; mounting of propulsion plants on vessels B63H 21/30; mounting of vehicle drivers’ cabs B62D 33/0604)}

U F16F 15/10 · Suppression of vibrations in rotating systems by making use of members moving with the system (by balancing F16F 15/22; {yielding couplings F16D 3/00}; with flywheels acting variably or intermittently F16H; {construction providing resilience or vibration-damping for gear elements F16H 55/14})

U F16F 15/12 · · using elastic members or friction-damping members, e.g. between a rotating shaft and a gyratory mass mounted thereon {{F16F 15/14} , F16F 15/16 take precedence}

U F16F 15/131 · · · the rotating system comprising two or more gyratory masses
characterised by friction-damping means {'\(F16F\ 15/1328\) takes precedence}

(characterised by arrangements for axially clamping or positioning or otherwise influencing the frictional plates)

PISTONS {{specially adapted for dampers \(F16F\ 9/32\)};} CYLINDERS; SEALINGS

NOTE
Attention is drawn to the following places:

A47J 27/08  Pressure cookers
E04B 1/68  Sealing building joints
E05C 9/00  Multi-point fastening of wings in general
F01B 31/28  Machines or engines in general or of reciprocating type, e.g. cylinders peculiar to steam engines
F02F 1/00  Cylinders for combustion engines
F02F 3/00  Pistons for combustion engines
F04D 29/08  Sealings of non-positive displacement pumps
F17B 1/04  Sealing devices for sliding parts of gas holders of variable capacity
F28F 9/04  Arrangements for sealing elements into header boxes or end plates of heat-exchangers.

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

F16J 15/53  covered by F16J 15/43

VALVES; TAPS; COCKS; ACTUATING-FLOATS; DEVICES FOR VENTING OR AERATING {{devices for emptying and evacuating the excess liquid in valves or conduits \(F16L\ 55/07\)}}

NOTE
Attention is drawn to the following places:

A47J 27/09  Safety devices for pressure cookers
A47J 31/46  Dispensing spouts, drain valves or like beverage-making apparatus
A61B 5/0235  Valves specially adapted for measuring pressure in heart or blood vessels
A61F 2/24  Heart valves
A61M 16/20  Valves specially adapted for medical respiratory devices
A61M 39/00  Tube connectors, tube couplings, valves or branch units specially adapted for medical use in general
A62B 9/02  Valves for respiratory apparatus
A62B 18/10  Valves for breathing masks or helmets
A62C  Fire extinguishers
{B01D 35/04  Plug, tap, or cock filters}
B05B  Nozzles, spray heads or other discharge apparatus for spraying or atomising
B60C 29/00  Arrangements of tyre-inflating valves relative to tyres or wheel rims; Connection
of valves to wheel rims, tyres or other inflatable elastic bodies
B60G 17/048 Valves specially adapted for adjusting vehicle fluid-spring characteristics
B60T Valves specially adapted for vehicle brake control systems
B62D 5/08 Vehicle power-assisted steering characterised by the type of valve used
B63B 7/00, B63C 9/00 Arrangement of inflating valves for floatable life-saving equipment
B65D 47/04 Container closures with discharging valves
B65D 90/32 Safety valves for large containers
B65D 90/54 Gates or closures on large containers
B67C 3/28 Flow control devices for bottling liquids
B67D Dispensing, delivering or transferring liquids
{C21B 9/12 Hot-blast valves for blast furnaces }
E02B 8/00 Details, e.g. valves, of barrages or weirs
E02B 13/02 Closures for irrigation conduits
{E03C 1/04 Water-basin installations specially adapted for wash-basins or baths }
{E03C 1/05 Arrangements on wash-basins for the remote control of taps }
E03D Flushing valves for water-closets or urinals
{E03F 7/04 Valves for preventing return flow in sewer systems }
E05F 3/12 Valve arrangements in door closers
E21B 21/10 Valve arrangements in drilling-fluid circulation systems
E21B 34/00 Valve arrangements for boreholes or wells
{E21D 15/51 Arrangement of relief valves in hydraulic mine props }
F01B 25/10 Working-fluid valves for controlling machines or engines in general or of positive-displacement type
F01D 17/10 Final actuators for controlling non-positive displacement machines or engines
F01L Cyclically operated valves for machines or engines
F02D 9/08 Throttle valves for controlling combustion engines
F02K 9/58 Propellant feed valves for rocket-engines
F02M Carburettors, fuel injection
F02M 59/46 Valves for fuel injection pumps
F04 Pumps
F16F 9/34 Valves for shock absorbers
F16L 29/00, F16L 37/28 Pipe joints or quick-acting couplings with fluid cut-off means
F16L 55/00 Arrangement of valves in pipes
F16L 55/055 Valves specially adapted to prevent or minimise the effect of water hammer
F16L 55/46 Launching devices for pigs or moles
F16N 23/00  Check valves for lubrication systems
(F16T Draining-off liquids from steam traps)
F17C 13/04  Arrangement of valves in pressure vessels
F22B 37/44  Arrangement of safety valves on steam boilers
F22D 5/34  Application of valves to automatic water-feed in boiler
F23L 13/00  Valves for air supply control to burners
{F23Q 2/16  Valves for lighters with gaseous fuel and adjustable flame }
F24C 3/12, F24C 5/16  Arrangement of valves on stoves or ranges
F24F  Air conditioning; Ventilation
F25B 41/04  Disposition of fluid circulation valves in refrigeration machines
G05D  Controlling non-electric variables
G10B 9/06  Valves for organs
G10D 9/04  Valves for other wind-actuated musical instruments
{G21C 9/06  Safety valves structurally associated with nuclear reactors }
{H01M 2/12  Vent plugs in batteries or cells }

WARNING
The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:
F16K 31/11  covered by  F16K 31/06,  F16K 31/08,
F16K 31/10
F16K 31/64  " "  G05D
F16K 31/66  " "  F16K 31/06;  H01F
F16K 31/68  " "  G05D
F16K 31/70  " "  F16K 31/002
F16K 31/72  " "  F16K 31/00

Project: N/A (F16L)

F16L

PIPES; JOINTS OR FITTINGS FOR PIPES; SUPPORTS FOR PIPES, CABLES OR PROTECTIVE TUBING; MEANS FOR THERMAL INSULATION IN GENERAL

NOTES
1. In this subclass, the following terms are used with the meanings indicated:
   • "pipe" means a conduit of closed cross-section, which is specially adapted to convey fluids, materials or objects;
   • "hose" means a pipe, as defined above, which has flexibility as an essential characteristic.
2. Attention is drawn to the following places:
   A61M 39/00  Tube connectors, tube couplings or branch units, specially adapted for medical use
   B05B 1/20  Perforated pipes
   {B60T 17/04  Arrangement of piping or air hoses in brake systems)
   B63B 35/03  Pipe-laying vessels
   B64D 39/04  Adaptation of hose constructions for refuelling aircraft during flight
(B65G 51/00) Conveying articles through pipes or tubes by fluid flow or pressure
(B65G 53/00) Conveying materials in bulk through pipes or tubes
B67D 7/38 Arrangements of hoses in apparatus for transferring liquids, e.g., fuel, from bulk to vehicles or portable containers
E01D 19/10 Fastening of pipes or cables to bridges
E03D 11/17 Means for connecting water-closet bowls to the flushing pipe
E03D 11/18 Siphons for water-closets
E03F 3/04 Down pipes for roof drainage; Clamping means therefor
E04F 17/00 Vertical ducts, channels in buildings, e.g. chimneys
E21F 1/04 Air ducts for ventilation of mines or tunnels; Connections therefor
E21F 17/02 Suspension devices for tubes or the like in mines or tunnels
E01N Gas flow silencers or exhaust apparatus for machines or engines
(F16L 3/2053) Connections of rods or tubes
F16N 21/00 Conduits, junctions for lubrication systems
F17C 3/02 Thermal insulation of vessels not under pressure for storing liquefied or solidified gases, e.g. Dewar flask
(F17D) Pipe-line systems, pipe-lines
F22B 37/10 Water tubes of steam boilers
F23J 13/04 Joints, connections for chimneys or flues
F24H 9/12 Connecting circulation pipes to heaters
F28F 9/04 Arrangements for sealing elements into header boxes or end plates of heat-exchangers
G21C 15/22 Structural association of coolant tubes with headers or other pipes in nuclear reactors
H02G 3/04 Protective tubing or conduits for electric cables
H02G 3/26 Installations of electric cables or lines, or protective tubing on or in walls, ceilings or floors.

WARNING

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

F16L 59/02 covered by F16L 59/05

U F16L 9/00 Rigid pipes {(steam boiler tubes F22B 37/10)}
U F16L 9/18
  · Double-walled pipes; Multi-channel pipes or pipe assemblies (joints therefor F16L 39/00)
F16L 9/20
  · (Pipe assemblies)
Joints with packing adapted to sealing by fluid pressure (for universal joints with partly spherical engaging surfaces F16L 27/067; joints allowing adjustment or movement only about the axis of one pipe F16L 27/08; joints comprising a flexible connection only F16L 27/10; joints allowing substantial longitudinal adjustment or movement F16L 27/12; for hoses F16L 33/16; couplings of the quick acting type F16L 37/00; compensating devices F16L 51/00; sealings tightened by external pressure, inflatable packings F16J 15/00)

· with sealing rings arranged between outer surface of pipe and inner surface of sleeve or socket
· · having annular axial lips
· · · {the sealing rings having only one lip}

Portable lighting devices with built-in batteries or accumulators, not covered by group F21L 4/00 or F21L 7/00, e.g. miners’ hand-lamps

Reflectors for light sources (characterised by cooling arrangements F21V 29/505)

· Optical design (F21V 7/22 takes precedence)
· · {with conical or pyramidal surface}
· · {with cylindrical surface}
· · {with spherical surface}
· · {with involute curvature}
· · {with facets structure}

Producing particular characteristics or distribution of the light emitted by means of a combination of elements specified in two or more of main groups F21V 1/00 F21V 11/00 (by means of a combination of two or more elements covered by a single one of main groups F21V 1/00 F21V 11/00, see the relevant group; changing the characteristics or distribution of the light emitted by adjustment of parts F21V 14/00)

Use or application of lighting devices or systems for decorative purposes
· {Candle holders for birthday or anniversary cakes}
· {mounted on the exterior of houses or other buildings to illuminate parts thereof}
· {for illumination or simulation of snowy or iced items, e.g. icicle}
· {for simulation of a starry sky or firmament}

