

## Compilation of Changes to the CPC Scheme Between 2019.08 and 2020.01

### Presentation Details

- Entries for new symbols and headings: *Black text in italics*
- Entries for existing symbols and headings
- text insertions: *Green text in italics with yellow background*
- text deletions: *Red strikethrough text with grey background*
- Entries for deleted symbols and headings: *Black strikethrough text*
- In cases when the originating project cannot be found, "N/A" is given for the Project information (e.g. the change could be due to an Editorial Correction).
  - Projects ending in "-F" indicate finalisation after reclassification was completed.

### Project: RP0628 (A01J)

- M A01J MANUFACTURE OF DAIRY PRODUCTS (~~preservation, pasteurisation, sterilisation of milk products A23~~; for chemical matters, see subclass A23C)**
- WARNING**
- {In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.}
- U A01J 7/00 Accessories for milking machines or devices**
- M A01J 7/02** • for cleaning or sanitising milking machines or devices (~~cleaning of pipes or tubes or systems of pipes or tubes B08B 9/02~~)
- M A01J 9/00 Milk receptacles (~~containers in general B65D~~; devices for tilting and emptying of containers B65G 65/23)**
- M A01J 11/00 Apparatus for treating milk (~~preserving or sterilising A23C~~ *dairy concentration, evaporation or drying A23C 1/00*; *preservation of milk or milk preparations A23C 3/00*)**
- M A01J 11/02** • Appliances for preventing or destroying foam (preventing boiling-over of milk in kitchen cooking vessels *A47J 27/56*; ~~preventing foaming in boiling apparatus B01B 1/02~~)
- M A01J 11/04** • Appliances for aerating or de-aerating milk (~~milk centrifuges B04B~~)
- M A01J 11/06** • Strainers or filters for milk (~~filtering materials B01D~~)
- M A01J 11/10** • Separating milk from cream (~~milk centrifuges B04B~~)
- M A01J 11/16** • Homogenising milk (~~homogenising in general B01F~~)
- U A01J 15/00 Manufacturing butter**
- U A01J 15/16** • Details; Accessories
- M A01J 15/25** • • Means for removing butter from churns or the like (~~pumps therefor F04~~)
- M A01J 17/00 Kneading machines for butter, or the like (~~mixing or kneading machines for the preparation of dough A21C 1/00~~)**
- U A01J 27/00 After-treatment of cheese; Coating the cheese**
- M A01J 27/02** • Coating the cheese, e.g. with paraffin wax (~~applying liquids or other fluent materials to surfaces in general B05~~)

## Project: RP0629 (A01L)

- M A01L** **SHOEING OF ANIMALS** ~~{{making metal horseshoes by rolling B21H 7/12; making horseshoes or appurtenances therefor by forging or pressing B21K 15/02; casting of metals B22D}}~~
- WARNING  
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme:
- U A01L 1/00** **Shoes for horses or other solipeds fastened with nails** ([A01L 3/00](#) takes precedence)
- M A01L 1/04** ~~• Solid horseshoes consisting of multiple parts {{horseshoes with elastic inserts or soles for horseshoes A01L 7/02}}~~
- M A01L 5/00** **Horseshoes made of elastic materials** ~~{{protective coverings for animals A01K 13/006}}~~
- M A01L 11/00** **Farriers' tools and appliances** ~~{{making horseshoes by rolling B21H 7/12, by forging B21K 15/02}}~~
- M A01L 13/00** **Pens for animals while being shod** ~~{{devices for fettering animals for operative purposes A61D 3/00; devices for immobilisation or restraint of animals A01K 1/0613; devices for taming or training animals which impede movement or passage through fences A01K 15/04}}~~

## Project: RP0630 (A01N)

- C A01N 63/00** **Biocides, pest repellants or attractants, or plant growth regulators containing microorganisms, viruses, microbial fungi, ~~enzymes, fermentates~~ animals or substances produced by, or ~~extracted~~ obtained from ~~microorganisms, microorganisms~~ viruses, microbial fungi or animal material animals, e.g. enzymes or fermentates** (containing compounds of determined constitution [A01N 27/00](#) - [A01N 59/00](#); [unicellular algae A01N 65/03](#))
- NOTE  
*In this main group and its indented subgroups, the last place priority rule is not applied, i.e. the common rule is applied.*
- WARNING  
*Group A01N 63/00 is impacted by reclassification into groups A01N 63/10, A01N 63/12, A01N 63/14, A01N 63/16, A01N 63/20, A01N 63/22, A01N 63/23, A01N 63/25, A01N 63/27, A01N 63/28, A01N 63/30, A01N 63/32, A01N 63/34, A01N 63/36, A01N 63/38, A01N 63/40, A01N 63/50, A01N 63/60, and A01N 65/03.*  
*All groups listed in this Warning should be considered in order to perform a complete search.*
- D A01N 63/02** ~~• Fermentates or substances produced by, or extracted from, microorganisms or animal material~~  
<administratively transferred to [A01N 63/10](#)>
- D A01N 63/04** ~~• Microbial fungi or extracts thereof~~  
<administratively transferred to [A01N 63/30](#)>
- Q A01N 63/10** ~~• Animals; Substances produced thereby or obtained therefrom~~
- WARNING  
*Group [A01N 63/10](#) is incomplete pending reclassification of documents from group [A01N 63/00](#).*

Group [A01N 63/10](#) is also impacted by reclassification into groups [A01N 63/12](#), [A01N 63/14](#), [A01N 63/16](#), [A01N 63/20](#), [A01N 63/22](#), [A01N 63/23](#), [A01N 63/25](#), [A01N 63/27](#), [A01N 63/28](#), [A01N 63/40](#), [A01N 63/50](#), and [A01N 63/60](#).  
All groups listed in this Warning should be considered in order to perform a complete search.

N A01N 63/12

- Nematodes

WARNING

Group [A01N 63/12](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#) and [A01N 63/10](#).

Groups [A01N 63/00](#), [A01N 63/10](#), and [A01N 63/12](#) should be considered in order to perform a complete search.

N A01N 63/14

- Insects

WARNING

Group [A01N 63/14](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#) and [A01N 63/10](#).

Groups [A01N 63/00](#), [A01N 63/10](#), and [A01N 63/14](#) should be considered in order to perform a complete search.

N A01N 63/16

- Arachnids

WARNING

Group [A01N 63/16](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#) and [A01N 63/10](#).

Groups [A01N 63/00](#), [A01N 63/10](#), and [A01N 63/16](#) should be considered in order to perform a complete search.

N A01N 63/20

- Bacteria; Substances produced thereby or obtained therefrom

WARNING

Group [A01N 63/20](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#) and [A01N 63/10](#).

Groups [A01N 63/00](#), [A01N 63/10](#), and [A01N 63/20](#) should be considered in order to perform a complete search.

N A01N 63/22

- Bacillus

WARNING

Group [A01N 63/22](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#) and [A01N 63/10](#).

Groups [A01N 63/00](#), [A01N 63/10](#), and [A01N 63/22](#) should be considered in order to perform a complete search.

N A01N 63/23

- B. thuringiensis

WARNING

Group [A01N 63/23](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#) and [A01N 63/10](#).

Groups [A01N 63/00](#), [A01N 63/10](#), and [A01N 63/23](#) should be considered in order to perform a complete search.

N A01N 63/25

- Paenibacillus

WARNING

Group [A01N 63/25](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#) and [A01N 63/10](#).

Groups [A01N 63/00](#), [A01N 63/10](#), and [A01N 63/25](#) should be considered in order to perform a complete search.

- N A01N 63/27
- • *Pseudomonas*
- WARNING  
Group [A01N 63/27](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#) and [A01N 63/10](#).  
Groups [A01N 63/00](#), [A01N 63/10](#), and [A01N 63/27](#) should be considered in order to perform a complete search.
- N A01N 63/28
- • *Streptomyces*
- WARNING  
Group [A01N 63/28](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#) and [A01N 63/10](#).  
Groups [A01N 63/00](#), [A01N 63/10](#), and [A01N 63/28](#), and [A01N 63/28](#) should be considered in order to perform a complete search.
- Q A01N 63/30
- *Microbial fungi; Substances produced thereby or obtained therefrom*
- WARNING  
Group [A01N 63/30](#) is incomplete pending reclassification of documents from group [A01N 63/00](#).  
Group [A01N 63/30](#) is also impacted by reclassification into groups [A01N 63/32](#), [A01N 63/34](#), [A01N 63/36](#), [A01N 63/38](#), [A01N 63/40](#), [A01N 63/50](#), and [A01N 63/60](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N A01N 63/32
- • *Yeast*
- WARNING  
Group [A01N 63/32](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#) and [A01N 63/30](#).  
Groups [A01N 63/00](#), [A01N 63/30](#), and [A01N 63/32](#) should be considered in order to perform a complete search.
- N A01N 63/34
- • *Aspergillus*
- WARNING  
Group [A01N 63/34](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#) and [A01N 63/30](#).  
Groups [A01N 63/00](#), [A01N 63/30](#) and [A01N 63/34](#) should be considered in order to perform a complete search.
- N A01N 63/36
- • *Penicillium*
- WARNING  
Group [A01N 63/36](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#) and [A01N 63/30](#).  
Groups [A01N 63/00](#), [A01N 63/30](#) and [A01N 63/36](#) should be considered in order to perform a complete search.
- N A01N 63/38
- • *Trichoderma*
- WARNING  
Group [A01N 63/38](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#) and [A01N 63/30](#).  
Groups [A01N 63/00](#), [A01N 63/30](#) and [A01N 63/38](#) should be considered in order to perform a complete search.

N A01N 63/40

- Viruses, e.g. bacteriophages

WARNING  
Group [A01N 63/40](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#), [A01N 63/10](#), and [A01N 63/30](#).  
All groups listed in this Warning should be considered in order to perform a complete search.

N A01N 63/50

- Isolated enzymes; Isolated proteins (peptides [A01N 37/46](#))

WARNING  
Group [A01N 63/50](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#), [A01N 63/10](#), and [A01N 63/30](#).  
All groups listed in this Warning should be considered in order to perform a complete search.

N A01N 63/60

- Isolated nucleic acids

WARNING  
Group [A01N 63/60](#) is incomplete pending reclassification of documents from groups [A01N 63/00](#), [A01N 63/10](#), and [A01N 63/30](#).  
All groups listed in this Warning should be considered in order to perform a complete search.

U A01N 65/00

**Biocides, pest repellants or attractants, or plant growth regulators containing material from algae, lichens, bryophyta, multi-cellular fungi or plants, or extracts thereof (containing compounds of determined constitution [A01N 27/00](#) - [A01N 59/00](#))**

WARNING  
Groups [A01N 65/03](#) - [A01N 65/48](#), with the exception of [A01N 65/385](#), are incomplete. See also group [A01N 65/00](#).

M A01N 65/03

- Algae

WARNING  
Group [A01N 65/03](#) is incomplete pending reclassification of documents from group [A01N 63/00](#).  
Groups [A01N 63/00](#) and [A01N 65/03](#) should be considered in order to perform a complete search.

## Project: RP0307-F (A23P)

U A23P 20/00

**Coating of foodstuffs; Coatings therefor; Making laminated, multi-layered, stuffed or hollow foodstuffs**

U A23P 20/10

- Coating with edible coatings, e.g. with oils or fats

M A23P 20/15

- Apparatus or processes for coating with liquid or semi-liquid products

WARNING  
Group [A23P 20/15](#) is incomplete pending reclassification of documents from group [A23P 20/18](#).  
Groups [A23P 20/15](#) and [A23P 20/18](#) should be considered in order to perform a complete search.

M A23P 20/18

- by spray-coating, fluidised-bed coating or coating by casting (combined with breaching [A23P 20/12](#))

WARNING  
Group [A23P 20/18](#) is impacted by reclassification of documents from group [A23P 20/18](#).

Groups A23P 20/18 and A23P 20/15 should be considered in order to perform a complete search.

**Project: RP0619 (A24)**

**M A24**

**TOBACCO; CIGARS; CIGARETTES; *SIMULATED SMOKING DEVICES*; SMOKERS' REQUISITES**

**NOTE**

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

1. *" simulated smoking devices" means devices simulating the act of smoking without burning tobacco, e.g. so called electronic cigarettes;*
  - *"cigarette" means:*
    - a. *a small tube of wrapper containing tobacco or tobacco substitutes which people smoke by igniting it directly and where the tobacco (or the tobacco substitute) is burned;*
    - b. *in a broader sense it also means a small tube of wrapper, containing tobacco or tobacco substitutes, which is associated with a heat source at manufacturing or inserted by the user in a device containing a heat source and where the tobacco (or the tobacco substitute) is heated without being burned. In this broader sense, the word "rod" often also is used in place of cigarette.*

**Project: RP0619 (A24B)**

**U A24B 3/00**

**Preparing tobacco in the factory**

**C A24B 3/14**

- Forming reconstituted tobacco products, e.g. wrapper materials, sheets, imitation leaves, rods, cakes; Forms of such products (delustering [A24C 1/40](#); tobacco or cigarette paper [D21H](#))

**WARNING**

*Group [A24B 3/14](#) is impacted by reclassification into group [A24C 5/01](#). Groups [A24B 3/14](#) and [A24C 5/01](#) should be considered in order to perform a complete search.*

**M A24B 15/00**

**Chemical features or treatment of tobacco; Tobacco substitutes, e.g. in *liquid form* ([A24B 3/00](#) takes precedence)**

**NOTE**

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

**U A24B 15/10**

- Chemical features of tobacco products or tobacco substitutes

**U A24B 15/16**

- • of tobacco substitutes

**M A24B 15/167**

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

**Project: RP0619 (A24C)**

**U A24C 5/00**

**Making cigarettes; Making tipping materials for, or attaching filters or mouthpieces to, cigars or cigarettes**

**U A24C 5/005**

- {Treatment of cigarette paper}

**U A24C 5/007**

- • {Perforating}



- N A24C 5/01
- Making cigarettes for simulated smoking devices
- WARNING  
Group [A24C 5/01](#) is incomplete pending reclassification of documents from groups [A24B 3/14](#), [A24F 47/004](#), [A24F 47/006](#), and [A24F 47/008](#). All groups listed in this Warning should be considered in order to perform a complete search.
- M A24C 5/32
- Separating, ordering, counting, or examining cigarettes (in relation to packaging [B65B 19/00](#)); Regulating the feeding of tobacco according to rod or cigarette condition (~~investigating or analysing materials by determining their chemical or physical properties G01N; controlling in general G05~~)
- U A24C 5/34
- Examining cigarettes or the rod, e.g. for regulating the feeding of tobacco; Removing defective cigarettes
- C A24C 5/3406
- {Controlling cigarette combustion}
- WARNING  
Group [A24C 5/3406](#) is impacted by reclassification into groups [A24F 40/80](#) and [A24F 42/90](#). Groups [A24C 5/3406](#), [A24F 40/80](#), and [A24F 42/90](#) should be considered in order to perform a complete search.
- M A24C 5/47
- Attaching filters or mouthpieces to cigars or cigarettes, e.g. inserting filters into cigarettes or their mouthpieces ([A24C 5/52](#) takes precedence; ~~filters, their manufacture, mouthpieces A24D 3/00~~)
- M A24C 5/52
- Incorporating filters or mouthpieces into a cigarette rod or a tobacco rod (~~filters, their manufacture, mouthpieces A24D 3/00~~)
- M A24C 5/56
- Making tipping materials, e.g. sheet cork for mouthpieces of cigars or cigarettes, by mechanical means (~~chemical part of making tipping material C08; wrapping papers for cigarettes D21H~~)

## Project: RP0619 (A24D)

- C A24D 1/00
- Cigars; Cigarettes**
- WARNING  
Group [A24D 1/00](#) is impacted by reclassification into groups [A24D 1/20](#) and [A24D 1/22](#). Groups [A24D 1/00](#), [A24D 1/20](#), and [A24D 1/22](#) should be considered in order to perform a complete search.
- C A24D 1/14
- Tobacco cartridges for pipes
- WARNING  
Group [A24D 1/14](#) is impacted by reclassification into group [A24D 1/20](#). Groups [A24D 1/14](#) and [A24D 1/20](#) should be considered in order to perform a complete search.
- U A24D 1/18
- Selection of materials, other than tobacco, suitable for smoking
- N A24D 1/20
- Cigarettes specially adapted for simulated smoking devices
- WARNING  
Group [A24D 1/20](#) is incomplete pending reclassification of documents from groups [A24D 1/00](#) and [A24D 1/14](#). Groups [A24D 1/00](#), [A24D 1/14](#), and [A24D 1/20](#) should be considered in order to perform a complete search.

- N A24D 1/22
- Cigarettes with integrated combustible heat sources, e.g. with carbonaceous heat sources

WARNING

Group [A24D 1/22](#) is incomplete pending reclassification of documents from groups [A24D 1/00](#), [A24F 47/004](#), [A24F 47/006](#), and [A24F 47/008](#). All groups listed in this Warning should be considered in order to perform a complete search.

- M A24D 3/00
- Tobacco smoke filters, e.g. filter-tips, filtering inserts ~~(filters in general B01D)~~; Filters specially adapted for simulated smoking devices; Mouthpieces for cigars or cigarettes (for pipes, for cigar or cigarette holders [A24F 7/00](#))**

- U A24D 3/02
- Manufacture of tobacco smoke filters (manufacture of paper or cellulosic materials for filters [D21](#))
- U A24D 3/0275
- {for filters with special features}
- U A24D 3/0287
- • {for composite filters}
- C A24D 3/04
- Tobacco smoke filters characterised by their shape or structure

WARNING

Groups [A24D 3/04](#), [A24D 3/041](#), [A24D 3/043](#), [A24D 3/045](#), [A24D 3/046](#) and [A24D 3/048](#) are impacted by reclassification into group [A24D 3/17](#). All groups listed in this Warning should be considered in order to perform a complete search.

- C A24D 3/041
- {with adjustable means for modifying the degree of filtration of the filter}
- C A24D 3/043
- {with ventilation means, e.g. air dilution ([A24D 3/041](#) takes precedence)}
- C A24D 3/045
- {with smoke acceleration means, e.g. impact-filters}
- C A24D 3/046
- {with electrical or magnetical filtering means}
- C A24D 3/048
- {containing additives ~~(additive composition A24D 3/061)~~}
- U A24D 3/06
- Use of materials for tobacco smoke filters
- U A24D 3/16
- • of inorganic materials
- U A24D 3/166
- • • {Silicic acid or silicates}
- N A24D 3/17
- Filters specially adapted for simulated smoking devices

WARNING

Group [A24D 3/17](#) is incomplete pending reclassification of documents from groups [A24D 3/04](#), [A24D 3/041](#), [A24D 3/043](#), [A24D 3/045](#), [A24D 3/046](#), [A24D 3/048](#), [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), [A24F 47/006](#), and [A24F 47/008](#).

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

## Project: RP0619 (A24F)

- M A24F
- SMOKERS' REQUISITES; MATCH BOXES ~~(lighters F23Q)~~; SIMULATED SMOKING DEVICES (inhaling appliances for medical purposes, shaped like cigars, cigarettes or pipes [A61M 15/06](#))**

WARNING

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

- M A24F 1/00
- Tobacco pipes ~~(bee-keepers' pipes A01K 55/00)~~**
- U A24F 13/00
- Appliances for smoking cigars or cigarettes**



U	A24F 13/02	• Cigar or cigarette holders (mouthpieces <a href="#">A24F 7/00</a> )
M	A24F 13/04	• • with arrangements for cleaning or cooling the smoke ( <del>hookahs A24F 1/30</del> )
U	A24F 13/24	• Cigar cutters, slitters, or perforators, e.g. combined with lighters
M	A24F 13/30	• Arrangements for producing smoke images or rings ( <del>smoke toys A63H 33/28</del> )
C	A24F 15/00	<b>GigarReceptacles or cigarette receptacles boxes specially adapted for cigars, cigarettes, simulated smoking devices or boxescigarettes therefor (packages B65Dadaptations for use in vehicles B60N 3/12; packages specially adapted for cigarettes B65D 85/10)</b>  <b>WARNING</b> <i>Group A24F 15/00 is incomplete pending reclassification of documents from groups A24F 47/00, A24F 47/002, A24F 47/004, A24F 47/006, and A24F 47/008.</i> <i>Group A24F 15/00 is also impacted by reclassification into groups A24F 15/01 and A24F 15/015. All groups listed in this Warning should be considered in order to perform a complete search.</i>
M	A24F 15/005	• {with means for limiting the frequency of smoking, e.g. with time-control, counting means ( <del>mechanically actuated apparatus for measuring-off predetermined time intervals in general G04F 3/025; electronic means G04G 15/006</del> )}
N	A24F 15/01	• specially adapted for simulated smoking devices or cigarettes therefor (battery charging means structurally associated with the case <a href="#">A24F 40/95</a> )  <b>WARNING</b> <i>Groups A24F 15/01 and A24F 15/015 are incomplete pending reclassification of documents from groups A24F 15/00, A24F 15/04, A24F 15/06, A24F 15/08, A24F 15/12, A24F 15/14, A24F 15/16, A24F 15/18, A24F 15/20, A24F 47/00, A24F 47/002, A24F 47/004, A24F 47/006, and A24F 47/008.</i> <i>All groups listed in this Warning should be considered in order to perform a complete search.</i>
N	A24F 15/015	• • with means for refilling of liquid inhalable precursors
M	A24F 15/02	• for domestic use ({ <a href="#">A24F 15/005</a> takes precedence}; <del>adaptations for use in vehicles B60N 3/12</del> )}
C	A24F 15/04	• • with appliances for releasing a single cigar or cigarette  <b>WARNING</b> <i>Group A24F 15/04 is impacted by reclassification into groups A24F 15/01 and A24F 15/015.</i> <i>Groups A24F 15/04, A24F 15/01, and A24F 15/015 should be considered in order to perform a complete search.</i>
C	A24F 15/06	• • with means for offering ( <a href="#">A24F 15/04</a> takes precedence)  <b>WARNING</b> <i>Group A24F 15/06 is impacted by reclassification into groups A24F 15/01 and A24F 15/015.</i> <i>Groups A24F 15/06, A24F 15/01, and A24F 15/015 should be considered in order to perform a complete search.</i>
C	A24F 15/08	• • combined with other objects  <b>WARNING</b> <i>Group A24F 15/08 is impacted by reclassification into groups A24F 15/01 and A24F 15/015.</i>

*Groups A24F 15/08, A24F 15/01, and A24F 15/015 should be considered in order to perform a complete search.*

U A24F 15/10

- • with lighters

C A24F 15/12

- for pocket use {(A24F 15/005 takes precedence)}

**WARNING**

*Groups A24F 15/12, A24F 15/14, A24F 15/16 and A24F 15/18 are impacted by reclassification into groups A24F 15/01 and A24F 15/015.*

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

C A24F 15/14

- • with appliances for releasing a single cigar or cigarette

C A24F 15/16

- • with means for offering (A24F 15/14 takes precedence)

C A24F 15/18

- • combined with other objects

C A24F 15/20

- with separate compartments for each cigar or cigarette {(A24F 15/005 takes precedence)}

**WARNING**

*Group A24F 15/20 is impacted by reclassification into groups A24F 15/01 and A24F 15/015.*

*Groups A24F 15/20, A24F 15/01, and A24F 15/015 should be considered in order to perform a complete search.*

U A24F 17/00

**Receptacles for cigarette papers**

D A24F 19/00 -  
A24F 47/00

**Other smokers' requisites**

M A24F 25/00

**Devices used by the smoker for controlling the moisture content of, or for scenting, cigars, cigarettes or tobacco (~~humidifying in the factory A24B 3/04~~)**

M A24F 27/00

**Match receptacles or boxes (~~packages B65D~~; composition of strike-surfaces, matches C06F)**

M A24F 27/08

- Stands for match-boxes (~~A24F 27/10 takes precedence~~)

M A24F 27/14

- Match dispensers; Dispensers for matches arranged on strips (~~dispensing aspects in general B65D 83/00~~)

U A24F 31/00

**Pipe-spills; Devices for splitting matches**

N A24F 40/00 -  
A24F 42/00

**Simulated smoking devices**

N A24F 40/00

***Electrically operated smoking devices; Component parts thereof; Manufacture thereof; Maintenance or testing thereof; Charging means specially adapted therefor***

**WARNING**

*Group A24F 40/00 is incomplete pending reclassification of documents from groups A24F 47/00, A24F 47/002, A24F 47/004, and A24F 47/008.*

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

N A24F 40/05

- Devices without heating means

**WARNING**

*Group A24F 40/05 is incomplete pending reclassification of documents from groups A24F 47/00, A24F 47/002, A24F 47/004, and A24F 47/008.*

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

N A24F 40/10

- Devices using liquid inhalable precursors

WARNING

Group [A24F 40/10](#) is incomplete pending reclassification of documents from groups [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/008](#).  
All groups listed in this Warning should be considered in order to perform a complete search.

N A24F 40/20

- Devices using solid inhalable precursors

WARNING

Group [A24F 40/20](#) is incomplete pending reclassification of documents from groups [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/008](#).  
All groups listed in this Warning should be considered in order to perform a complete search.

N A24F 40/30

- Devices using two or more structurally separated inhalable precursors, e.g. using two liquid precursors in two cartridges

WARNING

Group [A24F 40/30](#) is incomplete pending reclassification of documents from groups [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/008](#).  
All groups listed in this Warning should be considered in order to perform a complete search.

N A24F 40/40

- Constructional details, e.g. connection of cartridges and battery parts

WARNING

Groups [A24F 40/40](#), [A24F 40/42](#), [A24F 40/44](#), [A24F 40/46](#), [A24F 40/465](#), [A24F 40/48](#), [A24F 40/485](#) and [A24F 40/49](#) are incomplete pending reclassification of documents from groups [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/008](#).  
All groups listed in this Warning should be considered in order to perform a complete search.

N A24F 40/42

- • Cartridges or containers for inhalable precursors

N A24F 40/44

- • Wicks

N A24F 40/46

- • Shape or structure of electric heating means

N A24F 40/465

- • • specially adapted for induction heating

N A24F 40/48

- • Fluid transfer means, e.g. pumps

N A24F 40/485

- • • Valves; Apertures

N A24F 40/49

- • Child proofing

N A24F 40/50

- Control or monitoring

WARNING

Groups [A24F 40/50](#), [A24F 40/51](#), [A24F 40/53](#) and [A24F 40/57](#) are incomplete pending reclassification of documents from groups [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/008](#).  
All groups listed in this Warning should be considered in order to perform a complete search.

N A24F 40/51

- • Arrangement of sensors

N A24F 40/53

- • Monitoring, e.g. fault detection

N A24F 40/57

- • Temperature control

- N A24F 40/60
- Devices with integrated user interfaces
- WARNING  
Group [A24F 40/60](#) is incomplete pending reclassification of documents from groups [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/008](#). All groups listed in this Warning should be considered in order to perform a complete search.
- N A24F 40/65
- Devices with integrated communication means, e.g. Wi-Fi
- WARNING  
Group [A24F 40/65](#) is incomplete pending reclassification of documents from groups [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/008](#). All groups listed in this Warning should be considered in order to perform a complete search.
- N A24F 40/70
- Manufacture
- WARNING  
Group [A24F 40/70](#) is incomplete pending reclassification of documents from groups [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/008](#). All groups listed in this Warning should be considered in order to perform a complete search.
- N A24F 40/80
- Testing
- WARNING  
Group [A24F 40/80](#) is incomplete pending reclassification of documents from groups [A24C 5/3406](#), [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/008](#). All groups listed in this Warning should be considered in order to perform a complete search.
- N A24F 40/85
- Maintenance, e.g. cleaning
- WARNING  
Group [A24F 40/85](#) is incomplete pending reclassification of documents from groups [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/008](#). All groups listed in this Warning should be considered in order to perform a complete search.
- N A24F 40/90
- Arrangements or methods specially adapted for charging batteries thereof
- WARNING  
Group [A24F 40/90](#) and [A24F 40/95](#) are incomplete pending reclassification of documents from groups [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/008](#). All groups listed in this Warning should be considered in order to perform a complete search.
- N A24F 40/95
- • structurally associated with cases
- N A24F 42/00**
- Simulated smoking devices other than electrically operated; Component parts thereof; Manufacture or testing thereof**
- WARNING  
Group [A24F 42/00](#) is incomplete pending reclassification of documents from groups [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/006](#). All groups listed in this Warning should be considered in order to perform a complete search.

- N A24F 42/10
- Devices with chemical heating means
- WARNING  
Group [A24F 42/10](#) is incomplete pending reclassification of documents from groups [A24F 47/004](#) and [A24F 47/006](#).  
Groups [A24F 47/004](#), [A24F 47/006](#), and [A24F 42/10](#) should be considered in order to perform a complete search.
- N A24F 42/20
- Devices without heating means
- WARNING  
Group [A24F 42/20](#) is incomplete pending reclassification of documents from groups [A24F 47/00](#) and [A24F 47/002](#).  
Groups [A24F 47/00](#), [A24F 47/002](#), and [A24F 42/20](#) should be considered in order to perform a complete search.
- N A24F 42/60
- Constructional details
- WARNING  
Group [A24F 42/60](#) is incomplete pending reclassification of documents from groups [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/006](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N A24F 42/80
- Manufacture
- WARNING  
Group [A24F 42/80](#) is incomplete pending reclassification of documents from groups [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/006](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N A24F 42/90
- Testing
- WARNING  
Group [A24F 42/90](#) is incomplete pending reclassification of documents from groups [A24C 5/3406](#), [A24F 47/00](#), [A24F 47/002](#), [A24F 47/004](#), and [A24F 47/006](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- C A24F 47/00
- Smokers' requisites not *otherwise* provided for ~~elsewhere~~ {, e.g. devices to assist in stopping or limiting smoking (devices for opening cigarette packages B65B 69/0033)}**
- WARNING  
Group [A24F 47/00](#) is impacted by reclassification into groups [A24D 3/17](#), [A24F 15/00](#), [A24F 15/01](#), [A24F 15/015](#), [A24F 40/00](#), [A24F 40/05](#), [A24F 40/10](#), [A24F 40/20](#), [A24F 40/30](#), [A24F 40/40](#), [A24F 40/42](#), [A24F 40/44](#), [A24F 40/46](#), [A24F 40/465](#), [A24F 40/48](#), [A24F 40/485](#), [A24F 40/49](#), [A24F 40/50](#), [A24F 40/51](#), [A24F 40/53](#), [A24F 40/57](#), [A24F 40/60](#), [A24F 40/65](#), [A24F 40/70](#), [A24F 40/80](#), [A24F 40/85](#), [A24F 40/90](#), [A24F 40/95](#), [A24F 42/00](#), [A24F 42/20](#), [A24F 42/60](#), [A24F 42/80](#), and [A24F 42/90](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- F A24F 47/002  
(Frozen)
- {Simulated smoking devices, e.g. imitation cigarettes (inhaling appliances for medical use shaped like cigars, cigarettes or pipes [A61M 15/06](#))}
- WARNING  
Group [A24F 47/002](#) is no longer used for the classification of documents as of January 1, 2020.

*The content of this group is being reclassified into groups [A24D 3/17](#), [A24F 15/00](#), [A24F 15/01](#), [A24F 15/015](#), [A24F 40/00](#), [A24F 40/05](#), [A24F 40/10](#), [A24F 40/20](#), [A24F 40/30](#), [A24F 40/40](#), [A24F 40/42](#), [A24F 40/44](#), [A24F 40/46](#), [A24F 40/465](#), [A24F 40/48](#), [A24F 40/485](#), [A24F 40/49](#), [A24F 40/50](#), [A24F 40/51](#), [A24F 40/53](#), [A24F 40/57](#), [A24F 40/60](#), [A24F 40/65](#), [A24F 40/70](#), [A24F 40/80](#), [A24F 40/85](#), [A24F 40/90](#), [A24F 40/95](#), [A24F 42/00](#), [A24F 42/20](#), [A24F 42/60](#), [A24F 42/80](#), and [A24F 42/90](#).*

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

F A24F 47/004  
(Frozen)

- • {with heating means, e.g. carbon fuel (chemical features [A24B 15/165](#))}

**WARNING**

*Group [A24F 47/004](#) is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups [A24D 3/17](#), [A24C 5/01](#), [A24D 1/22](#), [A24F 15/00](#), [A24F 15/01](#), [A24F 15/015](#), [A24F 40/00](#), [A24F 40/05](#), [A24F 40/10](#), [A24F 40/20](#), [A24F 40/30](#), [A24F 40/40](#), [A24F 40/42](#), [A24F 40/44](#), [A24F 40/46](#), [A24F 40/465](#), [A24F 40/48](#), [A24F 40/485](#), [A24F 40/49](#), [A24F 40/50](#), [A24F 40/51](#), [A24F 40/53](#), [A24F 40/57](#), [A24F 40/60](#), [A24F 40/65](#), [A24F 40/70](#), [A24F 40/80](#), [A24F 40/85](#), [A24F 40/90](#), [A24F 40/95](#), [A24F 42/00](#), [A24F 42/10](#), [A24F 42/60](#), [A24F 42/80](#), and [A24F 42/90](#).*

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

F A24F 47/006  
(Frozen)

- • • {with chemical heating means}

**WARNING**

*Group [A24F 47/006](#) is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups [A24D 3/17](#), [A24C 5/01](#), [A24D 1/22](#), [A24F 15/00](#), [A24F 15/01](#), [A24F 15/015](#), [A24F 42/00](#), [A24F 42/10](#), [A24F 42/60](#), [A24F 42/80](#), and [A24F 42/90](#).*

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

F A24F 47/008  
(Frozen)

- • • {with electrical heating means}

**WARNING**

*Group [A24F 47/008](#) is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups [A24D 3/17](#), [A24C 5/01](#), [A24D 1/22](#), [A24F 15/00](#), [A24F 15/01](#), [A24F 15/015](#), [A24F 40/00](#), [A24F 40/05](#), [A24F 40/10](#), [A24F 40/20](#), [A24F 40/30](#), [A24F 40/40](#), [A24F 40/42](#), [A24F 40/44](#), [A24F 40/46](#), [A24F 40/465](#), [A24F 40/48](#), [A24F 40/485](#), [A24F 40/49](#), [A24F 40/50](#), [A24F 40/51](#), [A24F 40/53](#), [A24F 40/57](#), [A24F 40/60](#), [A24F 40/65](#), [A24F 40/70](#), [A24F 40/80](#), [A24F 40/85](#), [A24F 40/90](#), and [A24F 40/95](#).*

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

**Project: MP0460 (A41D)**

U A41D 31/00

Materials specially adapted for outerwear



- M A41D 31/04
- characterised by special function or use {(protective clothing affording protection against heat or harmful chemical agents *or for use at high altitudes* [A62B 17/00](#); composition of materials for *coverings or* clothing affording protection against harmful chemical agents [A62D 5/00](#))}

**WARNING**

Group [A41D 31/04](#) is incomplete pending reclassification of documents from group [A41D 31/02](#).

Group [A41D 31/04](#) is also impacted by reclassification into groups [A41D 31/10](#), [A41D 31/102](#), [A41D 31/12](#), [A41D 31/14](#), [A41D 31/18](#), [A62B 17/00](#), [A62B 17/001](#), [A62B 17/003](#), [A62B 17/005](#), [A62B 17/006](#), [A62B 17/008](#), [A62B 17/04](#), and [A62B 17/08](#).

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

**Project: RP0648 (A41H)**

- U A41H 3/00 **Patterns for cutting-out; Methods of drafting or marking-out such patterns, e.g. on the cloth (woven fabrics characterised by the special disposition of the warp or weft threads [D03D 13/00](#))**

- A41H 3/007
- {Methods of drafting or marking-out patterns using computers (computer-aided design ~~[G06F 17/50](#)~~ [G06F 30/00](#))}

**Project: MP0461 (A61B)**

- U A61B 5/00 **Detecting, measuring or recording for diagnostic purposes (radiation diagnosis [A61B 6/00](#); diagnosis by ultrasonic, sonic or infrasonic waves [A61B 8/00](#)); Identification of persons**

- U A61B 5/0059
- {using light, e.g. diagnosis by transillumination, diascopy, fluorescence ([A61B 5/0093](#), [A61B 5/1455](#), [A61B 5/02416](#) and [A61B 5/0261](#) take precedence)}

- M A61B 5/0062
- {Arrangements for scanning}

**WARNING**

Group A61B-5/0062 and subgroups are not complete pending a reorganisation, see also group A61B-5/0059

- 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 electrocardiography or electroauscultation; Heart catheters for measuring blood pressure

- U A61B 5/026
- • Measuring blood flow {([A61B 3/1233](#), [A61B 3/1241](#) take precedence)}

- M A61B 5/0295
- • • using plethysmography, i.e. measuring the variations in the volume of a body part as modified by the circulation of blood therethrough, e.g. impedance plethysmography

**WARNING**

This sub-group is not complete pending the completion of a reclassification; see also groups A61B-5/026

**Project: MP0460 (A61B)**

- U A61B 5/04
- Measuring bioelectric signals of the body or parts thereof
- U A61B 5/0402
- • Electrocardiography, i.e. ECG
- U A61B 5/0452
- • • Detecting specific parameters of the electrocardiograph cycle

- M A61B 5/0464 . . . Detecting ~~tachycardy~~ {tachycardia} or ~~brachycardy~~ {brachycardia} ~~bradycardia~~

**Project: MP0461 (A61B)**

- U A61B 5/06 . Devices, other than using radiation, for detecting or locating foreign bodies (for removing same [A61B 17/50](#) ); determining position of probes within or on the body of the patient}
- M A61B 5/061 . {Determining position of a probe within the body employing means separate from the probe, e.g. sensing internal probe position employing impedance electrodes on the surface of the body ([A61B 1/00158](#) takes precedence)}
- WARNING**  
~~A61B 5/061 and subgroups are not complete pending a reorganisation, see also group(s) A61B 5/06~~
- M A61B 5/065 . {Determining position of the probe employing exclusively positioning means located on or in the probe, e.g. using position sensors arranged on the probe}
- WARNING**  
~~A61B 5/065 and subgroups are not complete pending a reorganisation, see also group A61B 5/06~~
- M A61B 5/40 . {Detecting, measuring or recording for evaluating the nervous system ([A61B 5/4806](#), [A61B 5/4821](#), [A61B 5/4824](#) take precedence)}
- WARNING**  
~~Group A61B 5/40 and subgroups are not complete pending a reorganisation, see also groups also groups A61B 5/00, A61B 5/02, A61B 5/0476, A61B 5/048, A61B 5/145, A61B 5/16, A61B 5/18.~~
- M A61B 5/41 . {Detecting, measuring or recording for evaluating the immune or lymphatic systems}
- WARNING**  
~~Group A61B 5/41 and subgroups are not complete pending a reorganisation, see also groups A61B 5/00, A61B 5/02, A61B 5/04, A61B 5/05, A61B 5/145.~~
- M A61B 5/74 . {Details of notification to user or communication with user or patient (indicating measured values [G01D 7/00](#)); user input means (input or output arrangements for computers [G06F 3/00](#))}
- WARNING**  
~~Group A61B 5/74 and subgroups are not complete pending a reorganisation; see also other subgroups of A61B 5/00~~

**Project: RP0516 (A61B)**

- U A61B 17/00 **Surgical instruments, devices or methods, e.g. tourniquets ([A61B 18/00](#) takes precedence; contraceptive devices, pessaries, or applicators therefor [A61F 6/00](#); eye surgery [A61F 9/007](#); ear surgery [A61F 11/00](#))**
- A61B 2017/0046 . {with a releasable handle; with handle and operating part separable (for prosthetic joint-implanting tools ~~A61F 2002/4624~~ [A61F 2/4603](#))}
- U A61B 17/04 . for suturing wounds; Holders or packages for needles or suture materials (suture materials [A61L 17/00](#))
- U A61B 17/0401 . {Suture anchors, buttons or pledgets, i.e. means for attaching sutures to bone, cartilage or soft tissue; Instruments for applying or removing suture anchors ([A61B 17/0642](#) takes precedence; fixation devices for tendons or ligaments [A61F 2/0811](#))}

- A61B 2017/0403 . . . {Dowels (~~other bone dowels 17:68~~; *other bone dowels A61B 17/68*; dowels for connecting prosthetic parts ~~A61F 2002/30436~~*A61F 2002/30433*)}
- A61B 2017/0408 . . . {Rivets (~~other bone rivets 17:68~~; *other bone rivets A61B 17/68*; rivets for connecting prosthetic parts ~~A61F 2002/30441~~*A61F 2002/30433*, *A61F 2220/0041*)}

**Project: RP0635 (A61C)**

- U A61C 13/00 Dental prostheses; Making same (tooth crowns for capping teeth *A61C 5/70*; dental implants *A61C 8/00*)**
- U A61C 13/08 . Artificial teeth; Making same (kilns for artificial teeth *F27B*)
- A61C 13/083 . . Porcelain or ceramic teeth {(*A61C 13/081* takes precedence; preparations ~~A61K 6/02~~*A61K 6/80*)}
- A61C 13/087 . . Artificial resin teeth {(*A61C 13/081* takes precedence; preparations ~~A61K 6/02~~*A61K 6/80*)}

**Project: RP0516 (A61F)**

- U A61F 2/00 Filters implantable into blood vessels; Prostheses, i.e. artificial substitutes or replacements for parts of the body; Appliances for connecting them with the body; Devices providing patency to, or preventing collapsing of, tubular structures of the body, e.g. stents (as cosmetic articles, see the relevant subclasses, e.g. wigs, hair pieces, *A41G 3/00*, *A41G 5/00*, artificial nails *A45D 31/00*; dental prostheses *A61C 13/00*; materials for prostheses *A61L 27/00*; artificial hearts *A61M 1/10*; artificial kidneys *A61M 1/14*)**
- U A61F 2/02 . Prostheses implantable into the body {(closure means for urethra or rectum or for artificial body openings therefor *A61F 2/0004*)}
- M A61F 2/28 . . Bones (~~{*A61F 2/42* takes precedence~~}; joints *A61F 2/30* ~~{; means for introducing bone substitute or for implanting bone graft implants *A61F 2/4601*; devices for grinding or milling bone material *A61F 2/4644*}~~)
- U A61F 2/2803 . . . {for mandibular reconstruction (temporo-mandibular joints *A61F 2/3099*; bone plates for the jaw *A61B 17/8071*)}
- D A61F 2002/281 . . . {Gonial implants}  
<administratively transferred to *A61F 2002/2807* ADD>
- T A61F 2002/2835 . . . {Bone graft implants for filling a bony defect or an endoprosthesis cavity, *e.g. by synthetic material or biological material*}
- D A61F 2002/2842 . . . {Bone marrow grafts}  
<administratively transferred to *A61F 2002/2835* ADD>
- D A61F 2002/2867 . . . {Bone marrow}  
<administratively transferred to *A61F 2002/2835* ADD>
- U A61F 2/30 . Joints
- U A61F 2002/30001 . . . {Additional features of subject-matter classified in *A61F 2/28*, *A61F 2/30* and subgroups thereof}
- U A61F 2002/30003 . . . {Material related properties of the prosthesis or of a coating on the prosthesis}
- T A61F 2002/30004 . . . . {~~The~~*the* prosthesis *being* made from materials having different values of a given property at different locations within the same prosthesis}
- U A61F 2002/30006 . . . . . {differing in density or specific weight}
- D A61F 2002/30008 . . . . . {~~differing in~~ yarn density}  
<administratively transferred to *A61F 2002/30006* ADD>
- U A61F 2002/30011 . . . . . {differing in porosity}

D	A61F 2002/30013	. . . . . {made from both porous and non-porous parts, e.g. adjacent parts} <administratively transferred to <a href="#">A61F 2002/30011</a> ADD>
D	A61F 2002/30018	. . . . . {differing in bending or flexure capacity} <administratively transferred to <a href="#">A61F 2002/30014</a> ADD>
U	A61F 2002/30028	. . . . . {differing in tissue ingrowth capacity, e.g. made from both ingrowth-promoting and ingrowth-preventing parts}
D	A61F 2002/30029	. . . . . {differing in bone ingrowth capacity} <administratively transferred to <a href="#">A61F 2002/30028</a> ADD>
U	A61F 2002/30032	. . . . . {differing in absorbability or resorbability, i.e. in absorption or resorption time}
D	A61F 2002/30034	. . . . . {made from both resorbable and non-resorbable prosthetic parts, e.g. adjacent parts} <administratively transferred to <a href="#">A61F 2002/30032</a> ADD>
D	A61F 2002/30047	. . . . . {differing in colour} <administratively transferred to <a href="#">A61F 2002/30004</a> ADD>
D	A61F 2002/30049	. . . . . {differing in optical properties} <administratively transferred to <a href="#">A61F 2002/30004</a> ADD>
T	A61F 2002/30052	. . . . . {differing in electric <i>or magnetic</i> properties}
D	A61F 2002/30054	. . . . . {differing in electromagnetical properties} <administratively transferred to <a href="#">A61F 2002/30052</a> ADD>
U	A61F 2002/3006	. . . . . {Properties of materials and coating materials}
U	A61F 2002/30084	. . . . . {Materials having a crystalline structure}
D	A61F 2002/30085	. . . . . {anisotropic} <administratively transferred to <a href="#">A61F 2002/30084</a> ADD>
U	A61F 2002/30092	. . . . . {using shape memory or superelastic materials, e.g. nitinol}
D	A61F 2002/30093	. . . . . {operated at only one temperature whilst inside or touching the human body, e.g. constrained in a non-operative shape during surgery, another temperature only occurring before the operation} <administratively transferred to <a href="#">A61F 2002/30092</a> ADD>
D	A61F 2002/30095	. . . . . {operated at different temperatures whilst inside or touching the human body, heated or cooled by external energy source or cold supply} <administratively transferred to <a href="#">A61F 2002/30092</a> ADD>
D	A61F 2002/30097	. . . . . {cooled} <administratively transferred to <a href="#">A61F 2002/30092</a> ADD>
D	A61F 2002/30098	. . . . . {electrically, e.g. heated by resistor} <administratively transferred to <a href="#">A61F 2002/30092</a> ADD>
D	A61F 2002/301	. . . . . {electromagnetically} <administratively transferred to <a href="#">A61F 2002/30092</a> ADD>
D	A61F 2002/30102	. . . . . {using a fluid, e.g. circulating} <administratively transferred to <a href="#">A61F 2002/30092</a> ADD>
D	A61F 2002/30103	. . . . . {heated by light} <administratively transferred to <a href="#">A61F 2002/30092</a> ADD>
D	A61F 2002/30105	. . . . . {ultrasonically} <administratively transferred to <a href="#">A61F 2002/30092</a> ADD>

U	A61F 2002/30108	. . . . {Shapes}
U	A61F 2002/3011	. . . . . {Cross-sections or two-dimensional shapes}
U	A61F 2002/30112	. . . . . {Rounded shapes, e.g. with rounded corners}
D	A61F 2002/30135	. . . . . {S-shaped or Z-shaped}
		<administratively transferred to <a href="#">A61F 2002/30136</a> ADD>
U	A61F 2002/30138	. . . . . {Convex polygonal shapes}
U	A61F 2002/30143	. . . . . {hexagonal}
D	A61F 2002/30144	. . . . . {Honeycomb pattern}
		<administratively transferred to <a href="#">A61F 2002/30143</a> ADD>
U	A61F 2002/30159	. . . . . {Concave polygonal shapes}
D	A61F 2002/30163	. . . . . {cruciform, different from X-shaped}
		<administratively transferred to <a href="#">A61F 2002/30179</a> ADD>
U	A61F 2002/30172	. . . . . {T-shaped}
D	A61F 2002/30174	. . . . . {the upper branch of the T being inclined with respect to its main branch}
		<administratively transferred to <a href="#">A61F 2002/30172</a> ADD>
U	A61F 2002/30182	. . . . . {Other shapes}
D	A61F 2002/30184	. . . . . {Alpha-shaped}
		<administratively transferred to <a href="#">A61F 2002/30182</a> ADD>
D	A61F 2002/30186	. . . . . {B-shaped}
		<administratively transferred to <a href="#">A61F 2002/30182</a> ADD>
D	A61F 2002/30194	. . . . . {quarter-disc-shaped}
		<administratively transferred to <a href="#">A61F 2002/30116</a> ADD>
U	A61F 2002/30199	. . . . . {Three-dimensional shapes}
U	A61F 2002/302	. . . . . {toroidal, e.g. rings}
D	A61F 2002/30204	. . . . . {toric}
		<administratively transferred to <a href="#">A61F 2002/302</a> ADD>
U	A61F 2002/30205	. . . . . {conical}
U	A61F 2002/30217	. . . . . {hollow cones, e.g. tubular-like cones}
D	A61F 2002/30219	. . . . . {the inner and outer surfaces having different conicities}
		<administratively transferred to <a href="#">A61F 2002/30217</a> ADD>
D	A61F 2002/3022	. . . . . {Half tubular-like cones}
		<administratively transferred to <a href="#">A61F 2002/30217</a> ADD>
D	A61F 2002/30222	. . . . . {concentric tubular-like cones}
		<administratively transferred to <a href="#">A61F 2002/30217</a> ADD>
U	A61F 2002/30224	. . . . . {cylindrical}
U	A61F 2002/30235	. . . . . {tubular, e.g. sleeves}
U	A61F 2002/30237	. . . . . {partial tubes}
D	A61F 2002/30238	. . . . . {half tubes}
		<administratively transferred to <a href="#">A61F 2002/30237</a> ADD>
D	A61F 2002/3024	. . . . . {concentric tubes}
		<administratively transferred to <a href="#">A61F 2002/30235</a> ADD>
U	A61F 2002/30242	. . . . . {spherical}
U	A61F 2002/30245	. . . . . {Partial spheres}

D	A61F 2002/30247	. . . . . {Hemispheres or half-spheres}	<administratively transferred to <a href="#">A61F 2002/30245</a> ADD>
D	A61F 2002/30248	. . . . . {Quarter-spheres}	<administratively transferred to <a href="#">A61F 2002/30245</a> ADD>
D	A61F 2002/3025	. . . . . {hollow spheres}	<administratively transferred to <a href="#">A61F 2002/30242</a> ADD and <a href="#">A61F 2002/30593</a> ADD>
U	A61F 2002/30252	. . . . . {quadric-shaped}	
U	A61F 2002/30257	. . . . . {paraboloidal}	
D	A61F 2002/3026	. . . . . {hyperbolic paraboloid}	<administratively transferred to <a href="#">A61F 2002/30301</a> ADD>
U	A61F 2002/30261	. . . . . {parallelepipedal}	
D	A61F 2002/30268	. . . . . {Partial parallelepipeds}	<administratively transferred to <a href="#">A61F 2002/30261</a> ADD>
D	A61F 2002/3027	. . . . . {Stepped parallelepipeds}	<administratively transferred to <a href="#">A61F 2002/30261</a> ADD>
D	A61F 2002/30271	. . . . . {hollow parallelepipeds}	<administratively transferred to <a href="#">A61F 2002/30261</a> ADD and <a href="#">A61F 2002/30593</a> ADD>
U	A61F 2002/30273	. . . . . {pyramidal}	
D	A61F 2002/30278	. . . . . {hollow pyramids}	<administratively transferred to <a href="#">A61F 2002/30273</a> ADD and <a href="#">A61F 2002/30593</a> ADD>
U	A61F 2002/3028	. . . . . {polyhedral different from parallelepipedal and pyramidal}	
D	A61F 2002/30283	. . . . . {hollow}	<administratively transferred to <a href="#">A61F 2002/3028</a> ADD and <a href="#">A61F 2002/30593</a> ADD>
T	A61F 2002/30291	. . . . . {spirally-coiled, i.e. having a <del>2-D</del> 2D spiral cross-section}	
D	A61F 2002/30296	. . . . . {logarithmic spiral}	<administratively transferred to <a href="#">A61F 2002/30291</a> ADD>
T	A61F 2002/30309	. . . . . {hat-shaped <i>or bell-shaped</i> }	
D	A61F 2002/30311	. . . . . {doughnut-shaped}	<administratively transferred to <a href="#">A61F 2002/302</a> ADD>
D	A61F 2002/30314	. . . . . {bell-shaped}	<administratively transferred to <a href="#">A61F 2002/30309</a> ADD>
U	A61F 2002/30316	. . . . {The prosthesis having different structural features at different locations within the same prosthesis; Connections between prosthetic parts; Special structural features of bone or joint prostheses not otherwise provided for}	
U	A61F 2002/30329	. . . . {Connections or couplings between prosthetic parts, e.g. between modular parts; Connecting elements}	
U	A61F 2002/30331	. . . . . {made by longitudinally pushing a protrusion into a complementarily-shaped recess, e.g. held by friction fit}	
U	A61F 2002/30332	. . . . . {Conically- or frustoconically-shaped protrusion and recess}	
U	A61F 2002/30339	. . . . . {Double cones, i.e. connecting element having two conical connections, one at each of its opposite ends}	



- D A61F 2002/30341 . . . . . {both cones being convex, i.e. male tapers}  
<administratively transferred to [A61F 2002/30339](#) ADD>
- D A61F 2002/30342 . . . . . {both cones being concave, i.e. female tapers}  
<administratively transferred to [A61F 2002/30339](#) ADD>
- D A61F 2002/30344 . . . . . {one cone being convex and the other being concave}  
<administratively transferred to [A61F 2002/30339](#) ADD>
- D A61F 2002/30347 . . . . . {~~Protrusion and recess of complementarily tapered undulated or serrated cross-section~~}  
<administratively transferred to [A61F 2002/30367](#) ADD>
- D A61F 2002/30377 . . . . . {~~Protrusion and recess of constant polygonal, serrated or undulated cross-section~~}  
<administratively transferred to [A61F 2002/30367](#) ADD>
- D A61F 2002/3038 . . . . . {made by pushing a key or a peg into a mating slot or hole}  
<administratively transferred to [A61F 2002/30331](#) ADD>
- D A61F 2002/30382 . . . . . {made by pushing lateral pegs into mating lateral slots or bores}  
<administratively transferred to [A61F 2002/30331](#) ADD>
- U A61F 2002/30383 . . . . . {made by laterally inserting a protrusion, e.g. a rib into a complementarily-shaped groove}
- U A61F 2002/30387 . . . . . {Dovetail connection}
- D A61F 2002/30388 . . . . . {~~Half-dovetail~~}  
<administratively transferred to [A61F 2002/30387](#) ADD>
- U A61F 2002/30405 . . . . . {made by screwing complementary threads machined on the parts themselves}
- D A61F 2002/30415 . . . . . {with additional means for limiting the length of the movement of the male threads within the female threads}  
<administratively transferred to [A61F 2002/30405](#) ADD>
- D A61F 2002/30416 . . . . . {Microthreads}  
<administratively transferred to [A61F 2002/30405](#) ADD>
- D A61F 2002/30418 . . . . . {Double or multiple threadings}  
<administratively transferred to [A61F 2002/30405](#) ADD>
- D A61F 2002/30423 . . . . . {~~Stepped cylindrical threads, i.e. having discrete diameter changes~~}  
<administratively transferred to [A61F 2002/30405](#) ADD>
- T A61F 2002/30433 . . . . . {using additional screws, bolts, dowels, **rivets** or **rivets**, **washers** e.g. connecting screws}
- D A61F 2002/30434 . . . . . {using bolts}  
<administratively transferred to [A61F 2002/30433](#) ADD>
- D A61F 2002/30436 . . . . . {using dowels}  
<administratively transferred to [A61F 2002/30433](#) ADD>
- D A61F 2002/30438 . . . . . {using nuts}  
<administratively transferred to [A61F 2002/30433](#) ADD>
- D A61F 2002/30439 . . . . . {Screw head protectors}  
<administratively transferred to [A61F 2002/30433](#) ADD>
- D A61F 2002/30441 . . . . . {using rivets or directly riveted}  
<administratively transferred to [A61F 2002/30433](#) ADD>

- D A61F 2002/30443 . . . . . {using washers}  
 <administratively transferred to [A61F 2002/30433](#) ADD>
- D A61F 2002/30444 . . . . . {Split washers}  
 <administratively transferred to [A61F 2002/30433](#) ADD>
- D A61F 2002/30446 . . . . . {Spring washers, e.g. Belleville washers}  
 <administratively transferred to [A61F 2002/30433](#) ADD>
- U A61F 2002/30451 . . . . . {soldered or brazed or welded}
- D A61F 2002/30453 . . . . . {brazed}  
 <administratively transferred to [A61F 2002/30451](#) ADD>
- D A61F 2002/30454 . . . . . {by high energy welding, e.g. laser beam welding, electron beam welding, plasma welding}  
 <administratively transferred to [A61F 2002/30451](#) ADD>
- D A61F 2002/30456 . . . . . {by spot welding}  
 <administratively transferred to [A61F 2002/30451](#) ADD>
- D A61F 2002/30457 . . . . . {by ultrasonic or sonic welding}  
 <administratively transferred to [A61F 2002/30451](#) ADD>
- U A61F 2002/30462 . . . . . {retained or tied with a rope, string, thread, wire or cable}
- D A61F 2002/30464 . . . . . {using bands, belts or straps}  
 <administratively transferred to [A61F 2002/30462](#) ADD>
- D A61F 2002/30466 . . . . . {being elastic}  
 <administratively transferred to [A61F 2002/30462](#) ADD>
- D A61F 2002/30472 . . . . . {using connecting nails or pins}  
 <administratively transferred to [A61F 2002/30433](#) ADD>
- U A61F 2002/30476 . . . . . {locked by an additional locking mechanism}
- U A61F 2002/30487 . . . . . {Circumferential cooperating grooves and beads on cooperating lateral surfaces of a mainly longitudinal connection}
- D A61F 2002/30489 . . . . . {Circumferential cooperating serrations}  
 <administratively transferred to [A61F 2002/30487](#) ADD>
- U A61F 2002/30495 . . . . . {using a locking ring}
- D A61F 2002/30497 . . . . . {Split ring, e.g. circlip}  
 <administratively transferred to [A61F 2002/30495](#) ADD>
- D A61F 2002/30499 . . . . . {Wire ring}  
 <administratively transferred to [A61F 2002/30495](#) ADD>
- U A61F 2002/305 . . . . . {Snap connection}
- D A61F 2002/30502 . . . . . {Press-buttons}  
 <administratively transferred to [A61F 2002/305](#) ADD>
- D A61F 2002/30504 . . . . . {made by laterally snapping a peg or a like protrusion into a mating detent, hole or slot}  
 <administratively transferred to [A61F 2002/305](#) ADD>
- U A61F 2002/30507 . . . . . {using a threaded locking member, e.g. a locking screw or a set screw}
- D A61F 2002/30509 . . . . . {using a traction locking screw}  
 <administratively transferred to [A61F 2002/30507](#) ADD>

D	A61F 2002/3051	. . . . . {using a locking bolt or a set bolt}
		<administratively transferred to <a href="#">A61F 2002/30507</a> ADD>
D	A61F 2002/30512	. . . . . {using a locking nut or a set nut}
		<administratively transferred to <a href="#">A61F 2002/30507</a> ADD>
U	A61F 2002/30518	. . . . . {with possibility of relative movement between the prosthetic parts}
U	A61F 2002/30523	. . . . . {by means of meshing gear teeth}
D	A61F 2002/30527	. . . . . {using a gear box}
		<administratively transferred to <a href="#">A61F 2002/30523</a> ADD>
U	A61F 2002/3053	. . . . . {having additional means for preventing unwanted connections}
D	A61F 2002/30532	. . . . . {for preventing connection between parts of wrong sizes or orientations}
		<administratively transferred to <a href="#">A61F 2002/3053</a> ADD>
D	A61F 2002/30533	. . . . . {for preventing permanent connection between prosthetic parts and trial parts}
		<administratively transferred to <a href="#">A61F 2002/3053</a> ADD>
U	A61F 2002/30535	. . . . . {Special structural features of bone or joint prostheses not otherwise provided for}
U	A61F 2002/30537	. . . . . {adjustable}
U	A61F 2002/30538	. . . . . {for adjusting angular orientation}
T	A61F 2002/3054	. . . . . {about a connection axis or implantation axis for selecting any one of a plurality of radial orientations between two modular parts, e.g. <i>Morse taper connections</i> , at discrete positions, <i>angular positions or continuous positions</i> }
D	A61F 2002/30542	. . . . . {at continuous positions}
		<administratively transferred to <a href="#">A61F 2002/3054</a> ADD>
D	A61F 2002/30543	. . . . . {at only two discrete angular positions, e.g. located at 180 degrees intervals}
		<administratively transferred to <a href="#">A61F 2002/3054</a> ADD>
U	A61F 2002/3055	. . . . . {for adjusting length}
D	A61F 2002/30551	. . . . . {at different discrete positions, e.g. at equidistant intervals}
		<administratively transferred to <a href="#">A61F 2002/3055</a> ADD>
U	A61F 2002/30558	. . . . . {Force-limiting means}
D	A61F 2002/3056	. . . . . {Torque-limiting means}
		<administratively transferred to <a href="#">A61F 2002/30558</a> ADD>
U	A61F 2002/30565	. . . . . {having spring elements}
U	A61F 2002/30566	. . . . . {Helical springs}
U	A61F 2002/30568	. . . . . {Multiple spring systems including two or more helical springs}
D	A61F 2002/3057	. . . . . {Concentric outer and inner helical springs}
		<administratively transferred to <a href="#">A61F 2002/30568</a> ADD>
U	A61F 2002/30589	. . . . . {Sealing means}
D	A61F 2002/30591	. . . . . {O-rings}
		<administratively transferred to <a href="#">A61F 2002/30589</a> ADD>
T	A61F 2002/30594	. . . . . {slotted, e.g. <i>radial or meridian slot ending in a polar aperture, non-polar slots, horizontal or arcuate slots</i> }

D	A61F 2002/30596	. . . . . { <del>slots ending in apertures, e.g. for avoiding stress concentration at the ends of the slots</del>	<administratively transferred to <a href="#">A61F 2002/30594</a> ADD>
D	A61F 2002/30598	. . . . . { <del>Plurality of slots</del> }	<administratively transferred to <a href="#">A61F 2002/30594</a> ADD>
U	A61F 2002/30604	. . . . . {modular}	
D	A61F 2002/30611	. . . . . { <del>Nested prosthetic parts</del> }	<administratively transferred to <a href="#">A61F 2002/30604</a> ADD>
D	A61F 2002/30612	. . . . . { <del>Pre-assembled implant modules</del> }	<administratively transferred to <a href="#">A61F 2002/30604</a> ADD>
U	A61F 2002/30617	. . . . . {Visible markings for adjusting, locating or measuring}	
D	A61F 2002/30619	. . . . . { <del>Wire rings</del> }	<administratively transferred to <a href="#">A61F 2002/30617</a> ADD>
M	A61F 2002/30621	. . . . {Features <del>concerning</del> <b>concerning</b> the anatomical functioning or articulation of the prosthetic joint}	
U	A61F 2002/30624	. . . . . {Hinged joint, e.g. with transverse axle restricting the movement}	
D	A61F 2002/30626	. . . . . { <del>allowing only for single rotation</del> }	<administratively transferred to <a href="#">A61F 2002/30624</a> ADD>
D	A61F 2002/30627	. . . . . { <del>by means of cooperating stepped cylindrical surfaces</del> }	<administratively transferred to <a href="#">A61F 2002/30624</a> ADD>
D	A61F 2002/30629	. . . . . { <del>of the pin-guiding groove linkage type</del> }	<administratively transferred to <a href="#">A61F 2002/30624</a> ADD>
D	A61F 2002/3063	. . . . . { <del>having bearing bushes between the rotating parts</del> }	<administratively transferred to <a href="#">A61F 2002/30624</a> ADD>
D	A61F 2002/30637	. . . . . { <del>Dual arrangement of two adjacent hinged joints</del> }	<administratively transferred to <a href="#">A61F 2002/30624</a> ADD>
U	A61F 2002/30639	. . . . . {having rolling elements between both articulating surfaces}	
D	A61F 2002/3064	. . . . . { <del>Ball bearings</del> }	<administratively transferred to <a href="#">A61F 2002/30639</a> ADD>
D	A61F 2002/30644	. . . . . { <del>Roller bearings</del> }	<administratively transferred to <a href="#">A61F 2002/30639</a> ADD>
D	A61F 2002/30645	. . . . . { <del>Needle bearings</del> }	<administratively transferred to <a href="#">A61F 2002/30639</a> ADD>
U	A61F 2002/30667	. . . . {Features concerning an interaction with the environment or a particular use of the prosthesis}	
U	A61F 2002/30677	. . . . . {Means for introducing or releasing pharmaceutical products, e.g. antibiotics, into the body}	
D	A61F 2002/30678	. . . . . { <del>Gene therapy</del> }	<administratively transferred to <a href="#">A61F 2002/30677</a> ADD>
U	A61F 2002/307	. . . . . {Prostheses for animals}	
D	A61F 2002/30701	. . . . . { <del>for cats</del> }	<administratively transferred to <a href="#">A61F 2002/307</a> ADD>
D	A61F 2002/30703	. . . . . { <del>for dogs</del> }	<administratively transferred to <a href="#">A61F 2002/307</a> ADD>

D	A61F 2002/30705	. . . . . {for horses} <administratively transferred to <a href="#">A61F 2002/307</a> ADD>
U	A61F 2002/3071	. . . . . {Identification means; Administration of patients}
D	A61F 2002/30711	. . . . . { <del>with bar code</del> } <administratively transferred to <a href="#">A61F 2002/3071</a> ADD>
D	A61F 2002/30713	. . . . . {colour-coded} <administratively transferred to <a href="#">A61F 2002/3071</a> ADD>
D	A61F 2002/30714	. . . . . { <del>coded with symbols, e.g. dots, numbers, letters, words</del> } <administratively transferred to <a href="#">A61F 2002/3071</a> ADD>
U	A61F 2/30721	. . . {Accessories}
U	A61F 2/30744	. . . . {End caps, e.g. for closing an endoprosthetic cavity}
D	A61F 2002/30746	. . . . . { <del>closable by a rotation different from screwing or bayonet coupling, e.g. about the cap central longitudinal axis</del> } <administratively transferred to <a href="#">A61F 2/30744</a> ADD>
D	A61F 2002/30747	. . . . . { <del>closable by translation</del> } <administratively transferred to <a href="#">A61F 2/30744</a> ADD>
M	A61F 2/30767	. . . {Special external or bone-contacting <del>surfaces</del> <del>surface</del> , e.g. coating for improving bone ingrowth}
U	A61F 2/30771	. . . . {applied in original prostheses, e.g. holes or grooves}
U	A61F 2002/30772	. . . . . {Apertures or holes, e.g. of circular cross section}
U	A61F 2002/30774	. . . . . {internally-threaded}
D	A61F 2002/30775	. . . . . { <del>with two portions of opposite threads, i.e. a right-hand thread and a left-hand thread</del> } <administratively transferred to <a href="#">A61F 2002/30774</a> ADD>
U	A61F 2002/30777	. . . . . {Oblong apertures}
D	A61F 2002/3078	. . . . . { <del>having an undulated contour, e.g. made of intercommunicating circular holes</del> } <administratively transferred to <a href="#">A61F 2002/30777</a> ADD>
U	A61F 2002/3079	. . . . . {Stepped or enlarged apertures, e.g. having discrete diameter changes}
D	A61F 2002/30792	. . . . . {Dual tapered apertures} <administratively transferred to <a href="#">A61F 2002/3079</a> ADD>
D	A61F 2002/30794	. . . . . { <del>the enlarged portion being used for receiving and hiding a screw head, a nut or a closing cap</del> } <administratively transferred to <a href="#">A61F 2002/3079</a> ADD>
U	A61F 2002/30795	. . . . . {Blind bores, e.g. of circular cross-section}
U	A61F 2002/30797	. . . . . {internally-threaded}
D	A61F 2002/30799	. . . . . { <del>with two portions of opposite threads, i.e. a right-hand thread and a left-hand thread</del> } <administratively transferred to <a href="#">A61F 2002/30797</a> ADD>
U	A61F 2002/30813	. . . . . {Stepped or enlarged blind bores, e.g. having discrete diameter changes}
D	A61F 2002/30815	. . . . . { <del>the enlarged portion being used for receiving and hiding a screw head, a nut or a closing cap</del> } <administratively transferred to <a href="#">A61F 2002/30813</a> ADD>
U	A61F 2002/3082	. . . . . {Grooves}

D	A61F 2002/30833	. . . . . {with enlarged portion}
		<administratively transferred to <a href="#">A61F 2002/3082</a> ADD>
D	A61F 2002/30835	. . . . . {for receiving and hiding a screw head or a nut}
		<administratively transferred to <a href="#">A61F 2002/3082</a> ADD>
U	A61F 2002/30841	. . . . . {Sharp anchoring protrusions for impaction into the bone, e.g. sharp pins, spikes}
U	A61F 2002/30845	. . . . . {with cutting edges}
D	A61F 2002/30846	. . . . . {circular}
		<administratively transferred to <a href="#">A61F 2002/30845</a> ADD>
D	A61F 2002/30848	. . . . . {straight}
		<administratively transferred to <a href="#">A61F 2002/30845</a> ADD>
U	A61F 2002/3085	. . . . . {with a threaded, e.g. self-tapping, bone-engaging surface, e.g. external surface}
U	A61F 2002/30851	. . . . . {Multiple threadings}
D	A61F 2002/30853	. . . . . {Double threadings}
		<administratively transferred to <a href="#">A61F 2002/30851</a> ADD>
D	A61F 2002/30855	. . . . . {Quadruple or higher rank multiple threadings}
		<administratively transferred to <a href="#">A61F 2002/30851</a> ADD>
D	A61F 2002/30856	. . . . . {Triple threadings}
		<administratively transferred to <a href="#">A61F 2002/30851</a> ADD>
U	A61F 2002/30873	. . . . . {Threadings machined on non-cylindrical external surfaces}
D	A61F 2002/30874	. . . . . {on conical, e.g. frustoconical, surfaces}
		<administratively transferred to <a href="#">A61F 2002/30873</a> ADD>
D	A61F 2002/30876	. . . . . {on spherical, e.g. hemispherical, surfaces}
		<administratively transferred to <a href="#">A61F 2002/30873</a> ADD>
U	A61F 2002/30878	. . . . . {with non-sharp protrusions, for instance contacting the bone for anchoring, e.g. keels, pegs, pins, posts, shanks, stems, struts}
U	A61F 2002/30879	. . . . . {Ribs}
T	A61F 2002/30881	. . . . . {Circumferential ribs, <i>flanges or fins</i> }
U	A61F 2002/30886	. . . . . {externally-threaded}
D	A61F 2002/30887	. . . . . {with two portions of opposite threads, i.e. a right-hand thread and a left-hand thread}
		<administratively transferred to <a href="#">A61F 2002/30886</a> ADD>
U	A61F 2002/30922	. . . . . {Hardened surfaces}
D	A61F 2002/30924	. . . . . {by shot peening}
		<administratively transferred to <a href="#">A61F 2002/30922</a> ADD>
U	A61F 2002/30925	. . . . . {etched}
D	A61F 2002/30927	. . . . . {Electrolytic etching}
		<administratively transferred to <a href="#">A61F 2002/30925</a> ADD>
T	A61F 2/3094	. . . {Designing or manufacturing processes}
M	A61F 2/30942	. . . . {for designing or making customized prostheses, e.g. using templates, CT or NMR scans, finite-element analysis or CAD-CAM techniques (computer-assisted sizing or machining of dental prostheses <a href="#">A61C 13/0004</a> ; CAD-CAM techniques per se <a href="#">G05B 19/4202</a> )}
U	A61F 2002/30943	. . . . . {using mathematical models}



- D A61F 2002/30945 . . . . . {~~using geometrical models~~  
<administratively transferred to [A61F 2002/30943](#) ADD>
- D A61F 2002/30947 . . . . . {~~Fractal geometry~~  
<administratively transferred to [A61F 2002/30943](#) ADD>
- U A61F 2002/30948 . . . . . {using computerized tomography, i.e. CT scans}
- D A61F 2002/3095 . . . . . {~~using computerized axial tomography, i.e. CAT scans~~  
<administratively transferred to [A61F 2002/30948](#) ADD>
- U A61F 2002/30957 . . . . . {using a positive or a negative model, e.g. moulds}
- D A61F 2002/30958 . . . . . {~~using lost patterns, e.g. lost wax~~  
<administratively transferred to [A61F 2002/30957](#) ADD>
- D A61F 2002/3098 . . . . {~~using physical vapour deposition [PVD]~~  
<administratively transferred to [A61F 2/3094](#) ADD>
- D A61F 2002/30981 . . . . {~~using chemical vapour deposition [CVD]~~  
<administratively transferred to [A61F 2/3094](#) ADD>
- D A61F 2002/30983 . . . . {~~using electrostatic spray deposition [ESD]~~  
<administratively transferred to [A61F 2/3094](#) ADD>
- D A61F 2002/30986 . . . . {~~using hot isostatic pressing [HIP]~~  
<administratively transferred to [A61F 2/3094](#) ADD>
- U A61F 2/32 . . . for the hip
- NOTE  
Documents, which are of interest for more than one of the following subgroups, are classified in the hierarchically higher group only
- U A61F 2002/3241 . . . . {having a ring, e.g. for locking the femoral head into the acetabular cup}
- D A61F 2002/325 . . . . . {~~Split ring~~  
<administratively transferred to [A61F 2002/3241](#) ADD>
- D A61F 2002/3258 . . . . . {~~Elastic or split ring, slidable from a first insertion position to a second locked position~~  
<administratively transferred to [A61F 2002/3241](#) ADD>
- D A61F 2002/3266 . . . . . {~~Wire ring~~  
<administratively transferred to [A61F 2002/3241](#) ADD>
- D A61F 2002/3275 . . . . . {~~Partial ring, i.e. not extending along the entire equatorial circumference~~  
<administratively transferred to [A61F 2002/3241](#) ADD>
- D A61F 2002/3283 . . . . . {~~having two rings~~  
<administratively transferred to [A61F 2002/3241](#) ADD>
- D A61F 2002/3291 . . . . . {~~for locking two concentric acetabular shells~~  
<administratively transferred to [A61F 2002/30495](#) ADD>
- U A61F 2/34 . . . . Acetabular cups
- U A61F 2002/3401 . . . . . {with radial apertures, e.g. radial bores for receiving fixation screws}
- U A61F 2002/3403 . . . . . {Polar aperture}
- D A61F 2002/3404 . . . . . {~~internally threaded~~  
<administratively transferred to [A61F 2002/3403](#) ADD>
- D A61F 2002/3409 . . . . . {~~having a bayonet coupling between an outer shell and a bearing insert~~  
<administratively transferred to [A61F 2002/30426](#) ADD>

- D A61F 2002/3411 . . . . . {having a snap connection between two concentric shells}  
<administratively transferred to [A61F 2002/305](#) ADD>
- U A61F 2002/3412 . . . . . {with pins or protrusions, e.g. non-sharp pins or protrusions projecting from a shell surface}
- U A61F 2002/3414 . . . . . {Polar protrusion, e.g. for centering two concentric shells}
- D A61F 2002/3416 . . . . . {externally-threaded}  
<administratively transferred to [A61F 2002/3414](#) ADD>
- U A61F 2002/3417 . . . . . {the outer shell having protrusions on meridian lines, e.g. equidistant fins or wings around the equatorial zone}
- D A61F 2002/3419 . . . . . {Meridian ribs}  
<administratively transferred to [A61F 2002/3417](#) ADD>
- U A61F 2002/342 . . . . . {the outer shell having circumferential protrusions parallel to the equatorial plane, e.g. circumferential fins or wings}
- D A61F 2002/3422 . . . . . {Circumferential ribs}  
<administratively transferred to [A61F 2002/342](#) ADD>
- D A61F 2002/3424 . . . . . {arranged in rows, the circumferential ribs covering only partially the outer shell surface, e.g. located in the equatorial zone}  
<administratively transferred to [A61F 2002/342](#) ADD>
- U A61F 2002/3425 . . . . . {the outer shell having non-meridian protrusions, e.g. fins or wings, located in planes inclined or perpendicular with respect to the equatorial plane}
- D A61F 2002/3427 . . . . . {Non-meridian ribs, e.g. parallel ribs, inclined or perpendicular with respect to the equatorial plane}  
<administratively transferred to [A61F 2002/3425](#) ADD>
- U A61F 2002/3429 . . . . . {with an integral peripheral collar or flange, e.g. oriented away from the shell centre line}
- D A61F 2002/3433 . . . . . {with cut-outs, e.g. for allowing escape of excess bone cement}  
<administratively transferred to [A61F 2002/3429](#) ADD and [A61F 2002/4631](#) ADD>
- D A61F 2002/3438 . . . . . {hollow, e.g. clearance between inner and outer shells}  
<administratively transferred to [A61F 2002/30593](#) ADD>
- D A61F 2002/3451 . . . . . {with angular positioning means for selecting any one of a plurality of radial orientations between two concentric shells, e.g. at discrete positions}  
<administratively transferred to [A61F 2002/3054](#) ADD>
- U A61F 2002/3453 . . . . . {having a non-hemispherical convex outer surface, e.g. quadric-shaped}
- U A61F 2002/3456 . . . . . {ellipsoidal or having a flattened polar region}
- D A61F 2002/3458 . . . . . {having a flattened polar plane}  
<administratively transferred to [A61F 2002/3456](#) ADD>
- U A61F 2002/3459 . . . . . {made of different partially-spherical portions}
- D A61F 2002/3461 . . . . . {having a lower equatorial peripheral spherical portion and an upper polar spherical portion, e.g. of differing radii or centres of rotation}  
<administratively transferred to [A61F 2002/3459](#) ADD>
- U A61F 2002/3462 . . . . . {having a frustoconical external shape, e.g. entirely frustoconical}
- D A61F 2002/3464 . . . . . {partially frustoconical}  
<administratively transferred to [A61F 2002/3462](#) ADD>

- U A61F 2002/3466 . . . . . {having a cylindrical external shape, e.g. entirely cylindrical}
- D A61F 2002/3467 . . . . . {~~partially cylindrical~~  
<administratively transferred to [A61F 2002/3466](#) ADD>
- D A61F 2002/347 . . . . . {~~with a slotted shell, e.g. outer shell having radial or meridian slots~~  
<administratively transferred to [A61F 2002/30594](#) ADD>
- D A61F 2002/3472 . . . . . {~~with one radial or meridian slot ending in a polar aperture~~  
<administratively transferred to [A61F 2002/30594](#) ADD>
- D A61F 2002/3474 . . . . . {~~slots ending in non-polar apertures~~  
<administratively transferred to [A61F 2002/30594](#) ADD>
- D A61F 2002/3475 . . . . . {~~horizontal slots, i.e. parallel to the equatorial plane~~  
<administratively transferred to [A61F 2002/30594](#) ADD>
- D A61F 2002/3477 . . . . . {~~arcuate slots~~  
<administratively transferred to [A61F 2002/30594](#) ADD>
- U A61F 2002/348 . . . . . {Additional features}
- D A61F 2002/3488 . . . . . {~~for allowing sliding or for preventing hurting of the psoas muscle~~  
<administratively transferred to [A61F 2002/30688](#) ADD>
- U A61F 2002/349 . . . . . {Shell having a wavy or undulated peripheral rim}
- D A61F 2002/3491 . . . . . {~~partial, i.e. not extending along the entire equatorial circumference~~  
<administratively transferred to [A61F 2002/349](#) ADD>
- D A61F 2002/3496 . . . . . {~~having a non-spherical concave inner surface~~  
<administratively transferred to [A61F 2002/30655](#) ADD>
- D A61F 2002/3498 . . . . . {~~made of different partially-spherical concave portions~~  
<administratively transferred to [A61F 2002/30657](#) ADD>
- U A61F 2/36 . . . . . Femoral heads {; Femoral endoprotheses}
- U A61F 2/3609 . . . . . {Femoral heads or necks; Connections of endoprosthetic heads or necks to endoprosthetic femoral shafts ([A61F 2/3601](#) takes precedence)}
- U A61F 2002/3611 . . . . . {Heads or epiphyseal parts of femur}
- D A61F 2002/3617 . . . . . {~~with special cut-outs, e.g. flat cut-outs for inserting the head into a cooperating shell, in a given insertion position~~  
<administratively transferred to [A61F 2002/30652](#) ADD>
- D A61F 2002/3619 . . . . . {~~hollow~~  
<administratively transferred to [A61F 2002/30593](#) ADD>
- U A61F 2002/3625 . . . . . {Necks}
- U A61F 2002/3627 . . . . . {with lateral apertures, holes or openings}
- D A61F 2002/3629 . . . . . {~~inclined obliquely~~  
<administratively transferred to [A61F 2002/3627](#) ADD>
- U A61F 2002/3631 . . . . . {with an integral complete or partial peripheral collar or bearing shoulder at its base}
- D A61F 2002/3633 . . . . . {~~with an integral protrusion extending distally under the collar~~  
<administratively transferred to [A61F 2002/3631](#) ADD and [A61F 2002/30878](#) ADD>
- D A61F 2002/3635 . . . . . {~~having a separate element placed under the collar~~  
<administratively transferred to [A61F 2002/3631](#) ADD and [A61F 2/30734](#) ADD>

D	A61F 2002/3637	. . . . . {with an angled portion, e.g. oriented towards the lesser trochanter}
		<administratively transferred to <a href="#">A61F 2002/3631</a> ADD>
D	A61F 2002/3639	. . . . . {with cut-outs}
		<administratively transferred to <a href="#">A61F 2002/3631</a> ADD>
D	A61F 2002/3641	. . . . . {pierced with apertures perpendicular to the collar longitudinal axis}
		<administratively transferred to <a href="#">A61F 2002/3631</a> ADD and <a href="#">A61F 2002/30772</a> ADD>
D	A61F 2002/3643	. . . . . {pierced with apertures parallel or oblique with respect to the collar longitudinal axis}
		<administratively transferred to <a href="#">A61F 2002/3631</a> ADD and <a href="#">A61F 2002/30772</a> ADD>
D	A61F 2002/3645	. . . . . {hollow}
		<administratively transferred to <a href="#">A61F 2002/30593</a> ADD>
U	A61F 2002/3647	. . . . . {pierced with a longitudinal bore}
D	A61F 2002/3649	. . . . . {offset from the neck central longitudinal axis}
		<administratively transferred to <a href="#">A61F 2002/3647</a> ADD>
D	A61F 2002/3656	. . . . . {with angular positioning means for selecting any one of a plurality of radial orientations, e.g. at discrete positions}
		<administratively transferred to <a href="#">A61F 2002/3054</a> ADD>
D	A61F 2002/3658	. . . . . {Two angular positions, e.g. located at 180 degrees intervals}
		<administratively transferred to <a href="#">A61F 2002/3054</a> ADD>
D	A61F 2002/366	. . . . . {at continuous positions}
		<administratively transferred to <a href="#">A61F 2002/3054</a> ADD>
U	A61F 2/3662	. . . . . {Femoral shafts}
D	A61F 2002/3664	. . . . . {with non-sharp protrusions}
		<administratively transferred to <a href="#">A61F 2002/30878</a> ADD>
D	A61F 2002/3666	. . . . . {Circumferential flanges or fins}
		<administratively transferred to <a href="#">A61F 2002/30881</a> ADD>
D	A61F 2002/3668	. . . . . {Longitudinal fins or wings, e.g. for preventing rotation within the intramedullary bone cavity}
		<administratively transferred to <a href="#">A61F 2002/30884</a> ADD>
U	A61F 2002/3678	. . . . . {Geometrical features}
U	A61F 2002/368	. . . . . {with lateral apertures, bores, holes or openings, e.g. for reducing the mass, for receiving fixation screws or for communicating with the inside of a hollow shaft}
D	A61F 2002/3682	. . . . . {Oblong apertures}
		<administratively transferred to <a href="#">A61F 2002/368</a> ADD>
D	A61F 2002/3684	. . . . . {inclined obliquely with respect to the shaft longitudinal axis, e.g. along the neck axis}
		<administratively transferred to <a href="#">A61F 2002/368</a> ADD>
D	A61F 2002/3692	. . . . . {hollow}
		<administratively transferred to <a href="#">A61F 2002/30593</a> ADD>
D	A61F 2002/3696	. . . . . {slotted}
		<administratively transferred to <a href="#">A61F 2002/30594</a> ADD>

U	A61F 2/40	. . . for shoulders
		<u>NOTE</u> Documents, which are of interest for more than one of the following subgroups, are classified in the hierarchically higher group only
U	A61F 2/4014	. . . . {Humeral heads or necks; Connections of endoprosthetic heads or necks to endoprosthetic humeral shafts}
U	A61F 2002/4018	. . . . . {Heads or epiphyseal parts of humerus}
D	A61F 2002/4025	. . . . . { <del>hollow</del> }
		<administratively transferred to <a href="#">A61F 2002/30593</a> ADD>
U	A61F 2002/4037	. . . . . {Connections of heads to necks}
D	A61F 2002/404	. . . . . { <del>with a clearance between proximal end of neck and inner end of head</del> }
		<administratively transferred to <a href="#">A61F 2002/4037</a> ADD>
U	A61F 2002/4044	. . . . . {Connections of necks to shafts}
D	A61F 2002/4048	. . . . . { <del>with an inner clearance between both parts</del> }
		<administratively transferred to <a href="#">A61F 2002/4044</a> ADD>
U	A61F 2002/4051	. . . . . {Connections of heads directly to shafts}
D	A61F 2002/4055	. . . . . { <del>with an inner clearance between both parts</del> }
		<administratively transferred to <a href="#">A61F 2002/4051</a> ADD>
U	A61F 2/42	. . . for wrists or ankles; for hands, e.g. fingers; for feet, e.g. toes
U	A61F 2/4225	. . . . {for feet, e.g. toes}
U	A61F 2002/4228	. . . . . {for interphalangeal joints, i.e. IP joints}
D	A61F 2002/423	. . . . . { <del>for big or great toes</del> }
		<administratively transferred to <a href="#">A61F 2002/4228</a> ADD>
U	A61F 2002/4233	. . . . . {for metatarso-phalangeal joints, i.e. MTP joints}
D	A61F 2002/4235	. . . . . { <del>for big or great toes</del> }
		<administratively transferred to <a href="#">A61F 2002/4233</a> ADD>
U	A61F 2/4241	. . . . {for hands, e.g. fingers}
U	A61F 2002/4243	. . . . . {for interphalangeal joints, i.e. IP joints}
D	A61F 2002/4246	. . . . . { <del>for distal interphalangeal joints, i.e. DIP joints</del> }
		<administratively transferred to <a href="#">A61F 2002/4243</a> ADD>
D	A61F 2002/4248	. . . . . { <del>for proximal interphalangeal joints, i.e. PIP joints</del> }
		<administratively transferred to <a href="#">A61F 2002/4243</a> ADD>
U	A61F 2/44	. . . for the spine, e.g. vertebrae, spinal discs
D	A61F 2002/4475	. . . . { <del>hollow</del> }
		<administratively transferred to <a href="#">A61F 2002/30593</a> ADD>
U	A61F 2/46	. . . Special tools or methods for implanting or extracting artificial joints, accessories, bone grafts or substitutes, or particular adaptations therefor
T	A61F 2/4601	. . . . {for introducing bone substitute, for implanting bone graft implants or for compacting them in the bone cavity ( <del>for introducing bone cement A61B 17/8805</del> )}
D	A61F 2002/4602	. . . . . { <del>for compacting</del> }
		<administratively transferred to <a href="#">A61F 2/4601</a> ADD>
U	A61F 2/4603	. . . . {for insertion or extraction of endoprosthetic joints or of accessories thereof}

- D A61F 2002/4623 . . . . {having a handle portion, e.g. integral with the implanting tool}  
<administratively transferred to [A61F 2/4603](#)>
- D A61F 2002/4624 . . . . {releasable from the implanting tool}  
<administratively transferred to [A61F 2/4603](#)>
- U A61F 2002/4635 . . . . {using minimally invasive surgery}
- D A61F 2002/4636 . . . . {through the hip femoral neck}  
<administratively transferred to [A61F 2002/4635](#) ADD>
- U A61F 2/4637 . . . . {for connecting or disconnecting two parts of a prosthesis}
- D A61F 2002/464 . . . . {of end caps for closing a prosthetic cavity}  
<administratively transferred to [A61F 2/4637](#)>
- D A61F 2002/4642 . . . . {for inserting or connecting a locking mechanism}  
<administratively transferred to [A61F 2/4637](#)>
- U A61F 2002/465 . . . . {using heating means}
- D A61F 2002/4651 . . . . {Electric or electromagnetic heating}  
<administratively transferred to [A61F 2002/465](#) ADD>
- U A61F 2002/4653 . . . . {using cooling means}
- D A61F 2002/4654 . . . . {Cryogenic cooling}  
<administratively transferred to [A61F 2002/4653](#) ADD>
- D A61F 2002/4679 . . . . {having quick release means}  
<administratively transferred to [A61F 2/46](#) ADD>
- U A61F 2002/4688 . . . . {having operating or control means}
- U A61F 2002/4696 . . . . {optical}
- D A61F 2002/4697 . . . . {visual}  
<administratively transferred to [A61F 2002/4696](#) ADD>
- U A61F 2/50 . Prostheses not implantable in the body {(closure means for urethra or rectum or for artificial body openings therefor [A61F 2/0004](#))}
- U A61F 2/78 . . Means for protecting prostheses or for attaching them to the body, e.g. bandages, harnesses, straps, or stockings for the limb stump
- A61F 2002/7862 . . . {Harnesses, straps (for connecting prosthetic parts [A61F-2002/30464](#) [A61F 2002/30462](#))}
- A61F 2002/7875 . . . {with releasable ratchets or pegs (snap connections [A61F 2002/305](#); pushing a peg into a hole [A61F-2002/3038](#) [A61F 2002/30331](#))}

## Project: RP0635 (A61K)

## M A61K 6/00

**Preparations for dentistry (~~teeth cleaning preparations A61K 8/00; A61Q 11/00; fastening dental prostheses in the mouth using adhesive foils or adhesive compositions {A61C 13/0025}~~)**

## NOTE

In groups A61K 6/00 - A61K 6/0044 and A61K 6/083 - A61K 6/10, the use of specific polymers is indicated by addition of classification symbols of the subclass C08L preceded by the sign "+", e.g. compositions for taking dental impressions containing alginates are classified in A61K 6/10 + C08L 5/04

*In groups A61K 6/00 - A61K 6/58 and A61K 6/887 - A61K 6/90, combination sets [C-Sets] are used, e.g. compositions for taking dental impressions containing alginates are classified as (A61K 6/90, C08L 5/04)*



- D A61K 6/0002      • {Compositions characterised by physical properties}  
                            <administratively transferred to [A61K 6/15](#)>
- D A61K 6/0005      • • {by refractive index}  
                            <administratively transferred to [A61K 6/16](#)>
- D A61K 6/0008      • • {by particle size}  
                            <administratively transferred to [A61K 6/17](#)>
- D A61K 6/0011      • • {by retraction, e.g. compositions for widening the sulcus for making dental  
                            impressions or removing teeth}  
                            <administratively transferred to [A61K 6/18](#)>
- D A61K 6/0014      • • {Self-expanding, e.g. for filling teeth}  
                            <administratively transferred to [A61K 6/19](#)>
- D A61K 6/0017      • • {Protective coating for natural or artificial teeth, such as sealing, dye coating,  
                            varnish}  
                            <administratively transferred to [A61K 6/20](#)>
- D A61K 6/002        • • {Compositions for detecting or measuring, e.g. contact points, irregularities on  
                            natural or artificial teeth}  
                            <administratively transferred to [A61K 6/25](#)>
- D A61K 6/0023      • {Chemical means for temporarily or permanently fixing teeth, palates or the like}  
                            <administratively transferred to [A61K 6/30](#)>
- D A61K 6/0026      • • {Preparations for stabilising dentures in the mouth}  
                            <administratively transferred to [A61K 6/35](#)>
- D A61K 6/0029      • {Primers (adhesive primers A61K 6/0023)}  
                            <administratively transferred to [A61K 6/40](#)>
- D A61K 6/0032      • {Use of preparations for dental root treatment}  
                            <administratively transferred to [A61K 6/50](#)>
- D A61K 6/0035      • • {Cleaning; Disinfecting}  
                            <administratively transferred to [A61K 6/52](#)>
- D A61K 6/0038      • • {Filling; Sealing}  
                            <administratively transferred to [A61K 6/54](#)>
- D A61K 6/0041      • • {Apical treatment}  
                            <administratively transferred to [A61K 6/56](#)>
- D A61K 6/0044      • • {in combination with dental implants}  
                            <administratively transferred to [A61K 6/58](#)>
- D A61K 6/0047      • {Preparations for dentistry characterised by the presence of organic or organo-  
                            metallic additives}  
                            <administratively transferred to [A61K 6/60](#)>
- D A61K 6/005        • • {Cationic, anionic or redox initiators}  
                            <administratively transferred to [A61K 6/61](#)>
- D A61K 6/0052      • • {Photochemical radical initiators}  
                            <administratively transferred to [A61K 6/62](#)>
- D A61K 6/0055      • • {Thermal radical initiators}  
                            <administratively transferred to [A61K 6/64](#)>
- D A61K 6/0058      • • {Dyes}  
                            <administratively transferred to [A61K 6/65](#)>

- |   |             |  |
|---|-------------|--|
| D | A61K 6/0061 | <ul style="list-style-type: none"> <li>• • {photochromic}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/66</a>&gt;</li> </ul>  |
| D | A61K 6/0064 | <ul style="list-style-type: none"> <li>• • • {thermochromic}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/68</a>&gt;</li> </ul>   |
| D | A61K 6/0067 | <ul style="list-style-type: none"> <li>• • {Medicaments; Drugs}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/69</a>&gt;</li> </ul>  |
| D | A61K 6/007  | <ul style="list-style-type: none"> <li>• {Preparations for dentistry characterized by the presence of inorganic additives}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/70</a>&gt;</li> </ul> |
| D | A61K 6/0073 | <ul style="list-style-type: none"> <li>• • {Fillers}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/71</a>&gt;</li> </ul>   |
| D | A61K 6/0076 | <ul style="list-style-type: none"> <li>• • • {comprising nitrogen-containing compounds}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/72</a>&gt;</li> </ul>                                    |
| D | A61K 6/0079 | <ul style="list-style-type: none"> <li>• • • {comprising sulfur-containing compounds}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/73</a>&gt;</li> </ul>                                      |
| D | A61K 6/0082 | <ul style="list-style-type: none"> <li>• • • {comprising phosphorus-containing compounds}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/74</a>&gt;</li> </ul>                                  |
| D | A61K 6/0085 | <ul style="list-style-type: none"> <li>• • • • {Apatite}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/75</a>&gt;</li> </ul>   |
| D | A61K 6/0088 | <ul style="list-style-type: none"> <li>• • • {comprising silicon-containing compounds}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/76</a>&gt;</li> </ul>                                     |
| D | A61K 6/0091 | <ul style="list-style-type: none"> <li>• • • {Glass}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/77</a>&gt;</li> </ul>   |
| D | A61K 6/0094 | <ul style="list-style-type: none"> <li>• • {Pigments}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/78</a>&gt;</li> </ul>  |
| D | A61K 6/0097 | <ul style="list-style-type: none"> <li>• • {Initiators}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/79</a>&gt;</li> </ul>  |
| D | A61K 6/02   | <ul style="list-style-type: none"> <li>• Use of preparations for artificial teeth, for filling or for capping teeth</li> <li>&lt;administratively transferred to <a href="#">A61K 6/80</a>&gt;</li> </ul>        |
| D | A61K 6/0205 | <ul style="list-style-type: none"> <li>• • {Ceramics}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/802</a>&gt;</li> </ul>   |
| D | A61K 6/021  | <ul style="list-style-type: none"> <li>• • • {comprising manganese oxide}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/804</a>&gt;</li> </ul>   |
| D | A61K 6/0215 | <ul style="list-style-type: none"> <li>• • • {comprising magnesium oxide}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/807</a>&gt;</li> </ul>   |
| D | A61K 6/022  | <ul style="list-style-type: none"> <li>• • • {comprising beryllium oxide}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/809</a>&gt;</li> </ul>   |
| D | A61K 6/0225 | <ul style="list-style-type: none"> <li>• • • {comprising chromium oxide}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/811</a>&gt;</li> </ul>  |
| D | A61K 6/023  | <ul style="list-style-type: none"> <li>• • • {comprising iron oxide}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/813</a>&gt;</li> </ul>  |
| D | A61K 6/0235 | <ul style="list-style-type: none"> <li>• • • {comprising titanium oxide}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/816</a>&gt;</li> </ul>  |

- |   |             |  |
|---|-------------|--|
| D | A61K 6/024  | <ul style="list-style-type: none"> <li>• • • {comprising zirconium-oxide}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/818</a>&gt;</li> </ul>   |
| D | A61K 6/0245 | <ul style="list-style-type: none"> <li>• • • {comprising hafnium-oxide}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/82</a>&gt;</li> </ul>  |
| D | A61K 6/025  | <ul style="list-style-type: none"> <li>• • • {comprising rare-earth-metal-oxides}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/822</a>&gt;</li> </ul>   |
| D | A61K 6/0255 | <ul style="list-style-type: none"> <li>• • • {comprising transition-metal-oxides}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/824</a>&gt;</li> </ul>   |
| D | A61K 6/026  | <ul style="list-style-type: none"> <li>• • • {Leucite}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/827</a>&gt;</li> </ul>  |
| D | A61K 6/0265 | <ul style="list-style-type: none"> <li>• • {Cermets-composites}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/829</a>&gt;</li> </ul>   |
| D | A61K 6/027  | <ul style="list-style-type: none"> <li>• • Use of non-metallic elements or compounds thereof, e.g. carbon {{non-metallic elements per se C01B}}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/831</a>&gt;</li> </ul> |
| D | A61K 6/0273 | <ul style="list-style-type: none"> <li>• • • {Glass-ceramic-composites}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/833</a>&gt;</li> </ul>   |
| D | A61K 6/0276 | <ul style="list-style-type: none"> <li>• • • {Glasses}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/836</a>&gt;</li> </ul>  |
| D | A61K 6/033  | <ul style="list-style-type: none"> <li>• • • {Phosphorus-compounds, e.g. apatite}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/838</a>&gt;</li> </ul>   |
| D | A61K 6/04   | <ul style="list-style-type: none"> <li>• • Use of metals or alloys (alloys per se C22C)</li> <li>&lt;administratively transferred to <a href="#">A61K 6/84</a>&gt;</li> </ul>  |
| D | A61K 6/043  | <ul style="list-style-type: none"> <li>• • • {Rare-earth-metals}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/842</a>&gt;</li> </ul>  |
| D | A61K 6/046  | <ul style="list-style-type: none"> <li>• • • {Noble-metals}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/844</a>&gt;</li> </ul>   |
| D | A61K 6/05   | <ul style="list-style-type: none"> <li>• • • Amalgams</li> <li>&lt;administratively transferred to <a href="#">A61K 6/847</a>&gt;</li> </ul>   |
| D | A61K 6/06   | <ul style="list-style-type: none"> <li>• • Use of inorganic cements (cements per se C04B)</li> <li>&lt;administratively transferred to <a href="#">A61K 6/849</a>&gt;</li> </ul>   |
| D | A61K 6/0606 | <ul style="list-style-type: none"> <li>• • • {Portland-cements}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/851</a>&gt;</li> </ul>   |
| D | A61K 6/0612 | <ul style="list-style-type: none"> <li>• • • {Silicates}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/853</a>&gt;</li> </ul>  |
| D | A61K 6/0618 | <ul style="list-style-type: none"> <li>• • • {Pozzolans}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/856</a>&gt;</li> </ul>  |
| D | A61K 6/0625 | <ul style="list-style-type: none"> <li>• • • {Calcium-sulfates/gypsum}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/858</a>&gt;</li> </ul>  |
| D | A61K 6/0631 | <ul style="list-style-type: none"> <li>• • • {Al-cements}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/86</a>&gt;</li> </ul>  |
| D | A61K 6/0637 | <ul style="list-style-type: none"> <li>• • • {Ca-Al-sulfate-cements}</li> <li>&lt;administratively transferred to <a href="#">A61K 6/862</a>&gt;</li> </ul>  |

- D A61K 6/0643
  - . . . {Phosphate cements (apatite A61K 6/033)}
  - <administratively transferred to [A61K 6/864](#)>
- D A61K 6/065
  - . . . {Ammonium cements}
  - <administratively transferred to [A61K 6/867](#)>
- D A61K 6/0656
  - . . . {Zeolite}
  - <administratively transferred to [A61K 6/869](#)>
- D A61K 6/0662
  - . . . {Quartz or  $\text{SiO}_2$ }
  - <administratively transferred to [A61K 6/871](#)>
- D A61K 6/0668
  - . . . {Carbonates}
  - <administratively transferred to [A61K 6/873](#)>
- D A61K 6/0675
  - . . . {Calcium oxide}
  - <administratively transferred to [A61K 6/876](#)>
- D A61K 6/0681
  - . . . {comprising zirconium oxide}
  - <administratively transferred to [A61K 6/878](#)>
- D A61K 6/0687
  - . . . {comprising chromium oxide}
  - <administratively transferred to [A61K 6/88](#)>
- D A61K 6/0693
  - . . . {comprising carbides}
  - <administratively transferred to [A61K 6/882](#)>
- D A61K 6/08
  - . . Use of natural or synthetic resins (resins per se C08)
  - <administratively transferred to [A61K 6/884](#)>
- D A61K 6/083
  - . . Compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds
  - <administratively transferred to [A61K 6/887](#)>
- D A61K 6/0835
  - . . . {Polycarboxylate cements or glass ionomer cements}
  - <administratively transferred to [A61K 6/889](#)>
- D A61K 6/087
  - . . Compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds
  - <administratively transferred to [A61K 6/891](#)>
- D A61K 6/09
  - . . . Polyurethanes
  - <administratively transferred to [A61K 6/893](#)>
- D A61K 6/093
  - . . . Polyorganosilicon compounds
  - <administratively transferred to [A61K 6/896](#)>
- D A61K 6/097
  - . . Polysaccharides
  - <administratively transferred to [A61K 6/898](#)>
- D A61K 6/10
  - . Compositions for taking dental impressions (impression methods A61C 9/00)
  - <administratively transferred to [A61K 6/90](#)>
- N A61K 6/15
  - . *Compositions characterised by their physical properties*
- N A61K 6/16
  - . *Refractive index*
- N A61K 6/17
  - . *Particle size*
- N A61K 6/18
  - . *causing dental retraction, e.g. compositions for widening the sulcus for making dental impressions or removing teeth*
- N A61K 6/19
  - . *Self-expanding, e.g. for filling teeth*
- N A61K 6/20
  - . *Protective coatings for natural or artificial teeth, e.g. sealings, dye coatings or varnish*

N	A61K 6/25	• Compositions for detecting or measuring, e.g. of irregularities on natural or artificial teeth
N	A61K 6/30	• Compositions for temporarily or permanently fixing teeth or palates, e.g. primers for dental adhesives
N	A61K 6/35	• • Preparations for stabilising dentures in the mouth
N	A61K 6/40	• Primers (for dental adhesives <a href="#">A61K 6/30</a> )
N	A61K 6/50	• Preparations specially adapted for dental root treatment
N	A61K 6/52	• • Cleaning; Disinfecting
N	A61K 6/54	• • Filling; Sealing
N	A61K 6/56	• • Apical treatment
N	A61K 6/58	• • specially adapted for dental implants
N	A61K 6/60	• comprising organic or organo-metallic additives
N	A61K 6/61	• • Cationic, anionic or redox initiators
N	A61K 6/62	• • Photochemical radical initiators
N	A61K 6/64	• • Thermal radical initiators
N	A61K 6/65	• • Dyes
N	A61K 6/66	• • • Photochromic dyes
N	A61K 6/68	• • • Thermochromic dyes
N	A61K 6/69	• • Medicaments
N	A61K 6/70	• comprising inorganic additives
N	A61K 6/71	• • Fillers
N	A61K 6/72	• • • comprising nitrogen-containing compounds
N	A61K 6/73	• • • comprising sulfur-containing compounds
N	A61K 6/74	• • • comprising phosphorus-containing compounds
N	A61K 6/75	• • • • Apatite
N	A61K 6/76	• • • comprising silicon-containing compounds
N	A61K 6/77	• • • Glass
N	A61K 6/78	• • Pigments
N	A61K 6/79	• • Initiators
N	A61K 6/80	• Preparations for artificial teeth, for filling teeth or for capping teeth
N	A61K 6/802	• • comprising ceramics
N	A61K 6/804	• • • comprising manganese oxide
N	A61K 6/807	• • • comprising magnesium oxide
N	A61K 6/809	• • • comprising beryllium oxide
N	A61K 6/811	• • • comprising chromium oxide
N	A61K 6/813	• • • comprising iron oxide
N	A61K 6/816	• • • comprising titanium oxide
N	A61K 6/818	• • • comprising zirconium oxide
N	A61K 6/82	• • • comprising hafnium oxide
N	A61K 6/822	• • • comprising rare earth metal oxides
N	A61K 6/824	• • • comprising transition metal oxides
N	A61K 6/827	• • • Leucite
N	A61K 6/829	• • comprising cermet composites
N	A61K 6/831	• • comprising non-metallic elements or compounds thereof, e.g. carbon
N	A61K 6/833	• • • Glass-ceramic composites

N	A61K 6/836	. . . Glass
N	A61K 6/838	. . . Phosphorus compounds, e.g. apatite
N	A61K 6/84	. . comprising metals or alloys
N	A61K 6/842	. . . Rare earth metals
N	A61K 6/844	. . . Noble metals
N	A61K 6/847	. . . Amalgams
N	A61K 6/849	. . comprising inorganic cements
N	A61K 6/851	. . . Portland cements
N	A61K 6/853	. . . Silicates
N	A61K 6/856	. . . Pozzolans
N	A61K 6/858	. . . Calcium sulfates, e.g. gypsum
N	A61K 6/86	. . . Al-cements
N	A61K 6/862	. . . Ca-Al-sulfate-cements
N	A61K 6/864	. . . Phosphate cements (apatite <a href="#">A61K 6/838</a> )
N	A61K 6/867	. . . Ammonium cements
N	A61K 6/869	. . . Zeolites
N	A61K 6/871	. . . Quartz; SiO <sub>2</sub>
N	A61K 6/873	. . . Carbonates
N	A61K 6/876	. . . Calcium oxide
N	A61K 6/878	. . . Zirconium oxide
N	A61K 6/88	. . . Chromium oxide
N	A61K 6/882	. . . Carbides
N	A61K 6/884	. . comprising natural or synthetic resins
N	A61K 6/887	. . . Compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds
N	A61K 6/889	. . . . Polycarboxylate cements; Glass ionomer cements
N	A61K 6/891	. . . Compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds
N	A61K 6/893	. . . . Polyurethanes
N	A61K 6/896	. . . . Polyorganosilicon compounds
N	A61K 6/898	. . . Polysaccharides
N	A61K 6/90	. Compositions for taking dental impressions

**Project: MP0461 (A61K)**

U	A61K 9/00	<b>Medicinal preparations characterised by special physical form (nuclear magnetic resonance contrast preparations or magnetic resonance imaging contrast preparations <a href="#">A61K 49/18</a>; preparations containing radioactive substances <a href="#">A61K 51/12</a>)</b>
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**NOTE**

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

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

- the drug release technique ( [A61K 9/0002](#) and subgroups),
- the site of application ( [A61K 9/0012](#) and subgroups), and
- the physical form ( [A61K 9/0087](#) - [A61K 9/7023](#) ).