Uses or applications of lighting devices or systems not provided for in codes F21W 2101/00 to F21W 2121/00
· Outdoor lighting
· · {of working places, building sites or the like}
· Lighting for domestic or personal use
· · {for books, i.e. reading lights attachable to books}
Project: N/A (F23C)

U F23C 5/00 Disposition of burners with respect to the combustion chamber or to one another; Mounting of burners in combustion apparatus (F23C 1/00, F23C 15/00 take precedence)

U F23C 5/08 · Disposition of burners
F23C 5/10 · (to obtain a flame ring)
F23C 5/12 · (for pulverulent fuel)

Project: N/A (F23N)

U F23N 2029/00 Flame sensors
F23N 2029/22 · the sensor's sensivity being variable

Project: N/A (F23Q)

U F23Q 2/00 Ignition (devices or installations peculiar to internal-combustion engines F02P; of cigarettes or tobacco A24F; compositions therefor, chemical igniters C06C); ExtinguishingextinguishingequipmentDEVICES

U F23Q 2/20 Lighters containing fuel, e.g. for cigarettes
F23Q 2/32 · Lighters characterised by being combined with other objects (combinations with smokers' equipment A24F combinations with smokers' equipment A24F)

Project: N/A (F25J)

U F25J Liquefaction, solidification or separation of gases or gaseous (or liquefied gaseous or liquefied gaseous) mixtures by pressure and cold treatment (or by bringing them into the supercritical state or by bringing them into the supercritical state (cryogenic pumps F04B 37/08; gas storage vessels, gas holders F17; filling vessels with, or discharging from vessels, compressed, liquefied or solidified gases F17C; refrigeration machines, plants, or systems F25B))

Project: N/A (F41G)

U F41G 1/00 Sighting devices (for indirect laying of fire F41G 3/16; bombsights F41G 3/24; {structurally associated with laser telemeters F41G 3/065; mounting tubular or beam shaped aiming devices on firearms F41G 11/001})

U F41G 1/38 · Telescopic sights specially adapted for smallarms or ordnance (telescopic sights in general G02B); Supports or mountings therefor
U F41G 1/393 · Mounting telescopic sights on ordnance; Transmission of sight movements to the associated gun
F41G 1/3935 · (Transmission of sight movements to the associated gun)

U F41G 3/00 Aiming means; Laying means (sighting-devices F41G 1/00; {mounting tubular or beam shaped aiming devices on firearms F41G 11/001; determining direction, distance or velocity by use of radio or other waves G01S; computer G06; aerials H01Q})

U F41G 3/26 · Teaching or practice apparatus for gun-aiming or gun-laying (shooting games A63F 9/02; light- or radiation-emitting guns F41A 33/02; targets therefor F41J; responders, transponders for radar, sonar, lidar G01S 13/767, G01S 15/74, G01S 17/74))
U F41G 3/2616 · (using a light emitting device)
U F41G 3/2622 · (for simulating the firing of a gun or the trajectory of a projectile)
· · · (Displaying the trajectory or the impact point of a simulated projectile in the gunner’s sight)

Arming-means in fuzes; Safety means for preventing premature detonation of fuzes or charges

{Combination-type safety mechanisms i.e. two or more safeties are moved in a predetermined sequence to each other}

Measuring arrangements characterised by the use of electric or magnetic means

· for measuring deformation in a solid, e.g. by resistance strain gauge

· {using change in resistance}

· {formed by printed-circuit technique}

· {using change in capacitance}

Measuring arrangements characterised by the use of optical means

(instruments of the types covered by group G01B 9/00 per se G01B 9/00)

· for measuring the deformation in a solid, e.g. optical strain gauge

· {using photoelastic elements}

· {using brittle lacquer}

Measuring height; Measuring distances transverse to line of sight; Levelling between separated points; Surveyors’ levels (G01C 3/20, G01C 3/30 take precedence; tracing profiles G01C 7/00; levels indicating inclination at a single point G01C 9/00)

surveying instruments or accessories not provided for in groups G01C 1/00 to G01C 13/00

· Means for marking measuring points

· Surveyors’ staffs; Movable markers

Compasses; Devices for ascertaining true or magnetic north for navigation or surveying purposes (using gyroscopic effect G01C 19/00; for geophysical or prospecting purposes G01V 3/00)

· Magnetic compasses
with north-seeking magnetic elements, e.g. needles
Comparing observed direction with north indication by sighting means, e.g. for surveyors’ compasses
by reference marks, e.g. for ships’ compasses

Gyrosopes; Turn-sensitive devices using vibrating masses; Turn-sensitive devices without moving masses; Measuring angular rate using gyroscopic effects

Rotary gyroscopes

for indicating a direction in the horizontal plane, e.g. directional gyroscopes
by reference marks, e.g. for ships’ compasses

Photometry, e.g. photographic exposure meter (spectrophotometry specially adapted for radiation pyrometry (exposure meters built in cameras ))
using electric radiation detectors (optical or mechanical part by comparison with a reference light or electric value )
{for testing lamps or other light sources}

{for testing }{LED’s}

Measuring temperature based upon physical or chemical changes not covered by groups or or
using measurements of density (measuring density in general )

Investigating or analysing materials by the use of optical means, i.e. using infra-red, visible or ultra-violet light ( take precedence)

NOTE
This group does not cover the investigation of spectral properties of light per se, or measurements of the properties of materials where spectral properties of light are sensed and primary emphasis is placed on creating, detecting or analysing the spectrum providing that the properties of the materials to be investigated are of minor importance (see also Note (4) after the title of class ). Those subjects are covered by group .

Systems specially adapted for particular applications
Investigating the presence of flaws or contamination
characterised by the material or shape of the object to be examined ( to take precedence)
Inspecting patterns on the surface of objects (contactless testing of electronic circuits testing currency (manufacturing processes per se of semiconductor devices implementing a measuring step ))
{for PCB’s}

Investigating or analysing materials by specific methods not covered by the preceding groups
biological material, e.g. blood, urine (G01N 33/02 to G01N 33/14, G01N 33/26, G01N 33/44, G01N 33/46) take precedence; determining the germinating capacity of seeds A01C 1/02; Haemocytometers (counting blood corpuscles distributed over a surface by scanning the surface G06M 11/02)

Chemical analysis of biological material, e.g. blood, urine; Testing involving biospecific ligand binding methods; Immunological testing (measuring or testing processes involving enzymes or micro-organisms, compositions or test papers therefor; processes for forming such compositions, condition responsive control in microbiological or enzymological processes C12Q)

NOTES
1. The expression "involving", when used in relation to a material includes the testing for the material as well as employing the material as a determinant or reactant in a test for a different material.
2. In groups G01N 33/52 to G01N 33/96, in the absence of an indication to the contrary, an invention is also classified in the last appropriate place.
3. Documents relating to new peptides 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, if the investigating or analysing aspects are of interest, the documents are classified in this group

involving proteins, peptides or amino acids (involving lipoproteins G01N 33/92))

{related to diseases not provided for elsewhere)

{Neurological disorders, e.g. Alzheimer's disease)

Features of devices classified in G01N 21/00

Illumination; Optics

Sources

Multisources for homogeneisation, as well sequential as simultaneous operation

the sources being LED's

LED's

Use of several LED's for spatial resolution

Use of several LED's for spectral resolution

Assays involving biological materials from specific organisms or of a specific nature

NOTE
In groups G01N 2333/47 to G01N 2333/994 indexing codes are assigned according to the chemical nature of the materials irrespective of the source organism.

from viruses

DNA viruses

Herpetoviridae, e.g. pseudorabies virus

Marek's disease virus

from animals; from humans

from vertebrates

from reptiles

Snake venom
**NOTE**
Enzymes are generally categorised below according to the "Nomenclature and Classification of Enzymes" of the International Commission on Enzymes. Where appropriate, this designation appears in the groups below in parenthesis.

G01N 2333/902 · · · · · · · Oxidoreductases (1.)
G01N 2333/90245 · · · acting on paired donors with incorporation of molecular oxygen (1.14)
G01N 2333/90258 · · · · · · · with a reduced iron-sulfur protein as one donor (1.14.15) in general
G01N 2333/90261 · · · · · · · with a definite EC number (1.14.15.-)
G01N 2333/90267 · · · · · · · · · · (Cholesterol monooxygenase (cytochrome P 450scc)(1.14.15.6)

Project: N/A (G01R)

G01R 1/00 Details of instruments or arrangements of the types included in groups G01R 5/00 to G01R 13/00 and G01R 31/00 (constructional details particular to (electromechanical) arrangements for measuring the electric consumption G01R 11/02)

G01R 1/02 · · · General constructional details (details of a kind applicable to measuring arrangements not specially adapted for a specific variable G01D 7/00)

G01R 1/04 · · · Housings; Supporting members; Arrangements of terminals ("burn-in" aspects G01R 31/286; terminals H01R; terminal strips or boards H02B; housings for electrical apparatus H05K)

G01R 1/0408 · · · · (Test fixtures or contact fields; Connectors or connecting adaptors; Test clips; Test sockets (G01R 1/067 takes precedence; mass production testing systems G01R 31/01; testing of connections G01R 31/04; for testing printed circuit boards G01R 31/2808))

G01R 1/0425 · · · · · (Test clips, e.g. for IC's)

G01R 1/0433 · · · · · (Sockets for IC's or transistors)

G01R 1/0475 · · · · · · · (for TAB IC's)

G01R 1/0483 · · · · · · · · · (Sockets for un-leaded IC's having matrix type contact fields, e.g. BGA or PGA devices; Sockets for unpackaged, naked chips (for IC's with connecting points around the edges only G01R 1/0433 for IC's with connecting points around the edges only G01R 1/0433))

G01R 1/073 · · · · · · · · · · · (Multiple probes (G01R 1/06783, G01R 1/06794, G01R 1/071, G01R 1/072 take precedence))

G01R 1/07307 · · · · · · · · (with individual probe elements, e.g. needles, cantilever beams or bump contacts, fixed in relation to each other, e.g. bed of nails fixture or probe card)

G01R 1/07314 · · · · · (the body of the probe being perpendicular to test object, e.g. bed of nails or probe with bump contacts on a rigid support (on an elastic support, e.g. a film, G01R 1/0735))

G01R 1/07328 · · · · · · · (for testing printed circuit boards)
G01R 1/07335  · · · · · · · (for double-sided contacting or for testing boards with surface-mounted devices (SMD`s))

G01R 1/18  · · Screening arrangements against electric or magnetic fields, e.g. against earth`s field ((measuring shielding efficiency H05K 9/0069))

U G01R 13/00  Arrangements for displaying electric variables or waveforms (display by mechanical displacement only G01R 5/00, G01R 7/00, G01R 9/00; recording frequency spectrum G01R 23/18)