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



- M A61K 9/06
- Ointments; Bases therefor; {Other semi-solid forms, e.g. creams, sticks, gels (composition of ointments, creams or gels [A61K 47/00](#))}
- WARNING**  
incomplete, see also [A61K 9/0012](#), [A61K 47/00](#)
- M A61K 9/08
- Solutions {(composition of solutions [A61K 47/00](#))}
- WARNING**  
incomplete, see also [A61K 9/0012](#), [A61K 47/00](#), [A61K 9/0095](#)
- M A61K 9/10
- Dispersions; Emulsions {([A61K 9/06](#) takes precedence; composition of dispersions, emulsions [A61K 47/00](#))}
- WARNING**  
incomplete, see also [A61K 9/0012](#), [A61K 47/00](#), [A61K 9/0095](#)
- M A61K 9/107
- Emulsions {; Emulsion preconcentrates; Micelles (composition of emulsions [A61K 47/00](#))}
- WARNING**  
incomplete, see also [A61K 9/0012](#), [A61K 47/00](#), [A61K 9/0095](#)

**Project: RP0640 (A61K)****U A61K 31/00****Medicinal preparations containing organic active ingredients****NOTES**

1. When classifying in groups [A61K 31/00](#) - [A61K 41/00](#) the symbol [A61K 2300/00](#) may be added, using Combination Sets, to indicate a mixture of active ingredients.
2. In the preparation of new organic compounds and their use in medicinal preparations, classification is only made in the relevant subclasses [C07C](#) - [C07J](#) according to the type of compound. However, the inventions dealing with medicinal preparations containing at least two active organic ingredients are always classified in this group in addition to the classification for the type of compounds in [C07C](#) - [C07J](#).
3. Attention is drawn to the notes in class [C07](#), particularly to the definition of steroids given in Note (1) following the title of [C07J](#) and to the definition of carbohydrates and sugars given in the notes following the title of [C07H](#).
4. Salts and complexes of organic active compounds are always classified according to the free active compounds. If a complex is formed between two or more active compounds, then they are classified according to all compounds forming the salts or complexes followed by the symbol [A61K 2300/00](#) (i.e. as a mixture of active organic compounds). According to the last place rule, organic active compounds forming salts with heavy metals should be classified in [A61K 33/24](#) - [A61K 33/38](#) and not in subgroups [A61K 31/28](#) - [A61K 31/32](#), [A61K 31/555](#) or [A61K 31/714](#).  
This does not apply to complexes, as apparent from the [A61K 31/00](#) scheme, wherein the complexes hemin and hematin are classified in [A61K 31/555](#) and cyanocobalamin in [A61K 31/714](#).
5. From January 2003 onwards, the EPO copies into CPC the IPC classification of the first document received (family representative). However, blends of active ingredients receive the additional symbol [A61K 2300/00](#) as Combination Set.

- U A61K 31/33
- Heterocyclic compounds

- M A61K 31/395
- having nitrogen as a ring hetero atom, e.g. guanethidine, ~~rifamycins~~ *or rifamycins* (~~rifampin A61K 31/496~~)
- WARNING  
Group [A61K 31/395](#) is impacted by reclassification into group [A61K 31/5545](#). Groups [A61K 31/395](#) and [A61K 31/5545](#) should be considered in order to perform a complete search.
- U A61K 35/00
- Medicinal preparations containing materials or reaction products thereof with undetermined constitution**
- NOTES
1. In this group, classification is made for each active component or material. For each active component or material, classification is then made in the last appropriate place.
  2. When classifying in this group, classification is also made in group [B01D 15/08](#) insofar as subject matter of general interest relating to chromatography is concerned.
- M A61K 35/12
- Materials from mammals; Compositions comprising non-specified tissues or cells; Compositions comprising non-embryonic stem cells; Genetically modified cells (~~uncharacterised stem cells A61K 35/545~~; vaccines or medicinal preparations containing antigens or antibodies [A61K 39/00](#))
- NOTE  
If the cells are characterised, classification is made in the group covering the corresponding tissue or tissue of origin.

**Project: RP0636 (A61K)**

- M A61K 41/00
- Medicinal preparations obtained by treating materials with wave energy or particle radiation** ~~{; {Therapies using these preparations}}~~ (~~A61K 31/59 takes precedence; generation of ultrasonic waves B06B; electric discharge tubes H01J~~)
- D A61K 41/0009
- ~~{Inactivation or decontamination of a medicinal preparation prior to administration to the animal or human, e.g. : inactivation of viruses or bacteria for vaccines; sterilisation by electromagnetic radiation}~~
- NOTE  
~~See A61K 41/0019 for the specific method; see A61L 2/0029 if the invention lies in the method of sterilization of the medicinal preparation rather than the sterilized medicinal preparation~~
- <administratively transferred to [A61K 41/10](#)>
- D A61K 41/0014
- ~~{by ultrasonic waves}~~
- <administratively transferred to [A61K 41/13](#)>
- D A61K 41/0019
- ~~{by UV, IR, Rx or gamma rays}~~
- <administratively transferred to [A61K 41/17](#)>
- U A61K 41/009
- {Neutron capture therapy, e.g. using uranium or non-boron material}
- U A61K 41/0095
- {Boron neutron capture therapy, i.e. BNCT, e.g. using boronated porphyrins}
- N A61K 41/10
- *Inactivation or decontamination of a medicinal preparation prior to administration to an animal or a person*
- N A61K 41/13
- *by ultrasonic waves*
- N A61K 41/17
- *by ultraviolet [UV] or infrared [IR] light, X-rays or gamma rays*

**Project: RP0635 (A61L)****A61L 27/00**

**Materials for {grafts or} prostheses or for coating {grafts or} prostheses (dental prostheses [A61C 13/00](#); shape or structure of prostheses [A61F 2/00](#); use of preparations for artificial teeth [A61K 6/02](#) [A61K 6/80](#); artificial kidneys [A61M 1/14](#))**

NOTES

1. In groups [A61L 27/02](#) - [A61L 27/48](#), the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place.
2. When classifying in groups [A61L 27/02](#) - [A61L 27/48](#), classification is also made in groups [A61L 27/50](#) - [A61L 27/60](#) if the use of materials characterised by their function or physical properties is of interest.
3. When classifying in group [A61L 27/00](#), classification is also made in [A61L 33/00](#) if the materials used are antithrombogenic
4. In group [A61L 27/00](#), the use of specific polymers is indicated using the relevant classification symbols of subclass [C08L](#) in the second position of the combination set, e.g. prosthesis based on polyvinylchloride [A61L 27/16](#), [C08L 27/06](#)

**Project: RP0619 (A61M)****U A61M 15/00****Inhalators {(drug delivery in endotracheal tubes [A61M 16/04](#))}**

A61M 15/06

- Inhaling appliances shaped like cigars, cigarettes or pipes  ~~{(simulated smoking devices, e.g. imitation cigarettes, [A24F 47/002](#))}~~

**Project: RP0639 (B01B)****M B01B****BOILING; BOILING APPARATUS {; EVAPORATION; EVAPORATION APPARATUS}**WARNING

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

**M B01B 1/00**

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

M B01B 1/02

- Preventing foaming  ~~(in general [B01D 19/02](#))~~

**Project: RP0638 (B09C)****M B09C**

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

NOTE

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

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

WARNING

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

B09C 1/04 covered by B09C 1/02

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

- U B09C 1/00 Reclamation of contaminated soil
- M B09C 1/06
  - thermally ~~(incinerators for contaminated soil F23G 7/14)~~
- M B09C 1/08
  - chemically ~~(chemical means for combating harmful chemical agents A62D 3/00)~~

#### Project: MP0442 (B23B)

- U B23B 2231/00 Details of chucks, toolholder shanks or tool shanks
- U B23B 2231/02
  - Features of shanks of tools not relating to the operation performed by the tool
- M B23B 2231/0216
  - • Overall cross sectional shape of the shank ~~(not used)~~

#### Project: MP0442 (B29B)

- M B29B 2911/00 Indexing scheme related to making preforms for blow-moulding bottles or the like ~~(not used)~~
- M B29B 2911/14
  - Layer configuration, geometry, dimensions or physical properties of preforms for blow-moulding bottles or the like ~~(not used)~~
- M B29B 2911/14006
  - • layer configuration ~~(not used)~~
- M B29B 2911/1432
  - • Geometry ~~(not used)~~
- M B29B 2911/14586
  - • Mentioned dimensions ~~(not used)~~

#### Project: MP0461 (B29C)

- U B29C 66/00 {General aspects of processes or apparatus for joining preformed parts (means for handling the parts to be joined [B29C 65/78](#); testing the joint [B29C 65/82](#))}
- U B29C 66/004
  - {Preventing sticking together, e.g. of some areas of the parts to be joined}
- M B29C 66/0046
  - • {by the use of a lubricant, e.g. fluid, powder}

**WARNING**  
Group B29C 66/0046 and subgroups are not complete, pending a reorganisation; see also B29C 66/004 and its subgroups
- U B29C 66/01
  - {General aspects dealing with the joint area or with the area to be joined ([B29C 65/76](#), [B29C 65/82](#) take precedence)}
- U B29C 66/02
  - • {Preparation of the material, in the area to be joined, prior to joining or welding ([B29C 66/32](#) takes precedence)}
- M B29C 66/022
  - • • {Mechanical pre-treatments, e.g. reshaping}

**WARNING**  
Subgroups of B29C 66/022 are not complete, pending a reorganisation; see also this group
- M B29C 66/024
  - • • {Thermal pre-treatments}

**WARNING**  
Subgroups of B29C 66/024 are not complete, pending a reorganisation; see also this group
- M B29C 66/026
  - • • {Chemical pre-treatments ([B29C 66/028](#) takes precedence)}

**WARNING**  
Not complete, pending a reorganisation; see also B29C 66/02

- M B29C 66/028
- • • {Non-mechanical surface pre-treatments, i.e. by flame treatment, electric discharge treatment, plasma treatment, wave energy or particle radiation (B29C 65/14 takes precedence; non-mechanical surface treatment of plastics in general B29C 59/08 - B29C 59/16)}
- WARNING**  
Not complete, pending a reorganisation; see also B29C 66/02
- U B29C 66/70
- {characterised by the composition, physical properties or the structure of the material of the parts to be joined; Joining with non-plastics material (chemical aspects C08J 5/12, C09J)}
- WARNING**  
Group B29C 66/70 and subgroups are not complete, pending a reorganisation; see also B29C 65/00 and its subgroups
- U B29C 66/72
- {characterised by the structure of the material of the parts to be joined}
- M B29C 66/721
- • • {Fibre-reinforced materials (B29C 66/729 takes precedence)}
- WARNING**  
Subgroups of B29C 66/721 are not complete, pending a reorganisation; see also this group
- M B29C 66/7212
- • • • {characterised by the composition of the fibres}
- WARNING**  
Not complete, pending a reorganisation

**Project: MP0442 (B29C)**

- U B29C 2945/00 **Indexing scheme relating to injection moulding, i.e. forcing the required volume of moulding material through a nozzle into a closed mould**
- U B29C 2945/76
- Measuring, controlling or regulating
- M B29C 2945/76003
- • Measured parameter ~~(not used)~~
- M B29C 2945/76177
- • Location of measurement ~~(not used)~~
- M B29C 2945/76344
- • Phase or stage of measurement ~~(not used)~~
- M B29C 2945/76451
- • Measurement means ~~(not used)~~
- M B29C 2945/76494
- • Controlled parameter ~~(not used)~~
- M B29C 2945/76655
- • Location of control ~~(not used)~~
- M B29C 2945/76822
- • Phase or stage of control ~~(not used)~~
- M B29C 2945/76929
- • Controlling method ~~(not used)~~

**Project: MP0442 (B29D)**

- M B29D 99/00 **Subject matter not provided for in other groups of this subclass ~~{(not used; see subgroups)}~~**

**Project: RP0613 (B32B)**

- M B32B **LAYERED PRODUCTS, i.e. PRODUCTS BUILT-UP OF STRATA OF FLAT OR NON-FLAT, e.g. CELLULAR OR HONEYCOMB, FORM**

**NOTES**

1. This subclass covers:

- layered products comprising different kinds of material or layered products not characterised by the particular kind of material used;
- a product similar to a layered product but comprising only material in the form of a sheet or network embedded in a mass of plastics or of

physically-similar substances which mass penetrates the said sheet or network and lies on both sides of the latter (e.g. so that the sheet or network reinforces the plastics substance) PROVIDED THAT the embedded sheet or network extends coherently or connectedly over substantially the whole area of the product; thus the embedded sheet or network may be a fabric or a series of rods connected by cross wires. The manner of making such a product is, however, classified in this subclass only if it is essentially a process of building-up an assembly of layers of which at least one outer layer is preformed. If the embedded material comprises only a series of unconnected rods, the product is not classified in this subclass.

2. This subclass does not cover:

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

3. In this subclass:

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

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

- "layer" is a sheet or strip or anything else having a small thickness relatively to its other dimensions which, together with at least one other layer, exists in a product, whether it pre-existed, e.g. as a separate sheet or strip, or was formed during the production of the layered product. It may or may not be homogeneous or cohesive; it may be an assembly of fibres or pieces of material. It may be discontinuous, e.g. in the form of a grating, honeycomb, or frame. It may ~~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.

**5. In this subclass,**

- The classification of layered products is provided for in many classes, most of which are confined to a particular kind of material. However, in order that this subclass may provide a basis for making a complete search with respect to layered products, all relevant subject matter is classified in this subclass even though it may also be classified in other classes.

**WARNING**

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

B32B 3/24	covered by	<a href="#">B32B 3/266</a>
B32B 17/12	covered by	<a href="#">B32B 17/067</a>

**M B32B 3/00**

**Layered products comprising a layer with external or internal discontinuities or unevennesses, or a layer of non-planar form {(fibrous or filamentary ~~layers~~ [layer B32B 5/02](#); ~~particulate layers B32B 5/16~~; ~~foamed layers B32B 5/18~~; [particulate layer B32B 5/16](#); [foamed layer B32B 5/18](#)); -Layered products having particular features of form (receptacles or tubular products [B32B 1/00](#))}**

**WARNING**

Group [B32B 3/00](#) is incomplete pending reclassification of documents from group [B29D 2009/00](#).

Groups [B29D 2009/00](#) and [B32B 3/00](#) should be considered in order to perform a complete search.

**M B32B 3/26**

- characterised by a particular shape of the outline of the cross-section of a continuous layer; characterised by a layer with cavities or internal voids {(~~B32B 27/205 takes precedence~~; foam layer ~~B32B 15/08~~ [B32B 5/18](#); [layer of synthetic resin characterised by fillers that create voids or cavities B32B 27/205](#)); {characterised by an apertured layer}

**U B32B 5/00**

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

**NOTE**

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

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

NOTES

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

- M B32B 33/00
- Layered products characterised by particular properties or particular surface features, e.g. particular surface coatings (~~surface unevennesses or non-uniformities B32B 3/00~~); Layered products designed for particular purposes not covered by another single class**

WARNING

Group [B32B 33/00](#) is incomplete pending reclassification of documents from group [B29D 2009/00](#).  
Groups [B29D 2009/00](#) and [B32B 33/00](#) should be considered in order to perform a complete search.

**Project: MP0442 (B32B)**

- U B32B 37/00 **Methods or apparatus for laminating, e.g. by curing or by ultrasonic bonding**
- U B32B 37/12
- characterised by using adhesives
- M B32B 2037/1246
- {Other adhesives (~~not used~~)}

**Project: RP0613 (B32B)**

- U B32B 38/00 **Ancillary operations in connection with laminating processes**

NOTE

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

- "in connection with laminating processes" means ancillary operations are carried out either
  - as steps of the lamination processes, or
  - in line with the lamination processes, just before or immediately after.

}

- M B32B 38/10
- Removing layers, or parts of layers, mechanically or chemically (~~punching; slitting or perforating B32B 38/04~~)

**Project: RP0136-F (B32B)**

- M B32B 2266/00 **Composition of foam**

WARNING

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

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

M B32B 2266/02

- Organic

WARNING

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

M B32B 2266/031

- Bituminous or tarry material

WARNING

Group B32B 2266/031 is incomplete pending reclassification of documents from group B32B 2266/02. Groups B32B 2266/031 and B32B 2266/02 should be considered in order to perform a complete search.

M B32B 2266/04

- Inorganic

WARNING

Group B32B 2266/04 is impacted by reclassification into groups B32B 2266/049, B32B 2266/053, and B32B 2266/057. All groups listed in this Warning should be considered in order to perform a complete search.

M B32B 2266/049

- Water-setting material, e.g. concrete, plaster or asbestos cement

WARNING

Groups B32B 2266/049, B32B 2266/053, and B32B 2266/057 are incomplete pending reclassification of documents from B32B 2266/04. All groups listed in this Warning should be considered in order to perform a complete search.

M B32B 2266/10

- characterised by the foam pores

WARNING

Groups B32B 2266/10, B32B 2266/102, B32B 2266/104, B32B 2266/106, and B32B 2266/108 are incomplete pending reclassification of documents from group B32B 2266/00. All groups listed in this Warning should be considered in order to perform a complete search.

M B32B 2266/12

- Gel

WARNING

Groups B32B 2266/12, B32B 2266/122, B32B 2266/124, B32B 2266/126, and B32B 2266/128 are incomplete pending reclassification of documents from group B32B 2266/00. All groups listed in this Warning should be considered in order to perform a complete search.

M B32B 2266/14

- Adhesive foam

WARNING

Group B32B 2266/14 is incomplete pending reclassification of documents from group B32B 2266/00. Groups B32B 2266/00 and B32B 2266/14 should be considered in order to perform a complete search.

**Project: RP0620 (B33Y)****M B33Y**

**ADDITIVE MANUFACTURING, i.e. MANUFACTURING OF THREE-DIMENSIONAL [3-D] OBJECTS BY ADDITIVE DEPOSITION, ADDITIVE AGGLOMERATION OR ADDITIVE LAYERING, e.g. BY 3-D PRINTING, STEREOLITHOGRAPHY OR SELECTIVE LASER SINTERING**

NOTES

1. This subclass covers additive manufacturing, irrespective of the process or material used.
2. This subclass is intended to enable a comprehensive search of subject matter related to additive manufacturing by combination of classification symbols of this subclass with classification symbols from other subclasses. Therefore this subclass covers aspects of additive manufacturing (e.g. 3D printing) that might also be entirely or partially covered elsewhere in CPC.
3. This subclass is for obligatory supplementary classification of subject matter already classified as such in other classification places, when the subject matter contains an aspect of additive manufacturing.
4. The classification symbols of this subclass are not listed first when assigned to patent documents.
5. In this subclass, multi-aspect classification is applied, so ~~that~~ aspects of subject matter ~~that are~~ *characterised by aspects* covered by more than one of its groups should be classified in each of those groups.

**C B33Y 40/00**

**Auxiliary operations or equipment, e.g. for material handling**

WARNING

*Group B33Y 40/00 is impacted by reclassification into groups B33Y 40/10 and B33Y 40/20.*

*Groups B33Y 40/00, B33Y 40/10, and B33Y 40/20 should be considered in order to perform a complete search.*

**N B33Y 40/10**

- Pre-treatment

WARNING

*Group B33Y 40/10 is incomplete pending reclassification of documents from group B33Y 40/00.*

*Groups B33Y 40/00 and B33Y 40/10 should be considered in order to perform a complete search.*

**N B33Y 40/20**

- Post-treatment, e.g. curing, coating or polishing

WARNING

*Group B33Y 40/20 is incomplete pending reclassification of documents from group B33Y 40/00.*

*Groups B33Y 40/00 and B33Y 40/20 should be considered in order to perform a complete search.*

**C B33Y 70/00**

**Materials specially adapted for additive manufacturing**

WARNING

*Group B33Y 70/00 is impacted by reclassification into group B33Y 70/10.*

*Groups B33Y 70/00 and B33Y 70/10 should be considered in order to perform a complete search.*

N B33Y 70/10

- Composites of different types of material, e.g. mixtures of ceramics and polymers or mixtures of metals and biomaterials

WARNING

Group [B33Y 70/10](#) is incomplete pending reclassification of documents from group [B33Y 70/00](#).

Groups [B33Y 70/00](#) and [B33Y 70/10](#) should be considered in order to perform a complete search.

## Project: RP0209-F (B41C)

U B41C 1/00

**Forme preparation**

U B41C 1/10

- for lithographic printing; Master sheets for transferring a lithographic image to the forme {(chemical or electrical pretreatment [B41N 3/03](#))(neutralising or similar differentiation treatments of lithographic printing formes [B41N 3/08](#))}

M B41C 1/1008

- {by removal or destruction of lithographic material on the lithographic support, e.g. by laser or spark ablation; by the use of materials rendered soluble or insoluble by heat exposure, e.g. by heat produced from a light to heat transforming system; by on-the-press exposure or on-the-press development, e.g. by the fountain of photolithographic materials}

WARNING

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

M B41C 1/1016

- {characterised by structural details, e.g. protective layers, backcoat layers or several imaging layers}

WARNING

Group B41C 1/1016 is impacted by reclassification into group B41C 2210/16.

Groups B41C 1/1016 and B41C 2210/16 should be considered in order to perform a complete search.

U B41C 2210/00

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

M B41C 2210/16

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

WARNING

Group B41C 2210/16 is incomplete pending reclassification of documents from groups B41C 1/1008 and B41C 1/1016.

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

## Project: MP0440 (B60C)

M B60C 13/00

Tyre sidewalls; Protecting, decorating, marking, or the like, thereof ([B60C 17/08](#) takes precedence; tyre shoulders [B60C 11/01](#); **removable tyre sidewall trim rings** [B60B 7/01](#))

M B60C 25/00

Apparatus or tools adapted for mounting, removing, repairing or inspecting **pneumatic or solid** tyres (apparatus or tools **characterised by the means for mounting** **holding wheels** or **dismounting wheels** **parts thereof** [B60B 29/00](#) [B60B 30/00](#); apparatus or tools characterised by the means for **holding wheels or parts thereof** [B60B 30/00](#))

- U B60C 25/01      • for manually removing tyres from or mounting tyres on wheels
- M B60C 25/05      • • Machines {, i.e. motorized devices, e.g. for mounting, demounting (matching of tyres with rims, i.e. conjoint balancing ~~G01M~~~~G01M 1/30~~)}
- M 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 27/06      • extending over the complete circumference of the tread, e.g. made of chains {or cables}(B60C 27/20 takes precedence)
- M B60C 27/08      • • involving lugs or rings taking up wear {, e.g. chain links, chain connectors ~~(chain-couplings for, e.g. hoisting F16G 15/00)}~~
- M B60C 27/10      • • ~~{provided with}~~having tensioning means
- M B60C 27/22      • for tandem tyres (endless-track features ~~B62D~~~~B62D 55/24~~)

**Project: RP0615 (B60L)**

- U B60L 50/00      **Electric propulsion with power supplied within the vehicle (with power supply from force of nature, e.g. sun or wind, B60L 8/00; for monorail vehicles, suspension vehicles or rack railways B60L 13/00)****
- U B60L 50/50      • using propulsion power supplied by batteries or fuel cells  
WARNING  
 Group B60L 50/50 is impacted by reclassification into groups B60L 50/60, B60L 50/64, B60L 50/70, and B60L 50/75.  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B60L 50/75      • • using propulsion power supplied by both fuel cells and batteries  
WARNING  
 Group B60L 50/75 is incomplete pending reclassification from ~~group groups~~ B60L 50/50 and B60L 58/40.  
~~Groups~~All B60L 50/50 and ~~groups listed~~ B60L 50/75 in this ~~Warning~~ should be considered in order to perform a complete search.

**Project: RP0612 (B60L)**

- U B60L 53/00      **Methods of charging batteries, specially adapted for electric vehicles; Charging stations or on-board charging equipment therefor; Exchange of energy storage elements in electric vehicles****
- WARNING  
 Group B60L 53/00 is impacted by reclassification into groups B60L 53/50, B60L 53/51, B60L 53/52, B60L 53/53, B60L 53/54, B60L 53/55, B60L 53/56, B60L 53/57, B60L 53/67, and B60L 53/68.  
 All groups listed in this Warning should be considered in order to perform a complete search.
- U B60L 53/30      • Constructional details of charging stations  
WARNING  
 Group B60L 53/30 is impacted by reclassification into groups B60L 53/302, B60L 53/305, B60L 53/34, B60L 53/67, and B60L 53/68.  
 Groups B60L 53/30, B60L 53/302, B60L 53/305, B60L 53/34, B60L 53/67, and B60L 53/68 should be considered in order to perform a complete search.
- M B60L 53/35      • • Means for ~~automatically adjusting~~automatic or assisted adjustment of the relative position of charging devices and vehicles



- U B60L 53/60 • Monitoring or controlling charging stations

WARNING

Group [B60L 53/60](#) is impacted by reclassification into groups [B60L 53/10](#), [B60L 53/62](#), [B60L 53/66](#), [B60L 53/67](#), and [B60L 53/68](#).

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

- M B60L 53/65 • • involving identification of vehicles *or their battery types*

**Project: RP0615 (B60L)**

- U B60L 58/00 **Methods or circuit arrangements for monitoring or controlling batteries or fuel cells, specially adapted for electric vehicles**

NOTE

This group covers the monitoring of the operating state of batteries or fuel cells in combination with controlling the propulsion in response to the detected variables of the state.

WARNING

Group [B60L 58/00](#) is incomplete pending reclassification of documents from groups [B60L 3/00](#), [B60L 3/0046](#), [B60L 3/0053](#), [B60L 50/60](#), and [B60L 50/70](#). All groups listed in this Warning should be considered in order to perform a complete search.

- C B60L 58/40 • for controlling a combination of batteries and fuel cells

WARNING

Group [B60L 58/40](#) is incomplete pending reclassification of documents from groups [B60L 3/00](#), [B60L 3/0046](#), [B60L 3/0053](#), and ~~and~~.

*Group [B60L 58/40](#) is also impacted by reclassification into group [B60L 50/75](#).*

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

**Project: RP0646 (B60Q)**

- B60Q 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](#) [H05B 47/00](#)})

**Project: MP0442 (B60Y)**

- M B60Y 2200/00 Type of vehicle ~~(not used; see subgroups)~~

**Project: MP0461 (B62D)**

- U B62D 6/00 Arrangements for automatically controlling steering depending on driving conditions sensed and responded to, e.g. control circuits (means for initiating a change in direction [B62D 1/00](#); steering valves [B62D 5/06](#); combined with means for inclining the vehicle body or wheels on bends [B62D 9/00](#))

NOTE

When classifying in this group, classification is also made in the appropriate one of groups [B62D 1/00](#) - [B62D 5/00](#) or [B62D 7/00](#) - [B62D 19/00](#) if other aspects of the steering system are of interest

- U B62D 6/08 • responsive only to {driver} input torque

- M B62D 6/10
- characterised by means for sensing {or determining} torque

**WARNING**

~~Group B62D 6/10 is not complete. See also G01L 5/22~~

**Project: RP0616 (B63B)**

- M B63B
- SHIPS OR OTHER WATERBORNE VESSELS; EQUIPMENT FOR SHIPPING** (~~amphibious vehicles B60F 3/00; }~~ ~~air-cushion vehicles B60V; arrangements of vessel ventilation, heating, cooling, or air-conditioning B63J 2/00; floating substructures as supports of dredgers or soil-shifting machines E02F 9/06~~)

**NOTE**

In this subclass, the indexing codes [B63B 2201/00](#) - [B63B 2241/00](#) are to be used for relevant technical information concerning particular or unusual use, materials, design, methods or means.

**WARNINGS**

1. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
2. Groups [B63B 1/00](#) - [B63B 2241/28](#) are incomplete pending reclassification of documents from groups [B63B 2701/00](#) - [B63B 2770/00](#).  
All groups listed in this Warning should be considered in order to perform a complete search.

- M B63B 1/00
- Hydrodynamic or hydrostatic features of hulls or of hydrofoils** (~~keels B63B 3/38; determining hydrodynamic or hydrostatic features B63B 9/00; hulls peculiar to submarines B63B 3/13; decreasing pitch, roll or like unwanted vessel movements by using foils or acting on ambient water B63B 39/06; keels B63B 3/38~~)
- M B63B 3/00
- ~~Constructions of hulls~~ **Hulls characterised by their structure or component parts** (non-metallic hulls [B63B 5/00](#); designing, building, maintaining or repairing methods ~~B63B 9/00~~ [B63B 71/00](#) - [B63B 83/00](#))
- D B63B 9/00
- ~~Methods of designing, building, maintaining, converting, refitting, repairing, or determining properties of vessels, not otherwise provided for (shuttering for building concrete vessels E04G)~~
- <administratively transferred to [B63B 71/00](#)>
- D B63B 9/001
- {Methods of designing, or determining properties of vessels by means of analytical modelling, e.g. computational}
- <administratively transferred to [B63B 71/00](#)>
- D B63B 9/002
- {using fluid dynamics analysis, e.g. computational fluid dynamics}
- <administratively transferred to [B63B 71/10](#)>
- D B63B 9/003
- {using structure analysis, e.g. finite elements}
- <administratively transferred to [B63B 71/10](#)>
- D B63B 2009/005
- {Methods for dismantling hulls, or elements of ships or other waterborne vessels, e.g. floating offshore structures}
- <administratively transferred to [B63B 85/00](#) INV>
- D B63B 2009/006
- {for dismantling hulls, or structural elements}
- <administratively transferred to [B63B 85/00](#) INV>
- D B63B 2009/007
- {for unshipping or dismantling equipment or non-structural elements, e.g. propellers, rudders or prime movers}
- <administratively transferred to [B63B 85/00](#) INV>

- D B63B 2009/008
  - {Methods for repairing hulls or structural elements of ships or other waterborne vessels, e.g. floating offshore structures}
  - <administratively transferred to [B63B 81/00](#) INV>
- D B63B 9/02
  - using towing tanks or model basins for designing {(arrangements in or on ship testing tanks or water tunnels G01M 10/00)}
  - <administratively transferred to [B63B 71/20](#)>
- D B63B 2009/025
  - • {using ice model basins; using non-refrigerated towing tanks or model basins with floating ice covers simulated by other means, e.g. wax}
  - <administratively transferred to [B63B 71/20](#) INV>
- D B63B 9/04
  - Rebuilding ships, e.g. increasing tonnage
  - <administratively transferred to [B63B 83/00](#)>
- D B63B 9/06
  - Methods of building hulls
  - <administratively transferred to [B63B 73/00](#)>
- D B63B 9/062
  - • {by folding (foldable vessels B63B 7/00)}
  - <administratively transferred to [B63B 73/00](#)>
- D B63B 9/065
  - • {for floating offshore platforms (grounded platforms E02B 17/00)}
  - <administratively transferred to [B63B 75/00](#)>
- D B63B 2009/067
  - • • {for assembling offshore structures, e.g. in situ, using buoyancy forces for supporting the structure itself, or part of it, e.g. using barges}
  - <administratively transferred to [B63B 75/00](#) INV>
- D B63B 9/08
  - Determining vessel properties with respect to stability or balance
  - <administratively transferred to [B63B 79/00](#)>
- U B63B 35/00
 

**Vessels or like floating structures adapted for special purposes (vessels characterised by load-accommodating arrangements [B63B 25/00](#); fire-fighting vessels [A62C 29/00](#); submarines, mine-layers or mine-sweepers [B63G](#); large containers for use in or under water [B65D 88/78](#); {Advertising on ships or other floating means [G09F 21/18](#)})**
- B63B 35/44
  - Floating buildings, stores, drilling platforms, or workshops, e.g. carrying water-oil separating devices {(construction methods for floating offshore platforms [B63B 9/065](#) [B63B 75/00](#))}

**N B63B 71/00****Designing vessels; Predicting their performance**WARNING

Group [B63B 71/00](#) is incomplete pending reclassification of documents from group [B63B 79/00](#).

Groups [B63B 79/00](#) and [B63B 71/00](#) should be considered in order to perform a complete search.

- N B63B 71/10
  - using computer simulation, e.g. finite element method [FEM] or computational fluid dynamics [CFD]
- N B63B 71/20
  - using towing tanks or model basins for designing

**Q B63B 73/00****Building or assembling vessels or marine structures, e.g. hulls or offshore platforms**WARNING

Group [B63B 73/00](#) is impacted by reclassification into groups [B63B 73/10](#), [B63B 73/20](#), [B63B 73/30](#), [B63B 73/40](#), [B63B 73/43](#), [B63B 73/46](#), [B63B 73/50](#), [B63B 73/60](#), [B63B 73/70](#), [B63B 73/72](#), and [B63B 73/74](#).

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

- N B63B 73/10
- Building or assembling vessels from prefabricated hull blocks, i.e. complete hull cross-sections
- WARNING  
 Group [B63B 73/10](#) is incomplete pending reclassification of documents from group [B63B 73/00](#).  
 Groups [B63B 73/00](#) and [B63B 73/10](#) should be considered in order to perform a complete search.
- N B63B 73/20
- Building or assembling prefabricated vessel modules or parts other than hull blocks, e.g. engine rooms, rudders, propellers, superstructures, berths, holds or tanks
- WARNING  
 Group [B63B 73/20](#) is incomplete pending reclassification of documents from group [B63B 73/00](#).  
 Groups [B63B 73/00](#) and [B63B 73/20](#) should be considered in order to perform a complete search.
- N B63B 73/30
- Moving or transporting modules or hull blocks to assembly sites, e.g. by rolling, lifting or floating
- WARNING  
 Group [B63B 73/30](#) is incomplete pending reclassification of documents from group [B63B 73/00](#).  
 Groups [B63B 73/00](#) and [B63B 73/30](#) should be considered in order to perform a complete search.
- N B63B 73/40
- characterised by joining methods
- WARNING  
 Group [B63B 73/40](#) is incomplete pending reclassification of documents from groups [B63B 73/00](#) and [B63B 222 1/00](#).  
 Groups [B63B 73/00](#), [B63B 222 1/00](#), and [B63B 73/40](#) should be considered in order to perform a complete search.
- N B63B 73/43
- • Welding, e.g. laser welding
- WARNING  
 Group [B63B 73/43](#) is incomplete pending reclassification of documents from groups [B63B 73/00](#), [B63B 222 1/02](#), and [B63B 222 1/04](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- N B63B 73/46
- • Gluing; Taping; Cold-bonding
- WARNING  
 Group [B63B 73/46](#) is incomplete pending reclassification of documents from groups [B63B 73/00](#) and [B63B 222 1/10](#).  
 Groups [B63B 73/00](#), [B63B 222 1/10](#), and [B63B 73/46](#) should be considered in order to perform a complete search.
- N B63B 73/48
- • {Riveting}
- WARNING  
 Group [B63B 73/48](#) is incomplete pending reclassification of documents from group [B63B 222 1/06](#).  
 Groups [B63B 222 1/06](#) and [B63B 73/48](#) should be considered in order to perform a complete search.

- N B63B 73/49
- {by means of threaded members, e.g. screws, threaded bolts or nuts}
- WARNING  
Group [B63B 73/49](#) is incomplete pending reclassification of documents from group [B63B 2221/08](#).  
Groups [B63B 2221/08](#) and [B63B 73/49](#) should be considered in order to perform a complete search.
- N B63B 73/50
- characterised by forming methods, e.g. manufacturing of curved blocks
- WARNING  
Group [B63B 73/50](#) is incomplete pending reclassification of documents from group [B63B 73/00](#).  
Groups [B63B 73/00](#) and [B63B 73/50](#) should be considered in order to perform a complete search.
- N B63B 73/60
- characterised by the use of specific tools or equipment; characterised by automation, e.g. use of robots
- WARNING  
Group [B63B 73/60](#) is incomplete pending reclassification of documents from group [B63B 73/00](#).  
Groups [B63B 73/00](#) and [B63B 73/60](#) should be considered in order to perform a complete search.
- N B63B 73/70
- characterised by using moulds; Moulds or plugs therefor
- WARNING  
Groups [B63B 73/70](#) - [B63B 73/74](#) are incomplete pending reclassification of documents from group [B63B 73/00](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N B63B 73/72
- characterised by plastic moulding, e.g. injection moulding, extrusion moulding or blow moulding
- N B63B 73/74
- characterised by lamination of materials
- Q B63B 75/00
- Building or assembling floating offshore structures, e.g. semi-submersible platforms, SPAR platforms or wind turbine platforms**
- WARNING  
Group [B63B 75/00](#) is impacted by reclassification into groups [B63B 77/00](#) and [B63B 77/10](#).  
Groups [B63B 75/00](#), [B63B 77/00](#), and [B63B 77/10](#) should be considered in order to perform a complete search.
- N B63B 77/00
- Transporting or installing offshore structures on site using buoyancy forces, e.g. using semi-submersible barges, ballasting the structure or transporting of oil-and-gas platforms**
- WARNING  
Groups [B63B 77/00](#) and [B63B 77/10](#) are incomplete pending reclassification of documents from group [B63B 75/00](#).  
Groups [B63B 75/00](#), [B63B 77/00](#) and [B63B 77/10](#) should be considered in order to perform a complete search.
- N B63B 77/10
- specially adapted for electric power plants, e.g. wind turbines or tidal turbine generators

- Q B63B 79/00**      **Monitoring properties or operating parameters of vessels in operation**  
WARNING  
 Group [B63B 79/00](#) is impacted by reclassification into groups [B63B 71/00](#), [B63B 79/10](#), [B63B 79/15](#), [B63B 79/20](#), [B63B 79/30](#), and [B63B 79/40](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- N B63B 79/10**      • using sensors, e.g. pressure sensors, strain gauges or accelerometers  
WARNING  
 Groups [B63B 79/10](#) and [B63B 79/15](#) are incomplete pending reclassification of documents from group [B63B 79/00](#).  
 Groups [B63B 79/00](#), [B63B 79/10](#), and [B63B 79/15](#) should be considered in order to perform a complete search.
- N B63B 79/15**      • • for monitoring environmental variables, e.g. wave height or weather data
- N B63B 79/20**      • using models or simulation, e.g. statistical models or stochastic models  
WARNING  
 Group [B63B 79/20](#) is incomplete pending reclassification of documents from group [B63B 79/00](#).  
 Groups [B63B 79/00](#) and [B63B 79/20](#) should be considered in order to perform a complete search.
- N B63B 79/30**      • for diagnosing, testing or predicting the integrity or performance of vessels  
WARNING  
 Group [B63B 79/30](#) is incomplete pending reclassification of documents from group [B63B 79/00](#).  
 Groups [B63B 79/00](#) and [B63B 79/30](#) should be considered in order to perform a complete search.
- N B63B 79/40**      • for controlling the operation of vessels, e.g. monitoring their speed, routing or maintenance schedules  
WARNING  
 Group [B63B 79/40](#) is incomplete pending reclassification of documents from group [B63B 79/00](#).  
 Groups [B63B 79/00](#) and [B63B 79/40](#) should be considered in order to perform a complete search.
- N B63B 81/00**      **Repairing or maintaining vessels**
- Q B63B 83/00**      **Rebuilding or retrofitting vessels, e.g. retrofitting ballast water treatment systems**  
WARNING  
 Group [B63B 83/00](#) is impacted by reclassification into groups [B63B 83/10](#), [B63B 83/20](#), [B63B 83/30](#), and [B63B 83/40](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- N B63B 83/10**      • for increasing cargo capacity  
WARNING  
 Group [B63B 83/10](#) is incomplete pending reclassification of documents from group [B63B 83/00](#).  
 Groups [B63B 83/00](#) and [B63B 83/10](#) should be considered in order to perform a complete search.



- N B63B 83/20*
- for conversion to a different use, e.g. for converting tankers into a FPSO-FLNG units
- WARNING  
 Group [B63B 83/20](#) is incomplete pending reclassification of documents from group [B63B 83/00](#).  
 Groups [B63B 83/00](#) and [B63B 83/20](#) should be considered in order to perform a complete search.
- N B63B 83/30*
- for improving energy efficiency, e.g. by improving hydrodynamics or by upgrading the power plant
- WARNING  
 Group [B63B 83/30](#) is incomplete pending reclassification of documents from group [B63B 83/00](#).  
 Groups [B63B 83/00](#) and [B63B 83/30](#) should be considered in order to perform a complete search.
- N B63B 83/40*
- for reducing risks of pollution or contamination; for improving safety
- WARNING  
 Group [B63B 83/40](#) is incomplete pending reclassification of documents from group [B63B 83/00](#).  
 Groups [B63B 83/00](#) and [B63B 83/40](#) should be considered in order to perform a complete search.
- N B63B 85/00***      ***Dismantling or scrapping vessels***
- C B63B 2221/00***      ***Methods and means for joining members or elements***
- WARNING  
 Group [B63B 2221/00](#) is impacted by reclassification into group [B63B 73/40](#).  
 Groups [B63B 2221/00](#) and [B63B 73/40](#) should be considered in order to perform a complete search.
- C B63B 2221/02*
- by welding
- WARNING  
 Group [B63B 2221/02](#) is impacted by reclassification into group [B63B 73/43](#).  
 Groups [B63B 2221/02](#) and [B63B 73/43](#) should be considered in order to perform a complete search.
- C B63B 2221/04*
- by soldering
- WARNING  
 Group [B63B 2221/04](#) is impacted by reclassification into group [B63B 73/43](#).  
 Groups [B63B 2221/04](#) and [B63B 73/43](#) should be considered in order to perform a complete search.
- C B63B 2221/06*
- by riveting
- WARNING  
 Group [B63B 2221/06](#) is impacted by reclassification into group [B63B 73/48](#).  
 Groups [B63B 2221/06](#) and [B63B 73/48](#) should be considered in order to perform a complete search.
- C B63B 2221/08*
- by means of threaded members, e.g. screws, threaded bolts or nuts
- WARNING  
 Group [B63B 2221/08](#) is impacted by reclassification into group [B63B 73/49](#).  
 Groups [B63B 2221/08](#) and [B63B 73/49](#) should be considered in order to perform a complete search.

- C B63B 2221/10 • using adhesives

WARNING

*Group B63B 2221/10 is impacted by reclassification into group B63B 73/46. Groups B63B 2221/10 and B63B 73/46 should be considered in order to perform a complete search.*

- M B63B 2701/00  
(Frozen)

**Building of the ship's hull**WARNING

Groups [B63B 2701/00](#) - ~~B63B 2770/00~~ are no longer used for the classification of documents as of ~~May 1, 2019~~ January 1, 2020.

The content of ~~these~~ *these* groups is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - ~~B63C 15/00~~, [B63G 1/00](#) - ~~B63G 2013/027~~, [B63H 1/00](#) - ~~B63H 25/52~~, [B63J 1/00](#) - ~~B63J 2099/008~~ *B63J 2099/005*.

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

- M B63B 2702/00  
(Frozen)

**Submarines**WARNING

Groups [B63B 2702/00](#) - [B63B 2702/14](#) are no longer used for the classification of documents as of May 1, 2019.

The content of these groups is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~B63J 2099/008~~ *B63J 2099/005*.

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

- M B63B 2704/00  
(Frozen)

**Port-holes, windows, doors and other openings in the superstructures**WARNING

Group [B63B 2704/00](#) is no longer used for the classification of documents as of May 1, 2019.

The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~B63J 2099/008~~ *B63J 2099/005*.

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

- M B63B 2705/00  
(Frozen)

**Closets, latrines, swimming pools and washing facilities for ships; Overboard discharges**WARNING

Group [B63B 2705/00](#) is no longer used for the classification of documents as of May 1, 2019.

The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~B63J 2099/008~~ *B63J 2099/005*.

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

- M B63B 2707/00  
(Frozen)

**Doors and closing means**WARNING

Group [B63B 2707/00](#) is no longer used for the classification of documents as of May 1, 2019.

The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~B63J 2099/008~~ *B63J 2099/005*.

B63B 2707/00

(Frozen)

(continued)

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

**M B63B 2708/00  
(Frozen)**

**Winches; Capstans**

WARNING

Groups [B63B 2708/00](#) - [B63B 2708/02](#) is no longer used for the classification of documents as of May 1, 2019.

The content of these groups is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - [B63J-2099/008](#) [B63J 2099/005](#).

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

**M B63B 2709/00  
(Frozen)**

**Tables, chairs and other furniture peculiar to vessels**

WARNING

Group [B63B 2709/00](#) is no longer used for the classification of documents as of May 1, 2019.

The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - [B63J-2099/008](#) [B63J 2099/005](#).

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

**M B63B 2710/00  
(Frozen)**

**Miscellaneous equipment for ships, e.g. collision mats, rat guards**

WARNING

Group [B63B 2710/00](#) is no longer used for the classification of documents as of May 1, 2019.

The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - [B63J-2099/008](#) [B63J 2099/005](#).

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

**M B63B 2711/00  
(Frozen)**

**Equipment for watching and measuring the oscillations, the resistance and the movements of ships; Model towing tanks**

WARNING

Group [B63B 2711/00](#) is no longer used for the classification of documents as of May 1, 2019.

The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - [B63J-2099/008](#) [B63J 2099/005](#).

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

**M B63B 2712/00  
(Frozen)**

**Equipment for handling the boats by means of turning davits, i.e. a set formed by the davit, davit foundation, davit drive, boat support, boat guides, boat pulley blocks and winches**

WARNING

Group [B63B 2712/00](#) - [B63B 2712/02](#) are no longer used for the classification of documents as of May 1, 2019.

The content of these groups is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - [B63J-2099/008](#) [B63J 2099/005](#).

B63B 2712/00

(Frozen)

(continued)

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

**M B63B 2713/00  
(Frozen)**

**Stowing of the boats, i.e. arrangement, chocks, lashing down and transport of the boats on deck**

WARNING

Group [B63B 2713/00](#) is no longer used for the classification of documents as of May 1, 2019.

The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - [B63J-2099/008](#) [B63J 2099/005](#).

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

**M B63B 2714/00  
(Frozen)**

**Construction of turning davits, davit foundations and davit drives**

WARNING

Groups [B63B 2714/00](#) - [B63B 2714/02](#) are no longer used for the classification of documents as of May 1, 2019.

The content of these groups is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - [B63J-2099/008](#) [B63J 2099/005](#).

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

**M B63B 2715/00  
(Frozen)**

**Hydraulic and pneumatic steering gear**

WARNING

Group [B63B 2715/00](#) is no longer used for the classification of documents as of May 1, 2019.

The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - [B63J-2099/008](#) [B63J 2099/005](#).

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

**M B63B 2716/00  
(Frozen)**

**Steam-powered steering gear**

WARNING

Group [B63B 2716/00](#) is no longer used for the classification of documents as of May 1, 2019.

The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - [B63J-2099/008](#) [B63J 2099/005](#).

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

**M B63B 2717/00  
(Frozen)**

**Hand-operated steering gears; Combined hand and steam-powered steering gears**

WARNING

Group [B63B 2717/00](#) is no longer used for the classification of documents as of May 1, 2019.

The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - [B63J-2099/008](#) [B63J 2099/005](#).

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

- M B63B 2718/00 (Frozen)** **Components of the steering gears, e.g. steering wheels, telemotors, driving chains, shock dampers, quadrants, arrangements to block the rudder, brakes, rudder stops**
- WARNING
- Group [B63B 2718/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2719/00 (Frozen)** **Arrangements for slowing-down of ships by means of side flaps and for creating a lateral resistance for maneuvering**
- WARNING
- Group [B63B 2719/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2721/00 (Frozen)** **Automatic steering apparatus, non-electric**
- WARNING
- Groups [B63B 2721/00](#) - [B63B 2721/02](#) are no longer used for the classification of documents as of May 1, 2019.
- The content of these groups is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2722/00 (Frozen)** **Towing in general**
- WARNING
- Group [B63B 2722/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2723/00 (Frozen)** **Miscellaneous equipment for towing**
- WARNING
- Group [B63B 2723/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.

- M B63B 2724/00 (Frozen)**      **Navigation signals, e.g. masthead and side lights, marking of seaways, arrangements of compasses**
- WARNING  
 Group [B63B 2724/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2725/00 (Frozen)**      **Engine room signals and arrangements for controlling the main engines from the navigation bridge**
- WARNING  
 Group [B63B 2725/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2726/00 (Frozen)**      **Miscellaneous signalling devices and draft indicators**
- WARNING  
 Group [B63B 2726/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2727/00 (Frozen)**      **Signalling devices using acoustic or mechanical means**
- WARNING  
 Groups [B63B 2727/00](#) - [B63B 2727/02](#) are no longer used for the classification of documents as of May 1, 2019.  
 The content of these groups is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2730/00 (Frozen)**      **Diving suits**
- WARNING  
 Groups [B63B 2730/00](#) - [B63B 2730/02](#) are no longer used for the classification of documents as of May 1, 2019.  
 The content of these groups is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.



- M B63B 2731/00 (Frozen)**      **Arrangements for avoiding capsizing and sinking**  
WARNING  
 Group [B63B 2731/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2732/00 (Frozen)**      **Arrangements for avoiding or reducing collision damage**  
WARNING  
 Group [B63B 2732/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2733/00 (Frozen)**      **Arrangements for reducing the risk of running aground; Depth sounders**  
WARNING  
 Group [B63B 2733/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2734/00 (Frozen)**      **Loading and unloading ships by ship-mounted means**  
WARNING  
 Group [B63B 2734/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2735/00 (Frozen)**      **Miscellaneous shipbuilding-related arrangements and constructions, e.g. pontoons**  
WARNING  
 Group [B63B 2735/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.

- M B63B 2736/00 (Frozen)**      **Slipways, shipyard installations and apparatus for launching or hauling-out ships**
- WARNING  
 Group [B63B 2736/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2737/00 (Frozen)**      **Dry and floating docks; Cleaning devices for hulls; Drydocking of hull parts; Equipment for dry and floating docks**
- WARNING  
 Group [B63B 2737/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2738/00 (Frozen)**      **Re-floating of ships and sunken objects**
- WARNING  
 Group [B63B 2738/00](#) - [B63B 2738/12](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of these groups is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2739/00 (Frozen)**      **Boats or canoes in general; Construction and outfitting**
- WARNING  
 Group [B63B 2739/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2741/00 (Frozen)**      **Manual propulsion; Paddles**
- WARNING  
 Group [B63B 2741/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.

- M B63B 2742/00 (Frozen)**      **Anti-torpedo nets and shields for ships; Anti-submarine nets and devices for the protection of harbours and means for the destruction thereof**
- WARNING
- Groups [B63B 2742/00](#) - [B63B 2742/02](#) are no longer used for the classification of documents as of May 1, 2019.
- The content of these groups is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 
- M B63B 2743/00 (Frozen)**      **Paddle wheels for ships in general**
- WARNING
- Group [B63B 2743/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 
- M B63B 2744/00 (Frozen)**      **Stern paddle wheels**
- WARNING
- Group [B63B 2744/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 
- M B63B 2745/00 (Frozen)**      **Propellers for ships in general (construction of air propellers [B64C](#))**
- WARNING
- Groups [B63B 2745/00](#) - [B63B 2745/04](#) are no longer used for the classification of documents as of May 1, 2019.
- The content of these groups is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 
- M B63B 2746/00 (Frozen)**      **Propellers with air exhaust, e.g. hollow propellers for ships**
- WARNING
- Group [B63B 2746/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.

- M B63B 2747/00 (Frozen)**      **Arrangements of propellers and other propulsive devices on ships**  
WARNING  
 Groups [B63B 2747/00](#) - [B63B 2747/02](#) are no longer used for the classification of documents as of May 1, 2019.  
 The content of these groups is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2748/00 (Frozen)**      **Propeller hubs and blade connections**  
WARNING  
 Group [B63B 2748/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2749/00 (Frozen)**      **Propeller shafts and paddle-wheel shafts; Shaft liners**  
WARNING  
 Group [B63B 2749/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2750/00 (Frozen)**      **Propeller shaft bearings, thrust bearings**  
WARNING  
 Group [B63B 2750/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2751/00 (Frozen)**      **Propulsion of ships using the reaction effect of a water jet**  
WARNING  
 Group [B63B 2751/00](#) is no longer used for the classification of documents as of May 1, 2019.  
 The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.

- M B63B 2752/00**  
**(Frozen)**
- Propulsion of ships using the reaction effect of steam jets or gas jets**
- WARNING
- Group [B63B 2752/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2753/00**  
**(Frozen)**
- Propulsion of ships using the reaction effect of gas explosions**
- WARNING
- Group [B63B 2753/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2754/00**  
**(Frozen)**
- Propulsive flaps**
- WARNING
- Group [B63B 2754/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2755/00**  
**(Frozen)**
- Electric drives for the propulsive devices**
- WARNING
- Group [B63B 2755/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- M B63B 2756/00**  
**(Frozen)**
- Steam reciprocating engine drives for the propulsive devices**
- WARNING
- Group [B63B 2756/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.

- M B63B 2757/00**  
*(Frozen)*
- Steam turbine drives for the propulsive devices**
- WARNING
- Group [B63B 2757/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 
- M B63B 2758/00**  
*(Frozen)*
- Internal combustion engine drives for the propulsive devices**
- WARNING
- Group [B63B 2758/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 
- M B63B 2759/00**  
*(Frozen)*
- Other means for driving marine propulsion devices; Arrangements for synchronising two or more engines**
- WARNING
- Group [B63B 2759/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 
- M B63B 2760/00**  
*(Frozen)*
- Marine drive governors that are influenced by the movements of the ship**
- WARNING
- Group [B63B 2760/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 
- M B63B 2770/00**  
*(Frozen)*
- Apparatus or methods specially adapted for use on marine vessels, for handling power plant or unit liquids, e.g. lubricants, coolants, fuels or the like**
- WARNING
- Group [B63B 2770/00](#) is no longer used for the classification of documents as of May 1, 2019.
- The content of this group is being reclassified into groups [B63B 1/00](#) - [B63B 2241/28](#), [B63C 1/00](#) - [B63C 15/00](#), [B63G 1/00](#) - [B63G 2013/027](#), [B63H 1/00](#) - [B63H 25/52](#), [B63J 1/00](#) - ~~[B63J 2099/008](#)~~ [B63J 2099/005](#).
- All groups listed in this Warning should be considered in order to perform a complete search.



**Project: RP0616 (B63J)****M B63J****AUXILIARIES ON VESSELS**NOTES

1. In this subclass, the following term is used with the meaning indicated:
  - "auxiliaries" means only apparatus specially arranged for rendering vessels, in general, habitable or operative, insofar as such apparatus is not specifically provided for in another subclass of class [B63](#)
2. In this subclass, the indexing codes [B63B 2201/00](#) - [B63B 2241/00](#) are to be used for relevant technical information concerning particular or unusual use, materials, design, methods or means.

WARNINGS

1. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
2. Groups [B63J 1/00](#) - [B63J 2099/008](#) [B63J 2099/005](#) are incomplete pending reclassification of documents from groups [B63B 2701/00](#) - [B63B 2770/00](#). All groups listed in this Warning should be considered in order to perform a complete search.

**U B63J 99/00****Subject matter not provided for in other groups of this subclass**

D B63J 2099/006

- {Use of computers for particular ship-related tasks, or the like, e.g. for evaluating state variables}

<administratively transferred to [B63B 79/00](#) INV>

D B63J 2099/008

- {for evaluating navigational state variables, e.g. speed, distance, wind parameters, or the like}

<administratively transferred to [B63B 79/00](#) INV>**Project: RP0430 (B64C)****U B64C 1/00****Fuselages; Constructional features common to fuselages, wings, stabilising surfaces and the like (aerodynamical features common to fuselages, wings, stabilising surfaces, and the like [B64C 23/00](#); flight-deck installations [B64D](#))**

C B64C 1/0009

- {Aerodynamic aspects}

WARNING

*Group [B64C 1/0009](#) is impacted by reclassification into group [B64C 39/029](#). Groups [B64C 1/0009](#) and [B64C 39/029](#) should be considered in order to perform a complete search.*

C B64C 2001/0045

- {Fuselages characterised by special shapes}

WARNING

*Group [B64C 2001/0045](#) is impacted by reclassification into group [B64C 39/029](#). Groups [B64C 2001/0045](#) and [B64C 39/029](#) should be considered in order to perform a complete search.*

U B64C 1/06

- Frames; Stringers; Longerons {; Fuselage sections}

C B64C 1/068

- {Fuselage sections}

WARNING

*Group [B64C 1/068](#) is impacted by reclassification into groups [B64C 1/0683](#) and [B64C 1/0685](#). Groups [B64C 1/068](#), [B64C 1/0683](#), and [B64C 1/0685](#) should be considered in order to perform a complete search.*

- N B64C 1/0683      • • • {Nose cones}
- WARNING  
Group [B64C 1/0683](#) is incomplete pending reclassification of documents from group [B64C 1/068](#).  
Groups [B64C 1/068](#) and [B64C 1/0683](#) should be considered in order to perform a complete search.
- N B64C 1/0685      • • • {Tail cones}
- WARNING  
Group [B64C 1/0685](#) is incomplete pending reclassification of documents from group [B64C 1/068](#).  
Groups [B64C 1/068](#) and [B64C 1/0685](#) should be considered in order to perform a complete search.
- U B64C 3/00      **Wings (stabilising surfaces [B64C 5/00](#); ornithopter wings [B64C 33/02](#))**
- C B64C 3/10      • Shape of wings
- WARNING  
Group [B64C 3/10](#) is impacted by reclassification into group [B64C 39/029](#).  
Groups [B64C 3/10](#) and [B64C 39/029](#) should be considered in order to perform a complete search.
- C B64C 3/16      • Frontal aspect
- WARNING  
Group [B64C 3/16](#) is impacted by reclassification into group [B64C 39/029](#).  
Groups [B64C 3/16](#) and [B64C 39/029](#) should be considered in order to perform a complete search.
- C B64C 7/00      **Structures or fairings not otherwise provided for**
- WARNING  
Group [B64C 7/00](#) is impacted by reclassification into group [B64C 39/029](#).  
Groups [B64C 7/00](#) and [B64C 39/029](#) should be considered in order to perform a complete search.
- C B64C 39/00      **Aircraft not otherwise provided for**
- WARNING  
Group [B64C 39/00](#) is impacted by reclassification into group [B64C 39/029](#).  
Groups [B64C 39/00](#) and [B64C 39/029](#) should be considered in order to perform a complete search.
- U B64C 39/02      • characterised by special use
- M B64C 39/028      • • {~~Microsized~~ [Micro-sized](#) aircraft}
- N B64C 39/029      • {Asymmetrical aircraft}
- WARNING  
Group [B64C 39/029](#) is incomplete pending reclassification of documents from groups [B64C 1/0009](#), [B64C 2001/0045](#), [B64C 3/10](#), [B64C 3/16](#), [B64C 7/00](#), and [B64C 39/00](#).  
All groups should be considered in order to perform a complete search.

**Project: RP0430 (B64F)**

- U B64F 1/00      **Ground or aircraft-carrier-deck installations (specially adapted for captive aircraft [B64F 3/00](#))**

- C B64F 1/02
- Arresting gear; Liquid barriers
- WARNING**  
 Group [B64F 1/02](#) is impacted by reclassification into groups [B64F 1/027](#), [B64F 1/029](#), [B64F 1/0295](#), [B64F 1/0297](#), and [B64F 1/0299](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- U B64F 1/025
- {using decelerating or arresting beds}
- N B64F 1/027
- {using net or mesh}
- WARNING**  
 Group [B64F 1/027](#) is incomplete pending reclassification of documents from group [B64F 1/02](#).  
 Groups [B64F 1/02](#) and [B64F 1/027](#) should be considered in order to perform a complete search.
- N B64F 1/029
- {using a cable or tether}
- WARNING**  
 Group [B64F 1/029](#) is incomplete pending reclassification of documents from group [B64F 1/02](#).  
 Groups [B64F 1/02](#) and [B64F 1/029](#) should be considered in order to perform a complete search.
- N B64F 1/0295
- {aerodynamically or aerostatically supported, e.g. parafoil or balloon}
- WARNING**  
 Group [B64F 1/0295](#) is incomplete pending reclassification of documents from group [B64F 1/02](#).  
 Groups [B64F 1/02](#) and [B64F 1/0295](#) should be considered in order to perform a complete search.
- N B64F 1/0297
- {adjustable to align with aircraft trajectory}
- WARNING**  
 Group [B64F 1/0297](#) is incomplete pending reclassification of documents from group [B64F 1/02](#).  
 Groups [B64F 1/02](#) and [B64F 1/0297](#) should be considered in order to perform a complete search.
- N B64F 1/0299
- {characterized by the use of multiple devices}
- WARNING**  
 Group [B64F 1/0299](#) is incomplete pending reclassification of documents from group [B64F 1/02](#).  
 Groups [B64F 1/02](#) and [B64F 1/0299](#) should be considered in order to perform a complete search.
- C B64F 1/32
- for handling freight-~~{(load transporting vehicles modified to facilitate loading or unloading B60P-1/00)}~~
- WARNING**  
 Group [B64F 1/32](#) is impacted by reclassification into groups [B64F 1/322](#), [B64F 1/324](#), and [B64F 1/326](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.

- N B64F 1/322
- {Cargo loaders specially adapted for loading air freight containers or palletized cargo into or out of the aircraft}
- WARNING  
Group [B64F 1/322](#) is incomplete pending reclassification of documents from group [B64F 1/32](#).  
Groups [B64F 1/32](#) and [B64F 1/322](#) should be considered in order to perform a complete search.
- N B64F 1/324
- {Luggage loaders specially adapted for loading individual luggage items into or out of the aircraft}
- WARNING  
Group [B64F 1/324](#) is incomplete pending reclassification of documents from group [B64F 1/32](#).  
Groups [B64F 1/32](#) and [B64F 1/324](#) should be considered in order to perform a complete search.
- N B64F 1/326
- {Supply vehicles specially adapted for transporting catering to and loading into the aircraft}
- WARNING  
Group [B64F 1/326](#) is incomplete pending reclassification of documents from group [B64F 1/32](#).  
Groups [B64F 1/32](#) and [B64F 1/326](#) should be considered in order to perform a complete search.

**Project: MP0442 (B65D)**

- U B65D 5/00 Rigid or semi-rigid containers of polygonal cross-section, e.g. boxes, cartons or trays, formed by folding or erecting one or more blanks made of paper (rigid pallets with side walls [B65D 19/02](#))
- U B65D 5/42 • Details of containers or of foldable or erectable container blanks
- M B65D 5/44 • • Integral, inserted or attached portions forming internal or external fittings ~~{not used, see subgroups}~~

**Project: N/A (B65D)**

- B65D 19/00 Pallets or like platforms, with or without side walls, for supporting loads to be lifted or lowered ~~{in devices for lifting or lowering bulky or heavy goods for loading or unloading purposes B66F 9/12}~~

**Project: MP0442 (B65D)**

- U B65D 47/00 Closures with filling and discharging, or with discharging, devices (dispensers for liquid soap [A47K 5/12](#); desk equipment for applying liquid by contact with surfaces [B43M 11/00](#); fluid delivery valves in general [F16K 21/00](#))
- U B65D 47/42 • with pads or like contents-applying means ({contents-applying means associated to aerosol container nozzles [B65D 83/285](#); } brushes combined or associated with containers [A46B 11/00](#); swabs for applying media to the human body from an integral supply [A61F13/40](#))
- M B65D 47/44 • • combined with slits opening when container is deformed or when pad is pressed against surface to which contents are to be applied (pliable tubular containers with valves opening when closure is pressed against surfaces ~~{(B65D35/54 not used) B65D 47/248 B65D 47/2018}~~)
- M B65D 2301/00 Details of blanks ~~{not used}~~

<b>M</b>	<b>B65D 2517/00</b>	<b>Containers specially constructed to be opened by cutting, piercing or tearing of wall portions, e.g. preserving cans or tins <del>(not used)</del></b>
M	B65D 2517/0001	• Details <del>(not used)</del>
M	B65D 2517/001	• • Action for opening container <del>(not used)</del>
M	B65D 2517/0031	• • Reclosable openings <del>(not used)</del>
M	B65D 2517/0047	• • Provided with additional elements other than for closing the opening <del>(not used)</del>
M	B65D 2517/0058	• • Other details of container end panel <del>(not used)</del>
M	B65D 2517/0059	• • • General cross-sectional shape of container end panel <del>(not used)</del>
M	B65D 2517/0068	• • • Ribs or projections in container end panel <del>(not used)</del>
M	B65D 2517/008	• • • Materials of container end panel <del>(not used)</del>
M	B65D 2517/0091	• • Means for venting upon initial opening <del>(not used)</del>
M	B65D 2517/50	• Non-integral frangible members applied to, or inserted in, a preformed opening <del>(not used)</del>
M	B65D 2517/5002	• • Details of flexible tape or foil-like material <del>(not used)</del>
M	B65D 2517/5024	• • • Material <del>(not used)</del>
M	B65D 2517/504	• • Details of preformed openings <del>(not used)</del>
M	B65D 2517/5043	• • • provided with a flange <del>(not used)</del>
M	B65D 2517/5072	• • Details of hand grip, tear- or lift-tab <del>(not used)</del>
<b>M</b>	<b>B65D 2519/00</b>	<b>Pallets or like platforms, with or without side walls, for supporting loads to be lifted or lowered <del>(not used)</del></b>
M	B65D 2519/00004	• Details relating to pallets <del>(not used)</del>
M	B65D 2519/00258	• • Overall construction <del>(not used)</del>
M	B65D 2519/00263	• • • of the pallet <del>(not used)</del>
M	B65D 2519/00283	• • • of the load supporting surface <del>(not used)</del>
M	B65D 2519/00313	• • • of the base surface <del>(not used)</del>
M	B65D 2519/00328	• • • • shape of the contact surface of the base <del>(not used)</del>
M	B65D 2519/00537	• • • of the lid or cover <del>(not used)</del>
M	B65D 2519/00542	• • • of the corner posts <del>(not used)</del>
M	B65D 2519/00736	• • Details <del>(not used)</del>
M	B65D 2519/00741	• • • Dimensional aspects of the pallet <del>(not used)</del>
U	B65D 2519/00825	• • • Finishing of the external surfaces
M	B65D 2519/0083	• • • • Anti-slip means <del>(not used)</del>
M	B65D 2519/00845	• • • • Slip means <del>(not used)</del>
<b>U</b>	<b>B65D 2571/00</b>	<b>Bundles of articles held together by packaging elements for convenience of storage or transport, e.g. portable segregating carrier for plural receptacles such as beer cans, pop bottles; Bales of material</b>
U	B65D 2571/00006	• Palletisable loads, i.e. loads intended to be transported by means of a fork-lift truck
M	B65D 2571/0008	• • Load supporting elements <del>(Not used)</del>
<b>M</b>	<b>B65D 2575/00</b>	<b>Packages comprising articles or materials partially or wholly enclosed in strips, sheets, blanks, tubes or webs of flexible sheet material, e.g. in folded wrappers <del>(Not used)</del></b>
M	B65D 2575/28	• Articles or materials wholly enclosed in composite wrappers, i.e. wrappers formed by <del>association</del> <i>association</i> or interconnecting two or more sheets or <del>blankes</del> <i>blanks</i> <del>(Not used)</del>

M	B65D 2575/30	<ul style="list-style-type: none"> <li>Articles or materials enclosed between two opposed sheets or blanks having their margins united, e.g. by pressure-sensitive adhesive, crimping, heat-sealing, or welding <del>(Not used)</del></li> </ul>
M	B65D 2575/32	<ul style="list-style-type: none"> <li>one or both sheets or blanks being recessed to accommodate contents <del>(Not used)</del></li> </ul>
M	B65D 2575/3209	<ul style="list-style-type: none"> <li>Details <del>(Not used)</del></li> </ul>
M	B65D 2575/52	<ul style="list-style-type: none"> <li>Details <del>(Not used)</del></li> </ul>
M	B65D 2575/54	<ul style="list-style-type: none"> <li>Cards, coupons, or other inserts or accessories <del>(Not used)</del></li> </ul>
M	B65D 2575/56	<ul style="list-style-type: none"> <li>Handles or other suspension means <del>(Not used)</del></li> </ul>
M	B65D 2575/58	<ul style="list-style-type: none"> <li>Opening or contents-removing devices added or incorporated during package manufacture <del>(Not used)</del></li> </ul>
<b>M</b>	<b>B65D 2577/00</b>	<b>Packages formed by enclosing articles or materials in preformed containers, e.g. boxes, cartons, sacks, bags <del>(not used)</del></b>
M	B65D 2577/04	<ul style="list-style-type: none"> <li>Articles or materials enclosed in two or more containers disposed one within another <del>(not used)</del></li> </ul>
M	B65D 2577/10	<ul style="list-style-type: none"> <li>Container closures formed after filling <del>(not used)</del></li> </ul>
M	B65D 2577/20	<ul style="list-style-type: none"> <li>by applying separate lids or covers <del>(not used)</del></li> </ul>
<b>U</b>	<b>B65D 2581/00</b>	<b>Containers, packaging elements, or packages, for contents presenting particular transport or storage problems, or adapted to be used for non-packaging purposes after removal of contents</b>
U	B65D 2581/34	<ul style="list-style-type: none"> <li>for packaging foodstuffs or other articles intended to be cooked or heated within</li> </ul>
M	B65D 2581/3401	<ul style="list-style-type: none"> <li>Cooking or heating method specially adapted to the contents of the package <del>(not used)</del></li> </ul>
<b>U</b>	<b>B65D 2585/00</b>	<b>Containers, packaging elements or packages specially adapted for particular articles or materials</b>
M	B65D 2585/08	<ul style="list-style-type: none"> <li>for compressible or flexible rod-shaped or tubular article <del>(not used)</del></li> </ul>
M	B65D 2585/30	<ul style="list-style-type: none"> <li>for articles particularly sensitive to damage by shock or pressure <del>(not used)</del></li> </ul>
M	B65D 2585/36	<ul style="list-style-type: none"> <li>for biscuits or other bakery products <del>(not used)</del></li> </ul>
M	B65D 2585/54	<ul style="list-style-type: none"> <li>for articles of special shape not otherwise provided for <del>(not used)</del></li> </ul>
U	B65D 2585/64	<ul style="list-style-type: none"> <li>for bulky articles</li> </ul>
M	B65D 2585/641	<ul style="list-style-type: none"> <li>specific articles <del>(not used)</del></li> </ul>
<b>M</b>	<b>B65D 2588/00</b>	<b>Large container <del>(not used)</del></b>
M	B65D 2588/02	<ul style="list-style-type: none"> <li>rigid <del>(not used)</del></li> </ul>
M	B65D 2588/12	<ul style="list-style-type: none"> <li>specially adapted for transport <del>(not used)</del></li> </ul>
M	B65D 2588/16	<ul style="list-style-type: none"> <li>flexible <del>(not used)</del></li> </ul>
M	B65D 2588/162	<ul style="list-style-type: none"> <li>Flexible intermediate bulk containers [FIBC] <del>(not used)</del></li> </ul>
M	B65D 2588/54	<ul style="list-style-type: none"> <li>characterised by means facilitating filling or emptying <del>(not used)</del></li> </ul>
M	B65D 2588/64	<ul style="list-style-type: none"> <li>preventing bridge formation <del>(not used)</del></li> </ul>
M	B65D 2588/74	<ul style="list-style-type: none"> <li>having means for heating, cooling, aerating or other conditioning of contents <del>(not used)</del></li> </ul>
M	B65D 2588/743	<ul style="list-style-type: none"> <li>blowing or injecting heating, cooling or other conditioning fluid inside the container <del>(not used)</del></li> </ul>
<b>M</b>	<b>B65D 2590/00</b>	<b>Component parts, details or accessories for large containers <del>(not used)</del></b>
M	B65D 2590/0008	<ul style="list-style-type: none"> <li>Coupling device between containers <del>(not used)</del></li> </ul>
M	B65D 2590/0025	<ul style="list-style-type: none"> <li>Twist lock <del>(not used)</del></li> </ul>
M	B65D 2590/02	<ul style="list-style-type: none"> <li>Wall construction <del>(not used)</del></li> </ul>



- M B65D 2590/04      · · Linings ~~(not used)~~
- M B65D 2590/043      · · · Flexible liners ~~(not used)~~
- M B65D 2590/22      · Safety features ~~(not used)~~
- M B65D 2590/24      · · Spillage-retaining means ~~(not used)~~
- M B65D 2590/54      · Gates or closures ~~(not used)~~
- M B65D 2590/66      · · Operating devices therefor ~~(not used)~~

**Project: MP0442 (B65G)**

- U B65G 47/00      Article or material-handling devices associated with conveyors; Methods employing such devices**
- U B65G 47/74      · Feeding, transfer, or discharging devices of particular kinds or types
- M B65G 47/84      · · Star-shaped wheels or devices having endless travelling belts or chains, the wheels or devices being equipped with article-engaging elements ~~{{(not used; see B65G 47/841, B65G 47/846)}}~~

**Project: RP0434 (B65H)**

- U B65H 9/00      Registering, e.g. orientating, articles; Devices therefor**
- M B65H 9/10      · Pusher and like movable registers; Pusher or gripper devices which move articles into registered position

**NOTE**

~~After the notation of the groups B65H 9/10 – B65H 9/108 and separated therefrom by a + sign, the notation L may be added to indicate that the device moves articles, already positioned in registered position according to a first direction, into registered position along a second direction perpendicular to the first one, e.g. for lateral registering~~

- D B65H 2211/00      Driving or braking the forwarding elements**  
**<administratively transferred to [B65H 2403/00](#) ADD>**
- U B65H 2220/00      Function indicators**
- D B65H 2220/15      · ~~indicating that the device moves articles, already positioned in a stationary registered position according to a first direction, into a stationary registered position along a second direction perpendicular to the first one, e.g. for lateral registering~~  
**<administratively transferred to [B65H 9/10](#)>**

**Project: MP0442 (B65H)**

- U B65H 2404/00      Parts for transporting or guiding the handled material**
- U B65H 2404/50      · Surface of the elements in contact with the forwarded or guided material
- M B65H 2404/54      · · Surface including rotary elements, e.g. balls or rollers ~~(not used for indexing wave-generation rollers, e.g. combing wheels classified in B65H 3/0646)~~

**Project: MP0452 (C01B)****M C01B****NON-METALLIC ELEMENTS; COMPOUNDS THEREOF; {METALLOIDS OR COMPOUNDS THEREOF NOT COVERED BY SUBCLASS [C01C](#)}**NOTES

1. In this subclass, tradenames that are often found in scientific and patent literature have been used in order to define precisely the scope of the groups.
2. Attention is drawn to the definitions of groups of chemical elements following the title of section [C](#).

WARNINGS

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

[C01B 35/16](#), [C01B 35/18](#) covered by ~~[C01B 35/02](#)~~ - ~~[C01B 35/146](#)~~ - [C01B 35/00](#)

2. General concordance IPC4 or IPC5 to IPC6 groups is as follows:

~~[C01B 25/37](#)~~ (partly) : ~~[C01B 37/002](#)~~  
~~[C01B 25/453](#)~~ : ~~[C01B 37/00](#)~~,  
~~[C01B 39/54](#)~~  
~~[C01B 33/185](#)~~ : ~~[C01B 37/02](#)~~  
~~[C01B 33/28](#)~~ and subgroups : ~~[C01B 37/00](#)~~,  
~~[C01B 39/00](#)~~  
~~[C01B 35/1009](#)~~ : ~~[C01B 37/06](#)~~,  
~~[C01B 39/12](#)~~, ~~[C01B 39/54](#)~~

3. ~~2~~. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

**Project: RP0640 (C01B)****U C01B 17/00****Sulfur; Compounds thereof**

U C01B 17/48

• Sulfur dioxide; Sulfurous acid

U C01B 17/50

• • Preparation of sulfur dioxide

M C01B 17/52

• • • by roasting sulfides (~~[C22B 1/00](#) takes precedence~~ [preliminary treatment of ores or scrap \[C22B 1/00\]\(#\)](#))

**Project: RP0632 (C01F)****C C01F 17/00****Compounds of ~~the~~ rare earth metals, i.e. ~~scandium, yttrium, lanthanum, or the group of the lanthanides~~**NOTE

1. In this group, [the following expression is used with the meaning indicated](#); "rare earth metals" means [one single element or a combination elements from the group of elements taken from the group lanthanides as specified above well as scandium or yttrium, taken alone or in combination.](#)
2. [When classifying a compound in groups \[C01F 17/20\]\(#\) - \[C01F 17/38\]\(#\), then its specific preparation or treatment must also be classified in groups \[C01F 17/10\]\(#\) - \[C01F 17/17\]\(#\) as long as the compound is characterised by its preparation or treatment and vice versa.](#)

WARNING

[Group \[C01F 17/00\]\(#\) is impacted by reclassification into group \[C01F 17/20\]\(#\). Groups \[C01F 17/00\]\(#\) and \[C01F 17/20\]\(#\) should be considered in order to perform a complete search.](#)

- D C01F 17/0006
- {Preparation involving a liquid-liquid extraction, an adsorption or an ion exchange}
  - <administratively transferred to [C01F 17/10](#)>
- D C01F 17/0012
- {Compounds containing, besides rare earth metals, two or more other elements with the exception of oxygen or hydrogen, e.g.  $\text{La}_4\text{S}_3\text{Br}_6$ , or ternary oxides or hydroxides, e.g.  $\text{NaGeO}_2$ }
  - <administratively transferred to [C01F 17/30](#)>
- D C01F 17/0018
- {Oxygen being the only anion}
  - <administratively transferred to [C01F 17/32](#)>
- D C01F 17/0025
- • {Aluminates}
  - <administratively transferred to [C01F 17/34](#)>
- D C01F 17/0031
- {Halogen being the only anion (compounds containing besides rare earth metals only different halogens, e.g.  $\text{ScCl}_2\text{F}$  C01F 17/0056)}
  - <administratively transferred to [C01F 17/36](#)>
- D C01F 17/0037
- {Sulfur being the only anion}
  - <administratively transferred to [C01F 17/38](#)>
- D C01F 17/0043
- {Oxides or hydroxides (ternary oxides or hydroxides, e.g.  $\text{NaGeO}_2$  C01F 17/0018)}
  - <administratively transferred to [C01F 17/206](#)>
- D C01F 17/005
- {Carbonates}
  - <administratively transferred to [C01F 17/247](#)>
- D C01F 17/0056
- {Halides}
  - <administratively transferred to [C01F 17/253](#)>
- D C01F 17/0062
- • {Fluorides}
  - <administratively transferred to [C01F 17/265](#)>
- D C01F 17/0068
- • {Chlorides}
  - <administratively transferred to [C01F 17/271](#)>
- D C01F 17/0075
- {Nitrates}
  - <administratively transferred to [C01F 17/276](#)>
- D C01F 17/0081
- {Sulfates}
  - <administratively transferred to [C01F 17/282](#)>
- D C01F 17/0087
- {Sulfides}
  - <administratively transferred to [C01F 17/288](#)>
- D C01F 17/0093
- • {Oxysulfides}
  - <administratively transferred to [C01F 17/294](#)>
- Q C01F 17/10
- Preparation or treatment, e.g. separation or purification
- WARNING**  
 Group [C01F 17/10](#) is impacted by reclassification into groups [C01F 17/13](#) and [C01F 17/17](#).  
 Groups [C01F 17/10](#), [C01F 17/13](#), and [C01F 17/17](#) should be considered in order to perform a complete search.
- N C01F 17/13
- • by using ion exchange resins, e.g. chelate resins
- WARNING**  
 Group [C01F 17/13](#) is incomplete pending reclassification of documents from group [C01F 17/10](#).

Groups [C01F 17/10](#) and [C01F 17/13](#) should be considered in order to perform a complete search.

N C01F 17/17

- • involving a liquid-liquid extraction

WARNING

Group [C01F 17/17](#) is incomplete pending reclassification of documents from group [C01F 17/10](#).

Groups [C01F 17/10](#) and [C01F 17/17](#) should be considered in order to perform a complete search.

N C01F 17/20

- Compounds containing only rare earth metals as the metal element

WARNING

Group [C01F 17/20](#) is incomplete pending reclassification of documents from group [C01F 17/00](#).

Groups [C01F 17/00](#) and [C01F 17/20](#) should be considered in order to perform a complete search.

Q C01F 17/206

- • oxide or hydroxide being the only anion

WARNING

Group [C01F 17/206](#) is impacted by reclassification into groups [C01F 17/212](#), [C01F 17/218](#), [C01F 17/224](#), [C01F 17/229](#), [C01F 17/235](#), and [C01F 17/241](#). All groups listed in this Warning should be considered in order to perform a complete search.

N C01F 17/212

- • Scandium oxides or hydroxides

WARNING

Group [C01F 17/212](#) is incomplete pending reclassification of documents from group [C01F 17/206](#).

Groups [C01F 17/206](#) and [C01F 17/212](#) should be considered in order to perform a complete search.

N C01F 17/218

- • Yttrium oxides or hydroxides

WARNING

Group [C01F 17/218](#) is incomplete pending reclassification of documents from group [C01F 17/206](#).

Groups [C01F 17/206](#) and [C01F 17/218](#) should be considered in order to perform a complete search.

N C01F 17/224

- • Oxides or hydroxides of lanthanides

WARNING

Group [C01F 17/224](#) is incomplete pending reclassification of documents from group [C01F 17/206](#).

Groups [C01F 17/206](#) and [C01F 17/224](#) should be considered in order to perform a complete search.

N C01F 17/229

- • Lanthanum oxides or hydroxides

WARNING

Group [C01F 17/229](#) is incomplete pending reclassification of documents from group [C01F 17/206](#).

Groups [C01F 17/206](#) and [C01F 17/229](#) should be considered in order to perform a complete search.

- N C01F 17/235
- • • Cerium oxides or hydroxides
- WARNING  
Group [C01F 17/235](#) is incomplete pending reclassification of documents from group [C01F 17/206](#).  
Groups [C01F 17/206](#) and [C01F 17/235](#) should be considered in order to perform a complete search.
- N C01F 17/241
- • • containing two or more rare earth metals, e.g.  $\text{NdPrO}_3$  or  $\text{LaNdPrO}_3$
- WARNING  
Group [C01F 17/241](#) is incomplete pending reclassification of documents from group [C01F 17/206](#).  
Groups [C01F 17/206](#) and [C01F 17/241](#) should be considered in order to perform a complete search.
- N C01F 17/247
- • Carbonates
- Q C01F 17/253
- • Halides
- WARNING  
Group [C01F 17/253](#) is impacted by reclassification into group [C01F 17/259](#).  
Groups [C01F 17/253](#) and [C01F 17/259](#) should be considered in order to perform a complete search.
- N C01F 17/259
- • • Oxyhalides
- WARNING  
Group [C01F 17/259](#) is incomplete pending reclassification of documents from group [C01F 17/253](#).  
Groups [C01F 17/253](#) and [C01F 17/259](#) should be considered in order to perform a complete search.
- N C01F 17/265
- • • Fluorides
- N C01F 17/271
- • • Chlorides
- N C01F 17/276
- • Nitrates
- N C01F 17/282
- • Sulfates
- N C01F 17/288
- • Sulfides
- N C01F 17/294
- • • Oxyulfides
- N C01F 17/30
- Compounds containing rare earth metals and at least one element other than a rare earth metal, oxygen or hydrogen, e.g.  $\text{La}_4\text{S}_3\text{Br}_6$  ([C01F 17/247](#) - [C01F 17/294](#) take precedence)
- N C01F 17/32
- • oxide or hydroxide being the only anion, e.g.  $\text{NaCeO}_2$  or  $\text{Mg}_x\text{Ca}_y\text{EuO}$
- N C01F 17/34
- • • Aluminates, e.g.  $\text{YAlO}_3$  or  $\text{Y}_{3-x}\text{Gd}_x\text{Al}_5\text{O}_{12}$
- N C01F 17/36
- • halogen being the only anion, e.g.  $\text{NaYF}_4$
- N C01F 17/38
- • sulfur being the only anion, e.g.  $\text{CaLa}_2\text{S}_4$

**Project: RP0640 (C03B)**

- U C03B 37/00
- Manufacture or treatment of flakes, fibres, or filaments from softened glass, minerals, or slags**
- M C03B 37/10
- Non-chemical treatment (~~C03C 25/00 takes precedence; yarns or threads D02; woven fabrics D03; non-woven fabrics D04~~ *surface treatment of fibres or filaments made from glass, minerals or slags C03C 25/00*)

**Project: N/A (C04B)**

- U C04B 7/00
- Hydraulic cements (calcium sulfate cements [C04B 11/00](#))**

C04B 7/12

- Natural ~~pozzuolanes~~*pozzuolanas*; Natural pozzuolana cements; ~~{Artificial ~~pozzuolanes~~*pozzuolanas* or artificial pozzuolana cements other than those obtained from waste or combustion residues, e.g. burned clay; Treating inorganic materials to improve their pozzuolanic characteristics}~~; (cements containing slag [C04B 7/14](#))}

**Project: RP0631 (C05F)****M C05F 17/00****Preparation of fertilisers characterised by ~~the~~*biological or biochemical treatment steps, e.g. composting* ~~step~~ *or fermentation***

D C05F 17/0009

- {in-concurrence with invertebrata, (e.g. worms, flies, maggots)}  
<administratively transferred to [C05F 17/05](#)>

D C05F 17/0018

- {Processing of liquids or slurries}  
<administratively transferred to [C05F 17/40](#)>

D C05F 17/0027

- {Multi-step composting process, (e.g. anaerobic-aerobic)}  
<administratively transferred to [C05F 17/50](#)>

D C05F 17/0036

- {Activators/stimulators for composting process}  
<administratively transferred to [C05F 17/20](#)>

D C05F 17/0045

- {Adding/removing compounds to/from the process streams other than water and air}  
<administratively transferred to [C05F 17/10](#)>

D C05F 17/0054

- {the process stream being a gas}  
<administratively transferred to [C05F 17/15](#)>

D C05F 17/0063

- {adding/removing heat to/from the composting process}  
<administratively transferred to [C05F 17/60](#)>

D C05F 17/0072

- {with process parameter responsive control}  
<administratively transferred to [C05F 17/70](#)>

D C05F 17/0081

- {using irradiation, (e.g. solar, nuclear) or electric or magnetic fields}  
<administratively transferred to [C05F 17/30](#)>

D C05F 17/009

- {Elimination of harmful substances, the end product being a fertilizer}  
<administratively transferred to [C05F 17/80](#)>

D C05F 17/02

- Apparatus therefor  
<administratively transferred to [C05F 17/90](#)>

D C05F 17/0205

- {Small scale installations, i.e. no provisions for mechanically feeding or removing of material from installations, e.g. bins, garden composters}  
<administratively transferred to [C05F 17/907](#)>

D C05F 17/0211

- {Portable or transportable devices, e.g. transport containers, trucks}  
<administratively transferred to [C05F 17/914](#)>

D C05F 17/0217

- {Systematic, essentially horizontal displacement of material from entrance to exit of installation}  
<administratively transferred to [C05F 17/921](#)>

D C05F 17/0223

- . . {Cylinders; Drums}  
<administratively transferred to [C05F 17/929](#)>

D C05F 17/0229

- . . {Tunnels}  
<administratively transferred to [C05F 17/936](#)>



- D C05F 17/0235
  - • {Mixing or moving equipment following predetermined, fixed paths, e.g. rails, cables}
  - <administratively transferred to [C05F 17/939](#)>
- D C05F 17/0241
  - • {Mixing and moving equipment not restricted by rails, cables or the like}
  - <administratively transferred to [C05F 17/943](#)>
- D C05F 17/0247
  - {Systematic, essentially vertical displacement of material from entrance to exit of installation}
  - <administratively transferred to [C05F 17/95](#)>
- D C05F 17/0252
  - • {the material going from platform to platform}
  - <administratively transferred to [C05F 17/955](#)>
- D C05F 17/0258
  - {Parts or details of composting apparatus, e.g. floors, covers, doors}
  - <administratively transferred to [C05F 17/964](#)>
- D C05F 17/0264
  - • {Details regulating incoming and outgoing process streams from apparatus}
  - <administratively transferred to [C05F 17/971](#)>
- D C05F 17/027
  - • • {the process stream being a gas stream, e.g. aeration patterns}
  - <administratively transferred to [C05F 17/979](#)>
- D C05F 17/0276
  - • • {the process stream being a liquid stream, e.g. humidification details}
  - <administratively transferred to [C05F 17/986](#)>
- D C05F 17/0282
  - • {Devices for measuring process parameters, e.g. temperature, pressure, water content}
  - <administratively transferred to [C05F 17/993](#)>
- D C05F 17/0288
  - {Flow-sheets for composting process}
  - <administratively transferred to [C05F 17/989](#)>
- D C05F 17/0294
  - {Installation consisting of individual composting reactors in series}
  - <administratively transferred to [C05F 17/957](#)>
- N C05F 17/05
  - *Treatments involving invertebrates, e.g. worms, flies or maggots*
- N C05F 17/10
  - *Addition or removal of substances other than water or air to or from the material during the treatment (for activating or stimulating the treatment [C05F 17/20](#))*
- N C05F 17/15
  - {the material being gas}
- N C05F 17/20
  - *using specific microorganisms or substances, e.g. enzymes, for activating or stimulating the treatment (use of invertebrates [C05F 17/05](#))*
- N C05F 17/30
  - *using irradiation, e.g. solar or nuclear radiation; using electric or magnetic fields*
- N C05F 17/40
  - *Treatment of liquids or slurries*
- N C05F 17/50
  - *Treatments combining two or more different biological or biochemical treatments, e.g. anaerobic and aerobic treatment or vermicomposting and aerobic treatment*
- N C05F 17/60
  - *Heating or cooling during the treatment*
- N C05F 17/70
  - *Controlling the treatment in response to process parameters*
- N C05F 17/80
  - *Separation, elimination or disposal of harmful substances during the treatment*
- N C05F 17/90
  - *Apparatus therefor*
- N C05F 17/907
  - • *Small-scale devices without mechanical means for feeding or discharging material, e.g. garden compost bins*
- N C05F 17/914
  - • *Portable or transportable devices, e.g. transport containers or trucks*
- N C05F 17/921
  - • *Devices in which the material is conveyed essentially horizontally between inlet and discharge means*
- N C05F 17/929
  - • *Cylinders or drums*

- N C05F 17/936 . . . Tunnels
- N C05F 17/939 . . . {Means for mixing or moving with predetermined or fixed paths, e.g. rails or cables}
- N C05F 17/943 . . . Means for combined mixing and conveying
- N C05F 17/95 . . . Devices in which the material is conveyed essentially vertically between inlet and discharge means
- N C05F 17/955 . . . {the material going from platform to platform}
- N C05F 17/957 . . . using two or more serially arranged devices
- N C05F 17/964 . . . Constructional parts, e.g. floors, covers or doors
- N C05F 17/971 . . . for feeding or discharging materials to be treated; for feeding or discharging other material
- N C05F 17/979 . . . . the other material being gaseous
- N C05F 17/986 . . . . the other material being liquid
- N C05F 17/989 . . . {Flow sheets for biological or biochemical treatment}
- N C05F 17/993 . . . Arrangements for measuring process parameters, e.g. temperature, pressure or humidity

**Project: RP0631 (C05G)****C05G**

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

**NOTES**

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

**WARNING**

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

<a href="#">C05G 1/02</a> - <a href="#">C05G 1/10</a>	covered by	<a href="#">C05G 1/00</a> - <a href="#">C05B 19/02</a> , <a href="#">C05C 1/00</a> - <a href="#">C05C 11/00</a> , <a href="#">C05D 1/00</a> - <a href="#">C05D 9/02</a> , <a href="#">C05F 1/00</a> - <del><a href="#">C05F 17/0294</a></del> <a href="#">C05F 17/993</a>
<del><a href="#">C05G 3/40</a></del> <a href="#">C05G 3/10</a>	covered by	<a href="#">C05G 3/0088</a>
<a href="#">C05G 5/00</a>	covered by	<a href="#">C05G 3/0005</a>

**Project: RP0637 (C07C)**

- U C07C 68/00 **Preparation of esters of carbonic or haloformic acids**
- D C07C 68/005 . {from carbon monoxide and oxygen}  
<administratively transferred to [C07C 68/01](#)>
- N C07C 68/01 . from carbon monoxide and oxygen
- U C07C 68/06 . from organic carbonates
- M C07C 68/065 . . {from alkylene carbonates}

- U C07C 68/08 • Purification; Separation; Stabilisation

**Project: N/A (C08G)**

- U C08G 59/00 Polycondensates containing more than one epoxy group per molecule (low-molecular-weight polyepoxy compounds [C07](#)); Macromolecules obtained by polymerising compounds containing more than one epoxy group per molecule using curing agents or catalysts which react with the epoxy groups
- U C08G 59/02 • Polycondensates containing more than one epoxy group per molecule
- C08G 59/027 • {obtained by [epoxydation](#)[epoxidation](#) of unsaturated precursor, e.g. polymer or monomer}

**Project: RP0633 (C08J)**

- M C08J **WORKING-UP; GENERAL PROCESSES OF COMPOUNDING; AFTER-TREATMENT NOT COVERED BY SUBCLASSES [C08B](#), [C08C](#), [C08F](#), [C08G](#) (mechanical aspects [B29](#); layered products, manufacture thereof [B32B](#); treatment of macromolecular material specially adapted to enhance its filling properties in mortars, concrete or artificial stone [C04B 16/04](#), [C04B 18/20](#), [C04B 20/00](#); treatment of textiles [D06](#))**

NOTES

1. This subclass covers processes, not covered by subclasses [C08B](#) - [C08H](#), for treating polymers.

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

2. When classifying in subclass [C08J](#), the treatment of specific polymers is indicated using indexing codes chosen from [C08J 2300/00](#) or subgroups thereof.

Example:

- Preparation of particles of polystyrene by impregnation of the particles with the blowing agent: [C08J 9/18](#) and [C08J 2325/06](#).

~~The use of a polymeric component in minority, e.g. masterbatch, coating, impregnating agent or thin binder is indicated using indexing codes chosen from [C08J 2400/00](#) or subgroups thereof. Examples:~~

- ~~• Use of PMMA as masterbatch in a polystyrene composition: [C08J 3/226](#) and [C08J 2325/06](#) and [C08J 2433/10](#)~~
- ~~• Bonding of polystyrene by heating: [C08J 5/121](#) and [C08J 2325/06](#)~~
- ~~• Coating of a polyethylene substrate with a polyurethane coating: [C08J 7/047](#) and [C08J 2323/06](#) and [C08J 2475/04](#)~~
- ~~• Use of ABS as an additive for foamed polyacrylamide: [C08J 9/0061](#) and [C08J 2333/26](#) and [C08J 2455/02](#)~~

~~In the following subgroups, the codes of [C08J 2300/00](#) - [C08J 2399/00](#) are used to specify:~~

- ~~• [C08J 3/226](#): the polymeric material to which the masterbatch carrier is added;~~
- ~~• [C08J 7/047](#): the polymeric substrate to be coated;~~
- ~~• [C08J 9/0061](#): the polymeric component in majority in a multicomponents foamable blend.~~

3. [Group The use of a polymeric component in minority, e.g. masterbatch, coating, impregnating agent or thin binder is indicated using indexing codes chosen from \[C08J 2400/00\]\(#\)](#) was introduced on January 1st, 2012. Patent documents are continuously being reclassified. As a consequence, documents published before 01/01/2012, and to which [C08J 2400/00](#) indexing codes were allocated, are indexed in the corresponding head group [or subgroups thereof](#).