G01R 13/02  · · for displaying measured electric variables in digital form ((using LCD`s or LED`s G01R 13/40); counters G06M; analogue/digital conversion in general H03M 1/00)

G01R 13/20  · · Cathode-ray oscilloscopes; {Oscilloscopes using other screens than CRT`s CRT`s, e.g. LCD`s LCD`s; (control arrangements or circuits for cathode-ray tube indicators G09G 1/00; cathode ray tubes H01J 31/00)}

U G01R 13/02  Arrangements for displaying electric variables or waveforms (display by mechanical displacement only G01R 5/00, G01R 7/00, G01R 9/00; recording frequency spectrum G01R 23/18)

G01R 13/02  · · for displaying measured electric variables in digital form ((using LCD`s or LED`s G01R 13/40); counters G06M; analogue/digital conversion in general H03M 1/00)

G01R 13/20  · · Cathode-ray oscilloscopes; {Oscilloscopes using other screens than CRT`s CRT`s, e.g. LCD`s LCD`s; (control arrangements or circuits for cathode-ray tube indicators G09G 1/00; cathode ray tubes H01J 31/00)}

U G01R 19/00  Arrangements for measuring currents or voltages or for indicating presence or sign thereof (G01R 5/00 takes precedence; {voltage measurements using secondary electron emission when testing electronic circuits G01R 31/305} ; for measuring bio-electric currents or voltages A61B 5/04)

NOTE
Within groups G01R 19/02 to G01R 19/28, group G01R 19/26 takes precedence. Groups G01R 19/18 to G01R 19/257 take precedence over groups G01R 19/02 to G01R 19/17 and G01R 19/30.

U G01R 19/165  · · Indicating that current or voltage is either above or below a predetermined value or within or outside a predetermined range of values (circuits with regenerative action, e.g. Schmitt trigger H03K 3/00; threshold switches H03K 17/00)

U G01R 19/16504  · · {characterised by the components employed (contains no documents)}

G01R 19/16519  · · {using FET`s FET`s}

U G01R 19/25  · · using digital measurement techniques (arrangements for displaying measured electric variables in digital form G01R 13/02 (Analogue/digital conversion H03M))

G01R 19/2503  · · {for measuring voltage only, e.g. digital volt meters (DVM`s DVM`s) (G01R 19/2506 to G01R 19/257 take precedence)}

G01R 19/2516  · · {Modular arrangements for computer based systems; using personal computers (PC`s PC`s), e.g. "virtual instruments")

U G01R 31/00  Arrangements for testing electric properties; Arrangements for locating electric faults; Arrangements for electrical testing characterised by what is being tested not provided for elsewhere (measuring leads, measuring probes G01R 1/06; {measuring superconductive properties G01R 33/1238} ; indicating electrical condition of switchgear or protective devices H01H 71/04, H01H 73/12, H02B 11/10, H02H 3/04; testing or measuring semiconductors or solid state devices during manufacture H01L 22/00; testing substation equipment, e.g. mobile phones H04M 1/24; testing or monitoring of control systems G05B 23/02; (testing or monitoring transmitters or receivers H04B 17/00))

U G01R 31/02  · · Testing of electric apparatus, lines or components, for short-circuits, discontinuities, leakage [of current], or incorrect line connection ((G01R 31/001, G01R 31/005, G01R 31/01, G01R 31/08, G01R 31/12, G01R 31/24, G01R 31/26, G01R 31/28, G01R 31/327, G01R 31/34, G01R 31/36, G01R 31/40, G01R 31/44 take precedence; measuring electromagnetic field leakage G01R 29/0821; testing of sparking plugs H01T 13/58))
Testing connections, e.g. of plugs, of non-disconnectable joints

(G01R 31/31717 takes precedence; testing of connections in integrated circuits, chip-to-lead connections, bond wires G01R 31/2853)

· · (if connections between components and printed circuit boards (PCB’s) G01R 31/043 takes precedence)

Locating faults in cables, transmission lines, or networks (emergency protective circuit arrangements H02H (installing, maintaining, repairing or dismantling electric cables or lines H02G 1/00; testing LAN’s H04L 12/2697; testing LAN’s H04L 12/2697))

Testing of individual semiconductor devices (testing or measuring during manufacture or treatment H01L 22/00; testing of photovoltaic devices H02S 50/10)

· (Circuits therefor (G01R 31/2642 takes precedence))

· · (for testing field effect transistors, i.e. FET’s)

Testing of electronic circuits, e.g. by signal tracer (EMC, EMP or similar testing of electronic circuits G01R 31/002; testing for short-circuits, discontinuities, leakage or incorrect line connection G01R 31/02; checking computers or computer components G06F 11/00; checking static stores for correct operation G11C 29/00; testing receivers or transmitters of transmission systems H04B 17/00)

Testing of electronic circuits specially adapted for particular applications not provided for elsewhere (G01R 31/2801 and G01R 31/2851 take precedence))

NOTE

References listed below indicate CPC places which could also be of interest when carrying out a search in respect of the subject matter covered by the preceding group:

· testing of individual LEDs G01R 31/2635
· testing of lamps G01R 31/44
· testing of displays and display drivers, e.g. LCDs G09G 3/006
· testing of ADCs or DACs H03M 1/1071

(in household appliances or professional audio/video equipment (testing loudspeakers H04R 29/00, testing LAN’s LAN’s H04L 12/2697; testing TV systems H04N 17/00))

Testing of combined analog and digital circuits (testing ADC’s H03M 1/1071; testing ADC’s H03M 1/1071)

· · · · · Test of Modular systems, e.g. Wafers, MCM’s
· · · · · Test of Sequential circuits (test of microprocessors G06F 11/2236, test of ALU’s ALU’s G06F 11/2226)

Testing of digital circuits

WARNING

The following subgroups of G01R 31/317 are not complete due to an ongoing reorganisation: G01R 31/31702, G01R 31/31708, G01R 31/31711, G01R 31/31717, G01R 31/31718, G01R 31/31728, G01R 31/31901. See also G01R 31/317 and its other subgroups

Functional testing (G01R 31/3177 takes precedence)

· · · · · Reconfiguring for testing, e.g. LSSD, partitioning

· · · · · · · Test of Modular systems, e.g. Wafers, MCM’s
· · · · · · · Test of Sequential circuits (test of microprocessors G06F 11/2236, test of ALU’s ALU’s G06F 11/2226)

Arrangements or instruments for measuring magnetic variables

· · [using bistable elements, e.g. Reed switches]
G01R 33/02  · Measuring direction or magnitude of magnetic fields or magnetic flux (G01R 33/20 takes precedence; measuring direction or magnitude of the earth’s field for navigation or surveying G01C; for prospecting, for measuring the magnetic field of the earth G01V 3/00).

NOTE
Groups G01R 33/022, G01R 33/10 take precedence over groups G01R 33/025 to G01R 33/09.

U G01R 33/20  · involving magnetic resonance (medical aspects A61B 5/055; magnetic resonance gyrometers G01C 19/00 (investigating materials using NMR G01N 24/00; prospecting or detecting using NMR G01V 3/00))

U G01R 33/44  · · using nuclear magnetic resonance [NMR] (G01R 33/24, G01R 33/62 take precedence)

WARNING
Groups G01R33/44B - G01R 33/443 are not complete pending reclassification. See also this group.

U G01R 33/48  · · NMR imaging systems

U G01R 33/54  · · · Signal processing systems, e.g. using pulse sequences, (Generation or control of pulse sequences (in general H03K); Operator Console)

U G01R 33/56  · · · · Image enhancement or correction, e.g. subtraction or averaging techniques, (e.g. improvement of signal-to-noise ratio and resolution (image data processing in general G06T))

U G01R 33/563  · · · · · of moving material, e.g. flow contrast angiography

U G01R 33/56308  · · · · · · {Characterization of motion or flow; Dynamic imaging}

G01R 33/56325  · · · · · · · {Cine imaging}

Project: N/A (G01V)

G01V  · GEOPHYSICS; GRAVITATIONAL MEASUREMENTS; DETECTING MASSES OR OBJECTS (detecting or locating foreign bodies for diagnostic, surgical or person-identification purposes A61B; means for indicating the location of accidentally buried, e.g. snow-buried persons A63B 29/02; investigating or analysing earth materials by determining their chemical or physical properties G01N; measuring electric or magnetic variables in general, other than direction or magnitude of the earth’s field G01R; electronic or nuclear magnetic resonance arrangements G01R 33/20; radar, sonar or analogous methods in general, detecting masses or objects involving these methods G01S)

NOTES
1. In this subclass, the geophysical methods apply both to the earth and to other celestial objects, e.g. planets.
2. Attention is drawn to the Notes following the title of class G01.

WARNING
The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:
G01V 3/11 covered by G01V 3/101, G01V 3/104

Project: N/A (G02B)

U G02B 1/00  · Optical elements characterised by the material of which they are made (compositions of optical glasses C03C 3/00; cements for glass C03C 27/00)

U G02B 1/10  · Optical coatings produced by application to, or surface treatment of, optical elements (G02B 1/08 takes precedence)
WARNING

Group **G02B 1/105** is no longer used for the classification of documents as of January 15, 2015. The backfile of this group is being reclassified into groups **G02B 1/14**, **G02B 1/16** - **G02B 1/18**.

Until reclassification is complete, groups **G02B 1/105** and **G02B 1/14** - **G02B 1/18** should be considered in order to perform a complete search.

**U G02B 5/00**

- Optical elements other than lenses (light guides **G02B 6/00**; optical logic elements **G02F 3/00**)

**U G02B 5/30**

- Polarising elements (light-modulating devices **G02F 1/00**)

**U G02B 5/3025**

- (Polarisers, i.e. arrangements capable of producing a definite output polarisation state from an unpolarised input state (**G02B 5/3008**, **G02B 5/3016** take precedence))

**G02B 5/3066**

- (involving the reflection of light at a particular angle of incidence, e.g. Brewster’s angle)

**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 27/22**

- for producing stereoscopic or other three dimensional effects (in microscopes **G02B 21/22**; viewing apparatus **G02B 27/02**; stereoscopic television **H04N 13/00**)

**G02B 27/2228**

- (Stereoscopes or similar systems based on providing first and second images situated at first and second locations, said images corresponding to parallactically displaced views of the same object, and presenting the first and second images to an observer’s left and right eyes respectively (**G02B 27/2207**, **G02B 27/2264**, **G02B 27/26** take precedence))

**Project: N/A (G03B)**

**U G03B 33/00**

- Colour photography, other than mere exposure or projection of a colour film (printing apparatus **G03B 27/00**; stereoscopic colour photography **G03B 35/00**)

**G03B 33/10**

- Simultaneous recording or projection (**G03B 33/02**, **G03B 33/04** **G03B 33/06** take precedence)

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

**U G03F 1/00**

- Originals for photomechanical production of textured or patterned surfaces, e.g., masks, photo-masks, reticles; Mask blanks or pellicles therefor; Containers specially adapted therefor; Preparation thereof

**NOTE**

In this main group, at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place

**WARNING**

Groups **G03F 1/0007-G03F 1/16** are no longer used for the classification of documents as of January 1, 2012. The backfile of these groups is being reclassified into groups **G03F 1/20-G03F 1/92** as follows: **G03F 1/0007-G03F 1/0092** and **G03F 1/08-G03F 1/16** into groups **G03F 1/20-G03F 1/86**; **G03F 1/02** into **G03F 1/88**; **G03F 1/04** into **G03F 1/90**.
G03F 1/06 into G03F 1/92. Until reclassification is complete, groups G03F 1/0007-G03F 1/16 and G03F 1/20-G03F 1/92 should be considered in order to perform a complete search.

G03F 1/02  ·  {by photographic processes for production of originals simulating relief}
G03F 1/04  ·  {by montage processes}
G03F 1/10  ·  {by exposing and washing out pigmented or coloured organic layers; by colouring macromolecular patterns}
G03F 1/12  ·  {by exposing silver-halide-containing photosensitive materials or diazo-type materials}
G03F 1/14  ·  {Originals characterised by structural details, e.g. supports, cover layers, pellicle rings}
G03F 1/16  ·  {Originals having apertures, e.g. for corpuscular lithography}

WARNING

Groups G03F 1/20-G03F 1/92 are incomplete pending reclassification of documents from groups G03F 1/0007-G03F 1/16. Until reclassification is complete, groups G03F 1/0007-G03F 1/16 and G03F 1/20-G03F 1/92 should be considered in order to perform a complete search.

U G03F 7/00  Photomechanical, e.g. photolithographic, production of textured or patterned surfaces, e.g. printing surfaces; Materials therefor, e.g. comprising photosensitive materials; 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 7/004  ·  Photosensitive materials (G03F 7/12, G03F 7/14 take precedence)
U G03F 7/022  ·  ·  Quinonediazides (G03F 7/075 takes precedence)
G03F 7/0223  ·  ·  ·  {Iminoquinonediazides; Para-quinonediazides}

Project: N/A (G03G)

U G03G 2215/00  Apparatus for electrophotographic processes (not used)
U G03G 2215/00172  ·  relative to the original handling
U G03G 2215/00177  ·  ·  for scanning
U G03G 2215/00181  ·  ·  ·  concerning the original's state of motion (not used)
U G03G 2215/20  ·  Details of the fixing device or process

NOTE

Indexing codes of group G03G 2215/20 can be followed by additional symbols preceded by a “+” sign and relating to additional characteristics. The indexing codes have the meaning as indicated below.

+H Using heat to fix
+P Using pressure to fix
+P1 where the pressure is changed
+P1A being adapted to the current toner-carrying medium treated (e.g. duplex copy, colour copy, OHP sheet, envelope)
+P1B compensating for temperature or other technical condition variations (e.g. sheet skewing) occurring
+P1C when being in a non-fixing or waiting mode
+P1M for maintenance purpose or abnormal situations
(e.g. power cut-off)

U G03G 2215/207 · · Type of toner image to be fixed (not used)
U G03G 2215/2074 · · colour
G03G 2215/2077 · · · · Fixing between separate colour toner transfers]

Project: N/A (G04B)

U G04B 19/00 Indicating the time by visual means ({indicating the time optically by electric means G04C 17/00, e.g.} by electric lamps G04C 17/02; display arrangements in general G09F)
U G04B 19/06 · Dials ({moving discs G04B 19/20; illuminated dials or hands G04B 19/30;} for time-pieces without clockwork G04B 49/04; (machines and arrangements for the manufacture of dials or hands G04D 3/0048))
U G04B 19/10 · · Ornamental shape of the graduations or the surface of the dial; Attachment of the graduations to the dial {{cases for special purposes, e.g. ring or button watches G04B 37/12; indicating means with special effects G04B 45/00})
G04B 19/106 · · · {Special number markings]

Project: N/A (G04C)

U G04C 9/00 Electrically-actuated devices for setting the time-indicating means (of slave clocks G04C 13/03; mechanical setting devices G04B 27/00; radio-controlled time-pieces G04R)
G04C 9/02 · {brought into action by radio transmission]

WARNING
This group is no longer used for the classification of new documents as from September 1, 2012 The backlog of this group is being continuously reclassified to subgroups of G04R

Project: N/A (G04D)

U G04D 1/00 Gripping, holding, or supporting devices {{stands in general F16M; for instruments G01D 11/30, B01L})
G04D 1/04 · Tools for setting springs]
G04D 3/00 Watchmakers' or watch-repairers' machines or tools for working materials {{metal working in general class B23})

Project: N/A (G04G)

U G04G 7/00 Synchronisation (radio-controlled time-pieces G04R)
G04G 7/02 · {by radio]

WARNING
This group and subgroups are no longer used for the classification of new documents as from September 1, 2012. The backlog of this group and subgroups are being continuously reclassified to subgroups of G04R
Programme-control systems (specific applications see the relevant places, e.g. A47L 15/46; clocks with attached or built-in means operating any device at a preselected time interval G04C 23/00; marking or sensing record carriers with digital information G06K; information storage G11; time or time-programme switches which automatically terminate their operation after the programme is completed H01H 43/00)

Programme control other than numerical control, i.e. in sequence controllers or logic controllers (G05B 19/418 takes precedence; numerical control G05B 19/18)

Programmable logic controllers, e.g. simulating logic interconnections of signals according to ladder diagrams or function charts

Total factory control, i.e. centrally controlling a plurality of machines, e.g. direct or distributed numerical control [DNC], flexible manufacturing systems [FMS], integrated manufacturing systems [IMS], computer integrated manufacturing [CIM]

(characterised by the transport system)

(AGV's G05D 1/00)

SYSTEMS FOR CONTROLLING OR REGULATING NON-ELECTRIC VARIABLES (for continuous casting of metals B22D 11/16; valves per se F16K; sensing non-electric variables, see the relevant subclasses of G01; for regulating electric or magnetic variables G05F)

NOTES
1. This subclass does not cover features of general applicability to regulating systems, e.g. anti-hunting arrangements, which are covered by subclass G05B.

2. In this subclass, the following term is used with the meaning indicated:
   - "systems" includes self-contained devices such as speed governors, pressure regulators.

3. Control systems specially adapted for particular apparatus, machines or processes are classified in the subclasses for the apparatus, machines or processes, provided that there is specific provision for control or regulation relevant to the special adaptation, either at a detailed level, (e.g. A21B 1/40: "for regulating temperature in bakers' ovens") or at a general level, (e.g. B23K 9/095: "for automatic control of welding parameters in arc welding"). Otherwise, classification is made in the most appropriate place in this subclass. The following are lists of places where there is specific provision of the kind referred to above. Where such provision is at a detailed level, the places have been grouped according to the main groups of this subclass. Where the provision is at a general level (e.g. of a kind appropriate to more than one of the main groups specified in the lists, or to main groups G05D 27/00 or G05D 29/00), the places are listed under the title "General References". Places related to G05D 1/00

A01B 69/00 Agricultural machines or implements
A63H 17/36 Toy vehicles
B60V 1/11 Air-cushion vehicles
B62D 1/00 Steering controls of motor vehicles or trailers, i.e. means for initiating a change of direction
Arrangements for automatically controlling the steering depending on driving conditions

Chassis of endless-tracked vehicles

Marine steering; control of waterborne vessels

to Controlling aircraft

Controlling attitude or direction of aircraft ejector seats

Cosmonautic vehicles

Self-propelled missiles

Guided missiles

Marine torpedoes

Places related to

Footwear manufacture

Tool carriers in forging or pressing

Pattern-controlled boring or drilling tools

Planing or slotting machines controlled by copying device

Electrode to workpiece spacing in electric discharge and electrochemical machining