Example

[Examples:](#)

- Use of PMMA as masterbatch in a polystyrene composition: [C08J 3/226](#) and [C08J 2325/06](#) and [C08J 2433/00](#), instead of [C08J 2433/10](#).
- *Bonding of polystyrene by heating: [C08J 5/121](#) and [C08J 2325/06](#)*
- *Coating of a polyethylene substrate with a polyurethane coating: [C08J 7/0427](#) and [C08J 2323/06](#) and [C08J 2475/04](#)*
- *Use of ABS as an additive for foamed polyacrylamide : [C08J 9/0061](#) and [C08J 2333/26](#) and [C08J 2455/02](#)*

In the following subgroups, the codes of [C08J 2400/00](#) – [C08J 2499/00](#) are used to specify:

- [C08J 3/226](#) : the polymeric carrier in a masterbatch.
- [C08J 5/12](#) : the chemical nature of the adhesive
- [C08J 7/047](#) : the chemical nature of the coating(s).
- [C08J 9/0061](#) : the polymeric component in minority in a multicomponents foamable blend.
- [C08J 9/224](#), [C08J 9/236](#), [C08J 9/36](#), [C08J 9/40](#) and [C08J 9/42](#) : the polymer used for coating, binding, or impregnating the foam. [C08J 9/26](#) : the polymer to be leached out.
- [C08J 9/33](#) and [C08J 9/35](#) : the foam fragments included in the (foamable) polymer matrix.
- in all other subgroups, when the presence of a polymeric component in minority is of relevance.

4. In the following subgroups, the codes of [C08J 2300/00](#) - [C08J 2399/00](#) are used to specify:

- [C08J 3/226](#): the polymeric material to which the masterbatch carrier is added.
- [C08J 7/0427](#): the polymeric substrate to be coated.
- [C08J 9/0061](#): the polymeric component in majority in a multicomponents foamable blend.

5. Group [C08J 2400/00](#) was introduced on January 1st, 2012. Patent documents are continuously being reclassified. As a consequence, documents published before 01/01/2012, and to which [C08J 2400/00](#) indexing codes were allocated, are indexed in the corresponding head group.

Example:

- Use of PMMA as masterbatch in a polystyrene composition: [C08J 3/226](#) and [C08J 2325/06](#) and [C08J 2433/00](#), instead of [C08J 2433/10](#).

6. In the following subgroups, the codes of [C08J 2400/00](#) - [C08J 2499/00](#) are used to specify:

- [C08J 3/226](#): the polymeric carrier in a masterbatch.
- [C08J 5/12](#): the chemical nature of the adhesive
- [C08J 7/0427](#): the chemical nature of the coating(s).
- [C08J 9/0061](#): the polymeric component in minority in a multicomponents foamable blend.
- [C08J 9/224](#), [C08J 9/236](#), [C08J 9/36](#), [C08J 9/40](#) and [C08J 9/42](#): the polymer used for coating, binding, or impregnating the foam. [C08J 9/26](#): the polymer to be leached out.
- [C08J 9/33](#) and [C08J 9/35](#): the foam fragments included in the (foamable) polymer matrix.
- in all other subgroups, when the presence of a polymeric component in minority is of relevance.

## WARNINGS

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

[C08J 5/14](#) covered by [B24D 3/22](#), [B24D 3/28](#),  
[F16D 69/02](#)

C08J 5/16

covered by

[C10N 2250/18](#)

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

**U** C08J 7/00

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

**C** C08J 7/04

- Coating ~~{{coating compositions per se C09D 4/00, C09D 101/00 - C09D 201/00}}~~

WARNING

*Group [C08J 7/04](#) is impacted by reclassification into groups [C08J 7/043](#), [C08J 7/044](#), [C08J 7/046](#), [C08J 7/048](#), [C08J 7/05](#), [C08J 7/052](#), [C08J 7/054](#), and [C08J 7/056](#).*

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

**U** C08J 7/042

- {with two or more layers, where at least one layer of a composition contains a polymer binder}

**N** C08J 7/0423

- • {with at least one layer of inorganic material and at least one layer of a composition containing a polymer binder}

**N** C08J 7/0427

- • {with only one layer of a composition containing a polymer binder (with more layers [C08J 7/042](#))}

**N** C08J 7/043

- • Improving the adhesiveness of the coatings *per se*, e.g. forming primers (adhesives in the form of films or foils characterised by the primer layers between the polymer carriers and the adhesives [C09J 7/50](#))

WARNING

*Group [C08J 7/043](#) is incomplete pending reclassification of documents from group [C08J 7/04](#).*

*Groups [C08J 7/04](#) and [C08J 7/043](#) should be considered in order to perform a complete search.*

**N** C08J 7/044

- • Forming conductive coatings; Forming coatings having anti-static properties

WARNING

*Group [C08J 7/044](#) is incomplete pending reclassification of documents from group [C08J 7/04](#).*

*Groups [C08J 7/04](#) and [C08J 7/044](#) should be considered in order to perform a complete search.*

**D** C08J 7/045

- • {with at least one layer of inorganic material and at least one layer of a composition containing a polymer binder}  
<administratively transferred to [C08J 7/0423](#)>

**N** C08J 7/046

- • Forming abrasion-resistant coatings; Forming surface-hardening coatings

WARNING

*Group [C08J 7/046](#) is incomplete pending reclassification of documents from group [C08J 7/04](#).*

*Groups [C08J 7/04](#) and [C08J 7/046](#) should be considered in order to perform a complete search.*

**D** C08J 7/047

- {with only one layer of a composition containing a polymer binder (with more layers [C08J 7/042](#))}  
<administratively transferred to [C08J 7/0427](#)>

- N C08J 7/048
- Forming gas barrier coatings
- WARNING  
Group [C08J 7/048](#) is incomplete pending reclassification of documents from group [C08J 7/04](#).  
Groups [C08J 7/04](#) and [C08J 7/048](#) should be considered in order to perform a complete search.
- N C08J 7/05
- Forming flame retardant coatings or fire resistant coatings
- WARNING  
Group [C08J 7/05](#) is incomplete pending reclassification of documents from group [C08J 7/04](#).  
Groups [C08J 7/04](#) and [C08J 7/05](#) should be considered in order to perform a complete search.
- N C08J 7/052
- Forming heat-sealable coatings
- WARNING  
Group [C08J 7/052](#) is incomplete pending reclassification of documents from group [C08J 7/04](#).  
Groups [C08J 7/04](#) and [C08J 7/052](#) should be considered in order to perform a complete search.
- N C08J 7/054
- Forming anti-misting or drip-proofing coatings
- WARNING  
Group [C08J 7/054](#) is incomplete pending reclassification of documents from group [C08J 7/04](#).  
Groups [C08J 7/04](#) and [C08J 7/054](#) should be considered in order to perform a complete search.
- N C08J 7/056
- Forming hydrophilic coatings
- WARNING  
Group [C08J 7/056](#) is incomplete pending reclassification of documents from group [C08J 7/04](#).  
Groups [C08J 7/04](#) and [C08J 7/056](#) should be considered in order to perform a complete search.
- U C08J 7/06
- with compositions not containing macromolecular substances

**Project: RP0232-F (C08K)**

- U C08K 3/00
- Use of inorganic substances as compounding ingredients**
- NOTE  
In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08K](#).
- U C08K 3/02
- Elements
- M C08K 3/04
- Carbon
- WARNING  
Group C08K 3/04 is impacted by reclassification into groups C08K 3/041, C08K 3/042, C08K 3/043, C08K 3/044, C08K 3/045 and C08K 3/046.  
All groups listed in this warning should be considered in order to perform a complete search.



- M C08K 3/041      • • • {Carbon nanotubes}
- WARNING  
Group C08K 3/041 is incomplete pending reclassification of documents from groups C08K 3/04 and C08K 7/24.  
Groups C08K 3/041, C08K 3/04 and C08K 7/24 should be considered in order to perform a complete search.
- M C08K 3/042      • • • {Graphene or derivatives, e.g. graphene oxides}
- WARNING  
Group C08K 3/042 is incomplete pending reclassification of documents from groups C08K 3/04 and C08K 3/20.  
Groups C08K 3/042, C08K 3/04 and C08K 3/20 should be considered in order to perform a complete search.
- M C08K 3/043      • • • {Carbon nanocoils}
- WARNING  
Group C08K 3/043 is incomplete pending reclassification of documents from groups C08K 3/04 and C08K 7/24.  
Groups C08K 3/043, C08K 3/04 and C08K 7/24 should be considered in order to perform a complete search.
- M C08K 3/044      • • • {Carbon nanohorns or nanobells}
- WARNING  
Group C08K 3/044 is incomplete pending reclassification of documents from groups C08K 3/04 and C08K 7/24.  
Groups C08K 3/044, C08K 3/04 and C08K 7/24 should be considered in order to perform a complete search.
- M C08K 3/045      • • • {Fullerenes}
- WARNING  
Group C08K 3/045 is incomplete pending reclassification of documents from groups C08K 3/04 and C08K 7/24.  
Groups C08K 3/045, C08K 3/04 and C08K 7/24 should be considered in order to perform a complete search.
- M C08K 3/046      • • • {Carbon nanorods, nanowires, nanoplatelets or nanofibres}
- WARNING  
Group C08K 3/046 is incomplete pending reclassification of documents from groups C08K 3/04 and C08K 7/24.  
Groups C08K 3/046, C08K 3/04 and C08K 7/24 should be considered in order to perform a complete search.
- U C08K 3/18      • Oxygen-containing compounds, e.g. metal carbonyls
- M C08K 3/20      • • Oxides; Hydroxides {(graphene oxides [C08K 3/042](#))}
- WARNING  
Group C08K 3/20 is impacted by reclassification into group C08K 3/042.  
Groups C08K 3/20, and C08K 3/042 should be considered in order to perform a complete search.

**U C08K 7/00****Use of ingredients characterised by shape**NOTE

In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08K](#).

- U C08K 7/22      • Expanded, porous or hollow particles
- M C08K 7/24      • • inorganic

**WARNING**

Group C08K 7/24 is impacted by reclassification into groups C08K 3/041, C08K 3/042, C08K 3/043, C08K 3/044, C08K 3/045 and C08K 3/046. All groups listed in this warning should be considered in order to perform a complete search.

**Project: N/A (C08L)****C08L**

**COMPOSITIONS OF MACROMOLECULAR COMPOUNDS (compositions based on polymerisable monomers [C08F](#), [C08G](#); artificial filaments or fibres [D01F](#); textile treating compositions [D06](#))**

**NOTES**

1. In this subclass, the following term is used with the meaning indicated:
  - 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 compositions of such macromolecular compounds).
2. In this subclass:
  - a. compositions are classified according to the mutual proportions by weight of only the macromolecular constituents;
  - b. compositions are classified according to the macromolecular constituent or constituents present in the highest proportion: if all these constituents are present in equal proportions the composition is classified according to each of these constituents.
3. Any macromolecular constituent of a composition which is not identified by the classification according to Note (2) above, and the use of which is determined to be novel and non-obvious, must also be classified in this subclass. For example, a composition containing 80 parts polyethene and 20 parts polyvinyl chloride is classified in both groups [C08L 23/06](#) and [C08L 27/06](#), if the use of polyvinyl chloride is determined to be novel and non-obvious. {This IPC Note does not apply in CPC}
4. Any macromolecular constituent of a composition which is not identified by the classification according to Notes (2) or (3) above, and which is considered to represent information of interest for search, may also be classified in this subclass. This can, for example, be the case when it is considered of interest to enable searching of compositions using a combination of classification symbols. Such non-obligatory classification should be given as "additional information". {This IPC Note does not apply in CPC}
5. {Compositions classified in [C08K](#) according to note 3 of [C08K](#), are not classified in [C08L](#).}
6. {In this subclass, combination sets [C-Sets] are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of [C08L](#)}
7. {[C08L 2666/00](#) indexing codes were used for C-Sets classification of documents before April 2012. In addition to note (6), for searching documents classified before April 2012, see also [C08L 2666/00](#) in the definitions of [C08L](#).}
8. From 01.09.2003 until April 2012: Classification is given in the form of C-Sets. The polymer in majority is given a C08L class, and the minor components are characterised by Indexing Codes taken from C08L or C08K and they are linked or unlinked. The polymer in majority is always first in the C-Set. List of C08L codes in the C-Set: C08L 1/00, C08L 81/00, C08L 83/00, C08L 91/06;

C08L 95/00 or C08L 2666/02 - C08L 2666/08, C08L 2666/14 - C08L 2666/26.

Examples:-

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

9. From April 2012 onwards, after the notation C08L, notations concerning the other constituents of the composition may be added, in the form of C-Sets.

The further constituent is added with an indexing code. The indexing codes are chosen from C08L 1/00 - C08L 2555/86 or C08K and they may be linked or unlinked: - C08L 1/00 - C08L 101/10 are linked. - C08L 2201/00 - C08L 2555/86 are unlinked. The polymer in majority is always first in the C-Set. Examples:-

- a. A blend of 60 parts polyvinylchloride ( C08L 27/06 ) and 40 parts polyamide ( C08L 77/00 ) is classified in ( C08L 27/06, C08L 77/00 ).
- b. A blend of 50 parts polyvinylchloride ( C08L 27/06 ) and 50 parts polyamide ( C08L 77/00 ) is classified in ( C08L 27/06, C08L 77/00 ) and ( C08L 77/00, C08L 27/06 ).
- c. A composition based on polyvinylchloride and containing CaCO<sub>3</sub> is classified according to [N: Note 4 of C08K, i.e. in ( C08K 3/26, C08L 27/06 )]. If this composition contains also a polyamide, then the classification will be ( C08L 27/06, C08L 77/00, C08K 3/26 ).
- d. A composition based on a first polysiloxane ( C08L 83/04 ) and containing a second polysiloxane, a phenol and silica is classified in ( C08L 83/04, C08L 83/00, C08K 5/13, C08K 3/36 ) and C08L 2205/02.
- e. A composition containing a polyamide in majority, a polyester and a polyethylene is classified in ( C08L 77/00, C08L 67/00, C08L 23/06 ) and C08L 2205/03.

10. "Rubber" includes:

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

11. In this subclass:

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

#### WARNINGS

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

C08L 61/08-C08L 61/10	covered by	C08L 61/06
C08L 63/02	covered by	C08L 63/00
C08L 83/05	covered by	C08L 83/04
C08L 83/07	covered by	C08L 83/04

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

**Project: RP0640 (C09D)**

- M C09D 1/00 Coating compositions, e.g. paints, varnishes or lacquers, based on inorganic substances (C04B takes precedence; glazes or vitreous enamels C03G)

**Project: N/A (C09K)**

- C09K 2219/00 Aspects relating to the form of the liquid ~~chrystal~~crystal [LC] material, or by the technical area in which LC material are used

**Project: RP0611 (C12N)**

- U C12N 11/00 Carrier-bound or immobilised enzymes; Carrier-bound or immobilised microbial cells; Preparation thereof

- M C12N 11/02 • Enzymes or microbial cells being immobilised on or in an organic carrier
- M C12N 11/04 • • entrapped within the carrier, e.g. gel; or hollow fibrefibres
- U C12N 11/06 • • attached to the carrier via a bridging agent
- C C12N 11/08 • • the carrier being a synthetic polymer

**WARNING**

Group C12N 11/08 is impacted by reclassification into groups C12N 11/082, C12N 11/084, C12N 11/087, C12N 11/089, C12N 11/091, C12N 11/093, C12N 11/096, and C12N 11/098.

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

- N C12N 11/082 • • • obtained by reactions only involving carbon-to-carbon unsaturated bonds

**WARNING**

Groups C12N 11/082, C12N 11/084, and C12N 11/087 are incomplete pending reclassification of documents from group C12N 11/08.

Groups C12N 11/08, C12N 11/082, C12N 11/084 and C12N 11/087 should be considered in order to perform a complete search.

- N C12N 11/084 • • • • Polymers containing vinyl alcohol units

- N C12N 11/087 • • • • Acrylic polymers

- N C12N 11/089 • • • • obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds

**WARNING**

Groups C12N 11/089, C12N 11/091, C12N 11/093 and C12N 11/096 are incomplete pending reclassification of documents from group C12N 11/08.

Groups C12N 11/08, C12N 11/089, C12N 11/091, C12N 11/093 and C12N 11/096 should be considered in order to perform a complete search.

- N C12N 11/091 • • • • Phenol resins; Amino resins

- N C12N 11/093 • • • • Polyurethanes

- N C12N 11/096 • • • • Polyesters; Polyamides

- N C12N 11/098 • • • • formed in the presence of the enzymes or microbial cells

**WARNING**

Group C12N 11/098 is incomplete pending reclassification of documents from group C12N 11/08.

Groups C12N 11/08 and C12N 11/098 should be considered in order to perform a complete search.

- M C12N 11/10 • • the carrier being a carbohydrate

- U C12N 11/12      • • • Cellulose or derivatives thereof
- M C12N 11/14      • Enzymes or microbial cells **being** immobilised on or in an inorganic carrier
- M C12N 11/16      • Enzymes or microbial cells **being** immobilised on or in a biological cell
- U C12N 11/18      • Multi-enzyme systems

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

- U C12N 2720/00      dsRNA Viruses (not used)**
- U C12N 2720/00011      • dsRNA Viruses
- U C12N 2720/10011      • • Birnaviridae
- C12N 2720/10041      • • • Use of virus, viral particle or viral elements as a **vector****vector**
- U C12N 2720/12011      • • Reoviridae
- U C12N 2720/12111      • • • Orbivirus, e.g. bluetongue virus
- C12N 2720/12141      • • • • Use of virus, viral particle or viral elements as a **vector****vector**

**Project: RP0640 (C23F)**

- M C23F 17/00      Multi-step processes for surface treatment of metallic material involving at least one process provided for in class **C23** and at least one process covered by subclass **C21D** or **C22F** or class **C25** (**C23C 28/00 takes precedence** **coating for obtaining at least two superposed coatings either by methods not provided for in a single one of main groups **C23C 2/00** - **C23C 26/00**, or by combinations of methods provided for in subclasses **C23C** and **C25D**, **C23C 28/00****)**

**Project: RP0640 (C30B)**

- U C30B 31/00      Diffusion or doping processes for single crystals or homogeneous polycrystalline material with defined structure; Apparatus therefor**
- M C30B 31/06      • by contacting with diffusion material in the gaseous state **(C30B 31/18 takes precedence)**

**Project: RP0641 (D06B)**

- M D06B      TREATING TEXTILE MATERIALS **BY USING** LIQUIDS, GASES OR VAPOURS (**applying liquids to surfaces in general **B05**; conveying in general, handling webs or filaments in general **B65**; treating leather **C14C**; mechanical removal of impurities from animal fibres **D01B**; laundering **D06F**; chemical matters, see **D06L** - **D06Q**** **mechanical treatment of natural fibrous or filamentary material to obtain fibres or filaments **D01B****)**

NOTE

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

- "fabric" includes yarns in warp or sheet form;
- "textile material" includes fabrics, yarns or other fibrous materials;
- "indefinite length" means an extent of material having the characteristic that the longitudinal dimension is effectively infinite in so far as the procedure for advancing or moving the material is concerned.

**2. This subclass does not cover treatment of textiles by purely chemical means, which is covered by subclasses **D06L** - **D06Q**.**

WARNING

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

- M D06B 1/00 Applying liquids, gases or vapours ~~on-to~~**onto** textile materials to effect treatment, e.g. washing, dyeing, bleaching, sizing; ~~or~~ impregnating (mercerising [D06B 7/00](#); solvent-treatment [D06B 9/00](#); treatment of selected parts of textile materials [D06B 11/00](#); with aid of vibration [D06B 13/00](#))
- M D06B 1/02 • by spraying or projecting ([D06B 1/08](#) takes precedence; ~~spraying in general B05~~)
- M D06B 9/00 Solvent-treatment of textile materials (~~dry-cleaning D06F 43/00~~)
- M D06B 15/00 Removing liquids, gases or vapours from textile materials in association with treatment of the materials by liquids, gases or vapours (~~drying F26B~~)

## Project: RP0641 (D06C)

- M D06C **FINISHING, DRESSING, TENTERING OR STRETCHING TEXTILE FABRICS**  
(~~chemical matters, see D06L - D06Q; drying F26B~~)

NOTE

1. In this subclass, the following term is used with the meaning indicated:
- "fabric" includes yarns in warp or sheet form

2. *This subclass does not cover treatment of textiles by purely chemical means, which is covered by subclasses [D06L](#) - [D06Q](#).*

WARNING

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

- M D06C 3/00 Stretching, tentering; or spreading textile fabrics; Producing elasticity in textile fabrics (shaping or stretching tubular fabrics upon cores or internal frames [D06C 5/00](#); ~~removing skew or disorientation of weft threads in woven fabrics D06H 3/12~~)
- M D06C 3/02 • by endless chain or like apparatus (~~hooks or pin-blocks D06C 3/10~~)
- M D06C 5/00 Shaping or stretching of tubular fabrics upon cores or internal frames (~~supports simply for drying D06F 59/00~~)
- M D06C 7/00 Heating or cooling textile fabrics (~~during operations provided for elsewhere, see the relevant groups for such operations; hosiery boarding D06C 5/00; singeing D06C 9/00; treating with liquids, gases or vapours D06B~~)
- M D06C 11/00 Teasing, napping; or otherwise roughening or raising pile of textile fabrics (for making patterns or designs ~~D06C 23/00~~ [D06C 23/02](#))
- M D06C 13/00 Shearing, clipping; or cropping surfaces of textile fabrics; Pile cutting; Trimming seamed edges (for making patterns or designs ~~D06C 23/00~~ [D06C 23/02](#); ~~cutting or severing fabrics D06H~~)
- M D06C 15/00 Calendering, pressing, ironing, glossing or glazing textile fabrics (~~shrinking by compressing D06C 21/00; for making patterns or designs [D06C 23/00](#); domestic, laundry, or like ironing or pressing D06F~~)
- M D06C 23/00 Making patterns or designs on fabrics (~~by printing B41F; decoration in general B44~~)
- M D06C 25/00 Treating selvages or other edges, e.g. stiffening (~~trimming edges D06C 13/12; forming selvages on the loom, e.g. by adhesive, D03D 47/40~~)



## Project: RP0641 (D06G)

M D06G MECHANICAL OR PRESSURE CLEANING OF CARPETS, RUGS, SACKS, HIDES, OR OTHER SKIN OR TEXTILE ARTICLES OR FABRICS; TURNING INSIDE-OUT FLEXIBLE TUBULAR OR OTHER HOLLOW ARTICLES  
(mechanical preparation or mechanical treatment of bed feathers B68G 3/00)

WARNING

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

M D06G 1/00 Beating, brushing, or otherwise mechanically cleaning or pressure cleaning carpets, rugs, sacks, hides, or other skin or textile articles or fabrics  
(brushes A46B; suction cleaners A47L; domestic cleaning apparatus A47L; cleaning in general B08B; apparatus for cleaning bed feathers B68G 3/00)

## Project: RP0641 (D06H)

M D06H MARKING, INSPECTING, SEAMING OR SEVERING TEXTILE MATERIALS (seaming by sewing D05B; in connection with manufacturing, see the relevant subclasses)

WARNING

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

M D06H 3/00 Inspecting textile materials {(testing physical properties of textile materials G01N; {unwinding or rewinding apparatus incorporating inspecting devices B65H 16/026})}

M D06H 3/16 • Inspecting hosiery or other tubular fabric; Inspecting in combination with turning inside-out, classifying, or other handling (turning inside-out per se D06G 3/00)

M D06H 7/00 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)}

## Project: RP0641 (D06J)

M D06J PLEATING, KILTING, OR GOFFERING TEXTILE FABRICS OR WEAVING APPAREL ({corrugating, creasing, or otherwise deforming paper, or material worked in a manner analogous to paper, without removing material B31F; by weaving D03D; } by sewing D05B; apparatus for pressing or setting formed pleats D06C)

**Project: RP0641 (D06M)****M D06M**

**TREATMENT, NOT PROVIDED FOR ELSEWHERE IN CLASS [D06](#), OF FIBRES, THREADS, YARNS, FABRICS, FEATHERS, OR FIBROUS GOODS MADE FROM SUCH MATERIALS (surface treatment of fibres or filaments from glass, minerals or slags (also in the form of fabrics if the chemical aspects of the treatment are important) [C03C 25/00](#); treatment of textiles by mechanical means, see [D06B](#) - [D06J](#))**

**NOTES**

1. In each of the groups [D06M 11/00](#) - [D06M 15/00](#), in the absence of an indication to the contrary, a substance is classified in the last appropriate place.
2. Within each one of main groups [D06M 11/00](#) - [D06M 15/00](#), a mixture of substances is classified at least according to the essential ingredient. If more than one ingredient is essential, the mixture is classified, in the absence of an indication to the contrary, according to the essential ingredient which belongs to the last appropriate place in the sequence of substances;
3. Treatment by mixtures of substances covered by two or more of main groups [D06M 11/00](#) - [D06M 15/00](#) is classified in each appropriate main group.
4. In this subclass, the treatment of textiles, not provided for elsewhere in class [D06](#), is classified according to the following principles:
  - Treatment of textiles characterised by the treating agent in groups [D06M 11/00](#) - [D06M 16/00](#);
  - Treatment of textiles characterised by the process in group [D06M 23/00](#).

**WARNING**

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

**M D06M 11/00**

**Treating fibres, threads, yarns, fabrics, or fibrous goods made from such materials, with inorganic substances or complexes thereof; Such treatment combined with mechanical treatment, e.g. mercerising ([D06M 10/00](#) takes precedence; ~~decorating textiles by local treatment [D06Q 1/00](#)~~)**

**NOTES**

1. If a compound used in the treatment is characterised by its cation, it is classified in group [D06M 11/00](#); metallisation by treatment with a metal salt, followed by reduction, is classified in group [D06M 11/83](#).
2. In this group, the following term is used with the meaning indicated:
  - "treatment" means, in the absence of an indication to the contrary, the treatment which leads to the end product, e.g. treatment with barium sulfate can mean treatment with barium chloride and with sulfuric acid in two separate steps

**M D06M 11/32**

- with oxygen, ozone, ozonides, oxides, hydroxides or percompounds; Salts derived from anions with an amphoteric element-oxygen bond (with water or heavy water [D06M 11/05](#); with oxides or oxyacids of halogens [D06M 11/30](#); ~~bleaching [D06L](#)~~)

**U D06M 11/36**

- • with oxides, hydroxides or mixed oxides; with salts derived from anions with an amphoteric element-oxygen bond

**M D06M 11/38**

- • Oxides or hydroxides of elements of Groups 1 or 11 of the Periodic System (~~producing patterns by locally destroying or modifying the fibres by chemical action [D06Q 1/02](#)~~)

**M D06M 11/83**

- with metals; with metal-generating compounds, e.g. metal carbonyls; Reduction of metal compounds on textiles (~~decorating textiles by locally metallising [D06Q 1/04](#)~~)

- U D06M 13/00** Treating fibres, threads, yarns, fabrics or fibrous goods made from such materials, with non-macromolecular organic compounds ([D06M 10/00](#), [D06M 14/00](#) take precedence; treatment with complexes of organic amines with inorganic substances [D06M 11/59](#)); Such treatment combined with mechanical treatment
- NOTE
- In this group the following term is used with the meaning indicated:
- "treatment" means, in the absence of an indication to the contrary, the treatment which leads to the end product, e.g. treatment with chloroacetic acid can mean treatment with chloroacetylchloride and saponification in two separate steps
- M D06M 13/52 • combined with mechanical treatment ~~(decorating textiles D06Q)~~
- M D06M 13/525 • • Embossing; Calendering; Pressing ~~(moulding D06M 23/14)~~
- U D06M 15/00** Treating fibres, threads, yarns, fabrics, or fibrous goods made from such materials, with macromolecular compounds; Such treatment combined with mechanical treatment ([D06M 10/00](#), [D06M 14/00](#) take precedence; {treatment with inorganic polyphosphates [D06M 11/72](#)})
- NOTE
- In this group, the following term is used with the meaning indicated:
- "treatment" means, in the absence of an indication to the contrary, the treatment which leads to the end product, e.g.
    - a. treatment with polyvinylalcohol can mean treatment with polyvinylacetate and subsequent saponification in a separate step
    - b. treatment with aminoplast can mean the delayed cure process or the treatment with precondensation products, or with e.g. urea and with formaldehyde in two separate steps
- M D06M 15/70 • combined with mechanical treatment ~~(decorating textiles D06Q)~~
- M D06M 15/705 • • Embossing; Calendering; Pressing ~~(moulding D06M 23/14)~~
- U D06M 23/00** Treatment of fibres, threads, yarns, fabrics or fibrous goods made from such materials, characterised by the process
- M D06M 23/08 • Processes in which the treating agent is applied in powder or granular form (adhesives for multi-layer textile fabrics [D06M 17/00](#); ~~decorating textiles D06Q~~)
- M D06M 23/16 • Processes for the non-uniform application of treating agents, e.g. one-sided treatment; Differential treatment ~~(decorating textiles D06Q)~~

**Project: RP0641 (D06N)**

- M D06N** WALL, FLOOR, OR LIKE COVERING MATERIALS, e.g. LINOLEUM, OILCLOTH, ARTIFICIAL LEATHER, ROOFING FELT, CONSISTING OF A FIBROUS WEB COATED WITH A LAYER OF MACROMOLECULAR MATERIAL; FLEXIBLE SHEET MATERIAL NOT OTHERWISE PROVIDED FOR ~~(laminates in general B32B; coated webs which retain the character of paper or cardboard D21)~~

NOTE

Layered products classified in this subclass are also classified in subclass [B32B](#).

WARNING

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

<a href="#">D06N 7/02</a>	covered by	<a href="#">D06N 7/0002</a> – <a href="#">D06N 7/0097</a>
<a href="#">D06N 7/04</a>	covered by	<a href="#">D06N 7/0002</a> – <a href="#">D06N 7/0097</a>

D06N 7/06 covered by [D06N 7/0002](#) – [D06N 7/0097](#)

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

**M D06N 7/00**

**Flexible sheet materials not otherwise provided for, e.g. textile threads, filaments, yarns or tow, glued on macromolecular material ~~{e.g. fibrous top-layer with resin backing, plastic naps or dots on fabrics}~~ (paper-based or board-based structures for surface covering [D21H 27/20](#))**

**Project: RP0641 (D06P)**

**M D06P**

**DYEING OR PRINTING TEXTILES; DYEING LEATHER, FURS, OR SOLID MACROMOLECULAR SUBSTANCES IN ANY FORM ~~(for mechanical matters [D06B](#), [D06C](#); surface treatment of fibres or filaments from glass, minerals or slags [C03C 25/00](#))~~**

**NOTE**

*This subclass does not cover treatment of textiles by purely mechanical means, which is covered by subclasses [D06B](#), [D06C](#).*

**WARNING**

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

<a href="#">D06P 3/84</a>	covered by	<a href="#">D06P 3/82</a>
<a href="#">D06P 3/85</a>	covered by	<a href="#">D06P 3/82</a>
<a href="#">D06P 3/852</a>	covered by	<a href="#">D06P 3/82</a>
<a href="#">D06P 3/86</a>	covered by	<a href="#">D06P 3/82</a>
<a href="#">D06P 3/87</a>	covered by	<a href="#">D06P 3/82</a>
<a href="#">D06P 3/872</a>	covered by	<a href="#">D06P 3/82</a>
<a href="#">D06P 3/874</a>	covered by	<a href="#">D06P 3/82</a>
<a href="#">D06P 5/24</a> - <a href="#">D06P 5/28</a>	covered by	<a href="#">D06P 5/003</a> and s.gr.

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

**Project: RP0641 (D06Q)**

**M D06Q**

**DECORATING TEXTILES ~~(for treatment of textiles by mechanical means; see [D06B](#) - [D06J](#); metallising the entire surface of textiles [D06M 11/83](#); textile threads, filaments, yarns or tow, glued on macromolecular material [D06N 7/00](#); dyeing or printing [D06P](#))~~**

**NOTE**

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

- "decorating" means "local treatment" or "local effects produced" as to change, e.g. optically, the appearance or the properties of textile materials

*2. This subclass does not cover treatment of textiles by purely mechanical means, which is covered by subclasses [D06B](#) - [D06J](#).*

**WARNING**

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

**M D06Q 1/00**

**Decorating textiles ~~(partial dyeing [D06B 11/00](#); reserving parts of the material before dyeing or printing textiles [D06P 5/12](#) {; making patterns or designs on fabrics [D06C 23/00](#)})~~**

**Project: MP0461 (D07B)**

<b>U</b>	<b>D07B 5/00</b>	<b>Making ropes or cables from special materials or of particular form</b>
M	D07B 5/005	<ul style="list-style-type: none"> <li>• {characterised by their outer shape or surface properties}</li> </ul> <p><u>WARNING</u> Group D07B 5/005 is impacted by reclassification into group D07B 5/006. Groups D07B 5/005 and D07B 5/006 should be considered in order to perform a complete search.</p>
M	D07B 5/006	<ul style="list-style-type: none"> <li>• {by the properties of an outer surface polymeric coating}</li> </ul> <p><u>WARNING</u> Group D07B 5/006 is incomplete pending reclassification of documents from group D07B 5/005. Groups D07B 5/005 and D07B 5/006 should be considered in order to perform a complete search.</p>
<b>U</b>	<b>D07B 7/00</b>	<b>Details of, or auxiliary devices incorporated in, rope- or cable-making machines; Auxiliary apparatus associated with such machines</b>
M	D07B 7/16	<ul style="list-style-type: none"> <li>• Auxiliary apparatus</li> </ul> <p><u>WARNING</u> Group D07B 7/16 is impacted by reclassification into group D07B 7/169. Groups D07B 7/16 and D07B 7/169 should be considered in order to perform a complete search.</p>
M	D07B 7/169	<ul style="list-style-type: none"> <li>• {for interconnecting two cable or rope ends, e.g. by splicing or sewing (fixation or holding of the ends prior to or during splicing <a href="#">D07B 7/162</a>; joining the rope or cable components individually or joining the rope ends by permanent means such as welding, gluing or crimp sleeve <a href="#">D07B 7/167</a>; preparing the splice by opening the ends <a href="#">D07B 7/18</a>)}</li> </ul> <p><u>WARNING</u> Group D07B 7/169 is incomplete pending reclassification of documents from group D07B 7/16. Groups D07B 7/16 and D07B 7/169 should be considered in order to perform a complete search.</p>
M	D07B 7/18	<ul style="list-style-type: none"> <li>• {for spreading or untwisting ropes or cables into constituent parts for treatment or splicing purposes}</li> </ul> <p><u>WARNING</u> Group D07B 7/18 is impacted by reclassification into groups D07B 7/182, D07B 7/185, and D07B 7/187. All groups listed in this Warning should be considered in order to perform a complete search.</p>
M	D07B 7/182	<ul style="list-style-type: none"> <li>• {for spreading ropes or cables by hand-operated tools for splicing purposes, e.g. needles or spikes}</li> </ul> <p><u>WARNING</u> Group D07B 7/182 is incomplete pending reclassification of documents from groups D07B 7/18. Groups D07B 7/18 and D07B 7/182 should be considered in order to perform a complete search.</p>

- M D07B 7/185
- • {for temporarily untwisting ropes or cables into constituent parts for applying a coating}

**WARNING**

Group D07B 7/185 is incomplete pending reclassification of documents from group D07B 7/18.

Groups D07B 7/18 and D07B 7/185 should be considered in order to perform a complete search.

- M D07B 7/187
- • {for forming bulbs in ropes or cables}

**WARNING**

Group D07B 7/187 is incomplete pending reclassification of documents from group D07B 7/18.

Groups D07B 7/18 and D07B 7/187 should be considered in order to perform a complete search.

**Project: RP0616 (E02B)**

- U E02B 1/00
- Equipment or apparatus for, or methods of, general hydraulic engineering {, e.g. protection of constructions against ice-strains (protection of offshore constructions against ice-loads [E02B 17/0021](#); ice-structures as artificial islands [E02B 17/028](#))}

- E02B 1/02
- Hydraulic models {(towing tanks or basins for model vessels [B63B 9/02](#) [B63B 71/20](#))}

- E02B 17/00
- Artificial islands mounted on piles or like supports, e.g. platforms on raisable legs {or offshore constructions}; Construction methods therefor {(construction methods for floating platforms [B63B 9/065](#) [B63B 75/00](#)); anchoring floating platforms [B63B 21/00](#); floating platforms, e.g. anchored, [B63B 35/44](#); {underwater reservoirs [B65D 88/78](#))}

**Project: N/A (E04D)**

- U E04D 1/00
- Roof covering by making use of tiles, slates, shingles, or other small roofing elements (roofing supports {or underlayers} [E04D 12/00](#))

**WARNING**

Groups [E04D 1/00](#)-[E04D 2001/3497](#) are impacted by reclassification into groups [E04D 1/29](#), [E04D 1/2907](#), [E04D 1/2914](#), [E04D 1/2916](#), [E04D 1/2918](#), [E04D 1/2921](#), [E04D 1/2928](#), [E04D 1/2935](#), [E04D 1/2942](#), [E04D 1/2949](#), [E04D 1/2956](#), [E04D 1/2963](#), and [E04D 1/2984](#).

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

- U E04D 1/34
- Fastenings for attaching roof-covering elements to the supporting elements
- U E04D 2001/3408
- • {characterised by the fastener type or material}
- E04D 2001/3429
- • • {Press-studs elements or hook and loop elements, ~~e.g. Velcro elements~~}

**Project: RP0643 (E06B)**

- U E06B 11/00
- Means for allowing passage through fences, barriers or the like, e.g. stiles (general features of doors [E06B 1/00](#) - [E06B 9/00](#); {cattle grids [A01K 3/002](#); features peculiar to electrified wire fencing [A01K 3/005](#))}

- E06B 11/08
- Turnstiles; {Gates for control of entry or exit of persons, e.g. in supermarkets} (control gates on vehicles [B60N 5/00](#) {; {bank protection devices [E05G 5/00](#)}; with registering means ~~G07C 9/02~~ [G07C 9/10](#) {; {coin-freed facilities for turnstiles [G07F 17/14](#)})}



**Project: MP0452 (E21C)**

- M E21C 11/00 {Supports or guides for drilling machines; Columns to which the machine is clamped (~~feed legs E21C5/11~~; slitting machines mounted on supports [E21C 25/64](#); guiding, slitting, or dislodging machines [E21C 35/08](#); ~~feed legs E21B 19/087~~)}
- U E21C 25/00 Cutting machines, i.e. for making slits approximately parallel or perpendicular to the seam (dislodging machines with slitting means [E21C 27/02](#), [E21C 27/10](#), [E21C 27/18](#))
- M E21C 25/64 • Slitting machines guided solely by hand and either carried by hand or mounted on supports (~~supports or guides for drilling machines E21C 11/00~~; hand-held power-operated tools [E21C 37/22](#))

**Project: RP0610 (F04B)**

- M F04B **POSITIVE-DISPLACEMENT MACHINES FOR LIQUIDS; PUMPS** (machines for liquids, or pumps, of rotary-piston or oscillating-piston type [F04C](#); ~~non-positive displacement pumps F04D~~; ~~non-positive-displacement pumps F04D~~; pumping of fluid by direct contact of another fluid or by using inertia of fluid to be pumped [F04F](#); ~~crankshafts, crossheads, connecting-rods F16C~~; ~~flywheels F16F~~; ~~gearing for interconverting rotary motion and reciprocating motion in general F16H~~; ~~pistons, piston-rods, cylinders, in general F16J~~)

**NOTES**

1. In this subclass, the following term is used with the meaning indicated:
- "piston" also covers a plunger.

2. Attention is drawn to the Notes following the titles of class [B81](#) and subclass [B81B](#) relating to "microstructural devices" and "microstructural systems".

2-3. Attention is drawn to the ~~notes~~Notes preceding class [F01](#), especially as regards the definitions of "machines", "pumps", and "positive-displacement".

4. Machines, pumps or pumping installations having flexible working members are classified in groups [F04B 43/00](#) or [F04B 45/00](#).

**WARNING**

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

[F04B 35/02](#) covered by [F04B 9/08](#)

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

- M F04B 1/00 - F04B 23/00 **Pumps for liquids or for liquid and elastic fluids; Positive-displacement machines for liquids** (~~pumps for raising fluids from great depths F04B 47/00~~; ~~having flexible working members F04B 43/00~~)
- C F04B 1/00 Multi-cylinder machines or pumps characterised by number or arrangements~~arrangement~~ of cylinders (~~F04B 3/00 takes precedence~~; ~~fluid-driven pumps F04B 9/08~~; ~~control of reciprocating machines or pumps in general F04B 49/00~~ ~~machines or pumps with pistons coacting within one cylinder F04B 3/00~~)
- WARNING**  
Group [F04B 1/00](#) is impacted by reclassification into group [F04B 1/03](#). Groups [F04B 1/00](#) and [F04B 1/03](#) should be considered in order to perform a complete search.
- U F04B 1/02 • having two cylinders (in V-arrangement [F04B 1/04](#))

- N F04B 1/03
- with cylinder axis arranged substantially tangentially to a circle centred on main shaft axis
- WARNING  
 Group [F04B 1/03](#) is incomplete pending reclassification of documents from group [F04B 1/00](#).  
 Groups [F04B 1/00](#) and [F04B 1/03](#) should be considered in order to perform a complete search.
- U F04B 1/04
- having cylinders in star- or fan-arrangement
- M F04B 1/0404
- • {Details; ~~or~~ component parts ~~specifically adapted for such pumps~~}
- M F04B 1/0408
- • • {Pistons}
- M F04B 1/0413
- • • {Cams}
- M F04B 1/0417
- • • • {consisting of ~~several~~ ~~two or more~~ cylindrical elements, e.g. rollers}
- M F04B 1/0421
- • • {Cylinders}
- M F04B 1/0426
- • • {Arrangements for pressing ~~or connecting~~ the pistons against the actuated cam}; ~~Arrangements for connecting the pistons to the actuated cam~~
- M F04B 1/043
- • • • {~~hydraulically~~} ~~Hydraulic arrangements~~
- M F04B 1/0435
- • • • {~~Disconnecting~~ ~~Arrangements for disconnecting~~ the pistons from the actuated cam ~~(in general F01B 31/24)~~}
- M F04B 1/0439
- • • {Supporting ~~and/or~~ guiding means for the pistons}
- M F04B 1/0443
- • • • {Draining of the ~~engine~~ housing; ~~arrangements dealing with leakage fluid~~} ~~Arrangements for handling leaked fluids~~
- M F04B 1/0448
- • • • {Sealing ~~means~~, e.g. ~~seals~~ for shafts or housings ([F04B 1/0408](#); [F04B 53/164](#) take precedence for pistons [F04B 1/0408](#) {; [Stoffing boxes F04B 53/164](#)})}
- M F04B 1/0452
- • • • {~~Particularities relating to the distribution members~~ ~~Distribution members~~, e.g. valves ([F04B 1/0472](#), [F04B 1/0531](#) and [F04B 1/0535](#) take precedence ~~machines or pumps with cam-actuated distribution members at the outer ends of the cylinders~~ [F04B 1/0472](#); ~~machines or pumps with cam-actuated distribution members at the inner ends of the cylinders~~ [F04B 1/0531](#); ~~the piston-driving cams being provided with inlets and outlets~~ [F04B 1/0535](#))}
- M F04B 1/0456
- • • • {~~to cylindrical distribution members~~} ~~Cylindrical~~
- M F04B 1/0461
- • • • {~~to conical distribution members~~} ~~Conical~~
- M F04B 1/0465
- • • • {~~to plate-like distribution members~~}
- M F04B 1/047
- • with ~~an~~ actuating or actuated ~~element~~ ~~elements~~ at the outer ends of the cylinders
- M F04B 1/0472
- • • {with cam-actuated distribution members}
- M F04B 1/0474
- • • • {with two or more ~~series~~ ~~serially arranged~~ radial piston-cylinder units}
- M F04B 1/0476
- • • • • {~~directly~~-located side-by-side}
- M F04B 1/0478
- • • • • {Coupling of ~~several~~ ~~two or more~~ cylinder-barrels}
- M F04B 1/053
- • with ~~an~~ actuating or actuated ~~element~~ ~~elements~~ at the inner ends of the cylinders
- M F04B 1/0531
- • • {with cam-actuated distribution members}
- M F04B 1/0533
- • • • {each machine piston ~~being provided with~~ ~~having~~ channels ~~which are coacting that coact~~ with the cylinder and ~~are used~~ ~~serve~~ as a ~~distribution member~~ ~~members~~ for another piston-cylinder unit}
- M F04B 1/0535
- • • • {the piston-driving ~~cam~~ ~~cams~~ being provided with ~~an inlet~~ ~~inlets~~ and ~~an outlet~~ ~~outlets~~}
- M F04B 1/0536
- • • {with two or more ~~series~~ ~~serially arranged~~ radial piston-cylinder units}

- M F04B 1/0538      • • • {directly-located side-by-side}
- T F04B 1/06      • • Control-~~((F04B 49/12, F04B 49/18 take precedence))~~
- WARNING  
Group F04B 1/06 is incomplete pending reclassification of documents from groups F04B 49/12 - F04B 49/14, and F04B 49/18.  
All groups listed in this Warning should be considered in order to perform a complete search.
- T F04B 1/063      • • • {by using a valve in a system with several pumping chambers wherein the flow-path through the chambers can be changed, e.g. between series- and parallel} flow
- WARNING  
Group F04B 1/063 is incomplete pending reclassification of documents from groups F04B 49/12 - F04B 49/14, and F04B 49/18.  
All groups listed in this Warning should be considered in order to perform a complete search.
- T F04B 1/066      • • • {by changing the phase relationship between the actuating cam and the distributing means}
- WARNING  
Group F04B 1/066 is incomplete pending reclassification of documents from groups F04B 49/12 - F04B 49/14, and F04B 49/18.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F04B 1/07      • • • by varying the relative eccentricity between two members, e.g. a cam and a drive shaft
- WARNING  
Group F04B 1/07 is incomplete pending reclassification of documents from groups F04B 49/12 - F04B 49/14, and F04B 49/18.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F04B 1/08      • • • regulated by delivery pressure
- WARNING  
Group F04B 1/08 is incomplete pending reclassification of documents from groups F04B 49/12 - F04B 49/14, and F04B 49/18.  
All groups listed in this Warning should be considered in order to perform a complete search.
- T F04B 1/10      • • the cylinders being movable, e.g. rotary {(F04B 1/20 and F04B 3/006 take takes precedence)}
- WARNING  
Group F04B 1/10 is incomplete pending reclassification of documents from groups F04B 1/20 - F04B 1/24.  
All groups listed in this Warning should be considered in order to perform a complete search.
- T F04B 1/107      • • • with an-actuating or actuated elementelements at the outer ends of the cylinders
- WARNING  
Group F04B 1/107 is incomplete pending reclassification of documents from groups F04B 1/20, F04B 1/2007, F04B 1/2014, F04B 1/2021, F04B 1/2028, F04B 1/2035, F04B 1/2042, F04B 1/205, F04B 1/2057, F04B 1/2064,

*F04B 1/2071, F04B 1/2078, F04B 1/2085, F04B 1/2092, F04B 1/22, and F04B 1/24.*

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

T F04B 1/1071

- • • {with rotary cylinder ~~block~~}blocks

**WARNING**

*Group F04B 1/1071 is incomplete pending reclassification of documents from groups F04B 1/20 - F04B 1/24.*

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

T F04B 1/1072

- • • • {with cylinder ~~block~~blocks and actuating ~~cam~~cams rotating together (F04B 1/1075 and F04B 1/1078 take precedence in two or more series radial piston-cylinder units F04B 1/1075)}

**WARNING**

*Group F04B 1/1072 is incomplete pending reclassification of documents from groups F04B 1/1078, F04B 1/20 - F04B 1/24.*

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

T F04B 1/1074

- • • • {with two or more ~~series~~serially arranged radial piston-cylinder units}

**WARNING**

*Groups F04B 1/1074 - F04B 1/1078 are incomplete pending reclassification of documents from groups F04B 1/20 - F04B 1/24.*

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

T F04B 1/1075

- • • • • {with cylinder ~~block~~blocks and actuating ~~cam both~~cams rotating together (F04B 1/1078 takes precedence in two or more series radial piston-cylinder units directly located side-by-side F04B 1/1078)}

T F04B 1/1077

- • • • • {directly located side-by-side}

C F04B 1/1078

- • • • • {with cylinder ~~block~~blocks and actuating ~~cam both rotating~~cams rotating together}

T F04B 1/113

- • • with ~~an~~actuating or actuated ~~element~~elements at the inner ends of the cylinders

**WARNING**

*Groups F04B 1/113 - F04B 1/1136 are incomplete pending reclassification of documents from groups F04B 1/20 - F04B 1/24.*

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

T F04B 1/1133

- • • • {with rotary cylinder ~~block~~}blocks

T F04B 1/1136

- • • • • {the ~~with a~~ rotary cylinder ~~being provided~~ with ~~only one~~a single piston; reciprocating within the cylinder}

M F04B 1/12

- having cylinder axes coaxial with, or parallel or inclined to, main shaft axis

M F04B 1/122

- {~~Component~~Details or component parts, ~~details~~, e.g. valves, ~~sealing~~, sealings or lubrication means (F04B 1/2014 takes precedence for machines or pumps having rotary cylinder blocks F04B 1/2014)}

M F04B 1/124

- • • {Pistons}

M F04B 1/126

- • • • {Piston shoe retaining means}

M F04B 1/128

- • {Driving means}

U F04B 1/14

- • having stationary cylinders

- M F04B 1/141 . . . {~~Component~~*Details or component* parts}
- M F04B 1/143 . . . . {Cylinders}
- M F04B 1/145 . . . . {Housings}
- M F04B 1/146 . . . . {Swash plates ~~or actuating elements~~; *Actuating elements*}
- M F04B 1/148 . . . . . {~~Swash plate or actuating element bearing means or driving axis bearing means~~*Bearings therefor*}
- U F04B 1/18 . . . having self-acting distribution members, i.e. actuated by working fluid
- M F04B 1/182 . . . . {Check valves}
- M F04B 1/184 . . . . {Cylindrical distribution members}
- M F04B 1/186 . . . . {Conical distribution members}
- M F04B 1/188 . . . . {Plate-like distribution members}
- C F04B 1/20 . . . having rotary cylinder block

**WARNING**

*Group F04B 1/20 is impacted by reclassification into groups F04B 1/10 - F04B 1/1136.*

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

- C F04B 1/2007 . . . {Arrangements for pressing the cylinder barrel against the valve plate, e.g. by fluid pressure}

**WARNING**

*Group F04B 1/2007 is impacted by reclassification into groups F04B 1/10 - F04B 1/1136.*

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

- C F04B 1/2014 . . . {~~Component~~*Details or component* parts}

**WARNING**

*Groups F04B 1/2014 - F04B 1/2085 are impacted by reclassification into groups F04B 1/10 - F04B 1/1136.*

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

- C F04B 1/2021 . . . . {~~Particularities in~~*characterised by* the ~~contacting~~*contact* area between cylinder barrel ~~or and~~ valve plate}
- C F04B 1/2028 . . . . . {~~Bearing means~~*Bearings*}
- C F04B 1/2035 . . . . {Cylinder ~~barrel~~*barrels*}
- C F04B 1/2042 . . . . {~~Valve means~~*Valves*}
- C F04B 1/205 . . . . . {Cylindrical ~~valve means~~}
- C F04B 1/2057 . . . . . {Conical ~~valve means~~}
- C F04B 1/2064 . . . . {~~Pumphousing~~*Housings*}
- C F04B 1/2071 . . . . . {~~Cylinder barrel bearing means~~*Bearings for cylinder barrels*}
- C F04B 1/2078 . . . . {Swash ~~plate~~*plates*}
- C F04B 1/2085 . . . . . {~~Swash plate bearing means~~*Bearings for swash plates* or driving ~~axis bearing means~~*axles*}
- C F04B 1/2092 . . . . {~~Connection between~~*Means for connecting* rotating cylinder ~~barrel~~*barrels* and rotating inclined swash ~~plate~~*plates*}