Workpiece in laser welding or cutting

Workpiece in welding

Molten metal in welding

Spindles in machine tools

Tool or work position in machine tools

Tools controlled by pattern or master model

Grinding controlled by patterns, drawings, magnetic tape or the like

Starting position in grinding

Actuating members in presses

Chassis of tracked vehicles

Web-advancing mechanisms

Dippers or buckets in dredgers

Fluid-pressure servomotors with follow-up action

Tracking of solar heat collectors

Photomechanical production of patterned or textured surfaces

Rotating heads in information storage systems

Movement of control elements in nuclear reactors

Places related to

Tobacco cutting

Thickness of coating of fluent material on surface

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
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D03D 51/16</td>
<td>Cyclically varying speed of looms</td>
</tr>
<tr>
<td>G01N 30/32</td>
<td>Speed of fluid carrier in chemical analysis</td>
</tr>
<tr>
<td>G11B 15/46</td>
<td>Filamentary or web record carriers or heads for such carriers in information storage systems</td>
</tr>
<tr>
<td>G11B 19/28</td>
<td>Non-filamentary, non-web record carriers, or heads for such carriers in information storage systems</td>
</tr>
<tr>
<td>G05D 15/00</td>
<td>Places related to</td>
</tr>
<tr>
<td>B25D 9/26</td>
<td>Portable percussive tools</td>
</tr>
<tr>
<td>B30B 15/22</td>
<td>Ram pressure in presses</td>
</tr>
<tr>
<td>B65H 59/00</td>
<td>Tension in filamentary material</td>
</tr>
<tr>
<td>(B65H 23/00, B65H 59/00)</td>
<td>Tension in webs, tapes, filamentary material</td>
</tr>
<tr>
<td>B66D 1/50</td>
<td>Rope, cable or chain tension</td>
</tr>
<tr>
<td>D03D 49/04</td>
<td>Tension in looms</td>
</tr>
<tr>
<td>D05B 47/04</td>
<td>Tension in sewing machines</td>
</tr>
<tr>
<td>D21F 3/06</td>
<td>Pressure in paper-making machines</td>
</tr>
<tr>
<td>F26B 13/12</td>
<td>Drying fabrics</td>
</tr>
<tr>
<td>F26B 21/10</td>
<td>Pressure in dryers</td>
</tr>
<tr>
<td>G11B 15/43</td>
<td>Record carrier tension in information storage arrangements</td>
</tr>
<tr>
<td>B60C 23/00</td>
<td>Tyre pressure</td>
</tr>
<tr>
<td>B63C 11/08</td>
<td>Air within diving suit</td>
</tr>
<tr>
<td>B64D 13/00</td>
<td>Aircraft air-pressure</td>
</tr>
<tr>
<td>B65G 53/66</td>
<td>Bulk material conveyers</td>
</tr>
<tr>
<td>D01D 1/09</td>
<td>Manufacture of artificial filaments, threads, fibres, bristles or ribbons</td>
</tr>
<tr>
<td>E21B 21/08</td>
<td>Flushing boreholes</td>
</tr>
<tr>
<td>F01M 1/16</td>
<td>Lubrication arrangements</td>
</tr>
<tr>
<td>G01N 30/32</td>
<td>Pressure of fluid carrier in chemical analysis</td>
</tr>
<tr>
<td>H01J 7/14</td>
<td>Pressure in electric discharge tubes or lamps</td>
</tr>
<tr>
<td>H01K 1/52</td>
<td>Pressure in electric incandescent lamps</td>
</tr>
<tr>
<td>B25D 9/26</td>
<td>Portable percussion tools</td>
</tr>
<tr>
<td>B65G 27/32</td>
<td>Jigging conveyers</td>
</tr>
<tr>
<td>B01D 21/32</td>
<td>Density in sedimentation arrangements</td>
</tr>
<tr>
<td>B01D 53/30</td>
<td>Treating gases or vapours</td>
</tr>
<tr>
<td>G01N 30/34</td>
<td>Composition of fluid carrier in chemical analysis</td>
</tr>
<tr>
<td>A01G 25/16</td>
<td>Watering gardens, fields, sports grounds or the like</td>
</tr>
<tr>
<td>A01K 41/04</td>
<td>Poultry incubators</td>
</tr>
<tr>
<td>A24B 9/00</td>
<td>Tobacco products</td>
</tr>
<tr>
<td>F24B 11/00</td>
<td>Air conditioning</td>
</tr>
<tr>
<td>F26B 21/08</td>
<td>Dryers</td>
</tr>
<tr>
<td>G05D 23/00</td>
<td>Places related to</td>
</tr>
</tbody>
</table>
U  G05G 5/00

Means for preventing, limiting or returning the movements of parts of a control mechanism, e.g. locking controlling member (G05G 17/00 takes precedence)

G05G 5/03

- Means for enhancing the operator's awareness of arrival of the controlling member at a command or datum position; Providing feel, e.g. means for creating a counterforce (arrangements for indicating the position of the controlling member G05G 1/015)
NOTE
Attention is drawn to the notes (particularly the definition of the term "variable") on page [G3] of the Int.Cl. In this class:

- The term "data" is understood to be synonymous with "information", and the term "information" is therefore not used in G06C;
- The terms "calculating" and "computing" are both understood to include, inter alia, operations on numerical values and on data expressed in numerical form; of these words "computing" is used throughout the class. "Computation" is derived from this interpretation of "computing". In the French language the word "calcul" will serve for either word;
- In those subclasses which include simulators:
  - a simulator in G06 is concerned with the mathematics of computing the existing or anticipated conditions within the real device or system;
  - Control functions derived from simulators are not in G06 but are generally in G05, although they may be in the subclass for the device controlled;
  - measurement of an individual variable to serve as an input to a simulator is in G01 [21E; 42; 119]
  - a simulator is regarded as a teaching or training device proper to G09 if the simulator gives perceptible sensations having a likeness to the sensations the student would experience in reality in response to actions taken by him. Simulators which demonstrate, by means involving computing, the functioning of apparatus or of a system are in G06, if no provision exists elsewhere. Components of simulators, if identical with real devices or machines, are classified in the relevant subclass for these devices or machines and not in G06 or G09;
  - a simulator may use the same time scale as the real device or operate on an expanded or compressed time scale;
  - models of real devices to reduced or expanded scales are not regarded as simulators
- The term "record carrier" is understood to mean a body, such as a cylinder, disc, card, tape or wire, capable of permanently holding information, which can be read-off by a sensing element movable relative to the recorded information.

Project: N/A (G06F)

Methods or arrangements for data conversion without changing the order or content of the data handled (by coding or decoding H03M)

- for changing the speed of data flow, i.e. speed regularising (or timing, e.g. delay lines, FIFO buffers; over- or underrun control therefor; (G06F 7/78 takes precedence))
- (Partitioned buffers, e.g. allowing multiple independent queues, bidirectional FIFO's)
U G06F 11/00 Error detection; Error correction; Monitoring (methods or arrangements for verifying the correctness of marking on a record carrier G06K 5/00; in information storage based on relative movement between record carrier and transducer G11B, e.g. G11B 20/18; in static stores G11C; coding, decoding or code conversion, for error detection or error correction, in general H03M 13/00)

NOTE In this group the indexing codes of G06F 1/00 to G06F 15/00 are added

U G06F 11/07 · responding to the occurrence of a fault, e.g. fault tolerance
U G06F 11/08 · · Error detection or correction by redundancy in data representation, e.g. by using checking codes
G06F 11/10 · · · Adding special bits or symbols to the coded information, e.g. parity check, casting out 9's or 11's
U G06F 11/30 · Monitoring
U G06F 11/32 · · with visual (or acoustical) indication of the functioning of the machine
U G06F 11/324 · · · {Display of status information}
G06F 11/325 · · · · {by lamps or LED's}

U G06F 17/00 Digital computing or data processing equipment or methods, specially adapted for specific functions
G06F 17/60 · {Administrative, commercial, managerial, supervisory or forecasting purposes (electronic cash registers other than digital data processing aspects thereof G07G 1/12)}

WARNING This group is no longer used for the classification of new documents as from January 1, 2006. The backlog of this group is being continuously reclassified to the relevant groups of G06Q

U G06F 2207/00 Indexing scheme relating to methods or arrangements for processing data by operating upon the order or content of the data handled
U G06F 2207/38 · Indexing scheme relating to groups G06F 7/38 - G06F 7/575
U G06F 2207/3804 · · Details (not used)
U G06F 2207/3808 · · · concerning the type of numbers or the way they are handled
U G06F 2207/3832 · · · · Less usual number representations
G06F 2207/3836 · · · · One's complement

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))

NOTES
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 9/20 · Image acquisition
U G06K 9/32 · · Aligning or centering of the image pick-up or image-field
U G06K 9/3233 · · · {Determination of region of interest (segmentation for general image processing G06T 7/0079)}
G06K 9/3241 · · · · {Recognising objects as potential recognition candidates based on visual cues, e.g. shape}

Project: N/A (G07D)

G07D HANDLING OF COINS OR OF PAPER CURRENCY OR SIMILAR VALUABLE PAPERS, e.g. TESTING, SORTING BY DENOMINATIONS, COUNTING, DISPENSING, CHANGING OR DEPOSITING

NOTES
1. In this subclass, the following terms or expressions are used with the meaning indicated:
   • "coins" also covers tokens of similar nature;
   • "paper currency or similar valuable papers" covers banknotes, bills, cheques, vouchers, securities, bonds or the like.

2. This subclass covers handling of "coins" or "paper currency" insofar as they carry distinctive value features representative of money or the like.

Informative references:
   • sorting in general B07C
   • handling paper sheets in general B65H
   • counting by weighing G01G
   • counting of objects in general, i.e. without discriminating of denominations, G06M

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

G07D 13/00 G07D 13/00 covered by G07D 11/00 and subgroup.

Project: N/A (G07F)

U G07F 7/00 Mechanisms actuated by objects other than coins to free or to actuate vending, hiring, coin or paper currency dispensing or refunding apparatus
   {handling coins or paper currencies apart from coin-freed or like apparatus G07D; complete banking systems G07F 19/00)}

U G07F 7/08 · by coded identity card or credit card (or other personal identification means (without personal verification means G07F 7/02))
U G07F 7/10 · · together with a coded signal {e.g. in the form of personal identification information, like personal identification number [PIN] or biometric data}
U G07F 7/1025 · · · {Identification of user by a PIN code}
Complete banking systems: Coded card-freed arrangements adapted for dispensing or receiving monies or the like and posting such transactions to existing accounts, e.g. automatic teller machines (data processing equipment for bank accounting G06Q 40/02; (mechanisms in general actuated by objects other than coins G07F 7/00; handling coins or paper currencies apart from payment activated apparatus G07D))

WARNING
Groups G07F 19/20 - G07F 19/211 do not correspond to former or future IPC groups. Concordance CPC : IPC for these groups is as follows: - G07F 19/20 - G07F 19/211 : G07F 19/00

Electrically-operated educational appliances (working with questions and answers G09B 7/00; simulators G09B 9/00; advertising or displaying in general G09F)

NOTE
Group G09B 5/08 takes precedence over groups G09B 5/02 to G09B 5/06.

Electrically-operated educational appliances (working with questions and answers G09B 7/00; simulators G09B 9/00; advertising or displaying in general G09F)

Simulators for teaching or training purposes (for the use of weapons F41; computing aspects G06; (protocols for networked simulations H04L 29/0634))

NOTE
Group G09B 9/08 takes precedence over groups G09B 9/02 to G09B 9/06.

Simulators for teaching or training purposes (for the use of weapons F41; computing aspects G06; (protocols for networked simulations H04L 29/0634))

NOTE
Group G09B 9/08 takes precedence over groups G09B 9/02 to G09B 9/06.

Advertising on or in specific articles, e.g. ashtrays, letter-boxes (on or in vehicles G09F 21/00; containers, packaging-elements, or packages, with auxiliary means or provisions for displaying articles B65D)

Advertising on or in specific articles, e.g. ashtrays, letter-boxes (on or in vehicles G09F 21/00; containers, packaging-elements, or packages, with auxiliary means or provisions for displaying articles B65D)

NOTE
Group G09F 23/10 takes precedence over groups G09F 23/02 to G09F 23/06.

Advertising on or in specific articles, e.g. ashtrays, letter-boxes (on or in vehicles G09F 21/00; containers, packaging-elements, or packages, with auxiliary means or provisions for displaying articles B65D)
ARRANGEMENTS OR CIRCUITS FOR CONTROL OF INDICATING DEVICES USING STATIC MEANS TO PRESENT VARIABLE INFORMATION (lighting in general F21; arrangements for displaying electric variables or waveforms G01R 3/00; devices or arrangements for the control of light beams G02F 1/00; indicating of time by visual means G04B 19/00, G04C 17/00, G04G 9/00; arrangements for transferring data between computers and peripheral equipment G06F 3/00; visible signalling arrangements or devices G08B 5/00; traffic control systems G08G; display, advertising, signs G09F, e.g. static indicating arrangements comprising an association of a number of separate sources or light control cells G09F 9/00; static indicating arrangements comprising integral associations of a number of light sources H01J, H01K, H01L, H05B 33/12; circuits in pulse counters for indicating the result H03K 21/18; coding, decoding or code conversion, in general H03M; reproducing a picture or pattern using electric signals representing parts thereof and produced by scanning an original H04N)

NOTES
1. This subclass covers indicator consoles, i.e. arrangements or circuits for processing control signals to achieve the display, e.g. for the calling up, reception, storage, regeneration, coding, decoding, addressing of control signals.
2. This subclass does not cover the structural details of the indicating devices, such as panels or tubes per se, or assemblies of individual light sources, which are covered by the relevant subclasses, e.g. H01J, H01K, H01L, G02F, G09F, H05B.
3. Contrary to subclass H04N, in which are classified display devices capable of representing continuous brightness value scales, this subclass is limited to devices using only a discrete number of brightness values, e.g. visible/non-visible.
4. The visual effect may be produced by a luminescent screen scanned by an electron beam, directly by controlled light sources, by projection of light, from controlled light sources onto characters, symbols, or elements thereof drawn on a support, or by electric, magnetic, or acoustic control of the parameters of light rays from an independent source.

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

G09G 5/32 G09G 5/32 covered by G09G 5/42
G09G 5/37 G09G 5/37 covered by G09G 5/39
G09G 5/373 G09G 5/373 covered by G09G 5/39
G09G 5/38 G09G 5/38 covered by G09G 5/42

Details of electrophonic musical instruments (keyboards applicable also to other musical instruments G10B, G10C; arrangements for producing a reverberation or echo sound G10K 15/08)

- Accompaniment arrangements
- (Recording/reproducing of accompaniment for use with an external source, e.g. karaoke systems)
- (with means for modifying or correcting the external signal, e.g. pitch correction, reverberation, changing a singer's voice)
INFORMATION STORAGE BASED ON RELATIVE MOVEMENT BETWEEN RECORD CARRIER AND TRANSDUCER ([producing carriers of sound records for needle playback B29C 39/00] ; recording measured values in a way that does not require playback through a transducer G01D; photosensitive materials or processes for photographic purposes G03C; electrography, electrophotography, magnetography G03G; recording or playback apparatus using mechanically marked tape, e.g. punched paper tape, or using unit records, e.g. punched or magnetically marked cards, G06K; transferring data from one type of record carrier to another G06K 1/18; printing of data from record carriers G06K 3/00; arrangements for producing a permanent visual presentation of the output data G06K 15/00; arrangements or circuits for control of indicating devices using static means to present variable information G09G; coding, decoding or code conversion, in general H03M; circuits for coupling output of reproducer to radio receiver H04B 1/20; circuits {or arrangements} specially adapted for {pictorial or} television signal recording { H04N 1/21, H04N 5/76, H04N 9/79; loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers or circuits therefor H04R)

NOTES

1. This subclass covers:
   • recording or playback of information by relative movement between a record track and a transducer, the transducer directly producing, or being directly actuated by, modulation in the track being recorded or played-back, and the extent of modulation corresponding to the signal being recorded or played-back;
   • apparatus and machines for recording or playback, and parts thereof such as heads;
   • record carriers for use with such apparatus and machines;
   • associated working of other apparatus with such apparatus and machines;
   • {relative positioning or movement of transducers and record carriers before, during or after transducing operation, e.g. for accessing record carriers or parts thereof, or for track change, selection or acquisition or for track following or for accessing parts of tracks;}
   • {driving or moving of heads or record carriers or both heads and record carriers for increasing, maintaining or decreasing the relative speed before, during or after transducing operation}

2. In this subclass, the following terms or expressions are used with the meanings indicated:
   • "head" includes any means for converting sinusoidal or non-sinusoidal electric wave-forms into variations of the physical condition of at least the adjacent surface of the record carrier, or vice versa;
   • "record carrier" means a body, such as a cylinder, disc, card, tape, or wire, capable of permanently holding information, which can be read-off by a sensing element movable relatively to the record carrier.

3. Documents concerning relative positioning or movement of transducers and record carriers are classified in groups G11B 3/00 to G11B 7/00 and G11B 21/00 when only the transducer is controlled and in groups G11B 15/00, G11B 17/00 and G11B 19/00 when only the record carrier is controlled. When both record carrier and head are controlled, the documents are classified in G11B 15/1808, G11B 15/1816, G11B 19/00 and G11B 27/002. When a plurality of record carriers are controlled, the documents are classified in G11B 15/68, G11B 17/08, G11B 17/22 and G11B 27/002.

4. By "access" is meant an operation including a relative movement for positioning between record carrier and head before, during or after transducing; this operation including "seek", "select", "change", "acquire" and "follow"
functions for at least a part of a track on at least one record carrier. By "programmed access" is meant a sequence of access operations the result of the sequence being to acquire a wanted sequence of parts of tracks or a wanted sequence of tracks. Relative movement between head and record carrier also covers the movement of a coupling beam such as a light beam between the head and a stationary record carrier.

5. "Movement of the head" also covers any virtual movement or any physical movement such as obtained by switching between successive transducing parts of the head or by moving the transducing zone of the head, i.e. by "scanning". If different transducing parts of the head are switchable, the number of transducing parts should be much smaller than the number of individual storage areas of the record carrier.

6. Attention is drawn to the notes of subclass G11C.

WARNING

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

G11B 5/65 covered by G11B 5/64 to G11B 5/66
G11B 5/66 covered by G11B 5/66
G11B 5/67 covered by G11B 5/66
G11B 7/16 covered by G11B 7/135
G11B 7/18 covered by G11B 7/135
G11B 7/30 covered by G11B 7/00
G11B 9/12 covered by G11B 9/14
G11B 11/24 covered by G11B 11/26
G11B 11/28 covered by G11B 11/00
G11B 13/08 covered by G11B 13/00

U G11B 3/00 Recording by mechanical cutting, deforming or pressing, e.g. of grooves or pits; Reproducing by mechanical sensing; Record carriers therefor (G11B 11/00, G11B 13/00) take precedence; (recording by cutting or deforming using laser beam G11B 7/00, using electron beam G11B 9/10))

U G11B 3/02 · Arrangements of heads (styli G11B 3/44)

U G11B 3/10 · · Arranging, supporting, or driving of heads or of transducers relatively to record carriers ([guiding record carriers G11B 17/00, driving record carriers G11B 19/00])

G11B 3/12 · · · Supporting in balanced, counterbalanced or loaded operative position (during transducing), e.g. loading in direction of traverse]

U G11B 19/00 Driving, starting, stopping record carriers not specifically of filamentary or web form, or of supports therefor; Control thereof; Control of operating function (guiding such record carriers G11B 17/00); (Driving both disc and head)

U G11B 19/02 · Control of operating function, e.g. switching from recording to reproducing

U G11B 19/022 · · {Control panels}

G11B 19/025 · · · {Virtual} control panels, e.g. Graphical User Interface [GUI]

Project: N/A (G11C)

U G11C 16/00 Erasable programmable read-only memories (G11C 14/00 takes precedence)

U G11C 16/02 · electrically programmable ([programmable multibit digital storage elements G11C 11/5621])
using variable threshold transistors, e.g. FAMOS

(comprising cells containing floating gate transistors (G11C 16/0483, G11C 16/0491 take precedence))

{comprising cells containing a merged floating gate and select transistor]

Electrolytic capacitors, rectifiers, detectors, switching devices, light-sensitive or temperature-sensitive devices; Processes of their manufacture

Details

Terminals

{specially adapted for double-layer capacitors}

Electrolytes, absorbents (electrolytic or electrophoretic processes, apparatus therefor C25; for primary, secondary or fuel cells H01M)

{Electrolytes specially adapted for double-layer capacitors}

Electrodes {or formation of dielectric layers thereon}

{specially adapted for double-layer capacitors}

{for post-acceleration or post-deflection, e.g. for colour switching}

Electron lens mosaics, e.g. fly's eye lenses, colour selection lenses}
Discharge tubes with provision for introducing objects or material to be exposed to the discharge, e.g. for the purpose of examination or processing thereof (H01J 33/00, H01J 40/00, H01J 41/00, H01J 47/00, H01J 49/00 take precedence; {scanning-probe techniques or apparatus G01Q}; contactless testing of electronic circuits using electron beams G01R 31/305; {particle accelerators H05H})

- Electron-beam or ion-beam tubes for localised treatment of objects
- for changing properties of the objects or for applying thin layers thereon, e.g. for ion implantation (H01J 37/36 takes precedence)
- {Particle-beam lithography, e.g. electron beam lithography}
- {Multi-beam, e.g. fly's eye, comb probe}

Gas-filled discharge tubes (H01J 2211/00 takes precedence)

- Cold-cathode tubes
- Gas discharge switches
- Multiple switches
- for addressing electro-optical devices, i.e. LCD's
- Display panels, e.g. not making use of alternating current (H01J 2211/10 takes precedence)
- Details
- Vessels
- Coatings (H01J 2217/49292 takes precedence)

Details of cathode ray tubes or electron beam tubes (H01J 2329/00 takes precedence)

- Optical components associated with the vessel
- Active components, e.g. LCD's, indicators, illuminators and moving devices

(with lightly doped drain or source extension, e.g. LDD MOSFET's; DDD MOSFET's (for thin film transistors H01L 29/78618))

- with field effect produced by a PN or other rectifying junction gate, i.e. potential-jump barrier
- with a PN junction gate, e.g. PN homojunction gate (H01L 29/7725, H01L 29/775, H01L 29/778, H01L 29/806 take precedence))
- Thin film JFET's
- Thin film MESFET's
Semiconductor devices sensitive to infra-red radiation, light, electromagnetic radiation of shorter wavelength or corpuscular radiation and adapted either for the conversion of the energy of such radiation into electrical energy or for the control of electrical energy by such radiation; Processes or apparatus peculiar to the manufacture or treatment thereof or of parts thereof; Details thereof (H01L 51/42 takes precedence; devices consisting of a plurality of solid state components formed in, or on, a common substrate, other than combinations of radiation-sensitive components with one or more electric light sources, H01L 27/00; production of heat using solar heat F24J 2/00; measurement of X-radiation, gamma radiation, corpuscular radiation or cosmic radiation with semiconductor detectors G01T 1/24, with resistance detectors G01T 1/26; measurement of neutron radiation with semiconductor detectors G01T 3/08; couplings of light guides with optoelectronic elements G02B 6/42; obtaining energy from radioactive sources G21H)

adapted as photovoltaic [PV] conversion devices, e.g. PV modules or single PV cells (testing thereof during manufacture {H01L 22/00}; testing thereof after manufacture H02S 50/10)