**WARNING**

*Group F04B 1/2092 is impacted by reclassification into groups F04B 1/10 - F04B 1/1136.*

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

- C F04B 1/22      • • • having two or more sets of cylinders or pistons

**WARNING**

*Groups F04B 1/22 and F04B 1/24 are impacted by reclassification into groups F04B 1/10 - F04B 1/1136.  
All groups listed in this Warning should be considered in order to perform a complete search.*

- C F04B 1/24      • • • • inclined to **the** main shaft axis

- U F04B 1/26      • • Control

- M F04B 1/28      • • • **for** machines or pumps with stationary cylinders

- U F04B 1/29      • • • • by varying the relative positions of a swash plate and a cylinder block

- M F04B 1/295      • • • • {by changing the inclination of the swash plate}

- C F04B 1/30      • • • **for** machines or pumps with rotary cylinder **blockblocks**

**WARNING**

*Group F04B 1/30 is impacted by reclassification into group F04B 1/328.  
Groups F04B 1/30 and F04B 1/328 should be considered in order to perform a complete search.*

- M F04B 1/303      • • • • {by turning the valve plate}

- M F04B 1/306      • • • • {by turning the swash plate **(, e.g. with fixed inclination)}**

- U F04B 1/32      • • • • by varying the relative positions of a swash plate and a cylinder block

- M F04B 1/322      • • • • • {by moving the swash plate in a direction perpendicular to the axis of rotation of the cylinder barrel}

- M F04B 1/324      • • • • • {by changing the inclination of the swash plate}

- M F04B 1/326      • • • • • {using wedges}

- T F04B 1/328      • • • • • {by changing the inclination of the axis of the cylinder barrel relative to the swash plate **(F04B 1/30 takes precedence)}**

**WARNING**

*Group F04B 1/328 is incomplete pending reclassification of documents from group F04B 1/30.  
Groups F04B 1/30 and F04B 1/328 should be considered in order to perform a complete search.*

- M F04B 1/34      • Control not provided for in **a single group of** groups **F04B 1/02-**, **F04B 1/03**, **F04B 1/32** **F04B 1/06 or F04B 1/26**

- M F04B 5/00      Machines or pumps with differential **-**surface pistons**

- M F04B 7/00      Piston machines or pumps characterised by having positively-driven valving **(with cylinders in star- or fan-arrangement F04B 1/04; with cylinder axes coaxial with, or parallel or inclined to, main shaft axis F04B 1/12)****

- U F04B 9/00      Piston machines or pumps characterised by the driving or driven means to or from their working members**

- U F04B 9/02      • the means being mechanical

- M F04B 9/04      • • the means being cams, eccentrics, or pin-and-slot mechanisms **(with cylinder axes coaxial with, or parallel or inclined to, main shaft axis F04B 1/12)**

- M F04B 13/00      Pumps specially modified to deliver fixed or variable measured quantities **(for transferring liquid from bulk storage containers or reservoirs into vehicles or into portable containers B67D 7/58)****



U	F04B 15/00	<b>Pumps adapted to handle specific fluids, e.g. by selection of specific materials for pumps or pump parts</b>
M	F04B 15/04	<ul style="list-style-type: none"> <li>the fluids being hot or corrosive (<del>F04B 15/06 takes precedence</del> <i>for liquids near their boiling point, e.g. under subnormal pressure, F04B 15/06</i>)</li> </ul>
U	F04B 19/00	<b>Machines or pumps having pertinent characteristics not provided for in, or of interest apart from, groups <a href="#">F04B 1/00</a> - <a href="#">F04B 17/00</a></b>
M	F04B 19/04	<ul style="list-style-type: none"> <li>Pumps for special use (<del>for transferring liquids from bulk storage containers or reservoirs into vehicles or into portable containers B67D 7/58</del>)</li> </ul>
M	F04B 23/00	<b>Pumping installations or systems (<del>F04B 17/00 takes precedence</del> <i>pumps characterised by combination with, or adaptation to, specific driving engines or motors F04B 17/00</i>)</b>
U	F04B 23/04	<ul style="list-style-type: none"> <li>Combinations of two or more pumps</li> </ul>
U	F04B 23/08	<ul style="list-style-type: none"> <li>the pumps being of different types</li> </ul>
C	F04B 23/10	<ul style="list-style-type: none"> <li>at least one pump being of the reciprocating positive-displacement type</li> </ul> <p><b>WARNING</b>  <i>Group F04B 23/10 is impacted by reclassification into groups <a href="#">F04B 23/12</a> and <a href="#">F04B 23/14</a>.  Groups <a href="#">F04B 23/10</a>, <a href="#">F04B 23/12</a>, and <a href="#">F04B 23/14</a> should be considered in order to perform a complete search.</i></p>
C	F04B 23/103	<ul style="list-style-type: none"> <li>{being a radial piston pump}</li> </ul> <p><b>WARNING</b>  <i>Group F04B 23/103 is impacted by reclassification into groups <a href="#">F04B 23/12</a> and <a href="#">F04B 23/14</a>.  Groups <a href="#">F04B 23/103</a>, <a href="#">F04B 23/12</a>, and <a href="#">F04B 23/14</a> should be considered in order to perform a complete search.</i></p>
C	F04B 23/106	<ul style="list-style-type: none"> <li>{being an axial piston pump}</li> </ul> <p><b>WARNING</b>  <i>Group F04B 23/106 is impacted by reclassification into groups <a href="#">F04B 23/12</a> and <a href="#">F04B 23/14</a>.  Groups <a href="#">F04B 23/106</a>, <a href="#">F04B 23/12</a>, and <a href="#">F04B 23/14</a> should be considered in order to perform a complete search.</i></p>
T	F04B 23/12	<ul style="list-style-type: none"> <li>at least one pump being of the rotary-piston positive-displacement type (<del>F04B 23/10 takes precedence</del>)</li> </ul> <p><b>WARNING</b>  <i>Group F04B 23/12 is incomplete pending reclassification of documents from groups <a href="#">F04B 23/10</a>, <a href="#">F04B 23/103</a>, and <a href="#">F04B 23/106</a>.  All groups listed in this Warning should be considered in order to perform a complete search.</i></p>
T	F04B 23/14	<ul style="list-style-type: none"> <li>at least one pump being of the non-positive-displacement type (<del>F04B 23/10; F04B 23/12 take precedence</del>)</li> </ul> <p><b>WARNING</b>  <i>Group F04B 23/14 is incomplete pending reclassification of documents from groups <a href="#">F04B 23/10</a>, <a href="#">F04B 23/103</a>, and <a href="#">F04B 23/106</a>.  All groups listed in this Warning should be considered in order to perform a complete search.</i></p>

M	F04B 25/00 - F04B 41/00	Pumps specially adapted for elastic fluids <del>(having a flexible working member F04B 45/00; for raising fluid from great depths F04B 47/00)</del>
M	F04B 27/00	Multi-cylinder pumps <i>specially adapted for elastic fluids and</i> characterised by number or arrangement of cylinders (F04B 25/00 takes precedence; <del>control of reciprocating machines or pumps in general F04B 49/00</del> <i>multi-stage pumps specially adapted for elastic fluids F04B 25/00</i> )
U	F04B 27/04	• having cylinders in star- or fan-arrangement
U	F04B 27/0404	• • {Details, component parts specially adapted for such pumps}
M	F04B 27/0437	• • • {Disconnecting the pistons from the actuated cam <del>(in general F01B 31/24)</del> }
U	F04B 27/08	• having cylinders coaxial with, or parallel or inclined to, main shaft axis
M	F04B 27/0804	• • {having rotary cylinder block <del>(see F01B 3/0032, F03C 1/0636, F03C 1/20)</del> }
M	F04B 31/00	Free-piston pumps <i>specially adapted for elastic fluids</i> ; Systems incorporating such pumps (muscle-driven pumps in which the stroke is not defined by gearing F04B 33/00; <del>free-piston combustion engines, free-piston gas generators F02B 71/00; systems predominated by prime mover aspects, see the relevant classes for the prime mover</del> )
M	F04B 35/00	Piston pumps <i>specially adapted for elastic fluids and</i> characterised by the driving means to their working members, or by combination with, or adaptation to, specific driving engines or motors, not otherwise provided for <del>(predominant aspects of the engines or motors, see the relevant classes)</del>
U	F04B 37/00	Pumps having pertinent characteristics not provided for in, or of interest apart from, groups F04B 25/00 - F04B 35/00
M	F04B 37/02	• for evacuating by absorption or adsorption <del>(absorption or adsorption in general B01J -; for gas-filled discharge tubes see H01J 17/24)</del>
U	F04B 37/06	• for evacuating by thermal means
M	F04B 37/08	• • by condensing or freezing, e.g. cryogenic pumps <del>(cold traps B01D 8/00)</del>
M	F04B 37/10	• for special use (F04B 37/02, F04B 37/06 take precedence <i>for evacuating by absorption or adsorption F04B 37/02; for evacuating by thermal means F04B 37/06</i> )
M	F04B 39/00	Component parts, details, or accessories, of pumps or pumping systems <i>specially adapted for elastic fluids</i> , not otherwise provided for in, or of interest apart from, groups F04B 25/00 - F04B 37/00 <del>(for controlling F04B 49/00)</del>
M	F04B 39/06	• Cooling <del>(of machines or engines in general F01P)</del> ; Heating; Prevention of freezing
M	F04B 39/12	• Casings <del>(casings for machines or engines in general F16M)</del> ; Cylinders; <i>Cylinders</i> <i>Cylinder</i> heads; Fluid connections
M	F04B 41/00	Pumping installations or systems <i>specially adapted for elastic fluids</i> (F04B 31/00, F04B 35/00 take precedence <i>free-piston pumps specially adapted for elastic fluids or systems incorporating such pumps F04B 31/00; piston pumps specially adapted for elastic fluids and characterised by the driving means to their working members, or by combination with, or adaptation to, specific driving engines or motors, not otherwise provided for F04B 35/00</i> )
U	F04B 43/00	Machines, pumps, or pumping installations having flexible working members (pumps or pumping installations specially adapted for elastic fluids F04B 45/00)

- C F04B 43/02
- having plate-like flexible members, e.g. diaphragms (*F04B 43/14 takes precedence*)
- WARNING**  
*Groups F04B 43/02 - F04B 43/0736 are impacted by reclassification into group F04B 43/14.  
 All groups listed in this Warning should be considered in order to perform a complete search.*
- C F04B 43/021
- {the plate-like flexible member is pressed against a wall by a number of elements, each having an alternating movement in a direction perpendicular to the plane of the plate-like flexible member and each having its own driving mechanism}
- C F04B 43/023
- {double acting plate-like flexible member}
- C F04B 43/025
- {two or more plate-like pumping members in parallel}
- C F04B 43/026
- • {each plate-like pumping flexible member working in its own pumping chamber}
- C F04B 43/028
- {with in- or outlet valve arranged in the plate-like flexible member (valve arranged in the piston [F04B 53/12](#))}
- C F04B 43/04
- Pumps having electric drive
- C F04B 43/043
- • {Micropumps}
- C F04B 43/046
- • • {with piezo-electric drive}
- C F04B 43/06
- Pumps having fluid drive
- C F04B 43/067
- • the fluid being actuated directly by a piston
- C F04B 43/073
- • the actuating fluid being controlled by at least one valve
- C F04B 43/0733
- • • {with fluid-actuated pump inlet or outlet valves; with two or more pumping chambers in series}
- C F04B 43/0736
- • • {with two or more pumping chambers in parallel}
- U F04B 43/12
- having peristaltic action
- M F04B 43/14
- having plate-like flexible members
- WARNING**  
*Group F04B 43/14 is incomplete pending reclassification of documents from groups F04B 43/02, F04B 43/021, F04B 43/023, F04B 43/025, F04B 43/026, F04B 43/028, F04B 43/04, F04B 43/043, F04B 43/046, F04B 43/06, F04B 43/067, F04B 43/073, F04B 43/0733, and F04B 43/0736.  
 All groups listed in this Warning should be considered in order to perform a complete search.*
- U F04B 45/00**
- Pumps or pumping installations having flexible working members and specially adapted for elastic fluids**
- C F04B 45/04
- having plate-like flexible members, e.g. diaphragms (*F04B 45/10 takes precedence*)
- WARNING**  
*Group F04B 45/04 - F04B 45/0536 are impacted by reclassification into group F04B 45/10.  
 All groups listed in this Warning should be considered in order to perform a complete search.*
- C F04B 45/041
- {double acting plate-like flexible pumping member}
- C F04B 45/043
- {two or more plate-like pumping flexible members in parallel}
- C F04B 45/045
- {with in- or outlet valve arranged in the plate-like pumping flexible members}
- C F04B 45/047
- Pumps having electric drive

- C F04B 45/053
- C F04B 45/0533
- C F04B 45/0536
- C F04B 45/06
  - • Pumps having fluid drive
  - • • {the fluid being actuated directly by a piston}
  - • • {the actuating fluid being controlled by one or more valves}
  - having tubular flexible members ([F04B 45/02](#) takes, [F04B 45/08](#) take precedence)

**WARNING**

Group [F04B 45/06](#) is impacted by reclassification into groups [F04B 45/08](#) and [F04B 45/085](#).

Groups [F04B 45/06](#), [F04B 45/08](#), and [F04B 45/085](#) should be considered in order to perform a complete search.

- C F04B 45/061
  - • {with fluid drive}

**WARNING**

Groups [F04B 45/061](#) - [F04B 45/064](#) are impacted by reclassification into groups [F04B 45/08](#) and [F04B 45/085](#).

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

- C F04B 45/062
- C F04B 45/064
- C F04B 45/065
  - • • {the fluid being actuated directly by a piston}
  - • • {the actuating fluid being controlled by one or more valves}
  - • {with electric drive}

**WARNING**

Group [F04B 45/065](#) is impacted by reclassification into groups [F04B 45/08](#) and [F04B 45/085](#).

Groups [F04B 45/065](#), [F04B 45/08](#), and [F04B 45/085](#) should be considered in order to perform a complete search.

- C F04B 45/067
  - • Pumps having electric drive

**WARNING**

Group [F04B 45/067](#) is impacted by reclassification into groups [F04B 45/08](#) and [F04B 45/085](#).

Groups [F04B 45/067](#), [F04B 45/08](#), and [F04B 45/085](#) should be considered in order to perform a complete search.

- C F04B 45/073
  - • Pumps having fluid drive

**WARNING**

Groups [F04B 45/073](#) - [F04B 45/0736](#) are impacted by reclassification into groups [F04B 45/08](#) and [F04B 45/085](#).

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

- C F04B 45/0733
- C F04B 45/0736
- T F04B 45/08
  - • • {the fluid being actuated directly by a piston}
  - • • {the actuating fluid being controlled by one or more valves}
  - having peristaltic action

**WARNING**

Group [F04B 45/08](#) is incomplete pending reclassification of documents from groups [F04B 45/06](#) - [F04B 45/0736](#).

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

- T F04B 45/085
- • {the actuating element being a swash plate}
- WARNING**  
*Group F04B 45/085 is incomplete pending reclassification of documents from groups F04B 45/06 - F04B 45/0736.  
 All groups listed in this Warning should be considered in order to perform a complete search.*
- T F04B 45/10
- • having plate-like flexible members
- WARNING**  
*Group F04B 45/10 is incomplete pending reclassification of documents from groups F04B 45/04 - F04B 45/0536.  
 Groups F04B 45/04 - F04B 45/0536 and F04B 45/10 should be considered in order to perform a complete search.*
- U F04B 49/00
- Control {, e.g. of pump delivery, or pump pressure} of, or safety measures for, machines, pumps, or pumping installations, not otherwise provided for, or of interest apart from, groups [F04B 1/00](#) - [F04B 47/00](#)**
- NOTE**  
 The classification symbols in group [F04B 49/00](#) and subgroups can be followed by additional symbols preceded by the sign "+". The symbols are applied in subgroups [F04B 49/06](#), [F04B 49/08](#), [F04B 49/16](#) and [F04B 49/225](#). The symbols have the meanings as listed below:
- +C** specially adapted for pumps for elastic fluids,  
 e.g. compressors
- +P** specially adapted for pumps for liquids
- M F04B 49/02
- Stopping, starting, unloading or idling control ~~(controlled electrically F04B 49/06)~~
- C F04B 49/12
- by varying the length of stroke of the working members
- WARNING**  
*Groups F04B 49/12 - F04B 49/14 are impacted by reclassification into groups F04B 1/06 - F04B 1/08.  
 All groups listed in this Warning should be considered in order to perform a complete search.*
- C F04B 49/121
- • {Lost-motion device in the driving mechanism}
- C F04B 49/123
- • {by changing the eccentricity of one element relative to another element}
- C F04B 49/125
- • • {by changing the eccentricity of the actuation means, e.g. cams or cranks, relative to the driving means, e.g. driving shafts ([F04B 49/128](#) takes precedence)}
- C F04B 49/126
- • • {with a double eccenter mechanism}
- C F04B 49/128
- • • {by changing the eccentricity of the cylinders, e.g. by moving a cylinder block}
- C F04B 49/14
- • Adjusting abutments located in the path of reciprocation
- C F04B 49/18
- by changing the effective cross-section of the working surface of the piston
- WARNING**  
*Group F04B 49/18 is impacted by reclassification into groups F04B 1/06 - F04B 1/08.  
 All groups listed in this Warning should be considered in order to perform a complete search.*
- M F04B 49/20
- by changing the driving speed ~~(controlled electrically F04B 49/06)~~

- U F04B 53/00** Component parts, details or accessories not provided for in, or of interest apart from, groups [F04B 1/00](#) - [F04B 23/00](#) or [F04B 39/00](#) - [F04B 47/00](#)
- M F04B 53/08** • Cooling ~~(of machines or engines in general F01P)~~; Heating; Preventing freezing
- M F04B 53/18** • Lubricating ~~(of machines or engines in general F01M)~~

**Project: RP0648 (F16H)**

- U F16H 57/00** General details of gearing (of screw-and-nut gearing [F16H 25/00](#); of fluid gearing [F16H 39/00](#) - [F16H 43/00](#))
- F16H 2057/0087** • {Computer aided design [CAD] specially adapted for gearing features (computer aided design per se [G06F 17/50](#) [G06F 30/00](#)) ~~Analysis of gear systems~~; *Analysis of gear systems*}

**Project: MP0461 (F16K)**

- U F16K 17/00** Safety valves; Equalising valves, {e.g. pressure relief valves}
- U F16K 17/02** • opening on surplus pressure on one side; closing on insufficient pressure on one side (check valves [F16K 15/00](#))
- M F16K 17/025** • • {and remaining open after return of the normal pressure}

**WARNING**

This group is not complete pending a reorganisation, see also F16K 17/02

**Project: RP0622 (F23J)**

- M F23J** REMOVAL OR TREATMENT OF COMBUSTION PRODUCTS OR COMBUSTION RESIDUES ~~{(from fluidised-bed combustion apparatus [F23C 10/24](#))}~~; FLUES ~~(precipitating dust from flue gases [B01D](#); composition of fuel [C10](#); combustion apparatus for consuming smoke or fumes, e.g. exhaust gases, [F23G 7/06](#))~~

**NOTE**

This subclass covers the cleaning of external surfaces of water tubes of boilers

**WARNING**

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

- M F23J 1/00** Removing ash, clinker, or slag from combustion ~~chamber~~ *{chambers (arrangements for collecting bottom ash and flyash [F23J 3/06](#); {removing flyash from flue gas [F23J 15/022](#); } devices for removal of material from the bed of fluidised bed combustion apparatus [F23C 10/24](#))}*
- M F23J 3/00** Removing solid ~~{deposited}~~ residues from passages or chambers beyond the fire, e.g. from flues by soot blowers ~~{(soot blowers per se [F28G 1/16](#))}~~
- M F23J 3/02** • Cleaning furnace tubes; Cleaning flues or chimneys ~~(by means which do not differ materially from the cleaning of any other tube once the fire is out [B08B](#))~~
- M F23J 7/00** Arrangement of devices for supplying chemicals to fire ~~(supplying chemicals to fire [C10L](#) {; to fumes [F23J 15/003](#))}~~
- M F23J 11/00** Devices for conducting smoke or fumes, e.g. flues ~~({removing fumes other than combustion fumes from the area where they are produced, in general [B08B 15/00](#)}; heat insulation therefor [E04B 1/94](#); chimneys [E04H 12/28](#); chimney stacks [E04H 12/28](#); removing cooking fumes from domestic stoves or ranges [F24C 15/20](#) {; fume conduits of furnaces, kilns, ovens, or retorts [F27D 17/002](#))}~~



- M F23J 13/00** Fittings for chimneys or flues (~~staying, stiffening E04H~~; ~~means for facilitating climbing E06C~~; ~~side-supporting means for chimney stacks E04H 12/20~~; ~~ladders permanently attached to chimneys E06C 9/00~~; draught-inducing apparatus associated with chimneys or flues ~~F23L F23L 17/00~~; ~~tops for chimneys, terminals for flues F23L 17/02~~)
- U F23J 13/02
- M F23J 13/025
- M F23J 13/04
- M F23J 13/08
- M F23J 15/00** Arrangements of devices for treating smoke or fumes (~~treating smoke or fumes, see the relevant class for the treatment, e.g. B01D 53/00~~)
- M F23J 15/003
- M F23J 15/02

## Project: RP0623 (F23K)

- M F23K** **FEEDING FUEL TO COMBUSTION APPARATUS** (fuel feeders specially adapted for fluidised-bed combustion apparatus ~~F23C 10/22~~; ~~regulating or controlling combustion F23N~~)
- WARNING  
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
- M F23K 1/00** Preparation of lump or pulverulent fuel in readiness for delivery to combustion apparatus (~~filtration B01D~~; ~~mixing B01F~~; ~~pulverising B02C~~; ~~drying F26B~~)
- M F23K 3/00** Feeding or distributing of lump or pulverulent fuel to combustion apparatus (~~conveying in general B65G~~)
- U F23K 5/00** Feeding or distributing other fuel to combustion apparatus
- U F23K 5/02
- M F23K 5/04
- U F23K 5/08
- U F23K 5/10
- M F23K 5/12
- U F23K 5/14
- M F23K 5/142
- M F23K 5/16

**Project: RP0624 (F23M)**

- M F23M** CASINGS, LININGS, WALLS OR DOORS SPECIALLY ADAPTED FOR COMBUSTION CHAMBERS, e.g. FIREBRIDGES; DEVICES FOR DEFLECTING AIR, FLAMES OR COMBUSTION PRODUCTS IN COMBUSTION CHAMBERS; SAFETY ARRANGEMENTS SPECIALLY ADAPTED FOR COMBUSTION APPARATUS; DETAILS OF COMBUSTION CHAMBERS, NOT OTHERWISE PROVIDED FOR
- WARNING  
{In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.}
- U F23M 3/00** Firebridges
- M F23M 3/12** • characterised by shape or construction ~~(F23M 3/02 takes precedence)~~
- M F23M 5/00** Casings; Linings; Walls ~~(construction or support of tube walls for steam boilers F22B)~~
- M F23M 5/02** • characterised by the shape of the bricks or blocks used ~~(ceramic materials G04B 33/00, G04B 35/00)~~
- M F23M 5/06** • Crowns or roofs for combustion chambers ~~(F23M 5/02, F23M 5/04 take precedence)~~
- M F23M 9/00** Baffles or deflectors for air or combustion products ~~(structurally associated with burners F23D)~~ *baffles or deflectors for air or combustion products structurally associated with burners F23D*; Flame shields
- M F23M 9/10** • Baffles or deflectors formed as tubes, e.g. in water-tube boilers ~~(interconnection of such tubes in boilers for fluid flow F22)~~
- M F23M 11/00** Safety arrangements ~~(structurally associated with burners F23D; for liquid fuel feeding F23K 5/16; involving control of combustion F23N 5/24; structurally associated with igniters F23Q)~~
- M F23M 11/04** • Means for supervising combustion, e.g. ~~window~~ *windows* ~~(alarm systems G08B)~~

**Project: RP0625 (F23N)**

- M F23N** REGULATING OR CONTROLLING COMBUSTION (control devices specially adapted for ~~fluidised-bed~~ combustion apparatus *in which combustion takes place in a fluidised bed of fuel or other particles F23C 10/28*; condition responsive controls for regulating combustion in domestic stoves with open fires for solid fuel *F24B 1/187*)
- WARNING  
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.
- U F23N 3/00** Regulating air supply or draught (conjointly with fuel supply *F23N 1/00*)
- M F23N 3/06** • by conjoint operation of two or more valves or dampers ~~(F23N 3/08 takes precedence)~~ *by power-assisted systems F23N 3/08*
- M F23N 5/00** Systems for controlling combustion ~~(F23N 1/00, F23N 3/00 take precedence)~~ *regulating fuel supply F23N 1/00, regulating air supply or draught F23N 3/00*
- U F23N 5/02** • using devices responsive to thermal changes or to thermal expansion of a medium
- M F23N 5/12** • • using ionisation-sensitive elements, i.e. flame rods ~~((testing of other ignition means, e.g. flame F02P 17/12; analysing gases by investigating the ionisation by using heat G01N 27/626))~~

<b>D</b>	<b>F23N 2021/00</b>	<b>Pretreatment or prehandling</b>
		<b>&lt;administratively transferred to <a href="#">F23N 2221/00</a> ADD&gt;</b>
D	F23N 2021/02	<ul style="list-style-type: none"> <li>• using belt conveyors</li> </ul> <administratively transferred to <a href="#">F23N 2221/02</a> ADD>
D	F23N 2021/04	<ul style="list-style-type: none"> <li>• Preheating liquid fuel</li> </ul> <administratively transferred to <a href="#">F23N 2221/04</a> ADD>
D	F23N 2021/06	<ul style="list-style-type: none"> <li>• Preheating gaseous fuel</li> </ul> <administratively transferred to <a href="#">F23N 2221/06</a> ADD>
D	F23N 2021/08	<ul style="list-style-type: none"> <li>• Preheating the air</li> </ul> <administratively transferred to <a href="#">F23N 2221/08</a> ADD>
D	F23N 2021/10	<ul style="list-style-type: none"> <li>• Analysing fuel properties, e.g. density, calorific</li> </ul> <administratively transferred to <a href="#">F23N 2221/10</a> ADD>
D	F23N 2021/12	<ul style="list-style-type: none"> <li>• Recycling exhaust gases</li> </ul> <administratively transferred to <a href="#">F23N 2221/12</a> ADD>
<b>D</b>	<b>F23N 2023/00</b>	<b>Signal processing; Details thereof</b>
		<b>&lt;administratively transferred to <a href="#">F23N 2223/00</a> ADD&gt;</b>
D	F23N 2023/02	<ul style="list-style-type: none"> <li>• Multiplex transmission</li> </ul> <administratively transferred to <a href="#">F23N 2223/02</a> ADD>
D	F23N 2023/04	<ul style="list-style-type: none"> <li>• Memory</li> </ul> <administratively transferred to <a href="#">F23N 2223/04</a> ADD>
D	F23N 2023/06	<ul style="list-style-type: none"> <li>• Sampling</li> </ul> <administratively transferred to <a href="#">F23N 2223/06</a> ADD>
D	F23N 2023/08	<ul style="list-style-type: none"> <li>• Microprocessor; Microcomputer</li> </ul> <administratively transferred to <a href="#">F23N 2223/08</a> ADD>
D	F23N 2023/10	<ul style="list-style-type: none"> <li>• Correlation</li> </ul> <administratively transferred to <a href="#">F23N 2223/10</a> ADD>
D	F23N 2023/12	<ul style="list-style-type: none"> <li>• Integration</li> </ul> <administratively transferred to <a href="#">F23N 2223/12</a> ADD>
D	F23N 2023/14	<ul style="list-style-type: none"> <li>• Differentiation</li> </ul> <administratively transferred to <a href="#">F23N 2223/14</a> ADD>
D	F23N 2023/16	<ul style="list-style-type: none"> <li>• Measuring bridge</li> </ul> <administratively transferred to <a href="#">F23N 2223/16</a> ADD>
D	F23N 2023/18	<ul style="list-style-type: none"> <li>• Chopper</li> </ul> <administratively transferred to <a href="#">F23N 2223/18</a> ADD>
D	F23N 2023/20	<ul style="list-style-type: none"> <li>• Opto-coupler</li> </ul> <administratively transferred to <a href="#">F23N 2223/20</a> ADD>
D	F23N 2023/22	<ul style="list-style-type: none"> <li>• Timing network</li> </ul> <administratively transferred to <a href="#">F23N 2223/22</a> ADD>
D	F23N 2023/24	<ul style="list-style-type: none"> <li>• • with bimetallic elements</li> </ul> <administratively transferred to <a href="#">F23N 2223/24</a> ADD>
D	F23N 2023/26	<ul style="list-style-type: none"> <li>• • with capacitors</li> </ul> <administratively transferred to <a href="#">F23N 2223/26</a> ADD>

D	F23N 2023/28	<ul style="list-style-type: none"> <li>• with more than one timing element</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2223/28</a> ADD&gt;</p>
D	F23N 2023/30	<ul style="list-style-type: none"> <li>• Switches</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2223/30</a> ADD&gt;</p>
D	F23N 2023/32	<ul style="list-style-type: none"> <li>• Reed switches</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2223/32</a> ADD&gt;</p>
D	F23N 2023/34	<ul style="list-style-type: none"> <li>• with feedforward processing</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2223/34</a> ADD&gt;</p>
D	F23N 2023/36	<ul style="list-style-type: none"> <li>• PID signal processing</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2223/36</a> ADD&gt;</p>
D	F23N 2023/38	<ul style="list-style-type: none"> <li>• Remote control</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2223/38</a> ADD&gt;</p>
D	F23N 2023/40	<ul style="list-style-type: none"> <li>• Simulation</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2223/40</a> ADD&gt;</p>
D	F23N 2023/42	<ul style="list-style-type: none"> <li>• Function generator</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2223/42</a> ADD&gt;</p>
D	F23N 2023/44	<ul style="list-style-type: none"> <li>• Optimum control</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2223/44</a> ADD&gt;</p>
D	F23N 2023/46	<ul style="list-style-type: none"> <li>• Identification</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2223/46</a> ADD&gt;</p>
D	F23N 2023/48	<ul style="list-style-type: none"> <li>• Learning / Adaptive control</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2223/48</a> ADD&gt;</p>
D	F23N 2023/50	<ul style="list-style-type: none"> <li>• Human control</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2223/50</a> ADD&gt;</p>
D	F23N 2023/52	<ul style="list-style-type: none"> <li>• Fuzzy logic</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2223/52</a> ADD&gt;</p>
D	F23N 2023/54	<ul style="list-style-type: none"> <li>• Recording</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2223/54</a> ADD&gt;</p>
D	<b>F23N 2025/00</b>	<p><b>Measuring</b></p> <p>&lt;administratively transferred to <a href="#">F23N 2225/00</a> ADD&gt;</p>
D	F23N 2025/02	<ul style="list-style-type: none"> <li>• filling height in burners</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/02</a> ADD&gt;</p>
D	F23N 2025/04	<ul style="list-style-type: none"> <li>• pressure</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/04</a> ADD&gt;</p>
D	F23N 2025/06	<ul style="list-style-type: none"> <li>• for determining flow</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/06</a> ADD&gt;</p>
D	F23N 2025/08	<ul style="list-style-type: none"> <li>• temperature</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/08</a> ADD&gt;</p>
D	F23N 2025/10	<ul style="list-style-type: none"> <li>• stack temperature</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/10</a> ADD&gt;</p>
D	F23N 2025/12	<ul style="list-style-type: none"> <li>• room temperature</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/12</a> ADD&gt;</p>

D	F23N 2025/13	<ul style="list-style-type: none"> <li>• <del>outdoor temperature</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/13</a> ADD&gt;</p>
D	F23N 2025/14	<ul style="list-style-type: none"> <li>• <del>Ambient temperature around burners</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/14</a> ADD&gt;</p>
D	F23N 2025/16	<ul style="list-style-type: none"> <li>• <del>burner temperature</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/16</a> ADD&gt;</p>
D	F23N 2025/18	<ul style="list-style-type: none"> <li>• <del>feedwater temperature</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/18</a> ADD&gt;</p>
D	F23N 2025/19	<ul style="list-style-type: none"> <li>• <del>outlet temperature water heat-exchanger</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/19</a> ADD&gt;</p>
D	F23N 2025/20	<ul style="list-style-type: none"> <li>• <del>entrant temperature</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/20</a> ADD&gt;</p>
D	F23N 2025/21	<ul style="list-style-type: none"> <li>• <del>outlet temperature</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/21</a> ADD&gt;</p>
D	F23N 2025/22	<ul style="list-style-type: none"> <li>• <del>heat losses</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/22</a> ADD&gt;</p>
D	F23N 2025/24	<ul style="list-style-type: none"> <li>• <del>indicated in an amount of money</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/24</a> ADD&gt;</p>
D	F23N 2025/26	<ul style="list-style-type: none"> <li>• <del>humidity</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/26</a> ADD&gt;</p>
D	F23N 2025/30	<ul style="list-style-type: none"> <li>• <del>measuring lambda</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2225/30</a> ADD&gt;</p>
<b>D</b>	<b>F23N 2027/00</b>	<p><b><del>Ignition or checking</del></b></p> <p><b>&lt;administratively transferred to <a href="#">F23N 2227/00</a> ADD&gt;</b></p>
D	F23N 2027/02	<ul style="list-style-type: none"> <li>• <del>Starting or ignition cycles</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2227/02</a> ADD&gt;</p>
D	F23N 2027/04	<ul style="list-style-type: none"> <li>• <del>Prepurge</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2227/04</a> ADD&gt;</p>
D	F23N 2027/06	<ul style="list-style-type: none"> <li>• <del>Postpurge</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2227/06</a> ADD&gt;</p>
D	F23N 2027/08	<ul style="list-style-type: none"> <li>• <del>Hold fire apparatus</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2227/08</a> ADD&gt;</p>
D	F23N 2027/10	<ul style="list-style-type: none"> <li>• <del>Sequential burner running</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2227/10</a> ADD&gt;</p>
D	F23N 2027/12	<ul style="list-style-type: none"> <li>• <del>Burner simulation or checking</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2227/12</a> ADD&gt;</p>
D	F23N 2027/14	<ul style="list-style-type: none"> <li>• <del>Flame simulation</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2227/14</a> ADD&gt;</p>
D	F23N 2027/16	<ul style="list-style-type: none"> <li>• <del>Checking components, e.g. electronic</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2227/16</a> ADD&gt;</p>
D	F23N 2027/18	<ul style="list-style-type: none"> <li>• <del>Applying test signals, e.g. periodic</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2227/18</a> ADD&gt;</p>

- D F23N 2027/20
  - Calibrating devices  
<administratively transferred to [F23N 2227/20](#) ADD>
- D F23N 2027/22
  - Pilot burners (ignition circuits therefor F23N 2027/32)  
<administratively transferred to [F23N 2227/22](#) ADD>
- D F23N 2027/24
  - the pilot burner not burning continuously  
<administratively transferred to [F23N 2227/24](#) ADD>
- D F23N 2027/26
  - comprising two or more distinct pilot burners  
<administratively transferred to [F23N 2227/26](#) ADD>
- D F23N 2027/28
  - Ignition circuits  
<administratively transferred to [F23N 2227/28](#) ADD>
- D F23N 2027/30
  - for pilot burners  
<administratively transferred to [F23N 2227/30](#) ADD>
- D F23N 2027/32
  - Igniting for a predetermined number of cycles  
<administratively transferred to [F23N 2227/32](#) ADD>
- D F23N 2027/34
  - Continuously applied ignition cycles  
<administratively transferred to [F23N 2227/34](#) ADD>
- D F23N 2027/36
  - Spark ignition, e.g. by means of a high voltage  
<administratively transferred to [F23N 2227/36](#) ADD>
- D F23N 2027/38
  - Electrical resistance ignition  
<administratively transferred to [F23N 2227/38](#) ADD>
- D F23N 2027/40
  - Catalytic ignition  
<administratively transferred to [F23N 2227/40](#) ADD>
- D F23N 2027/42
  - Ceramic glow ignition  
<administratively transferred to [F23N 2227/42](#) ADD>
- D F23N 2029/00**
  - Flame sensors**  
**<administratively transferred to [F23N 2229/00](#) ADD>**
- D F23N 2029/02
  - Pilot flame sensors  
<administratively transferred to [F23N 2229/02](#) ADD>
- D F23N 2029/04
  - sensitive to the colour of flames  
<administratively transferred to [F23N 2229/04](#) ADD>
- D F23N 2029/06
  - with periodical shutters; Modulation signals  
<administratively transferred to [F23N 2229/06](#) ADD>
- D F23N 2029/08
  - detecting flame flicker  
<administratively transferred to [F23N 2229/08](#) ADD>
- D F23N 2029/10
  - comprising application of periodical fuel flow fluctuations  
<administratively transferred to [F23N 2229/10](#) ADD>
- D F23N 2029/12
  - with flame rectification current detecting means  
<administratively transferred to [F23N 2229/12](#) ADD>
- D F23N 2029/14
  - using two or more different types of flame sensor  
<administratively transferred to [F23N 2229/14](#) ADD>
- D F23N 2029/16
  - using two or more of the same types of flame sensor  
<administratively transferred to [F23N 2229/16](#) ADD>



D	F23N 2029/18	<ul style="list-style-type: none"> <li>• Flame sensor-cooling means</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2229/18</a> ADD&gt;</p>
D	F23N 2029/20	<ul style="list-style-type: none"> <li>• Camera-viewing</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2229/20</a> ADD&gt;</p>
D	F23N 2029/22	<ul style="list-style-type: none"> <li>• the sensor's sensitivity being variable</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2229/22</a> ADD&gt;</p>
<b>D</b>	<b>F23N 2031/00</b>	<b>Fail-safe</b> <b>&lt;administratively transferred to <a href="#">F23N 2231/00</a> ADD&gt;</b>
D	F23N 2031/02	<ul style="list-style-type: none"> <li>• using electric energy accumulators</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/02</a> ADD&gt;</p>
D	F23N 2031/04	<ul style="list-style-type: none"> <li>• for electrical power failures</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/04</a> ADD&gt;</p>
D	F23N 2031/06	<ul style="list-style-type: none"> <li>• for flame failures</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/06</a> ADD&gt;</p>
D	F23N 2031/08	<ul style="list-style-type: none"> <li>• for pilot flame failures</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/08</a> ADD&gt;</p>
D	F23N 2031/10	<ul style="list-style-type: none"> <li>• for component failures</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/10</a> ADD&gt;</p>
D	F23N 2031/12	<ul style="list-style-type: none"> <li>• for ignition failures</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/12</a> ADD&gt;</p>
D	F23N 2031/14	<ul style="list-style-type: none"> <li>• for earthquakes</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/14</a> ADD&gt;</p>
D	F23N 2031/16	<ul style="list-style-type: none"> <li>• using melting materials or shape memory alloys</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/16</a> ADD&gt;</p>
D	F23N 2031/18	<ul style="list-style-type: none"> <li>• Detecting fluid leaks</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/18</a> ADD&gt;</p>
D	F23N 2031/20	<ul style="list-style-type: none"> <li>• Warning devices</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/20</a> ADD&gt;</p>
D	F23N 2031/22	<ul style="list-style-type: none"> <li>• using warning lamps</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/22</a> ADD&gt;</p>
D	F23N 2031/24	<ul style="list-style-type: none"> <li>• Freezing</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/24</a> ADD&gt;</p>
D	F23N 2031/26	<ul style="list-style-type: none"> <li>• for clogging air inlet</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/26</a> ADD&gt;</p>
D	F23N 2031/28	<ul style="list-style-type: none"> <li>• preventing flash-back or blow-back</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/28</a> ADD&gt;</p>
D	F23N 2031/30	<ul style="list-style-type: none"> <li>• Representation of working time</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2231/30</a> ADD&gt;</p>
<b>D</b>	<b>F23N 2033/00</b>	<b>Ventilators</b> <b>&lt;administratively transferred to <a href="#">F23N 2233/00</a> ADD&gt;</b>
D	F23N 2033/02	<ul style="list-style-type: none"> <li>• in stacks</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2233/02</a> ADD&gt;</p>

D	F23N 2033/04	<ul style="list-style-type: none"> <li>• with variable speed</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2233/04</a> ADD&gt;</p>
D	F23N 2033/06	<ul style="list-style-type: none"> <li>• at the air intake</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2233/06</a> ADD&gt;</p>
D	F23N 2033/08	<ul style="list-style-type: none"> <li>• with variable speed</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2233/08</a> ADD&gt;</p>
D	F23N 2033/10	<ul style="list-style-type: none"> <li>• forcing air through heat exchangers</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2233/10</a> ADD&gt;</p>
<b>D</b>	<b>F23N 2035/00</b>	<p><b>Valves, nozzles or pumps</b></p> <p>&lt;administratively transferred to <a href="#">F23N 2235/00</a> ADD&gt;</p>
D	F23N 2035/02	<ul style="list-style-type: none"> <li>• Air or combustion gas valves or dampers</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/02</a> ADD&gt;</p>
D	F23N 2035/04	<ul style="list-style-type: none"> <li>• in stacks</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/04</a> ADD&gt;</p>
D	F23N 2035/06	<ul style="list-style-type: none"> <li>• at the air intake</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/06</a> ADD&gt;</p>
D	F23N 2035/08	<ul style="list-style-type: none"> <li>• used with heat exchanges</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/08</a> ADD&gt;</p>
D	F23N 2035/10	<ul style="list-style-type: none"> <li>• power assisted, e.g. using electric motors</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/10</a> ADD&gt;</p>
D	F23N 2035/12	<ul style="list-style-type: none"> <li>• Fuel valves</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/12</a> ADD&gt;</p>
D	F23N 2035/14	<ul style="list-style-type: none"> <li>• electromagnetically operated</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/14</a> ADD&gt;</p>
D	F23N 2035/16	<ul style="list-style-type: none"> <li>• variable flow or proportional valves</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/16</a> ADD&gt;</p>
D	F23N 2035/18	<ul style="list-style-type: none"> <li>• Groups of two or more valves</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/18</a> ADD&gt;</p>
D	F23N 2035/20	<ul style="list-style-type: none"> <li>• Membrane valves</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/20</a> ADD&gt;</p>
D	F23N 2035/22	<ul style="list-style-type: none"> <li>• cooperating with magnets</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/22</a> ADD&gt;</p>
D	F23N 2035/24	<ul style="list-style-type: none"> <li>• Valve details</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/24</a> ADD&gt;</p>
D	F23N 2035/26	<ul style="list-style-type: none"> <li>• Fuel nozzles</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/26</a> ADD&gt;</p>
D	F23N 2035/28	<ul style="list-style-type: none"> <li>• Spray fuel nozzles</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/28</a> ADD&gt;</p>
D	F23N 2035/30	<ul style="list-style-type: none"> <li>• Pumps</li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2235/30</a> ADD&gt;</p>
<b>D</b>	<b>F23N 2037/00</b>	<p><b>Controlling (F23N 5/00 takes precedence)</b></p> <p>&lt;administratively transferred to <a href="#">F23N 2237/00</a> ADD&gt;</p>

D	F23N 2037/02	<ul style="list-style-type: none"> <li>• <del>two or more burners</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/02</a> ADD&gt;</p>
D	F23N 2037/04	<ul style="list-style-type: none"> <li>• <del>at two or more different localities</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/04</a> ADD&gt;</p>
D	F23N 2037/06	<ul style="list-style-type: none"> <li>• <del>two predetermining temperatures, e.g. day-night</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/06</a> ADD&gt;</p>
D	F23N 2037/08	<ul style="list-style-type: none"> <li>• <del>two or more different types of fuel simultaneously</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/08</a> ADD&gt;</p>
D	F23N 2037/10	<ul style="list-style-type: none"> <li>• <del>High or low fire</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/10</a> ADD&gt;</p>
D	F23N 2037/12	<ul style="list-style-type: none"> <li>• <del>catalytic burners</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/12</a> ADD&gt;</p>
D	F23N 2037/14	<ul style="list-style-type: none"> <li>• <del>burners with gasification or vaporizer elements</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/14</a> ADD&gt;</p>
D	F23N 2037/16	<ul style="list-style-type: none"> <li>• <del>secondary air</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/16</a> ADD&gt;</p>
D	F23N 2037/18	<ul style="list-style-type: none"> <li>• <del>fluidized bed burners</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/18</a> ADD&gt;</p>
D	F23N 2037/20	<ul style="list-style-type: none"> <li>• <del>one or more bypass conduits</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/20</a> ADD&gt;</p>
D	F23N 2037/22	<ul style="list-style-type: none"> <li>• <del>water injection</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/22</a> ADD&gt;</p>
D	F23N 2037/24	<ul style="list-style-type: none"> <li>• <del>height of burner</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/24</a> ADD&gt;</p>
D	F23N 2037/26	<ul style="list-style-type: none"> <li>• • <del>oxygen-air ratio</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/26</a> ADD&gt;</p>
D	F23N 2037/28	<ul style="list-style-type: none"> <li>• • <del>oxygen as pure oxydant</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/28</a> ADD&gt;</p>
D	F23N 2037/30	<ul style="list-style-type: none"> <li>• • <del>matrix burners</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/30</a> ADD&gt;</p>
D	F23N 2037/32	<ul style="list-style-type: none"> <li>• • <del>N<sub>2</sub>O</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2237/32</a> ADD&gt;</p>
D	<b>F23N 2039/00</b>	<p><b>Fuels</b></p> <p>&lt;administratively transferred to <a href="#">F23N 2239/00</a> ADD&gt;</p>
D	F23N 2039/02	<ul style="list-style-type: none"> <li>• <del>Solid fuels</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2239/02</a> ADD&gt;</p>
D	F23N 2039/04	<ul style="list-style-type: none"> <li>• <del>Gaseous fuels</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2239/04</a> ADD&gt;</p>
D	F23N 2039/06	<ul style="list-style-type: none"> <li>• <del>Liquid fuels</del></li> </ul> <p>&lt;administratively transferred to <a href="#">F23N 2239/06</a> ADD&gt;</p>
D	<b>F23N 2041/00</b>	<p><b>Applications</b></p> <p>&lt;administratively transferred to <a href="#">F23N 2241/00</a> ADD&gt;</p>

- D F23N 2041/02
  - Space-heating
  - <administratively transferred to [F23N 2241/02](#) ADD>
- D F23N 2041/04
  - Heating water
  - <administratively transferred to [F23N 2241/04](#) ADD>
- D F23N 2041/06
  - Space-heating and heating water
  - <administratively transferred to [F23N 2241/06](#) ADD>
- D F23N 2041/08
  - Household apparatus
  - <administratively transferred to [F23N 2241/08](#) ADD>
- D F23N 2041/10
  - Generating vapour
  - <administratively transferred to [F23N 2241/10](#) ADD>
- D F23N 2041/11
  - Torches
  - <administratively transferred to [F23N 2241/11](#) ADD>
- D F23N 2041/12
  - Stack-torches
  - <administratively transferred to [F23N 2241/12](#) ADD>
- D F23N 2041/14
  - Vehicle heating, the heat being derived otherwise than from the propulsion plant
  - <administratively transferred to [F23N 2241/14](#) ADD>
- D F23N 2041/16
  - Spectrometer burners
  - <administratively transferred to [F23N 2241/16](#) ADD>
- D F23N 2041/18
  - Incinerating apparatus
  - <administratively transferred to [F23N 2241/18](#) ADD>
- D F23N 2041/20
  - Gas turbines
  - <administratively transferred to [F23N 2241/20](#) ADD>
- D F23N 2041/22
  - Absorption refrigerator
  - <administratively transferred to [F23N 2241/22](#) ADD>

**N F23N 2221/00****Pretreatment or prehandling**

- N F23N 2221/02
  - using belt conveyors
- N F23N 2221/04
  - Preheating liquid fuel
- N F23N 2221/06
  - Preheating gaseous fuel
- N F23N 2221/08
  - Preheating the air
- N F23N 2221/10
  - Analysing fuel properties, e.g. density, calorific
- N F23N 2221/12
  - Recycling exhaust gases

**N F23N 2223/00****Signal processing; Details thereof**

- N F23N 2223/02
  - Multiplex transmission
- N F23N 2223/04
  - Memory
- N F23N 2223/06
  - Sampling
- N F23N 2223/08
  - Microprocessor; Microcomputer
- N F23N 2223/10
  - Correlation
- N F23N 2223/12
  - Integration
- N F23N 2223/14
  - Differentiation
- N F23N 2223/16
  - Measuring bridge
- N F23N 2223/18
  - Chopper
- N F23N 2223/20
  - Opto-coupler

N	F23N 2223/22	• Timing network
N	F23N 2223/24	• • with bimetallic elements
N	F23N 2223/26	• • with capacitors
N	F23N 2223/28	• • with more than one timing element
N	F23N 2223/30	• Switches
N	F23N 2223/32	• • Reed switches
N	F23N 2223/34	• with feedforward processing
N	F23N 2223/36	• PID signal processing
N	F23N 2223/38	• Remote control
N	F23N 2223/40	• Simulation
N	F23N 2223/42	• Function generator
N	F23N 2223/44	• Optimum control
N	F23N 2223/46	• Identification
N	F23N 2223/48	• Learning / Adaptive control
N	F23N 2223/50	• Human control
N	F23N 2223/52	• Fuzzy logic
N	F23N 2223/54	• Recording
<b>N</b>	<b>F23N 2225/00</b>	<b>Measuring</b>
N	F23N 2225/02	• filling height in burners
N	F23N 2225/04	• pressure
N	F23N 2225/06	• • for determining flow
N	F23N 2225/08	• temperature
N	F23N 2225/10	• • stack temperature
N	F23N 2225/12	• • room temperature
N	F23N 2225/13	• • outdoor temperature
N	F23N 2225/14	• • Ambient temperature around burners
N	F23N 2225/16	• • burner temperature
N	F23N 2225/18	• • feedwater temperature
N	F23N 2225/19	• • outlet temperature water heat-exchanger
N	F23N 2225/20	• • entrant temperature
N	F23N 2225/21	• • outlet temperature
N	F23N 2225/22	• heat losses
N	F23N 2225/24	• • indicated in an amount of money
N	F23N 2225/26	• humidity
N	F23N 2225/30	• • measuring lambda
<b>N</b>	<b>F23N 2227/00</b>	<b>Ignition or checking</b>
N	F23N 2227/02	• Starting or ignition cycles
N	F23N 2227/04	• Prepurge
N	F23N 2227/06	• Postpurge
N	F23N 2227/08	• Hold fire apparatus
N	F23N 2227/10	• Sequential burner running
N	F23N 2227/12	• Burner simulation or checking
N	F23N 2227/14	• • Flame simulation
N	F23N 2227/16	• • Checking components, e.g. electronic

N	F23N 2227/18	• Applying test signals, e.g. periodic
N	F23N 2227/20	• Calibrating devices
N	F23N 2227/22	• Pilot burners
N	F23N 2227/24	• • the pilot burner not burning continuously
N	F23N 2227/26	• • comprising two or more distinct pilot burners
N	F23N 2227/28	• Ignition circuits
N	F23N 2227/30	• • for pilot burners
N	F23N 2227/32	• Igniting for a predetermined number of cycles
N	F23N 2227/34	• Continuously applied ignition cycles
N	F23N 2227/36	• Spark ignition, e.g. by means of a high voltage
N	F23N 2227/38	• Electrical resistance ignition
N	F23N 2227/40	• Catalytic ignition
N	F23N 2227/42	• Ceramic glow ignition
<b>N</b>	<b>F23N 2229/00</b>	<b>Flame sensors</b>
N	F23N 2229/02	• Pilot flame sensors
N	F23N 2229/04	• sensitive to the colour of flames
N	F23N 2229/06	• with periodical shutters; Modulation signals
N	F23N 2229/08	• detecting flame flicker
N	F23N 2229/10	• comprising application of periodical fuel flow fluctuations
N	F23N 2229/12	• with flame rectification current detecting means
N	F23N 2229/14	• using two or more different types of flame sensor
N	F23N 2229/16	• using two or more of the same types of flame sensor
N	F23N 2229/18	• Flame sensor cooling means
N	F23N 2229/20	• Camera viewing
N	F23N 2229/22	• the sensor's sensitivity being variable
<b>N</b>	<b>F23N 2231/00</b>	<b>Fail safe</b>
N	F23N 2231/02	• using electric energy accumulators
N	F23N 2231/04	• for electrical power failures
N	F23N 2231/06	• for flame failures
N	F23N 2231/08	• • for pilot flame failures
N	F23N 2231/10	• for component failures
N	F23N 2231/12	• for ignition failures
N	F23N 2231/14	• for earthquakes
N	F23N 2231/16	• using melting materials or shape memory alloys
N	F23N 2231/18	• Detecting fluid leaks
N	F23N 2231/20	• Warning devices
N	F23N 2231/22	• • using warning lamps
N	F23N 2231/24	• Freezing
N	F23N 2231/26	• for clogging air inlet
N	F23N 2231/28	• preventing flash-back or blow-back
N	F23N 2231/30	• Representation of working time
<b>N</b>	<b>F23N 2233/00</b>	<b>Ventilators</b>
N	F23N 2233/02	• in stacks



N	F23N 2233/04	• • with variable speed
N	F23N 2233/06	• at the air intake
N	F23N 2233/08	• • with variable speed
N	F23N 2233/10	• forcing air through heat exchangers
<b>N</b>	<b>F23N 2235/00</b>	<b>Valves, nozzles or pumps</b>
N	F23N 2235/02	• Air or combustion gas valves or dampers
N	F23N 2235/04	• • in stacks
N	F23N 2235/06	• • at the air intake
N	F23N 2235/08	• • used with heat exchanges
N	F23N 2235/10	• • power assisted, e.g. using electric motors
N	F23N 2235/12	• Fuel valves
N	F23N 2235/14	• • electromagnetically operated
N	F23N 2235/16	• • variable flow or proportional valves
N	F23N 2235/18	• • Groups of two or more valves
N	F23N 2235/20	• • Membrane valves
N	F23N 2235/22	• • cooperating with magnets
N	F23N 2235/24	• • Valve details
N	F23N 2235/26	• Fuel nozzles
N	F23N 2235/28	• • Spray fuel nozzles
N	F23N 2235/30	• Pumps
<b>N</b>	<b>F23N 2237/00</b>	<b>Controlling</b>
N	F23N 2237/02	• two or more burners
N	F23N 2237/04	• at two or more different localities
N	F23N 2237/06	• two predetermining temperatures, e.g. day-night
N	F23N 2237/08	• two or more different types of fuel simultaneously
N	F23N 2237/10	• High or low fire
N	F23N 2237/12	• catalytic burners
N	F23N 2237/14	• burners with gasification or vaporizer elements
N	F23N 2237/16	• secondary air
N	F23N 2237/18	• fluidized bed burners
N	F23N 2237/20	• one or more bypass conduits
N	F23N 2237/22	• water injection
N	F23N 2237/24	• height of burner
N	F23N 2237/26	• • oxygen-air ratio
N	F23N 2237/28	• • oxygen as pure oxydant
N	F23N 2237/30	• • matrix burners
N	F23N 2237/32	• • Nox
<b>N</b>	<b>F23N 2239/00</b>	<b>Fuels</b>
N	F23N 2239/02	• Solid fuels
N	F23N 2239/04	• Gaseous fuels
N	F23N 2239/06	• Liquid fuels
<b>N</b>	<b>F23N 2241/00</b>	<b>Applications</b>
N	F23N 2241/02	• Space-heating

N	F23N 2241/04	• Heating water
N	F23N 2241/06	• Space-heating and heating water
N	F23N 2241/08	• Household apparatus
N	F23N 2241/10	• Generating vapour
N	F23N 2241/11	• Torches
N	F23N 2241/12	• Stack-torches
N	F23N 2241/14	• Vehicle heating, the heat being derived otherwise than from the propulsion plant
N	F23N 2241/16	• Spectrometer burners
N	F23N 2241/18	• Incinerating apparatus
N	F23N 2241/20	• Gas turbines
N	F23N 2241/22	• Absorption refrigerator

## Project: RP0627 (F24D)

M	F24D	<b>DOMESTIC- OR SPACE-HEATING SYSTEMS, e.g. CENTRAL HEATING SYSTEMS; DOMESTIC HOT-WATER SUPPLY SYSTEMS; ELEMENTS OR COMPONENTS THEREFOR</b> ( <del>preventing corrosion C23F; water supply in general E03; using steam or condensate extracted or exhausted from steam engine plants for heating purposes F01K 17/02; steam traps F16T; domestic stoves or ranges F24B, F24C; water or air heaters having heat generating means F24H; combined heating and refrigeration systems F25B; heat exchange apparatus or elements F28; removing furring F28G</del> )
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NOTE

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

- "Central heating system" means a system in which heat is generated or stored at central sources and is distributed by means of a transfer fluid to the spaces or areas to be heated.