Cooling means directly associated or integrated with the PV cell, e.g. integrated Peltier elements for active cooling or heat sinks directly associated with the PV cells (cooling means in combination with the PV module H02S 40/42)

including means to utilise heat energy directly associated with the PV cell, e.g. integrated Seebeck elements)

Electrically-conductive connections between two or more conductive members in direct contact and means for effecting or maintaining such contact (details of disengageable contacts of two-part coupling devices H01R 13/00; two-part coupling devices H01R 12/70, H01R 24/00 - H01R 33/00; flexible or turnable line connectors H01R 35/00; non rotary current collectors H01R 41/00)

Installations of electric cables or lines in or on buildings, equivalent structures or vehicles (installations of bus-bars H02G 5/00; overhead installations H02G 7/00; installations in or on the ground H02G 9/00; channels or vertical ducts for receiving utility lines E04F 17/08; wiring of electric apparatus in general H05K)

Installations of cables, lines, or separate protective tubing therefor directly on or in walls, ceilings, or floors (by means of insulators H02G 3/24; supports for pipes, cables or protective tubing F16L 3/00; hose-clips F16L 33/02)

Installations of cables, lines, or separate protective tubing therefor in conduits or ducts pre-established in walls, ceilings or floors)

Arrangements for regulating or controlling the speed or torque of electric DC motors (starting H02P 1/00; stopping or slowing H02P 3/00; synchronous motors or other dynamo-electric motors with electronic commutators in dependence on the rotor position H02P 6/00; motors rotating step by step H02P 8/00; vector control H02P 21/00)

for regulating or controlling an individual dc dynamo-electric motor by varying field or armature current
Arrangements or methods for the control of AC motors characterised by the kind of AC motor or by structural details (starting H02P 1/00; stopping or slowing H02P 3/00; of two or more motors H02P 5/00; of synchronous motors with electronic commutators H02P 6/00; of DC motors H02P 7/00; of stepping motors H02P 8/00)

NOTE
When classifying in this group, it is desirable to also classify in groups H02P 21/00, H02P 23/00 or H02P 27/00 if the control method or the kind of supply voltage are of interest.

characterised by the kind of motor

Commutator motors, e.g. repulsion motors

Universal motors (H02P 25/12 takes precedence)

{whereby the speed is regulated by measuring the motor speed and comparing it with a given physical value, speed feedback}

Demodulation of amplitude-modulated oscillations (H03D 5/00, H03D 9/00, H03D 11/00 take precedence)

Homodyne or synchrodyne circuits {(receiver circuits H04B 1/30)}

{using FET's (H03D 1/2209, H03D 1/2245 and H03D 1/2281 take precedence)}

Details of amplifiers with only discharge tubes, only semiconductor devices or only unspecified devices as amplifying elements

 Modification of amplifiers to reduce detrimental influences of internal impedances of amplifying elements (wide-band amplifiers with inter-stage coupling networks incorporating these impedances H03F 1/42; eliminating transit-time effects in vacuum tubes H01J 21/34)

{in transistor amplifiers (H03F 1/10 to H03F 1/22 take precedence)}

{with FET's (H03F 1/10 to H03F 1/22 take precedence)}

by use of cascode coupling, i.e. earthed cathode or emitter stage followed by earthed grid or base stage respectively

{with MOSFET's (H03F 1/223 to H03F 1/226 take precedence)}

{with field-effect transistors}

{with MOSFET's (H03F 1/223 to H03F 1/226 take precedence)}

Amplifiers with only discharge tubes or only semiconductor devices as amplifying elements

with semiconductor devices only (subsequent sub-groups take precedence)

controlled by light

{with FET's (H03F 3/082 takes precedence)}

with field-effect devices

{with junction-FET's (H03F 3/165 takes precedence)}

Single-ended push-pull ([SEPP]) amplifiers ([single-ended sense amplifiers G11C 7/067]); Phase-splitters therefor

{with field-effect transistors}

{with MOSFET's (H03F 3/3001 to H03F 2003/3003 take precedence)}
H03F 2003/3005  · · · {with junction-FET`s}
H03F 3/3081  · · · {Duplicated single-ended push-pull arrangements, i.e. bridge circuits (using FET`s H03F 3/3061 using FET`s H03F 3/3081)}
U H03F 3/34  · Dc amplifiers in which all stages are dc-coupled (H03F 3/45 takes precedence)
U H03F 3/343  · · · with semiconductor devices only
U H03F 3/345  · · · with field-effect devices (H03F 3/347 takes precedence)
H03F 3/3455  · · · {with junction-FET`s}
U H03F 3/42  · Amplifiers with two or more amplifying elements having their dc paths in series with the load, the control electrode of each element being excited by at least part of the input signal, e.g. so-called totem-pole amplifiers
H03F 3/423  · · · {with MOSFET`s}
H03F 3/426  · · · {with junction-FET`s}
U H03F 3/60  · Amplifiers in which coupling networks have distributed constants, e.g. with waveguide resonators (H03F 3/54 takes precedence)
H03F 3/601  · · · {using FET`s, e.g. GaAs FET`s (H03F 3/607, H03F 3/608 take precedence)}
  WARNING
  Not complete, see also H03F 3/16
U H03F 3/602  · · {Combinations of several amplifiers}
  WARNING
  Not complete, see also H03F 3/68
H03F 3/604  · · · {using FET`s}
  WARNING
  Not complete, see also H03F 3/16, H03F 3/68
U H03F 3/605  · · {Distributed amplifiers}
  WARNING
  Not complete, see also H03F 1/18
H03F 3/607  · · · {using FET`s}
  WARNING
  Not complete, see also H03F 1/18

Project: N/A (H03H)

U H03H 9/00  Networks comprising electromechanical or electro-acoustic devices; Electromechanical resonators (making single crystals C30B; selection of materials thereof H01L; piezo-electric, electrostrictive or magnetostrictive devices per se H01L 41/00; electromechanical transducers H04R)
U H03H 9/02  · Details
U H03H 9/05  · · Holders; Supports
U H03H 9/10  · · · Mounting in enclosures {(constructional combinations of enclosure with electromechanical and other electronic elements H03H 9/0538)}
U H03H 9/1064  · · · · {for surface acoustic wave [SAW] devices}
  H03H 9/1092  · · · · · {the enclosure being defined by a cover cap mounted on an element forming part of the surface acoustic wave [SAW] device on the side of the IDT`s IDTs}
Details of adjusting, driving, indicating, or mechanical control arrangements for resonant circuits in general (machine elements in general F16; coupling of knobs to shafts F16D)

Indicating arrangements {(indicating correct tuning H03J 3/12)}

with optical indicating means

(Indication of the tuning band, the bandwidth, tone control, the channel number, the frequency, or the like)

(using electronic means, e.g. LED's (display of electronic variables in general G01R 13/00, for discontinuous display G01R 13/404))

Manipulating pulses not covered by one of the other main groups in this subclass (circuits with regenerative action H03K 3/00, H03K 4/00; by the use of non-linear magnetic or dielectric devices H03K 3/45)

NOTE
In this group, the input signals are of the pulse type.

(Delay, i.e. output pulse is delayed after input pulse and pulse length of output pulse is dependent on pulse length of input pulse)

(Layout of the delay element)

(where the conduction path of multiple FET's is in parallel or in series, all having the same gate control)

(where the conduction path of the different output FET's is connected in parallel with different gate control, e.g. having different sizes or thresholds, or coupled through different resistors)

(using circuits having two logic levels)

(using memories or FIFO's)

Transmission through light guides, e.g. optical fibres (H04B 10/25 takes precedence))

This group and its subgroups is no longer used for classification of new documents as from March 1, 2012. If not indicated differently for a particular subgroup, the backlog of its subgroups is being continuously reclassified to H04B 10/25 - H04B 10/2587

(Terminal stations)

This group and its subgroups is no longer used for classification of new documents as from March 1, 2012. The backlog of this group and its subgroups is being continuously reclassified to H04B 10/40 - H04B 10/69

(Transmitting homodyne or heterodyne systems)

(Non-coherent direct-detection systems)

(Transmission between two stations which are mobile relative to each other)
is being continuously reclassified to H04B 10/25 - H04B 10/2587 and H04B 10/70

H04B 10/30
- Transmission systems employing beams of corpuscular radiation (arrangements for handling beams of corpuscular radiation, e.g. focusing, moderating, G21K 1/00)

WARNING
This group is no longer used for classification of new documents as from March 1, 2012. The backlog of this group and its subgroups is being continuously reclassified to H04B 10/80 and H04B 10/90

Project: N/A (H04L)

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 12/2424 (Configuration management of network or network elements (management of devices network applications for proprietary or special purpose network environments H04L 29/08567; automatic configuration in wireless networks H04W 24/02))

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 41/08

H04L 12/2425 (Configuration setting of network or network elements)

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 41/0803

H04L 45/66 Layer 2 routing, e.g. in Ethernet based MAN's

H04L 61/00 Network arrangements or network protocols for addressing or naming

NOTE
This group does not cover:
Aspects relating to switching or routing which are classified in H04L 12/56.
Aspects relating to configuration management of data networks or network elements in general which are classified in H04L 12/2424.
Aspects of addressing in telephony which are classified in H04M 7/00.
Aspects of addressing within devices, e.g. process or memory, which are classified in G06F 13/42 or G06F 12/00.

WARNING
Groups H04L 61/00 - H04L 61/6095 do not correspond to former or current IPC groups.
Concordance CPC : IPC for these groups is as follows:

---

227
**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 H04L 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]

**H04L 67/00**

{Network-specific arrangements or communication protocols supporting networked applications (message switching systems H04L 51/00; network management protocols H04L 41/00; routing or path finding of packets in data switching networks H04L 45/00; protocols for real-time multimedia communication H04L 65/00; information retrieval G06F 17/30; services or facilities specially adapted for wireless communication networks H04W 4/00; network structures or processes for video distribution between server and client or between remote clients H04N 21/00; exchange systems providing special services or facilities to subscribers involving telephonic communications H04M 3/42; distributed information systems G06F 9/00, G06F 17/00; lower layer network functionalities which support application layer provisions H04L 12/00)}

**NOTES**

1. This group covers:

   1. Networking arrangements or communication protocols to support networked applications which occur at the abstract network layers 5 to 7 of the OSI layer model. The higher layers constitute the interface between the network and the computer applications that use the network to communicate.