WARNING

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

M	F24D 1/00	<b>Steam central heating systems</b> ( <del>F24D 10/00, F24D 11/00 take precedence</del> <del>district heating systems F24D 10/00; central heating systems using heat accumulated in storage masses F24D 11/00</del> )
M	F24D 3/00	<b>Hot-water central heating systems</b> ( <del>F24D 10/00, F24D 11/00 take precedence</del> <del>district heating systems F24D 10/00; central heating systems using heat accumulated in storage masses F24D 11/00</del> )
M	F24D 3/12	• Tube and panel arrangements for ceiling, wall, or underfloor heating (electric underfloor heating <del>F24D 13/02; special adaptations of floors for incorporating ducts, e.g. for heating or ventilating, E04B 5/48; building elements of block or other shape for the construction of parts of buildings characterised by special adaptations, e.g. serving for locating conduits, E04C 1/39; building elements of relatively thin form for the construction of parts of buildings with special adaptations for auxiliary purposes, e.g. serving for locating conduits, E04C 2/52</del> )
M	F24D 5/00	<b>Hot-air central heating systems</b> ( <del>F24D 10/00, F24D 11/00 take precedence; district heating systems F24D 10/00; central heating systems using heat accumulated in storage masses F24D 11/00; air conditioning F24F</del> ); Exhaust gas central heating systems

- M F24D 7/00** Central heating systems employing heat-transfer fluids not covered by groups [F24D 1/00](#) - [F24D 5/00](#), e.g. oil, salt, gas (~~F24D 10/00, F24D 11/00 take precedence~~*district heating systems F24D 10/00; central heating systems using heat accumulated in storage masses F24D 11/00*)
- M F24D 9/00** Central heating systems employing combinations of heat transfer fluids covered by two or more of groups [F24D 1/00](#) - [F24D 7/00](#) (~~F24D 10/00, F24D 11/00 take precedence~~*district heating systems F24D 10/00; central heating systems using heat accumulated in storage masses F24D 11/00*)
- M F24D 11/00** Central heating systems using heat accumulated in storage masses (self-contained storage heating units [F24D 15/02](#); ~~storage masses, see the relevant subclasses~~)
- M F24D 11/02** • using heat pumps ~~{using heat pumps {for producing heat in general F25B 29/00}}~~
- U F24D 12/00** Other central heating systems
- M F24D 12/02** • having more than one heat source (~~F24D 3/18, F24D 5/12, F24D 11/02 take precedence~~*using heat pumps, in water central heating systems F24D 3/18; in air central heating systems F24D 5/12; in systems using heat storage masses F24D 11/02*)
- M F24D 13/00** Electric heating systems (~~electric water or air heaters F24H~~)
- M F24D 17/00** Domestic hot-water supply systems (~~combined with domestic or space-heating systems F24D 1/00 - F24D 15/00~~)
- U F24D 19/00** Details (of water or air heaters [F24H 9/00](#); of heat-exchange or heat-transfer apparatus, of general application [F28F](#))
- M F24D 19/08** • Arrangements for drainage, venting or aerating (~~valves for drainage F16K, e.g. F16K 21/00; for venting or aerating F16K 24/00~~*valves for venting or aerating F16K 24/00*)
- M F24D 19/10** • Arrangement or mounting of control or safety devices (~~control valves F16K; only the heater being controlled F24H 9/20~~)~~{including control or safety methods}~~

## Project: RP0644 (G01B)

- U G01B 3/00** Instruments as specified in the subgroups and characterised by the use of mechanical measuring means (arrangements for measuring particular parameters [G01B 5/00](#); devices of general interest specially adapted or mounted for storing and repeatedly paying-out and re-storing lengths of material [B65H 75/34](#))
- M G01B 3/02** • Rulers ~~or tapes~~ with scales or marks for direct reading (*measuring tapes G01B 3/10*)
- M G01B 3/10** • ~~flexible {-, e.g. tape measures}~~ *Measuring tapes*
- NOTE**  
{Group G01B 3/1002 takes precedence over groups G01B 3/1005 - G01B 3/1084}
- D G01B 3/1002** • • {Tape measures without casings}  
<administratively transferred to [G01B 3/1004](#)>
- N G01B 3/1003** • • characterised by structure or material; characterised by layout or indicia
- N G01B 3/1004** • • • {Measuring tapes without casings}

M	G01B 3/1005	<ul style="list-style-type: none"> <li>• • • {<del>Braking or locking members, i.e. means</del><i>Means</i> for preventing rotation<del>controlling winding</del> or the tape or for holding the tape at a certain position<del>unwinding of tapes</del>; Damping means, i.e. means for absorbing shock due to rewinding of the tape; Winding mechanisms, e.g. springs, electrical motors, crank-handles}</li> </ul>
N	G01B 3/1007	<ul style="list-style-type: none"> <li>• • • Means for locking</li> </ul>
D	G01B 2003/1007	<ul style="list-style-type: none"> <li>• • • {<del>Locking members</del></li> <li>&lt;administratively transferred to <a href="#">G01B 3/1007</a> INV&gt;</li> </ul>
M	G01B 2003/101	<ul style="list-style-type: none"> <li>• • • • {acting on the drum}</li> </ul>
M	G01B 2003/1012	<ul style="list-style-type: none"> <li>• • • • {engaging the tape in a direction parallel to the tape itself}</li> </ul>
M	G01B 2003/1015	<ul style="list-style-type: none"> <li>• • • • {engaging the tape in a direction transversal to the tape itself}</li> </ul>
M	G01B 2003/1017	<ul style="list-style-type: none"> <li>• • • • {acting on the whole coil}</li> </ul>
N	G01B 3/102	<ul style="list-style-type: none"> <li>• • • Means for damping</li> </ul>
D	G01B 2003/102	<ul style="list-style-type: none"> <li>• • • • {<del>Damping means</del></li> <li>&lt;administratively transferred to <a href="#">G01B 3/102</a> INV&gt;</li> </ul>
M	G01B 2003/1023	<ul style="list-style-type: none"> <li>• • • • {Winding mechanisms}</li> </ul>
M	G01B 2003/1025	<ul style="list-style-type: none"> <li>• • • • {<del>Hand-operated</del><i>operated manually</i>, e.g. crank-handles}</li> </ul>
M	G01B 2003/1028	<ul style="list-style-type: none"> <li>• • • • {<del>Electrical</del><i>operated by electric</i> motors}</li> </ul>
M	G01B 2003/103	<ul style="list-style-type: none"> <li>• • • • {<del>Springs</del><i>operated by springs</i>}</li> </ul>
M	G01B 2003/1033	<ul style="list-style-type: none"> <li>• • • • {Means for activating <i>the</i> locking, braking or releasing of the tape, e.g. buttons}</li> </ul>
M	G01B 2003/1035	<ul style="list-style-type: none"> <li>• • • • {by pivotal operation}</li> </ul>
M	G01B 2003/1038	<ul style="list-style-type: none"> <li>• • • • {by translatory motion operation}</li> </ul>
M	G01B 3/1041	<ul style="list-style-type: none"> <li>• • • {<del>Casings, i.e. structures to contain the tape</del><i>characterised by casings</i>}</li> </ul>
N	G01B 3/1043	<ul style="list-style-type: none"> <li>• • • Details of internal structure thereof, e.g. means for coupling separately moulded casing halves</li> </ul>
D	G01B 2003/1043	<ul style="list-style-type: none"> <li>• • • • {<del>internal structure and constructional details</del>}</li> <li>&lt;administratively transferred to <a href="#">G01B 3/1043</a> INV&gt;</li> </ul>
N	G01B 3/1046	<ul style="list-style-type: none"> <li>• • • Details of external structure thereof, e.g. shapes for ensuring firmer hold</li> </ul>
D	G01B 2003/1046	<ul style="list-style-type: none"> <li>• • • • {<del>external shape; elements for generating an offset</del>}</li> <li>&lt;administratively transferred to <a href="#">G01B 3/1046</a> INV&gt;</li> </ul>
D	G01B 2003/1048	<ul style="list-style-type: none"> <li>• • • • {<del>mounting elements integral to the casing for fixing to external structures or for holding, e.g. handles</del>}</li> <li>&lt;administratively transferred to <a href="#">G01B 3/1048</a> INV&gt;</li> </ul>
N	G01B 3/1048	<ul style="list-style-type: none"> <li>• • • • Integrated means for affixing or holding</li> </ul>
M	G01B 2003/1051	<ul style="list-style-type: none"> <li>• • • • {<del>plurality of</del><i>specifically adapted for two or more</i> tapes within the same casing}</li> </ul>
M	G01B 2003/1053	<ul style="list-style-type: none"> <li>• • • • {<del>tape</del><i>Tape</i> exit <del>slots</del><i>slots</i>, e.g. shape or exit direction}</li> </ul>
M	G01B 3/1056	<ul style="list-style-type: none"> <li>• • • {<del>End-hooks; Attachment of</del><i>Tape end arrangements, e.g.</i> end-hooks <del>to the tape; Distal and proximal ends of the tape</del>}</li> </ul>
M	G01B 2003/1058	<ul style="list-style-type: none"> <li>• • • {Manufacturing or assembling methods}</li> </ul>
M	G01B 3/1061	<ul style="list-style-type: none"> <li>• • • {Means for <del>reading</del><i>displaying</i> or <del>displaying</del><i>assisting reading of</i> length measurement}</li> </ul>
M	G01B 2003/1064	<ul style="list-style-type: none"> <li>• • • • {Windows, e.g. <del>lens</del><i>lenses</i>, <del>glass</del><i>glasses</i> or cross-hairs}</li> </ul>
M	G01B 2003/1066	<ul style="list-style-type: none"> <li>• • • • {Index sliding on tape}</li> </ul>
N	G01B 3/1069	<ul style="list-style-type: none"> <li>• • • Electronic or mechanical display arrangements</li> </ul>

- D G01B 2003/1069 . . . {Electronic or mechanical displaying means}  
<administratively transferred to [G01B 3/1069](#) INV>
- M G01B 3/1071 . . . {~~External support~~ *Separate means for supporting* or *attachment means, i.e. not provided in the tape measure itself* *affixing measuring tapes*
- M G01B 2003/1074 . . . {~~for associated with~~ the ~~casing~~ *casings*}
- M G01B 2003/1076 . . . {~~for associated with~~ the end-~~hook~~ *hooks*}
- M G01B 2003/1079 . . . {~~for associated with~~ the ~~tape itself~~ *tapes*}
- D G01B 3/1082 . . . {Details of the tape ~~per se~~, e.g. scale structure, indicia on scale, particular material for the tape}  
<administratively transferred to [G01B 3/1003](#)>
- M G01B 3/1084 . . . {~~Particular applications of tape measures or special adaptations thereto~~ *Tapes combined with arrangements for functions other than measuring lengths*
- M G01B 2003/1087 . . . {~~for illuminating~~}
- N G01B 3/1089 . . . *for marking, drawing or cutting*
- D G01B 2003/1089 . . . {~~for drawing, marking, cutting~~}  
<administratively transferred to [G01B 3/1089](#) INV>
- N G01B 3/1092 . . . *for performing length measurements and at least one other measurement of a different nature, e.g. bubble-type level*
- D G01B 2003/1092 . . . {measuring instruments cooperating with the tape measure, e.g. bubble-type level}  
<administratively transferred to [G01B 3/1092](#) INV>
- N G01B 3/1094 . . . *for recording information or for performing calculations*
- D G01B 2003/1094 . . . {~~for calculating, recording, indicating; aide memoire~~}  
<administratively transferred to [G01B 3/1094](#) INV>
- M G01B 2003/1097 . . . {~~Tape measures with an adhesive surface~~}

**Project: RP0654 (G01L)**

- M G01L** **MEASURING FORCE, STRESS, TORQUE, WORK, MECHANICAL POWER, MECHANICAL EFFICIENCY, OR FLUID PRESSURE (~~sensing pressure changes for compensating measurements of other variables or compensating readings of instruments for variations in pressure G01D or other relevant subclasses for the variable measured; weighing G01G; converting a pattern of forces into electrical signals G06K 11/00~~)**

NOTE

Attention is drawn to the Notes following the title of class [G01](#).

WARNING

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

- M G01L 1/00** **Measuring force or stress, in general (measuring force due to impact [G01L 5/00](#); ~~measuring deformation of bodies as a result of stress by using gauges G01B~~)**
- M G01L 1/18 . . . using properties of piezo-resistive materials, i.e. materials of which the ohmic resistance varies according to changes in magnitude or direction of force applied to the material (~~resistance strain gauges for measuring linear expansion or contraction G01B~~)

U	G01L 1/20	<ul style="list-style-type: none"> <li>by measuring variations in ohmic resistance of solid materials or of electrically-conductive fluids (of piezo-resistive materials <a href="#">G01L 1/18</a>); by making use of electrokinetic cells, i.e. liquid-containing cells wherein an electrical potential is produced or varied upon the application of stress</li> </ul>
M	G01L 1/22	<ul style="list-style-type: none"> <li>using resistance strain gauges <del>(resistance strain gauges for measuring linear expansion or contraction G01B)</del></li> </ul>
U	<b>G01L 3/00</b>	<b>Measuring torque, work, mechanical power, or mechanical efficiency in general</b>
U	G01L 3/16	<ul style="list-style-type: none"> <li>Rotary-absorption dynamometers, e.g. of brake type</li> </ul>
M	G01L 3/20	<ul style="list-style-type: none"> <li>fluid actuated <del>{{fluid actuated brakes in general F16D 57/00}}</del></li> </ul>
M	G01L 3/205	<ul style="list-style-type: none"> <li>{of the air brake type <del>(air actuated brakes in general F16D 57/00)}</del></li> </ul>
M	G01L 3/24	<ul style="list-style-type: none"> <li>Devices for determining the value of power, e.g. by measuring and simultaneously multiplying the values of torque and revolutions per unit of time, by multiplying the values of tractive or propulsive force and velocity <del>(measuring velocity per se G01P)</del></li> </ul>
M	<b>G01L 5/00</b>	<b>Apparatus for, or methods of, measuring force, <del>e.g. due to impact,</del> work, mechanical power, or torque, <i>specifically</i> adapted for <del>special</del><i>specific</i> purposes <del>(measuring pressure of a fluent medium G01L 7/00 – G01L 21/00; measuring rapid changes of pressure in gas, steam or liquid G01L 23/00)</del></b>
M	G01L 5/04	<ul style="list-style-type: none"> <li>for measuring tension in <i>flexible members, e.g.</i> ropes, cables, wires, threads, belts, <del>bands or like flexible members</del><i>bands</i> <del>{{(specifically adapted for the strings of tennis rackets A63B 51/005; G01L 5/0004 takes precedence)}}</del></li> </ul>
M	G01L 5/10	<ul style="list-style-type: none"> <li>using electrical means <del>{{(G01L 5/042, G01L 5/045 take precedence)}}</del></li> </ul>
M	G01L 5/101	<ul style="list-style-type: none"> <li>{<del>in which the sensor is</del><i>using sensors</i> inserted into the <i>flexible</i> member}</li> </ul>
M	G01L 5/102	<ul style="list-style-type: none"> <li>{<del>in which the sensor is</del><i>using sensors</i> located at a non-interrupted part of the <i>flexible</i> member}</li> </ul>
M	G01L 5/103	<ul style="list-style-type: none"> <li>{<del>in which the sensor is</del><i>using sensors</i> fixed at one end of the <i>flexible</i> member}</li> </ul>
M	G01L 5/105	<ul style="list-style-type: none"> <li>{using electro-optical means}</li> </ul>
M	G01L 5/106	<ul style="list-style-type: none"> <li>{<del>by</del><i>for</i> measuring a reaction force applied on a cantilever beam}</li> </ul>
M	G01L 5/107	<ul style="list-style-type: none"> <li>{<del>by</del><i>for</i> measuring a reaction force applied on an element disposed between two supports, <del>i.e.</del><i>e.g.</i> on a plurality of rollers or gliders}</li> </ul>
M	G01L 5/108	<ul style="list-style-type: none"> <li>{<del>by</del><i>for</i> measuring a reaction force applied on a single support <del>or, e.g. a glider</del>}</li> </ul>
C	G01L 5/16	<ul style="list-style-type: none"> <li>for measuring several components of force</li> </ul> <p><b>WARNING</b>  Group <a href="#">G01L 5/16</a> is impacted by reclassification into groups <a href="#">G01L 5/169</a>, <a href="#">G01L 5/171</a> and <a href="#">G01L 5/173</a>.  All groups listed in this Warning should be considered in order to perform a complete search.</p>
C	G01L 5/161	<ul style="list-style-type: none"> <li>{using variations in ohmic resistance}</li> </ul> <p><b>WARNING</b>  Group <a href="#">G01L 5/161</a> is impacted by reclassification into groups <a href="#">G01L 5/1623</a> and <a href="#">G01L 5/1627</a>.  Groups <a href="#">G01L 5/161</a>, <a href="#">G01L 5/1623</a> and <a href="#">G01L 5/1627</a> should be considered in order to perform a complete search.</p>
M	G01L 5/162	<ul style="list-style-type: none"> <li>{of piezoresistors}</li> </ul>



- N G01L 5/1623
- • • of pressure sensitive conductors (using piezoresistors [G01L 5/162](#))
- WARNING  
Group [G01L 5/1623](#) is incomplete pending reclassification of documents from group [G01L 5/161](#).  
Groups [G01L 5/161](#) and [G01L 5/1623](#) should be considered in order to perform a complete search.
- N G01L 5/1627
- • • of strain gauges (using piezoresistors [G01L 5/162](#))
- WARNING  
Group [G01L 5/1627](#) is incomplete pending reclassification of documents from group [G01L 5/161](#).  
Groups [G01L 5/161](#) and [G01L 5/1627](#) should be considered in order to perform a complete search.
- M G01L 5/163
- • • {of potentiometers}
- M G01L 5/164
- • {using variations in inductance}
- M G01L 5/165
- • {using variations in capacitance}
- M G01L 5/166
- • {using photoelectric means}
- M G01L 5/167
- • {using piezo-electric means}
- M G01L 5/168
- • {using counterbalancing forces}
- N G01L 5/169
- • using magnetic means
- WARNING  
Group [G01L 5/169](#) is incomplete pending reclassification of documents from group [G01L 5/16](#).  
Groups [G01L 5/16](#) and [G01L 5/169](#) should be considered in order to perform a complete search.
- N G01L 5/171
- • using fluid means
- WARNING  
Group [G01L 5/171](#) is incomplete pending reclassification of documents from group [G01L 5/16](#).  
Groups [G01L 5/16](#) and [G01L 5/171](#) should be considered in order to perform a complete search.
- N G01L 5/173
- • using acoustic means
- WARNING  
Group [G01L 5/173](#) is incomplete pending reclassification of documents from group [G01L 5/16](#).  
Groups [G01L 5/16](#) and [G01L 5/173](#) should be considered in order to perform a complete search.
- M G01L 5/20
- for measuring wheel side-thrust (~~in balancing G01M~~)
- M G01L 5/24
- for determining value of torque or twisting moment for tightening a nut or other member which is similarly stressed (~~arrangements in wrenches or screwdrivers B25B 23/14; {scremed connections specially modified to indicate the attainment of a particular tensile load F16B 31/02}~~)
- U G01L 5/28
- for testing brakes
- M G01L 5/286
- • {Measuring deceleration (~~deceleration in general G01P~~)}

M	G01L 7/00	Measuring the steady or quasi-steady pressure of a fluid or a fluent solid material by mechanical or fluid pressure-sensitive elements ( <del>G01L 11/004</del> <b>G01L 11/04</b> takes precedence; <del>;</del> transmitting or indicating the displacement of mechanical pressure-sensitive elements by electric; <del>{</del> , e.g. photoelectric} or magnetic means <b>G01L 9/00</b> ; measuring differences of two or more pressure values <b>G01L 13/00</b> ; measuring two or more pressure values simultaneously <b>G01L 15/00</b> <del>{; measuring tyre pressure or the pressure of other inflated bodies G01L 17/00; vacuum gauges G01L 21/00; hollow bodies deformable or displaceable under internal pressure, per se G12B 1/04; {pressure sensitive switches using Bourbon gauges H01H 9/00; pressure sensitive fluidum level or volume measuring devices G01F 17/00, G01F 23/14; G01F 23/14, G01F 23/16 pressure sensitive depth meters G01C 13/008; pressure sensitive depth meters G01C 13/008; aircraft altitude meters G01C 5/005}}</del> )
U	G01L 7/02	<ul style="list-style-type: none"> <li>• in the form of elastically-deformable gauges</li> </ul>
M	G01L 7/022	<ul style="list-style-type: none"> <li>• {constructional details, e.g. mounting of elastically-deformable gauges (<b>G01L 7/041</b>, <b>G01L 7/061</b>, <b>G01L 7/082</b>, <b>G01L 7/102</b>, <b>G01L 7/163</b>, <b>G01L 7/182</b> take precedence <del>over G01L 7/022</del>)}</li> </ul>
M	G01L 7/024	<ul style="list-style-type: none"> <li>• {with mechanical transmitting or indicating means (<b>G01L 7/043</b>, <b>G01L 7/063</b>, <b>G01L 7/084</b>, <b>G01L 7/104</b>, <b>G01L 7/166</b>, <b>G01L 7/185</b> take precedence <del>over G01L 7/024</del>)}</li> </ul>
M	G01L 7/026	<ul style="list-style-type: none"> <li>• {with optical transmitting or indicating means (<b>G01L 7/045</b>, <b>G01L 7/065</b>, <b>G01L 7/086</b>, <b>G01L 7/106</b>, <b>G01L 7/187</b> take precedence <del>over G01L 7/026</del>)}</li> </ul>
M	G01L 7/028	<ul style="list-style-type: none"> <li>• {correcting or regulating means (<b>G01L 7/048</b>, <b>G01L 7/068</b>, <b>G01L 7/088</b>, <b>G01L 7/108</b> take precedence <del>over G01L 7/028</del>)}</li> </ul>
M	G01L 9/00	Measuring steady <del>or of</del> quasi-steady pressure of <del>a</del> fluid or <del>a</del> fluent solid material by electric or magnetic pressure-sensitive elements ( <del>G01L 11/004</del> takes precedence); Transmitting or indicating the displacement of mechanical pressure-sensitive elements, used to measure the steady or quasi-steady pressure of a fluid or fluent solid material, by electric or magnetic means (measuring differences of two or more pressure values <b>G01L 13/00</b> ; measuring two or more pressure values simultaneously <b>G01L 15/00</b> ; <del>vacuum gauges G01L 21/00; transferring the output of the sensing member to the indicating or recording part in general G01D 5/00</del> )
M	G01L 13/00	Devices or apparatus for measuring differences of two or more <b>fluid</b> pressure values
M	G01L 15/00	Devices or apparatus for measuring two or more <b>fluid</b> pressure values simultaneously
M	G01L 17/00	Devices or apparatus for measuring tyre pressure or the pressure in other inflated bodies <del>(specially adapted for mounting on vehicles or tyres B60C 23/00)</del>
U	G01L 19/00	Details of, or accessories for, apparatus for measuring steady or quasi-steady pressure of a fluent medium insofar as such details or accessories are not special to particular types of pressure gauges
M	G01L 19/08	<ul style="list-style-type: none"> <li>• Means for indicating or recording, e.g. for remote indication <del>(indicating or recording in general G01D)</del></li> </ul>
U	G01L 21/00	Vacuum gauges
M	G01L 21/30	<ul style="list-style-type: none"> <li>• by making use of ionisation effects <del>(tubes therefor H01J 41/02)</del></li> </ul>

- U G01L 23/00** Devices or apparatus for measuring or indicating or recording rapid changes, such as oscillations, in the pressure of steam, gas, or liquid; Indicators for determining work or energy of steam, internal-combustion, or other fluid-pressure engines from the condition of the working fluid
- U G01L 23/26 · Details or accessories
- M G01L 23/32 · · Apparatus specially adapted for recording pressure changes measured by indicators ~~(apparatus for recording steady or quasi-steady pressure G01L 19/08; apparatus for recording measurement in general G01D)~~
- M G01L 25/00** Testing or calibrating of apparatus for measuring force, **worktorque**, **torque****work**, mechanical power, or mechanical efficiency

**Project: RP0645 (G01M)**

- U G01M 99/00** Subject matter not provided for in other groups of this subclass
- G01M 99/005 · {Testing of complete machines, e.g. washing-machines or mobile phones (testing of machine parts [G01M 13/00](#); testing of electric apparatus or components ~~G01R 31/02~~[G01R 31/50](#))}

NOTE

This group covers mechanical testing of complete machines

**Project: N/A (G01N)**

- U G01N 15/00** Investigating characteristics of particles; Investigating permeability, pore-volume, or surface-area of porous materials (identification of microorganisms [C12Q](#))
- U G01N 15/10 · Investigating individual particles
- U G01N 15/14 · · Electro-optical investigation, e.g. flow cytometers
- U G01N 15/1404 · · · {Fluid conditioning in flow cytometers, e.g. flow cells; Supply; Control of flow}
- U G01N 2015/1409 · · · · {Control of supply of sheaths fluid, e.g. sample injection control}
- G01N 2015/1411 · · · · {Features of ~~sheats~~[sheath](#) fluids}

**Project: RP0609 (G01N)**

- M G01N 23/00** Investigating or analysing materials by the use of wave or particle radiation, **e.g. X-rays or neutrons**, not covered by groups [G01N 3/00](#) – [G01N 17/00](#), [G01N 21/00](#) or [G01N 22/00](#)
- U G01N 23/20 · by using diffraction of the radiation by the materials, e.g. for investigating crystal structure; by using scattering of the radiation by the materials, e.g. for investigating non-crystalline materials; by using reflection of the radiation by the materials
- U G01N 23/20008 · · Constructional details of analysers, e.g. characterised by X-ray source, detector or optical system; Accessories therefor; Preparing specimens therefor (monochromators for X- rays using crystals [G21K 1/06](#))
- M G01N 23/2005 · · · Preparation of ~~specimens~~[powder](#) samples therefor

**Project: N/A (G01N)**

- U G01N 33/00** Investigating or analysing materials by specific methods not covered by groups [G01N 1/00](#) - [G01N 31/00](#)
- U G01N 33/48 · Biological material, e.g. blood, urine ([G01N 33/02](#), [G01N 33/26](#), [G01N 33/44](#), [G01N 33/46](#) take precedence); Haemocytometers (counting blood corpuscles distributed over a surface by scanning the surface [G06M 11/02](#))

U G01N 33/50

- • Chemical analysis of biological material, e.g. blood, urine; Testing involving biospecific ligand binding methods; Immunological testing (measuring or testing processes involving enzymes or microorganisms, compositions or test papers therefor; processes for forming such compositions, condition responsive control in microbiological or enzymological processes [C12Q](#))

**NOTES**

1. In this group, the following expression is used with the meaning indicated: "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](#) – [G01N 33/98](#), the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place.
3. 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.

G01N 33/5097

- • {involving plant cells (immunoassays of plant cells [G01N 33/56961](#); unicellular algae, [photoplankton](#)[phytoplankton](#) and photosynthetic bacteria in screening assays [C12Q 1/025](#))}

**Project: RP0645 (G01R)**

U G01R 1/00

**Details of instruments or arrangements of the types included in groups [G01R 5/00](#) - [G01R 13/00](#) and [G01R 31/00](#) (constructional details particular to {electromechanical} arrangements for measuring the electric consumption [G01R 11/02](#))**

U G01R 1/02

- General constructional details (details of a kind applicable to measuring arrangements not specially adapted for a specific variable [G01D 7/00](#))

U 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 31/04](#)[G01R 31/59](#); testing of connections [G01R 31/04](#)[G01R 31/66](#); for testing printed circuit boards [G01R 31/2808](#))}

U G01R 1/06

- • Measuring leads; Measuring probes ([G01R 19/145](#), [G01R 19/165](#) take precedence; end pieces for leads [H01R 11/00](#))

G01R 1/067

- • Measuring probes {(plugs, sockets or clips [G01R 1/0408](#); testing of connections [G01R 31/04](#)[G01R 31/66](#); contacting IC's for test purposes when probe design is not the essential feature [G01R 31/2886](#); using radiation beam as probe [G01R 31/302](#); end pieces for wires terminating in a probe [H01R 11/18](#))}

- 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 bioelectric currents or voltages **A61B 5/04**)
- NOTE**  
Within groups **G01R 19/02** - **G01R 19/32**, group **G01R 19/28** takes precedence. Groups **G01R 19/18** - **G01R 19/257** take precedence over groups **G01R 19/02** - **G01R 19/17** and **G01R 19/30**.
- G01R 19/145 • Indicating the presence of current or voltage {(measuring probes in general **G01R 1/06**; indicating continuity or short circuits in electric apparatus or lines or components **G01R 31/024****G01R 31/50**)}
- 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 19/16566** • {Circuits and arrangements for comparing voltage or current with one or several thresholds and for indicating the result not covered by subgroups **G01R 19/16504**, **G01R 19/16528**, **G01R 19/16533**}
- G01R 19/16571 • • {comparing AC or DC current with one threshold, e.g. load current, over-current, surge current or fault current (**G01R 19/16514**, **G01R 19/16519**, **G01R 19/16528**, **G01R 19/16533**, **G01R 19/1659** take precedence; measuring currents by using elements sensitive to the magnetic field generated **G01R 15/14**; measuring earth resistance **G01R 27/18**; testing for leakage or short circuits in electrical apparatus **G01R 31/025****G01R 31/52**)}
- U G01R 27/00** Arrangements for measuring resistance, reactance, impedance, or electric characteristics derived therefrom {(measuring superconductive properties **G01R 33/1238**)}
- U G01R 27/02** • Measuring real or complex resistance, reactance, impedance, or other two-pole characteristics derived therefrom, e.g. time constant (by measuring phase angle only **G01R 25/00**)
- NOTE**  
Groups **G01R 27/02** - **G01R 27/22** cover variables that directly or indirectly can be measured over two poles of a component or a Thevenin two-pole equivalent. Subgroup **G01R 27/26** also covers other techniques, e.g. using electro magnetic waves or network analyzers
- U G01R 27/26** • • Measuring inductance or capacitance; Measuring quality factor, e.g. by using the resonance method; Measuring loss factor; Measuring dielectric constants {; Measuring impedance or related variables}
- G01R 27/2617 • • {Measuring dielectric properties, e.g. constants (testing dielectric strength **G01R 31/12**; detecting insulation faults **G01R 31/025****G01R 31/52**; **G01R 27/2688** takes precedence)}
- U G01R 29/00** Arrangements for measuring or indicating electric quantities not covered by groups **G01R 19/00** - **G01R 27/00**
- U G01R 29/08** • Measuring electromagnetic field characteristics {(measuring electrostatic fields **G01R 29/12**; for determining a voltage **G01R 15/14**; measuring magnetic fields **G01R 33/00**; measuring or estimating received signal strength **H04B 17/318**)}
- U G01R 29/0807** • • {characterised by the application}

- U G01R 29/0814
- • {Field measurements related to measuring influence on or from apparatus, components or humans (EMC, EMI and similar testing in general [G01R 31/001](#)), e.g. in ESD, EMI, EMC, EMP testing, measuring radiation leakage; detecting presence of micro- or radiowave emitters; dosimetry; testing shielding; measurements related to lightning}
- G01R 29/085
- • • {for detecting presence or location of electric lines or cables (fault detection ~~G01R 31/02~~[G01R 31/50](#); fault location [G01R 31/08](#))}
- M 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 superconductive properties [G01R 33/1238](#);} testing or measuring semiconductors or solid state devices during manufacture {[H01L 22/00](#)}; testing line transmission systems [H04B 3/46](#))**
- NOTE
- Groups [G01R 31/08](#), [G01R 31/12](#), [G01R 31/327](#), [G01R 31/24](#), [G01R 31/26](#), [G01R 31/34](#), [G01R 31/36](#), [G01R 31/40](#), [G01R 31/44](#) take precedence over group [G01R 31/50](#).*
- C G01R 31/01
- Subjecting similar articles in turn to test, e.g. "go/no-go" tests in mass production; Testing objects at points as they pass through a testing station (~~G01R 31/18 takes precedence {; for testing batteries [G01R 31/36](#)}; testing of cables continuously passing the testing apparatus [G01R 31/59](#); testing dielectric strength or breakdown voltage [G01R 31/12](#)}~~)
- WARNING
- Group [G01R 31/01](#) is impacted by reclassification into groups [G01R 31/12](#) and [G01R 31/59](#).*
- Groups [G01R 31/01](#), [G01R 31/12](#) and [G01R 31/59](#) should be considered in order to perform a complete search.*
- M G01R 31/013
- {Testing passive components (~~relays [G01R 31/3278](#); electrical windings, e.g. inductors [G01R 31/06](#) testing relays [G01R 31/3278](#); testing electrical windings, e.g. inductors [G01R 31/72](#)~~)}
- D 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](#))}
- <administratively transferred to [G01R 31/50](#)>
- D G01R 31/021
- {Testing of cables or conductors (testing of electric windings [G01R 31/06](#); testing of insulation of cables [G01R 31/1272](#); testing LANs [H04L 43/50](#); testing line transmission systems [H04B 3/46](#))}
- <administratively transferred to [G01R 31/58](#)>
- D G01R 31/022
- • {Testing while the cable or conductor passes continuously the testing apparatus, e.g. during manufacturing}
- <administratively transferred to [G01R 31/59](#)>
- D G01R 31/023
- • {Identification of wires in a multicore cable}
- <administratively transferred to [G01R 31/60](#)>
- D G01R 31/024
- {Arrangements for indicating continuity or short-circuits in electric apparatus or lines, leakage or ground faults (in electric windings [G01R 31/06](#); measuring resistance to earth [G01R 27/18](#))}
- <administratively transferred to [G01R 31/50](#)>



- D G01R 31/025
  - • {Testing short circuits, leakage or ground faults (detecting failure within the drive train of electrically-propelled vehicles B60L 3/0023)}
  - <administratively transferred to [G01R 31/50](#)>
- D G01R 31/026
  - • {Testing continuity (G01R 31/44 takes precedence)}
  - <administratively transferred to [G01R 31/50](#)>
- D G01R 31/027
  - {Testing of transformers (testing of electric windings G01R 31/06)}
  - <administratively transferred to [G01R 31/62](#)>
- D G01R 31/028
  - {Testing of capacitors}
  - <administratively transferred to [G01R 31/64](#)>
- D G01R 31/04
  - • 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}}
  - <administratively transferred to [G01R 31/66](#)>
- D G01R 31/041
  - • {Testing of correct wire connections in electrical apparatus and circuits (details concerning insertion or connection of batteries H02J 7/0045)}
  - <administratively transferred to [G01R 31/67](#)>
- D G01R 31/043
  - • {of releaseable connections, e.g. terminals mounted on a printed circuit board}
  - <administratively transferred to [G01R 31/68](#)>
- D G01R 31/045
  - • • {of plugs, sockets or terminals at the end of a cable or a wire harness; of wall sockets; of power sockets in appliances}
  - <administratively transferred to [G01R 31/69](#)>
- D G01R 31/046
  - • {of connections between components and printed circuit boards (PCB's) (G01R 31/043 takes precedence)}
  - <administratively transferred to [G01R 31/70](#)>
- D G01R 31/048
  - • • {Details concerning testing solder joints}
  - <administratively transferred to [G01R 31/71](#)>
- D G01R 31/06
  - • Testing of electric windings {, e.g. of solenoids, inductors}, e.g. for polarity {{G01R 31/027 and G01R 31/346 take precedence; measuring number of turns, transformation ratio, or coupling factor G01R 29/20; monitoring or fail-safe circuits for electromagnets H01F 7/1844}}
  - <administratively transferred to [G01R 31/72](#)>
- D G01R 31/07
  - • Testing of fuses
  - <administratively transferred to [G01R 31/74](#)>
- T G01R 31/12
  - Testing dielectric strength or breakdown voltage {; Testing or monitoring effectiveness or level of insulation, e.g. of a cable or of an apparatus, for example using partial discharge measurements; Electrostatic testing (~~G01R 31/06~~, ~~G01R 31/08~~ and, [G01R 31/327](#) and [G01R 31/72](#) take precedence; measuring in plasmas [G01R 19/0061](#); measuring dielectric constants [G01R 27/2617](#); ESD, EMC or EMP testing of circuits [G01R 31/002](#))}

**WARNING**

*Group [G01R 31/12](#) is incomplete pending reclassification of documents from group [G01R 31/01](#).  
Groups [G01R 31/01](#) and [G01R 31/12](#) should be considered in order to perform a complete search.*

- M G01R 31/28
  - 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](#)[G01R 31/50](#); 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](#)}}
- M G01R 31/2801
  - • {Testing of printed circuits, backplanes, motherboards, hybrid circuits or carriers for multichip packages [MCP] ([G01R 31/318508](#) takes precedence; contactless testing [G01R 31/302](#); testing contacts or connections [G01R 31/04](#)[G01R 31/66](#))}
- U G01R 31/281
  - • • {Specific types of tests or tests for a specific type of fault, e.g. thermal mapping, shorts testing ([G01R 31/2818](#) takes precedence)}
- M G01R 31/2812
  - • • • {Checking for open circuits or shorts, e.g. solder bridges; Testing conductivity, resistivity or impedance (of connections [G01R 31/04](#)[G01R 31/66](#))}
- U G01R 31/2851
  - • {Testing of integrated circuits [IC] ([G01R 31/317](#) takes precedence; testing individual devices [G01R 31/26](#); testing printed circuits [G01R 31/2801](#))}
- M G01R 31/2853
  - • • {Electrical testing of internal connections or -isolation, e.g. latch-up or chip-to-lead connections ([G01R 31/31717](#) takes precedence; test of chip-to-PCB or lead-to-PCB connections [G01R 31/04](#)[G01R 31/66](#))}
- M G01R 31/302
  - • Contactless testing {(~~non-contact-making probes G01R 1/07~~) {([G01R 31/04](#)[G01R 31/66](#) takes precedence)}

**Project: RP0648 (G01R)**

- U G01R 31/317
  - • 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
- G01R 31/31704
  - • • {Design for test; Design verification (concerning scan tests [G01R 31/318583](#); computer-aided design [G06F 17/50](#)[G06F 30/00](#))}
- U G01R 31/3181
  - • • Functional testing ([G01R 31/3177](#) takes precedence)
- U G01R 31/3183
  - • • • Generation of test inputs, e.g. test vectors, patterns or sequences
- U G01R 31/318342
  - • • • • {by preliminary fault modelling, e.g. analysis, simulation}
- G01R 31/318357
  - • • • • • {Simulation (computer simulation of digital circuits [G06F 17/5009](#)[G06F 30/3308](#))}
- G01R 31/318364
  - • • • • • {as a result of hardware simulation, e.g. in an HDL environment (computer-aided simulation of circuits [G06F 17/5009](#)[G06F 30/3308](#))}

**Project: RP0645 (G01R)**

- U G01R 31/327
  - Testing of circuit interrupters, switches or circuit-breakers
- U G01R 31/3277
  - • {of low voltage devices, e.g. domestic or industrial devices, such as motor protections, relays, rotation switches}
- M G01R 31/3278
  - • • {of relays, solenoids or reed switches (measuring contact resistance [G01R 27/205](#); ~~testing electric windings G01R 31/06~~; high voltage magnetic switches [G01R 31/3271](#), [G01R 31/333](#); [testing electric windings G01R 31/72](#); monitoring of fail safe circuits [H01H 47/002](#))}
- U G01R 31/44
  - Testing lamps

- Q G01R 31/50
- Testing of electric apparatus, lines, cables or components for short-circuits, continuity, leakage current or incorrect line connections (testing of sparking plugs [H01T 13/58](#))
- WARNING  
Group [G01R 31/50](#) is impacted by reclassification into groups [G01R 31/52](#), [G01R 31/54](#), [G01R 31/55](#) and [G01R 31/56](#).  
Groups [G01R 31/50](#), [G01R 31/52](#), [G01R 31/54](#), [G01R 31/55](#) and [G01R 31/56](#) should be considered in order to perform a complete search.
- N G01R 31/52
- • Testing for short-circuits, leakage current or ground faults
- WARNING  
Group [G01R 31/52](#) is incomplete pending reclassification of documents from group [G01R 31/50](#).  
Groups [G01R 31/50](#) and [G01R 31/52](#) should be considered in order to perform a complete search.
- N G01R 31/54
- • Testing for continuity
- WARNING  
Group [G01R 31/54](#) is incomplete pending reclassification of documents from group [G01R 31/50](#).  
Groups [G01R 31/50](#) and [G01R 31/54](#) should be considered in order to perform a complete search.
- N G01R 31/55
- • Testing for incorrect line connections
- WARNING  
Group [G01R 31/55](#) is incomplete pending reclassification of documents from group [G01R 31/50](#).  
Groups [G01R 31/50](#) and [G01R 31/55](#) should be considered in order to perform a complete search.
- N G01R 31/56
- • Testing of electric apparatus (testing of transformers [G01R 31/62](#); testing of connections [G01R 31/66](#))
- WARNING  
Group [G01R 31/56](#) is incomplete pending reclassification of documents from group [G01R 31/50](#).  
Groups [G01R 31/50](#) and [G01R 31/56](#) should be considered in order to perform a complete search.
- N G01R 31/58
- • Testing of lines, cables or conductors (testing of electric windings [G01R 31/72](#))
- N G01R 31/59
- • • while the cable continuously passes the testing apparatus, e.g. during manufacture
- WARNING  
Group [G01R 31/59](#) is incomplete pending reclassification of documents from group [G01R 31/01](#).  
Groups [G01R 31/01](#) and [G01R 31/59](#) should be considered in order to perform a complete search.
- N G01R 31/60
- • • Identification of wires in a multicore cable
- N G01R 31/62
- • Testing of transformers
- WARNING  
Group [G01R 31/62](#) is incomplete pending reclassification of documents from group [G01R 31/72](#).

Groups [G01R 31/72](#) and [G01R 31/62](#) should be considered in order to perform a complete search.

- N G01R 31/64      • • Testing of capacitors
- N G01R 31/66      • • Testing of connections, e.g. of plugs or non-disconnectable joints (testing for incorrect line connections [G01R 31/55](#))
- N G01R 31/67      • • • Testing the correctness of wire connections in electric apparatus or circuits
- N G01R 31/68      • • • Testing of releasable connections, e.g. of terminals mounted on a printed circuit board
- N G01R 31/69      • • • • of terminals at the end of a cable or a wire harness; of plugs; of sockets, e.g. wall sockets or power sockets in appliances
- N G01R 31/70      • • • Testing of connections between components and printed circuit boards ([G01R 31/68](#) takes precedence)
- N G01R 31/71      • • • • Testing of solder joints
- Q G01R 31/72      • • Testing of electric windings (testing of transformers [G01R 31/62](#))

WARNING

Group [G01R 31/72](#) is impacted by reclassification into group [G01R 31/62](#). Groups [G01R 31/72](#) and [G01R 31/62](#) should be considered in order to perform a complete search.