   2. Network-specific aspects of client-server applications as well as of networking arrangements supporting networked/distributed applications, e.g. data transport, scheduling. This group also covers specific networked application layer protocols, e.g. FTP, WAP, HTTP.

2. This group does not cover:

   1. Distributed applications which are network-agnostic, i.e. distributed information systems for which the network functions are transparent. These field are covered, e.g. by G06F 9/00, G06F 17/00. Data switching network provisions in general and the lower layer network functionalities which support application layer provisions are covered by H04L 12/00 ]

**WARNING**

[Groups H04L 67/00—H04L 67/42 do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: - H04L 67/00—H04L 67/36 : H04L 29/08—H04L 67/38—H04L 67/42 : H04L 29/06 ]
Project: N/A (H04L)

H04L 69/00 {Application independent communication protocol aspects or techniques in packet data networks (interconnection arrangements between CPUs, memories, or peripherals within a single computer G06F 13/00; data switching networks H04L 12/00; flow control H04L 12/56; routing of packets H04L 12/569; network management H04L 12/24; network monitoring or testing H04L 12/26; network topologies, i.e. networks characterized by the path configuration, media access control H04L 12/28; intermediate storage or scheduling H04L 12/5694; packet switches and switching fabrics H04L 12/5696; message switching systems, e.g. email, H04L 12/58; broadcast or multicast H04L 12/18; hybrid switching systems H04L 12/64; gateways H04L 12/66; networks specially adapted for wireless communication H04W; transmission systems H04B)}

WARNING Groups — H04L 69/00 — H04L 69/40 — do not correspond to former or current IPC groups. Concordance CPC :

H04L 69/00 — H04L 69/28 — H04L 29/06 — H04L 69/30 — H04L 69/29 — H04L 29/08 — H04L 69/329 — H04L 29/14 —

Project: N/A (H04M)

U H04M 1/00 Substation equipment, e.g. for use by subscribers; Analogous equipment at exchanges (prepayment telephone coin boxes H04M 17/00; current supply arrangements H04M 19/00; (telephone sets particularly adapted for data transmission H04M 11/066; network interface devices H04Q 1/028))

H04M 1/56 · Arrangements for indicating or recording the called number at the calling subscriber's set

H04M 1/57 · Arrangements for indicating or recording the number of the calling subscriber at the called subscriber's set (at the operator set in a manual exchange H04M 5/20)

U H04M 1/66 · with means for preventing unauthorised or fraudulent calling (verifying user identity or authority in secret or secure digital communications H04L 9/32)

U H04M 1/677 · Preventing the dialling or sending of predetermined telephone numbers or selected types of telephone numbers, e.g. long distance

H04M 1/6775 · · · (by providing access to preprogrammed keys)]

U H04M 3/00 Automatic or semi-automatic exchanges {(constructional details of telephone exchanges H04Q 1/02)}

U H04M 3/02 · Ringing or otherwise calling substations (selective calling H04Q)

H04M 3/06 · · calling signal supplied from subscriber's line circuit

U H04M 3/22 · Supervisory, monitoring, (management, i.e. operation, administration, maintenance) or testing arrangements

U H04M 3/26 · · with means for applying test signals (or for measuring)

U H04M 3/28 · · · Automatic routine testing (; Fault testing; Installation testing; Test methods, test equipment or test arrangements therefor)

H04M 3/30 · · · · · for subscriber's lines (, for the local loop)

H04M 3/301 · · · · (Circuit arrangements at the subscriber's side of the line)

U H04M 3/42 · Systems providing special services or facilities to subscribers

H04M 3/4221 · · (Conversation recording systems (at the subscriber's set H04M 1/656 at the subscriber's set H04M 1/656))

U H04M 3/42314 · · [in private branch exchanges]
H04M 3/42323  · · · {PBX’s with CTI arrangements}
H04M 3/424  · · Arrangements for automatic redialling (at the subscriber’s set H04M 1/27 at the subscriber’s set H04M 1/27)
H04M 3/44  · · Additional connecting arrangements for providing access to frequently-wanted subscribers, e.g. abbreviated dialling (at the subscriber’s set H04M 1/27; at the subscriber’s set H04M 1/27; automatic redialling H04M 3/424)

U H04M 15/00  · · · · · Arrangements for metering, time-control or time indication {; Metering, charging or billing arrangements for voice wireline or wireless communications, e.g. VoIP}
U H04M 15/10  · · · Metering calls from calling party; {, i.e. A-party charged for the communication}
U H04M 15/12  · · · Discriminative metering {, charging or billing}
U H04M 15/18  · · · according to duration of the call {, or the communication}
U H04M 15/20  · · · · · Operator’s time recording or indicating arrangements

U H04M 2215/00  · · · Metering arrangements; Time controlling arrangements; Time indicating arrangements
U H04M 2215/68  · · · · · Billing calls completely to the calling party, except POTS, e.g. charge on caller’s choice service

Project: N/A (H04N)

U H04N 3/00  · · · · · Scanning details of television systems
U H04N 3/10  · · · by means not exclusively optical-mechanical (H04N 3/36 takes precedence; electro-, magneto- or acousto-optical modulation or deflection of light beams G02F 1/00)
U H04N 3/14  · · · by means of electrically scanned solid-state devices (for picture generation H04N 5/35)

WARNING
Constructional details 97DP12C2B

H04N 3/15  · · · · · {for picture signal generation}

WARNING
This group is no longer used for classification of new documents as from December 1st, 2009. The backlog is continuously reclassified into group H04N 5/335 and subgroups]

U H04N 5/00  · · · · · Details of television systems (scanning details or combination thereof with generation of supply voltages H04N 3/00; specially adapted for colour television H04N 9/00; (servers specially adapted for the distribution of content H04N 21/20; client devices specially adapted for the reception of or interaction with content H04N 21/40))

NOTE
Groups H04N 5/341 to H04N 5/378 are based on IPC2012.01

U H04N 5/222  · · · Studio circuitry; Studio devices; Studio equipment; {Cameras comprising an electronic image sensor, e.g. digital cameras, video cameras, TV cameras, video cameras, camcorders, webcams, camera modules for embedding in other devices e.g. mobile phones, computers or vehicles}
U H04N 5/262  · · · Studio circuits, e.g. for mixing, switching-over, change of character of image, other special effect ; {Cameras specially adapted for the electronic generation of special effects}
Means for inserting a foreground image in a background image, i.e. inlay, outlay

Transforming electric information into light information (scanning details H04N 3/00; (electro- or magneto optic devices G02F 1/00; CRT`s H01J))

Television signal recording (diagnosis, testing or measuring for television signal recorders H04N 17/06; recording in connection with measuring G01D; information storage (in which the television signal is not involved, driving, starting, stopping, head switching, editing, indexing) in general G11, e.g. G11B)

Using optical recording (H04N 5/80, H04N 5/89, H04N 5/91 take precedence)

Producing a motion picture film from a television signal (scanning of motion picture films for television signal generation H04N 3/36; television signal generation by scanning a motion picture film H04N 5/253 H04N 9/11; (standard conversion therefor H04N 7/0112))

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)

{Stereoscopic image signal coding, multiplexing, processing, recording or transmission (television signal bandwidth reduction H04N 19/00; image coding for general purpose image data processing G06T 9/00; transformation of the video signal for recording, including multiplexing of another television signal H04N 5/9205; for colour signals, H04N 9/8227; selective content distribution, e.g. interactive television, VOD H04N 21/00; assembling of a multiplex stream, e.g. transport stream, by combining a video stream with other content or additional data, remultiplexing of multiplex streams, insertion of stuffing bits into the multiplex stream, assembling of a packetized elementary stream H04N 21/236; disassembling of a multiplex stream, e.g. demultiplexing audio and video streams or extraction of additional data from a video stream, remultiplexing of multiplex streams, extraction or processing of service information at client side, disassembling of packetized elementary stream H04N 21/434))

{Processing stereoscopic image signals (H04N 19/597, H04N 13/004 take precedence; image processing as such G06T)

{Aspects relating to depth or disparity adjustment}

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).

U H04N 21/63 Control signaling (related to video distribution) between client, server and network components; Network processes for video distribution between server and clients (or between remote clients), e.g. transmitting basic layer and enhancement layers over different transmission paths, setting up a peer-to-peer communication via Internet between remote STB's; Communication protocols; Addressing (signalling, control or architecture for real-time multimedia communications H04L 29/06183; arrangements for peer-to-peer communications H04L 29/08306).

U H04N 21/647 Control signaling between network components and server or clients; Network processes for video distribution between server and clients, e.g. controlling the quality of the video stream, by dropping packets, protecting content from unauthorized alteration within the network, monitoring of network load, bridging between two different networks, e.g. between IP and wireless (signalling, control or architecture for real-time multimedia communications H04L 29/06183).

U H04N 21/646 Control signals issued by the network directed to the server or the client.

U H04N 21/64761 {directed to the server} for requesting retransmission, e.g. of data packets lost or corrupted during transmission from server (ARQ protocols H04L 1/18; Transmission Control Protocol / Internet Protocol [TCP/IP] H04L 29/06095).

Project: N/A (H04Q)

U H04Q 3/00 Selecting arrangements (H04Q 5/00 to H04Q 11/00 take precedence)

U H04Q 3/76 Translation from the called subscriber's number to the outgoing or incoming control information.
Indexing scheme relating to selecting arrangements in general and for multiplex systems

- Exchange termination [ET]
- Instant speaker’s algorithm [ISA]

Electric tinnitus maskers providing an auditory perception (evaluating tinnitus A61B 5/128; devices or methods to cause a change in the state of consciousness A61M 21/00; masking sound in general G10K 11/175-)) [WARNING Not complete pending a reorganization, see also H04R 25/00]

WARNING
Not complete pending a reorganization, see also H04R 25/00

Wireless network protocols or protocol adaptations to wireless operation, e.g. WAP [Wireless Application Protocol]

- Network layer protocols, e.g. mobile IP [Internet Protocol]
  WARNING
  This group is used only for indicating additional information when it is of interest for search

- Involving different protocol versions, e.g. MIPv4 and MIPv6
  WARNING
  This group is used only for indicating additional information when it is of interest for search

Upper layer protocols (network arrangements or communication protocols for networked applications H04L 67/00)

- Involving different upper layer protocol versions, e.g. LCS - SUPL or WSN-SOA-WSDP

Interfaces specially adapted for wireless communication networks

- Interfaces between hierarchically different network devices
- Between access point controllers and backbone network device N0801

Drug, bio-affecting and body treating compositions

- Involving immunoglobulin or antibody fragment, e.g. fab', fv, fc, heavy chain or light chain