- N G01R 31/74      • • Testing of fuses

**Project: RP0652 (G01S)**

- M G01S 7/00      Details of systems according to groups [G01S 13/00](#), [G01S 15/00](#), [G01S 17/00](#) ~~{{apparatus for measuring unknown time-intervals by electronic means, e.g. Vernier method G04F 10/00}}~~
- U G01S 7/02      • of systems according to group [G01S 13/00](#)
- M G01S 7/03      • • Details of HF subsystems specially adapted therefor, e.g. common to transmitter and receiver ~~(TR boxes H01J 17/64; waveguides or resonators or other devices of the waveguide type H01P; aeriels H01Q; basic electronic circuitry, e.g. generation of oscillations, modulation, demodulation, amplification, pulse technique H03; impedance networks, resonators H03H)~~
- U G01S 7/04      • • Display arrangements
- U G01S 7/06      • • • Cathode-ray tube displays {or other two-dimensional or three-dimensional displays (cathode ray oscilloscopes in general [G01R 13/20](#))}
- U G01S 7/06      WARNING  
Groups [G01S 7/062](#) - [G01S 7/24](#) are not complete pending a reorganization. See provisionally [G01S 7/06](#)
- M G01S 7/10      • • • Providing two-dimensional and co-ordinated display of distance and direction ~~{{(in general G01R 13/208)}}~~
- M G01S 7/20      • • • Stereoscopic displays; Three-dimensional displays; Pseudo-three-dimensional displays ~~{{(in general G01R 13/206)}}~~
- M G01S 7/22      • • • Producing cursor lines and indicia by electronic means ~~{{(in general G01R 13/30)}}~~
- U G01S 7/28      • • Details of pulse systems
- U G01S 7/285      • • • Receivers
- M G01S 7/292      • • • Extracting wanted echo-signals ~~(Doppler systems G01S 13/50)~~

- M G01S 7/36
  - • Means for anti-jamming (in general H04K 3/00) *Means for anti-jamming* {, e.g. ECCM, i.e. electronic counter-counter measures *[ECCM]* (for irregular PRF see also G01S 13/22, G01S 13/528; for frequency agility of carrier wave see also G01S 13/24; *G01S 7/2813* takes precedence; random interference pulse cancellers G01S 7/2928; identification of radar jamming signals *G01S 7/021*; *random interference pulse cancellers G01S 7/2928*)}
- M G01S 7/38
  - • Jamming means, e.g. producing false echoes {(in general H04K 3/00 {reflecting surfaces comprising a plurality of reflecting particles, e.g. chaff, H01Q 15/145; identification of radar signals *G01S 7/021*})}
- U G01S 7/48
  - of systems according to group *G01S 17/00*
- U G01S 7/483
  - • Details of pulse systems
- U G01S 7/486
  - • • Receivers
- M G01S 7/4861
  - • • • {Details of *Circuits for* detection, sampling, integration or read-out *circuits*}
- M G01S 7/4863
  - • • • • {of detector arrays} *Detector arrays, e.g. charge-transfer gates*
- M G01S 7/4865
  - • • • {Details of time *Time* delay measurement, e.g. time-of-flight or *measurement*, time of arrival measurement; or determining the exact position of a peak} (*peak detection in noise, signal conditioning G01S 7/487*)
- U G01S 7/4866
  - • • • • {by fitting a model or function to the received signal}
- U G01S 7/491
  - • Details of non-pulse systems
- M G01S 7/4911
  - • • {Transmitters}
- M G01S 7/4912
  - • • {Receivers}
- M G01S 7/4913
  - • • • {Details of *Circuits for* detection, sampling, integration or read-out *circuits*}
- M G01S 7/4914
  - • • • • {of detector arrays}, *e.g. charge-transfer gates*
- M G01S 7/4915
  - • • • {Details of time *Time* delay measurement or phase measurement}, *e.g. operational details for pixel components (signal extraction and conditioning G01S 7/493); Phase measurement*
- M G01S 7/499
  - • using polarisation effects (*measuring polarisation of light G01J*)
- U G01S 7/52
  - of systems according to group *G01S 15/00*
- U G01S 7/56
  - • Display arrangements {(short-range imaging *G01S 7/52053*)}
- M G01S 7/62
  - • • Cathode-ray tube displays {or other two-dimensional or three-dimensional displays (*cathode ray oscilloscopes in general G01R 13/20*)}
- M G01S 13/00
 

**Systems using the reflection or reradiation of radio waves, e.g. radar systems; Analogous systems using reflection or reradiation of waves whose nature or wavelength is irrelevant or unspecified (*using acoustic waves G01S 15/00; using electromagnetic waves other than radio waves G01S 17/00*)**

#### NOTES

##### 1. This group covers :

- systems for detecting the presence of an object, e.g. by reflection or reradiation from the object itself, or from a transponder associated with the object, for determining the distance or relative velocity of an object, for providing a co-ordinated display of the distance and direction of an object or for obtaining an image thereof;
- systems arranged for mounting on a moving craft or vehicle and using the reflection of waves from an extended surface external to the craft, e.g. the surface of the earth, to determine the velocity and direction of motion of the craft relative to the surface.

##### 2. This group does not cover :

- systems for determining the direction of an object by means not employing reflection or reradiation, which are covered by groups [G01S 1/00](#) or [G01S 3/00](#);
  - systems for determining distance or velocity of an object by means not employing reflection or reradiation, which are covered by group [G01S 11/00](#).
- G01S 13/86
- Combinations of radar systems with non-radar systems, e.g. sonar, direction finder {(combination of sonar systems with non-sonar or non-radar systems [G01S 15/025](#) [G01S 15/86](#); combination of lidar systems with systems other than lidar, radar or sonar [G01S 17/023](#) [G01S 17/86](#))}
- U G01S 13/88
- Radar or analogous systems specially adapted for specific applications (electromagnetic prospecting or detecting of objects, e.g. near-field detection, [G01V 3/00](#))
- U G01S 13/93
- • for anti-collision purposes
- D G01S 13/9303
- • • {~~between aircraft or spacecraft in flight, e.g. secant (terrain-avoidance systems G01S 13/94)~~}
  - <administratively transferred to [G01S 13/933](#)>
- D G01S 13/9307
- • • {~~between marine crafts; between marine crafts and fixed obstacles~~}
  - <administratively transferred to [G01S 13/937](#)>
- M G01S 13/931
- • • {~~between~~ [of](#) land vehicles; ~~between land vehicles and fixed obstacles~~}
- M G01S 2013/9314
- • • • {~~for parking~~ [Parking](#) operations}
- N G01S 2013/9315
- • • • {*Monitoring blind spots*}
- N G01S 2013/9316
- • • • {*combined with communication equipment with other vehicles or with base stations*}
- M G01S 2013/9317
- • • • {~~for driving~~ [Driving](#) backwards}
- N G01S 2013/9318
- • • • {*Controlling the steering*}
- N G01S 2013/93185
- • • • {*Controlling the brakes*}
- N G01S 2013/9319
- • • • {*Controlling the accelerator*}
- N G01S 2013/932
- • • • {*using own vehicle data, e.g. ground speed, steering wheel direction*}
- M G01S 2013/9321
- • • • {~~for velocity~~ [Velocity](#) regulation, e.g. cruise control}
- N G01S 2013/9322
- • • • {*using additional data, e.g. driver condition, road state or weather data*}
- N G01S 2013/9323
- • • • {*Alternative operation using light waves*}
- N G01S 2013/9324
- • • • {*Alternative operation using ultrasonic waves*}
- M G01S 2013/9325
- • • • {for ~~intervehicle~~ [inter-vehicle](#) distance regulation, e.g. navigating in platoons}
- N G01S 2013/9327
- • • • {*Sensor installation details*}
- N G01S 2013/93271
- • • • • {*in the front of the vehicles*}
- N G01S 2013/93272
- • • • • {*in the back of the vehicles*}
- N G01S 2013/93273
- • • • • {*on the top of the vehicles*}
- N G01S 2013/93274
- • • • • {*on the side of the vehicles*}
- N G01S 2013/93275
- • • • • {*in the bumper area*}
- N G01S 2013/93276
- • • • • {*in the windshield area*}
- N G01S 2013/93277
- • • • • {*in the lights*}
- M G01S 2013/9328
- • • • {~~for Rail~~ [vehicles-on-rails](#)}
- N G01S 2013/9329
- • • • {*cooperating with reflectors or transponders*}
- N G01S 13/933
- • • of aircraft or spacecraft



- D G01S 2013/9332 . . . . {for monitoring blind spots}  
<administratively transferred to [G01S 2013/9315](#) ADD>
- D G01S 2013/9335 . . . . {on airport surface (taxiing)}  
<administratively transferred to [G01S 13/934](#)>
- D G01S 2013/9339 . . . . {co-operating with reflectors or transponders}  
<administratively transferred to [G01S 2013/9329](#) ADD>
- N G01S 13/934 . . . . on airport surfaces, e.g. while taxiing
- D G01S 2013/9342 . . . . {controlling the steering}  
<administratively transferred to [G01S 2013/9318](#) ADD>
- D G01S 2013/9346 . . . . {controlling the brakes}  
<administratively transferred to [G01S 2013/93185](#) ADD>
- D G01S 2013/935 . . . . {controlling the accelerator}  
<administratively transferred to [G01S 2013/9319](#) ADD>
- N G01S 13/935 . . . . for terrain-avoidance
- D G01S 2013/9353 . . . . {using own vehicle data, e.g. ground speed, steering wheel direction}  
<administratively transferred to [G01S 2013/932](#) ADD>
- D G01S 2013/9357 . . . . {using additional data, e.g. driver condition, road state, weather data}  
<administratively transferred to [G01S 2013/9322](#) ADD>
- D G01S 2013/936 . . . . {combined with communication equipment with other vehicles and/or with base stations(s)}  
<administratively transferred to [G01S 2013/9316](#) ADD>
- D G01S 2013/9364 . . . . {Alternative operation using ultrasonic waves}  
<administratively transferred to [G01S 2013/9324](#) ADD>
- D G01S 2013/9367 . . . . {Alternative operation using light waves}  
<administratively transferred to [G01S 2013/9323](#) ADD>
- N G01S 13/937 . . . . of marine craft
- D G01S 2013/9371 . . . . {Sensor installation details}  
<administratively transferred to [G01S 2013/9327](#) ADD>
- D G01S 2013/9375 . . . . . {in the front of the vehicle}  
<administratively transferred to [G01S 2013/93271](#) ADD>
- D G01S 2013/9378 . . . . . {in the back of the vehicle}  
<administratively transferred to [G01S 2013/93272](#) ADD>
- D G01S 2013/9382 . . . . . {on the top of the vehicle}  
<administratively transferred to [G01S 2013/93273](#) ADD>
- D G01S 2013/9385 . . . . . {on the side(s) of the vehicle}  
<administratively transferred to [G01S 2013/93274](#) ADD>
- D G01S 2013/9389 . . . . . {in the bumper area (ultrasonic transducer in bumper area G01S 2015/938; bumper with obstacle sensor of electric or electronic type B60R 19/483)}  
<administratively transferred to [G01S 2013/93275](#) ADD>
- D G01S 2013/9392 . . . . . {in the windshield area}  
<administratively transferred to [G01S 2013/93276](#) ADD>
- D G01S 2013/9396 . . . . . {in the lights}  
<administratively transferred to [G01S 2013/93277](#) ADD>

- D G01S 13/94
- for terrain-avoidance
- <administratively transferred to [G01S 13/935](#)>
- U G01S 15/00**      **Systems using the reflection or reradiation of acoustic waves, e.g. sonar systems**
- NOTES
1. This group covers :
    - systems for detecting the presence of an object, e.g. by reflection or reradiation from the object itself, or from a transponder associated with the object, for determining the distance or relative velocity of an object, for providing a co-ordinated display of the distance and direction of an object or for obtaining an image thereof;
    - systems arranged for mounting on a moving craft or vehicle and using the reflection of waves from an extended surface external to the craft, e.g. the surface of the earth, to determine the velocity and direction of motion of the craft relative to the surface.
  2. This group does not cover :
    - systems for determining the direction of an object by means not employing reflection or reradiation, which are covered by groups [G01S 1/00](#) or [G01S 3/00](#);
    - systems for determining distance or velocity of an object by means not employing reflection or reradiation, which are covered by group [G01S 11/00](#).
- U G01S 15/02
- using reflection of acoustic waves ([G01S 15/66](#) takes precedence)
- D G01S 15/025
- {Combination of sonar systems with non-sonar or non-radar systems, e.g. with direction-finder}
- <administratively transferred to [G01S 15/86](#)>
- M G01S 15/74
- Systems using reradiation of acoustic waves, e.g. IFF, i.e. identification of friend or foe ~~{{teaching or practice apparatus for gun-arming or gun-laying using reflecting targets or active targets F41G 3/26}}~~
- N G01S 15/86
- Combinations of sonar systems with lidar systems; Combinations of sonar systems with systems not using wave reflection
- U G01S 15/88
- Sonar systems specially adapted for specific applications (seismic or acoustic prospecting or detecting [G01V 1/00](#))
- U G01S 15/93
- for anti-collision purposes
- M G01S 15/931
- • • ~~{between of land vehicles; between land vehicles and fixed obstacles}~~
- U G01S 2015/937
- • • • {sensor installation details (constructional features of transducers [G01S 7/521](#) and [B06B](#); casing of transducers, e.g. housing, cover or filler details, [G10K 9/22](#); mounting of transducers, i.e. fixture, fitting or holder details, [G10K 11/004](#))}
- G01S 2015/938
- • • • {in the bumper area (radar in bumper area ~~G01S 2013/9389~~ [G01S 2013/93275](#); bumper with obstacle sensor of electric or electronic type [B60R 19/483](#))}
- M G01S 17/00**      **Systems using the reflection or reradiation of electromagnetic waves other than radio waves, e.g. lidar systems ~~(photogrammetry or videogrammetry G01C 11/00)~~**
- NOTE
- The note after group [G01S 13/00](#) also applies to this group.
- U G01S 17/02
- Systems using the reflection of electromagnetic waves other than radio waves ([G01S 17/66](#) takes precedence)

- D G01S 17/023
- {Combination of lidar systems, with systems other than lidar, radar or sonar, e.g. with direction finder}
  - <administratively transferred to [G01S 17/86](#)>
- D G01S 17/026
- {for detecting the presence of an object}
  - <administratively transferred to [G01S 17/04](#)>
- N G01S 17/04
- Systems determining the presence of a target
- U G01S 17/06
- Systems determining position data of a target
- U G01S 17/08
- for measuring distance only (indirect measurement [G01S 17/46](#); active triangulation systems [G01S 17/48](#); passive systems using a parallax triangle [G01C 3/10](#), [G01C 3/22](#), [G01C 3/24](#), [G01C 3/26](#))
- U G01S 17/10
- using transmission of interrupted pulse-modulated waves (determination of distance by phase measurements [G01S 17/32](#))
- D G01S 17/102
- {wherein the transmitted pulses use a frequency- or phase modulated carrier wave, e.g. for pulse compression of received signals}
  - <administratively transferred to [G01S 17/26](#)>
- D G01S 17/105
- {wherein a voltage or current pulse is initiated and terminated in accordance respectively with the pulse transmission and echo-reception, e.g. using counters}
  - <administratively transferred to [G01S 17/14](#)>
- D G01S 17/107
- {wherein range gates are used}
  - <administratively transferred to [G01S 17/18](#)>
- N G01S 17/14
- wherein a voltage or current pulse is initiated and terminated in accordance with the pulse transmission and echo reception respectively, e.g. using counters
- N G01S 17/18
- wherein range gates are used
- N G01S 17/26
- wherein the transmitted pulses use a frequency-modulated or phase-modulated carrier wave, e.g. for pulse compression of received signals
- U G01S 17/32
- using transmission of continuous unmodulated waves, amplitude-, frequency-, or phase-modulated waves
- D G01S 17/325
- {using transmission of frequency-modulated waves and the received signal, or a signal derived therefrom, being heterodyned with a locally-generated signal related to the contemporaneous transmitted signal to give a beat-frequency signal}
  - <administratively transferred to [G01S 17/34](#)>
- N G01S 17/34
- using transmission of continuous frequency-modulated waves and the received signal, or a signal derived therefrom, being heterodyned with a locally-generated signal related to the contemporaneous transmitted signal to give a beat-frequency signal
- M G01S 17/74
- Systems using reradiation of electromagnetic waves other than radio waves, e.g. IFF, i.e. identification of friend or foe-~~{teaching or practice apparatus for gun-arming or gun-laying using reflecting targets or active targets F41G 3/26}~~
- N G01S 17/86
- Combinations of lidar systems with systems other than lidar, radar or sonar, e.g. with direction finders
- U G01S 17/87
- Combinations of systems using electromagnetic waves other than radio waves
- M G01S 17/875
- ~~{Combination of several systems for attitude determination}~~determining attitude
- U G01S 17/88
- Lidar systems specially adapted for specific applications

- C G01S 17/89
- for mapping or imaging
- WARNING**  
Group G01S 17/89 is impacted by reclassification into group G01S 17/894. Groups G01S 17/89 and G01S 17/894 should be considered in order to perform a complete search.
- N G01S 17/894
- 3D imaging with simultaneous measurement of time-of-flight at a 2D array of receiver pixels, e.g. time-of-flight cameras or flash lidar
- WARNING**  
Group G01S 17/894 is incomplete pending reclassification of documents from group G01S 17/89. Groups G01S 17/89 and G01S 17/894 should be considered in order to perform a complete search.
- D G01S 17/895
- {using synthetic aperture techniques}
- <administratively transferred to G01S 17/90>
- N G01S 17/90
- using synthetic aperture techniques
- U G01S 17/93
- for anti-collision purposes
- N G01S 17/931
- of land vehicles
- M G01S 17/933
- {between aircrafts of aircraft or spacecrafts spacecraft; between aircrafts or spacecrafts and fixed obstacles}
- D G01S 17/936
- {between land vehicles; between land vehicles and fixed obstacles}
- <administratively transferred to G01S 17/931>

**Project: RP0148-F (G01V)**

- U G01V 5/00
- Prospecting or detecting by the use of nuclear radiation, e.g. of natural or induced radioactivity (determining the properties of materials G01N; measuring nuclear radiation G01T)**
- U G01V 5/0008
- {Detecting hidden objects, e.g. weapons, explosives (sorting of materials or articles according to radioactive properties B07C 5/342; investigating or analysing materials by the use of wave or particle radiation G01N 23/00)}
- M G01V 5/0016
- {Active interrogation, i.e. using an external radiation source, e.g. using pulsed, continuous or cosmic rays}
- WARNING**  
Group G01V 5/0016 is impacted by reclassification into group G01V 5/0069. Groups G01V 5/0016 and G01V 5/0069 should be considered in order to perform a complete search.
- M G01V 5/0069
- {Measuring induced radiation, e.g. thermal neutron activation analysis (investigating or analysing materials by the use of neutrons G01N 23/222)}
- WARNING**  
Group G01V 5/0069 is incomplete pending reclassification of documents from group G01V 5/0016. Groups G01V 5/0016 and G01V 5/0069 should be considered in order to perform a complete search.

**Project: RP0651 (G02B)**

- U G02B 3/00
- Simple or compound lenses (artificial eyes A61F 2/14; spectacle lenses or contact lenses for the eyes G02C; watch or clock glasses G04B 39/00)**
- U G02B 3/0006
- {Arrays (G02B 3/02, G02B 5/188 take precedence)}
- U G02B 3/0037
- {characterized by the distribution or form of lenses}

- U G02B 3/0062
  - • {Stacked lens arrays, i.e. refractive surfaces arranged in at least two planes, without structurally separate optical elements in-between}
- M G02B 3/0068
  - • • {arranged in a single integral body or plate, e.g. laminates or hybrid structures with other optical elements ([G02B 5/1885](#), [G02B 17/002](#), [G02B 27/2214](#) [G02B 30/27](#) take precedence)}

**Project: RP0646 (G02B)**

**G02B 26/00** Optical devices or arrangements using movable or deformable optical elements for controlling the intensity, colour, phase, polarisation or direction of light, e.g. switching, gating, modulating (mechanically operable parts of lighting devices for the control of light order [F21V](#); specially adapted for measuring characteristics of light [G01J](#); devices or arrangements, the optical operation of which is modified by changing the optical properties of the medium of the devices or arrangements [G02F 1/00](#); control of light in general [G05D 25/00](#); control of light sources [H01S 3/10](#), [H05B 37/00](#) - [H05B 39/00](#) [H05B 43/00](#) - [H05B 47/00](#))

**Project: RP0651 (G02B)**

- M G02B 27/00 ~~Other optical systems; Other optical~~ **Optical systems or apparatus not provided for by any of the groups [G02B 1/00](#) - [G02B 26/00](#), [G02B 30/00](#) (means for bringing about special optical effects in shop-windows, showcases [A47F](#), e.g. [A47F 11/06](#); optical toys [A63H 33/22](#); designs or pictures characterised by special light effects [B44F 1/00](#))**
- M G02B 27/02
  - Viewing or reading apparatus (stereoscopic systems ~~per se~~ [G02B 27/22](#) [G02B 30/00](#); of the projection type [G03B](#); slide-changing apparatus [G03B](#))
- D 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](#))
  - <administratively transferred to [G02B 30/00](#)>
- D G02B 27/2207
  - {stereoscopic devices based on anaglyph techniques}
  - <administratively transferred to [G02B 30/23](#)>
- D G02B 27/2214
  - {involving lenticular arrays or parallax barriers}
  - <administratively transferred to [G02B 30/27](#)>
- D G02B 27/2221
  - {giving the psychological impression of depth to the observer of a single two dimensional image}
  - <administratively transferred to [G02B 30/40](#)>
- D G02B 27/2228
  - {Stereoscopes or similar systems based on providing first and second images situated at first and second locations, said images corresponding to parallaxically 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)}
  - <administratively transferred to [G02B 30/34](#)>
- D G02B 27/2235
  - • {including reflecting surfaces in the optical path between the images and the observer}
  - <administratively transferred to [G02B 30/35](#)>
- D G02B 27/2242
  - • {including refractive beam deviating means, e.g. wedges, prisms, in the optical path between the images and the observer}
  - <administratively transferred to [G02B 30/36](#)>

- D G02B 27/225
- • {of the autostereoscopic type, i.e. left and right images projected to the left and right eyes of an observer who is not required to view the images through optical systems placed adjacent to the eyes (autostereoscopic systems involving lenticular arrays or parallax barriers G02B 27/2214)}
- <administratively transferred to [G02B 30/26](#)>
- D G02B 27/2257
- • {Collapsible stereoscopes}
- <administratively transferred to [G02B 30/37](#)>
- D G02B 27/2264
- {involving time multiplexing, e.g. using sequentially activated left and right shutters}
- <administratively transferred to [G02B 30/24](#)>
- D G02B 27/2271
- {the image being built up from image elements distributed over a three dimensional volume, e.g. by scanning the volume with modulated beams of radiation}
- <administratively transferred to [G02B 30/50](#)>
- D G02B 27/2278
- • {the volume being constructed from a stack or sequence of two dimensional planes, e.g. depth sampling systems}
- <administratively transferred to [G02B 30/52](#)>
- D G02B 27/2285
- • {the volume being generated by a moving, e.g. vibrating or rotating, two-dimensional surface}
- <administratively transferred to [G02B 30/54](#)>
- D G02B 27/2292
- • {involving projecting an aerial or floating image}
- <administratively transferred to [G02B 30/56](#)>
- D G02B 27/24
- • involving reflecting prisms and mirrors only
- <administratively transferred to [G02B 30/60](#)>
- D G02B 27/26
- • involving polarising means
- <administratively transferred to [G02B 30/25](#)>
- M G02B 27/28
- for polarising (used in stereoscopes [G02B 27/26](#) [G02B 30/25](#))

**Q G02B 30/00** **Optical systems or apparatus for producing three-dimensional [3D] effects, e.g. stereoscopic images (in microscopes [G02B 21/22](#))**

WARNING

Group [G02B 30/00](#) is impacted by reclassification into groups [G02B 30/10](#), [G02B 30/20](#), and [G02B 30/22](#).

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

- N G02B 30/10
- using integral imaging methods

WARNING

Group [G02B 30/10](#) is incomplete pending reclassification of documents from group [G02B 30/00](#).

Groups [G02B 30/00](#) and [G02B 30/10](#) should be considered in order to perform a complete search.

- N G02B 30/20
- by providing first and second parallax images to an observer's left and right eyes

WARNING

Group [G02B 30/20](#) is incomplete pending reclassification of documents from group [G02B 30/00](#).

Groups [G02B 30/00](#) and [G02B 30/20](#) should be considered in order to perform a complete search.



- N G02B 30/22
- • of the stereoscopic type
- WARNING  
Group [G02B 30/22](#) is incomplete pending reclassification of documents from group [G02B 30/00](#).  
Groups [G02B 30/00](#) and [G02B 30/22](#) should be considered in order to perform a complete search.
- N G02B 30/23
- • • using wavelength separation, e.g. using anaglyph techniques
- N G02B 30/24
- • • involving temporal multiplexing, e.g. using sequentially activated left and right shutters
- N G02B 30/25
- • • using polarisation techniques
- Q G02B 30/26
- • of the autostereoscopic type
- WARNING  
Group [G02B 30/26](#) is impacted by reclassification into groups [G02B 30/28](#), [G02B 30/29](#), [G02B 30/30](#), [G02B 30/31](#), [G02B 30/32](#), and [G02B 30/33](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N G02B 30/27
- • • involving lenticular arrays
- N G02B 30/28
- • • • involving active lenticular arrays
- WARNING  
Group [G02B 30/28](#) is incomplete pending reclassification of documents from group [G02B 30/26](#).  
Groups [G02B 30/26](#) and [G02B 30/28](#) should be considered in order to perform a complete search.
- N G02B 30/29
- • • • characterised by the geometry of the lenticular array, e.g. slanted arrays, irregular arrays or arrays of varying shape or size
- WARNING  
Group [G02B 30/29](#) is incomplete pending reclassification of documents from group [G02B 30/26](#).  
Groups [G02B 30/26](#) and [G02B 30/29](#) should be considered in order to perform a complete search.
- N G02B 30/30
- • • involving parallax barriers
- WARNING  
Group [G02B 30/30](#) is incomplete pending reclassification of documents from group [G02B 30/26](#).  
Groups [G02B 30/26](#) and [G02B 30/30](#) should be considered in order to perform a complete search.
- N G02B 30/31
- • • • involving active parallax barriers (involving directional light or back-light sources [G02B 30/33](#))
- WARNING  
Group [G02B 30/31](#) is incomplete pending reclassification of documents from group [G02B 30/26](#).  
Groups [G02B 30/26](#) and [G02B 30/31](#) should be considered in order to perform a complete search.

- N G02B 30/32
- • • characterised by the geometry of the parallax barriers, e.g. staggered barriers, slanted parallax arrays or parallax arrays of varying shape or size
- WARNING  
Group [G02B 30/32](#) is incomplete pending reclassification of documents from group [G02B 30/26](#).  
Groups [G02B 30/26](#) and [G02B 30/32](#) should be considered in order to perform a complete search.
- N G02B 30/33
- • • involving directional light or back-light sources
- WARNING  
Group [G02B 30/33](#) is/are incomplete pending reclassification of documents from group [G02B 30/26](#).  
Groups [G02B 30/26](#) and [G02B 30/33](#) should be considered in order to perform a complete search.
- N G02B 30/34
- • Stereoscopes providing a stereoscopic pair of separated images corresponding to parallaxically displaced views of the same object, e.g. 3D slide viewers
- N G02B 30/35
- • • using reflective optical elements in the optical path between the images and the observer
- N G02B 30/36
- • • using refractive optical elements, e.g. prisms, in the optical path between the images and the observer
- N G02B 30/37
- • • Collapsible stereoscopes
- N G02B 30/40
- giving the observer of a single two-dimensional [2D] image a perception of depth
- N G02B 30/50
- the image being built up from image elements distributed over a 3D volume, e.g. voxels
- N G02B 30/52
- • the 3D volume being constructed from a stack or sequence of 2D planes, e.g. depth sampling systems
- N G02B 30/54
- • the 3D volume being generated by moving a 2D surface, e.g. by vibrating or rotating the 2D surface
- N G02B 30/56
- by projecting aerial or floating images
- N G02B 30/60
- involving reflecting prisms and mirrors only

**Project: RP0646 (G02F)****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](#) — [H05B 43/00](#) [H05B 47/00](#) {; {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.

## Project: RP0551 (G03B)

- |          |                   |   |
|----------|-------------------|---|
| <b>U</b> | <b>G03B 11/00</b> | <b>Filters or other obturators specially adapted for photographic purposes</b>  |
| <b>T</b> | G03B 11/04        | <ul style="list-style-type: none"> <li>• Hoods or caps for eliminating unwanted light from lenses, viewfinders or focusing aids</li> </ul> <p><u>WARNING</u><br/>Groups G03B 11/041 – G03B 11/048 are not complete pending reclassification; see also G03B 11/04</p>  |
| <b>D</b> | G03B 11/048       | <ul style="list-style-type: none"> <li>• {Hoods or caps not provided for in groups G03B 11/041 – G03B 11/046}<br/>&lt;administratively transferred to <a href="#">G03B 11/04</a>&gt;</li> </ul>   |
| <b>U</b> | <b>G03B 17/00</b> | <b>Details of cameras or camera bodies; Accessories therefor (lens hoods or caps <a href="#">G03B 11/04</a>)</b>  |
| <b>T</b> | G03B 17/56        | <ul style="list-style-type: none"> <li>• Accessories (carrying-cases <a href="#">A45C 11/38</a>)</li> </ul> <p><u>WARNING</u><br/>Groups G03B 17/561 – G03B 17/568 are not complete pending reclassification; see also G03B 17/56</p>   |
| <b>D</b> | G03B 17/568       | <ul style="list-style-type: none"> <li>• {Camera accessories not provided in groups G03B 17/561 – G03B 17/566}<br/>&lt;administratively transferred to <a href="#">G03B 17/56</a>&gt;</li> </ul>  |
| <b>U</b> | <b>G03B 21/00</b> | <b>Projectors or projection-type viewers; Accessories therefor (devices for changing pictures <a href="#">G03B 23/00</a>)</b><br><br><u>WARNING</u><br>Groups <a href="#">G03B 21/001</a> - <a href="#">G03B 21/008</a> are incomplete pending reclassification of documents from group <a href="#">G03B 21/00</a> .<br><br>Until reclassification is complete, groups <a href="#">G03B 21/00</a> and <a href="#">G03B 21/001</a> - <a href="#">G03B 21/008</a> should be considered in order to perform a complete search. |
| <b>U</b> | G03B 21/14        | <ul style="list-style-type: none"> <li>• Details</li> </ul> <p><u>WARNING</u><br/>Groups <a href="#">G03B 21/142</a> - <a href="#">G03B 21/147</a> are incomplete pending reclassification of documents from group <a href="#">G03B 21/14</a>.<br/><br/>           Until reclassification is complete, groups <a href="#">G03B 21/14</a> and <a href="#">G03B 21/142</a> - <a href="#">G03B 21/147</a> should be considered in order to perform a complete search.</p>  |
| <b>T</b> | G03B 21/20        | <ul style="list-style-type: none"> <li>• • Lamp housings</li> </ul>   |
| <b>D</b> | G03B 21/2093      | <ul style="list-style-type: none"> <li>• • {Details of lamp houses not provided in groups G03B 21/2006 – G03B 21/2086}<br/>&lt;administratively transferred to <a href="#">G03B 21/20</a>&gt;</li> </ul>  |

- T G03B 2205/00 Adjustment of optical system relative to image or object surface other than for focusing**
- D G03B 2205/0092** • Other types of adjustments, not provided for in groups G03B 2205/0007–G03B 2205/0084, e.g. for collapsing  
<administratively transferred to [G03B 2205/00](#) ADD>
- U G03B 2215/00 Special procedures for taking photographs; Apparatus therefor**
- T G03B 2215/05** • Combinations of cameras with electronic flash units
- D G03B 2215/0596** • • Combinations of cameras with electronic flash units not provided for in G03B 2215/0564–G03B 2215/0592  
<administratively transferred to [G03B 2215/05](#) ADD>

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

- U G03F 7/00 Photomechanical, e.g. photolithographic, production of textured or patterned surfaces, e.g. printing surfaces; Materials therefor, e.g. comprising photoresists; Apparatus specially adapted therefor (using photoresist structures for special production processes, see the relevant places, e.g. [B44C](#), [H01L](#), e.g. [H01L 21/00](#), [H05K](#))**
- U G03F 7/004** • Photosensitive materials ([G03F 7/12](#), [G03F 7/14](#) take precedence)
- U G03F 7/038** • • Macromolecular compounds which are rendered insoluble or differentially wettable ([G03F 7/075](#) takes precedence; macromolecular azides [G03F 7/012](#); macromolecular diazonium compounds [G03F 7/021](#))
- G03F 7/0385** • • {using ~~epoxydised novolak~~ [epoxidised novolak](#) resin}

**Project: RP0648 (G03F)**

- U G03F 7/70** • {Exposure apparatus for microlithography}
- U G03F 7/70425** • • {Imaging strategies, e.g. for increasing throughput, printing product fields larger than the image field, compensating lithography- or non-lithography errors, e.g. proximity correction, mix-and-match, stitching, double patterning}
- G03F 7/70433** • • • {Layout for increasing efficiency, for compensating imaging errors, e.g. layout of exposure fields,; Use of mask features for increasing efficiency, for compensating imaging errors (circuit design *per se* ~~G06F 17/5068~~ [G06F 30/30](#); designing or making of mask [G03F 1/14](#))}

**Project: RP0651 (G03H)**

- G03H HOLOGRAPHIC PROCESSES OR APPARATUS (holograms, e.g. point holograms, used as ordinary optical elements [G02B 5/32](#); producing stereoscopic or other three-dimensional effects ~~G02B 27/22~~ [G02B 30/00](#); diffraction-grating systems [G02B 27/44](#); systems using moiré fringes [G02B 27/60](#); optical logic elements [G02F 3/00](#); stereo-photography [G03B 35/00](#); photosensitive materials or processes for photographic purposes [G03C](#); {stereo-photographic or similar processes [G03C 9/00](#)}; apparatus for processing exposed photographic materials [G03D](#); analogue computers performing mathematical operations with the aid of optical elements [G06E 3/00](#); authentication by radiation, of concealed information carried by holograms or diffraction gratings [G06K 19/16](#); holographic storage [G11B 7/0065](#), [G11C 13/04](#); {stereoscopic or other three dimensional effects in television systems [H04N 13/00](#))}**

**NOTE**

This subclass covers means for producing a record of the phase and amplitude information of a wave-front, which information can be used to reconstruct the

original wave-front, or means to reconstruct the original wave-front from a record containing the phase and amplitude information of the wave-front.

**WARNING**

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

**Project: MP0461 (G04F)**

- U G04F 7/00 Apparatus for measuring unknown time intervals by mechanical means**
- M G04F 7/04**
  - using a mechanical oscillator

**WARNING**

The subgroups of G04F 7/04 are not complete pending reclassification; see also this group

**Project: RP0648 (G05B)**

- U G05B 19/00 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](#))**
- U G05B 19/02**
  - electric
- U G05B 19/18**
  - • Numerical control [NC], i.e. automatically operating machines, in particular machine tools, e.g. in a manufacturing environment, so as to execute positioning, movement or co-ordinated operations by means of programme data in numerical form ([G05B 19/418](#) takes precedence)
- G05B 19/4097**
  - • • characterised by using design data to control NC machines, e.g. CAD/CAM ([G05B 19/4093](#) takes precedence; CAD in general [G06F 17/50](#) [G06F 30/00](#))

**Project: RP0646 (G05D)**

- G05D 25/00 Control of light, e.g. intensity, colour, phase (mechanically operable parts of lighting devices for the control of light [F21V](#); optical devices or arrangements using movable or deformable elements for controlling light independent of the light source [G02B 26/00](#); devices or arrangements, the optical operation of which is modified by changing the optical properties of the medium of the devices or arrangements for the control of light, circuit arrangements specially adapted therefor, control of light by electromagnetic waves, electrons or other elementary particles [G02F 1/00](#); circuit arrangements for controlling light sources [H01S 3/10](#), [H05B 33/08](#), [H05B 35/00](#) — [H05B 43/00](#) [H05B 47/00](#).)**

**Project: RP0646 (G05F)****M G05F**

**SYSTEMS FOR REGULATING ELECTRIC OR MAGNETIC VARIABLES** (regulating the timing or recurrence frequency of pulses in radar or radio navigation systems [G01S](#); *regulation of current or voltage, specially adapted for use in electronic time-pieces* [G04G 19/02](#); closed-loop systems for regulating non-electric variables by electric means [G05D](#); regulating power supply of digital computers [G06F 1/26](#); *for obtaining desired operating characteristics of electromagnets with armatures* [H01F 7/18](#); regulating electric power distribution networks [H02J](#); regulating the charging of batteries [H02J 7/00](#); regulation of the output of static converters, e.g. switching regulators [H02M](#); regulation of the output of electric generators [H02N](#), [H02P 9/00](#), ~~[H03L](#)~~; controlling transformers, reactors or choke coils [H02P 13/00](#); regulating frequency response, gain, maximum output, amplitude or bandwidth of amplifiers [H03G](#); regulating tuning of resonant circuits [H03J](#); regulating characteristics of transmission lines [H04B](#); *controlling electric light sources* [H05B 39/04](#), [H05B 41/36](#), [H05B 45/10](#), [H05B 45/20](#), [H05B 47/10](#); electric control of X-ray apparatus [H05G 1/30](#))

NOTES

1. This subclass covers:

- systems only;
- use of hydraulic, pneumatic, mechanical, and electrical motors for varying electric characteristics of devices which restore the quantity regulated;
- the combination of static converters and current or voltage regulators, if the invention resides in the combination.

2. This subclass does not cover elements per se, which are covered by the relevant subclasses.

WARNINGS

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

<a href="#">G05F 3/28</a>	covered by	<a href="#">G05F 3/26</a>
<a href="#">G05F 5/02</a>	covered by	<a href="#">G05F 5/00</a>
<a href="#">G05F 5/04</a>	covered by	<a href="#">G05F 5/00</a>
<a href="#">G05F 5/06</a>	covered by	<a href="#">G05F 5/00</a>
<a href="#">G05F 5/08</a>	covered by	<a href="#">G05F 5/00</a>

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

**Project: RP0311-F (G06F)****U G06F 12/00**

**Accessing, addressing or allocating within memory systems or architectures (digital input from, or digital output to record carriers, e.g. to disk storage units, [G06F 3/06](#))**

U G06F 12/02

- Addressing or allocation; Relocation (program address sequencing [G06F 9/00](#); arrangements for selecting an address in a digital store [G11C 8/00](#))

U G06F 12/08

- • in hierarchically structured memory systems, e.g. virtual memory systems

U G06F 12/0802

- • • Addressing of a memory level in which the access to the desired data or data block requires associative addressing means, e.g. caches

U G06F 12/0844

- • • • Multiple simultaneous or quasi-simultaneous cache accessing

U G06F 12/0846

- • • • • Cache with multiple tag or data arrays being simultaneously accessible



- M G06F 12/0851 . . . . . {Cache with interleaved addressing}
- WARNING  
~~Group G06F 12/0851 is impacted by reclassification into group G06F 12/0886.~~  
~~Groups G06F 12/0851 and G06F 12/0886 should be considered in order to perform a complete search.~~
- U G06F 12/0877 . . . . . Cache access modes
- M G06F 12/0886 . . . . . Variable-length word access
- WARNING  
~~Group G06F 12/0886 is incomplete pending reclassification of documents from group G06F 12/0851.~~  
~~Groups G06F 12/0851 and G06F 12/0886 should be considered in order to perform a complete search.~~
- U G06F 12/10 . . . . . Address translation
- U G06F 12/1027 . . . . . using associative or pseudo-associative address translation means, e.g. translation look-aside buffer [TLB]
- M G06F 12/1036 . . . . . for multiple virtual address spaces, e.g. segmentation ([G06F 12/1045](#) takes precedence)
- WARNING  
~~Group G06F 12/1036 is incomplete pending reclassification of documents from group G06F 12/109.~~  
~~Groups G06F 12/109 and G06F 12/1036 should be considered in order to perform a complete search.~~
- M G06F 12/109 . . . . . for multiple virtual address spaces, e.g. segmentation ([G06F 12/1036](#) takes precedence)
- WARNING  
~~Group G06F 12/109 is impacted by reclassification into group G06F 12/1036.~~  
~~Groups G06F 12/109 and G06F 12/1036 should be considered in order to perform a complete search.~~

**Project: RP0650 (G06F)**

- U G06F 16/00 **Information retrieval; Database structures therefor; File system structures therefor**
- U G06F 16/90 . . Details of database functions independent of the retrieved data types
- NOTE  
 In groups [G06F 16/90](#), [G06F 16/901](#), [G06F 16/9014](#), [G06F 16/9017](#), [G06F 16/902](#), [G06F 16/9024](#), [G06F 16/9027](#), [G06F 16/903](#), [G06F 16/9032](#), [G06F 16/90324](#), [G06F 16/90328](#), [G06F 16/90332](#), [G06F 16/90335](#), [G06F 16/90339](#), [G06F 16/90344](#), [G06F 16/90348](#), [G06F 16/9035](#), [G06F 16/9038](#), [G06F 16/904](#), and [G06F 16/906](#), subject matter relevant to retrieval characterised by using metadata, when it is determined to be novel and non-obvious, must also be classified in groups [G06F 16/907](#), [G06F 16/907](#), and [G06F 16/909](#).
- WARNING  
 Group [G06F 16/90](#) is impacted by reclassification into group [G06F 16/906](#). Groups [G06F 16/90](#) and [G06F 16/906](#) should be considered in order to perform a complete search.
- U G06F 16/93 . . Document management systems

	G06F 16/94	<ul style="list-style-type: none"> <li>• • • {HypermediaHyperlinking G06F 40/134(hyperlinking within text processing G06F 17/2235)}</li> </ul>
<b>U</b>	<b>G06F 17/00</b>	<b>Digital computing or data processing equipment or methods, specially adapted for specific functions (information retrieval, database structures or file system structures therefor <a href="#">G06F 16/00</a>)</b>
D	G06F 17/20	<ul style="list-style-type: none"> <li>• Handling natural language data (speech analysis or synthesis G10L)</li> <li>&lt;administratively transferred to <a href="#">G06F 40/00</a>&gt;</li> </ul>
D	G06F 17/21	<ul style="list-style-type: none"> <li>• • Text processing (G06F 17/27, G06F 17/28 take precedence; systems for composing machines B41B 27/00)</li> <li>&lt;administratively transferred to <a href="#">G06F 40/10</a>&gt;</li> </ul>
D	G06F 17/211	<ul style="list-style-type: none"> <li>• • • {Formatting, i.e. changing of presentation of document (G06F 17/25, G06F 17/26 take precedence)}</li> <li>&lt;administratively transferred to <a href="#">G06F 40/103</a>&gt;</li> </ul>
D	G06F 17/212	<ul style="list-style-type: none"> <li>• • • • {Display of layout of document; Preview}</li> <li>&lt;administratively transferred to <a href="#">G06F 40/106</a>&gt;</li> </ul>
D	G06F 17/214	<ul style="list-style-type: none"> <li>• • • • {Font handling; Temporal and kinetic typography}</li> <li>&lt;administratively transferred to <a href="#">G06F 40/109</a>&gt;</li> </ul>
D	G06F 17/215	<ul style="list-style-type: none"> <li>• • • • {Mathematical or scientific, subscripts, superscripts}</li> <li>&lt;administratively transferred to <a href="#">G06F 40/111</a>&gt;</li> </ul>
D	G06F 17/217	<ul style="list-style-type: none"> <li>• • • • {Pagination}</li> <li>&lt;administratively transferred to <a href="#">G06F 40/114</a>&gt;</li> </ul>
D	G06F 17/218	<ul style="list-style-type: none"> <li>• • • • {Tagging; Marking up (details of markup languages G06F 17/22); Designating a block; Setting of attributes (style sheets, e.g. eXtensible Stylesheet Language Transformation (XSL-T) G06F 17/227)}</li> <li>&lt;administratively transferred to <a href="#">G06F 40/117</a>&gt;</li> </ul>
D	G06F 17/22	<ul style="list-style-type: none"> <li>• • • Manipulating or registering by use of codes, e.g. in sequence of text characters {(compression H03M 7/30)}</li> <li>&lt;administratively transferred to <a href="#">G06F 40/12</a>&gt;</li> </ul>
D	G06F 17/2205	<ul style="list-style-type: none"> <li>• • • • {Storage facilities}</li> <li>&lt;administratively transferred to <a href="#">G06F 40/123</a>&gt;</li> </ul>
D	G06F 17/2211	<ul style="list-style-type: none"> <li>• • • • {Calculation of differences between files}</li> <li>&lt;administratively transferred to <a href="#">G06F 40/194</a>&gt;</li> </ul>
D	G06F 17/2217	<ul style="list-style-type: none"> <li>• • • • {Character encodings}</li> <li>&lt;administratively transferred to <a href="#">G06F 40/126</a>&gt;</li> </ul>
D	G06F 17/2223	<ul style="list-style-type: none"> <li>• • • • • {Handling non-latin characters, e.g. kana-to-kanji conversion}</li> <li>&lt;administratively transferred to <a href="#">G06F 40/129</a>&gt;</li> </ul>
D	G06F 17/2229	<ul style="list-style-type: none"> <li>• • • • {Fragmentation of text-files, e.g. reusable text-blocks, including linking to the fragments, XInclude, Namespaces}</li> <li>&lt;administratively transferred to <a href="#">G06F 40/131</a>&gt;</li> </ul>
D	G06F 17/2235	<ul style="list-style-type: none"> <li>• • • • {Hyperlinking (information retrieval based on hyperlinks G06F 16/94)}</li> <li>&lt;administratively transferred to <a href="#">G06F 40/134</a>&gt;</li> </ul>
D	G06F 17/2241	<ul style="list-style-type: none"> <li>• • • • {Hierarchical processing, e.g. outlines}</li> <li>&lt;administratively transferred to <a href="#">G06F 40/137</a>&gt;</li> </ul>

- D G06F 17/2247      . . . . {Tree-structured documents; Markup, e.g. Standard Generalized Markup Language [SGML], Document Type Definition [DTD] (validation and parsing G06F 17/2705; data retrieval G06F 16/00; coding and compression H03M 7/30)}  
                          <administratively transferred to [G06F 40/14](#)>
- D G06F 17/2252      . . . . {Coding or compression of tree-structured data (coding and compression in general H03M 7/30)}  
                          <administratively transferred to [G06F 40/146](#)>
- D G06F 17/2258      . . . . {Adaptation of the text data for streaming purposes, e.g. XStream}  
                          <administratively transferred to [G06F 40/149](#)>
- D G06F 17/2264      . . . . {Transformation}  
                          <administratively transferred to [G06F 40/151](#)>
- D G06F 17/227      . . . . . {Tree transformation for tree-structured or markup documents, e.g. eXtensible Stylesheet Language Transformation (XSL-T) stylesheets, Omnimark, Balise}  
                          <administratively transferred to [G06F 40/154](#)>
- D G06F 17/2276      . . . . . {using dictionaries or tables}  
                          <administratively transferred to [G06F 40/157](#)>
- D G06F 17/2282      . . . . . {Automatic learning of transformation rules, e.g. by example}  
                          <administratively transferred to [G06F 40/16](#)>
- D G06F 17/2288      . . . . {Version control}  
                          <administratively transferred to [G06F 40/197](#)>
- D G06F 17/2294      . . . . {Handling of whitespace}  
                          <administratively transferred to [G06F 40/163](#)>
- D G06F 17/24      . . . Editing, e.g. insert/delete {(G06F 17/22 takes precedence)}  
                          <administratively transferred to [G06F 40/166](#)>
- D G06F 17/241      . . . . {Annotation, e.g. comment data, footnotes}  
                          <administratively transferred to [G06F 40/169](#)>
- D G06F 17/242      . . . . {by use of digital ink}  
                          <administratively transferred to [G06F 40/171](#)>
- D G06F 17/243      . . . . {Form filling; Merging, e.g. graphical processing of form or text}  
                          <administratively transferred to [G06F 40/174](#)>
- D G06F 17/245      . . . . {Tables; Ruled lines}  
                          <administratively transferred to [G06F 40/177](#)>
- D G06F 17/246      . . . . {Spreadsheets (relational data bases G06F 16/284; form-filling G06F 17/243)}  
                          <administratively transferred to [G06F 40/18](#)>
- D G06F 17/247      . . . . {Tabulation, e.g. one-dimensional positioning}  
                          <administratively transferred to [G06F 40/183](#)>
- D G06F 17/248      . . . . {Templates}  
                          <administratively transferred to [G06F 40/186](#)>
- D G06F 17/25      . . . Automatic justification  
                          <administratively transferred to [G06F 40/189](#)>
- D G06F 17/26      . . . Automatic hyphenation  
                          <administratively transferred to [G06F 40/191](#)>

- D G06F 17/27
  - • Automatic analysis, e.g. parsing ~~{(speech recognition, analysis or synthesis G10L)}~~
  - <administratively transferred to [G06F 40/20](#)>
- D G06F 17/2705
  - • • {Parsing}
  - <administratively transferred to [G06F 40/205](#)>
- D G06F 17/271
  - • • • {Syntactic parsing, e.g. based on context-free grammar [CFG], unification grammars}
  - <administratively transferred to [G06F 40/211](#)>
- D G06F 17/2715
  - • • • {Statistical methods}
  - <administratively transferred to [G06F 40/216](#)>
- D G06F 17/272
  - • • • {Parsing markup language streams (streaming G06F 17/2258)}
  - <administratively transferred to [G06F 40/221](#)>
- D G06F 17/2725
  - • • • {Validation}
  - <administratively transferred to [G06F 40/226](#)>
- D G06F 17/273
  - • • {Orthographic correction, e.g. spelling checkers, vowelisation}
  - <administratively transferred to [G06F 40/232](#)>
- D G06F 17/2735
  - • • {Dictionaries}
  - <administratively transferred to [G06F 40/242](#)>
- D G06F 17/274
  - • • {Grammatical analysis; Style critique}
  - <administratively transferred to [G06F 40/253](#)>
- D G06F 17/2745
  - • • {Heading extraction; Automatic titling, numbering}
  - <administratively transferred to [G06F 40/258](#)>
- D G06F 17/275
  - • • {Language identification}
  - <administratively transferred to [G06F 40/263](#)>
- D G06F 17/2755
  - • • {Morphological analysis}
  - <administratively transferred to [G06F 40/268](#)>
- D G06F 17/276
  - • • {Stenotyping, code gives word, guess-ahead for partial word input}
  - <administratively transferred to [G06F 40/274](#)>
- D G06F 17/2765
  - • • {Recognition}
  - <administratively transferred to [G06F 40/279](#)>
- D G06F 17/277
  - • • • {Lexical analysis, e.g. tokenisation, collocates}
  - <administratively transferred to [G06F 40/284](#)>
- D G06F 17/2775
  - • • • {Phrasal analysis, e.g. finite state techniques, chunking}
  - <administratively transferred to [G06F 40/289](#)>
- D G06F 17/278
  - • • • • {Named entity recognition}
  - <administratively transferred to [G06F 40/295](#)>
- D G06F 17/2785
  - • • {Semantic analysis}
  - <administratively transferred to [G06F 40/30](#)>
- D G06F 17/279
  - • • • {Discourse representation}
  - <administratively transferred to [G06F 40/35](#)>
- D G06F 17/2795
  - • • {Thesaurus; Synonyms}
  - <administratively transferred to [G06F 40/247](#)>

- D G06F 17/28
  - • Processing or translating of natural language (G06F 17/27 takes precedence)
    - <administratively transferred to [G06F 40/40](#)>
- D G06F 17/2809
  - • • {Data driven translation}
    - <administratively transferred to [G06F 40/42](#)>
- D G06F 17/2818
  - • • • {Statistical methods, e.g. probability models}
    - <administratively transferred to [G06F 40/44](#)>
- D G06F 17/2827
  - • • • {Example-based machine translation; Alignment}
    - <administratively transferred to [G06F 40/45](#)>
- D G06F 17/2836
  - • • • {Machine assisted translation, e.g. translation memory}
    - <administratively transferred to [G06F 40/47](#)>
- D G06F 17/2845
  - • • • {Using very large corpora, e.g. the world wide web [WWW]}
    - <administratively transferred to [G06F 40/49](#)>
- D G06F 17/2854
  - • • {Translation evaluation}
    - <administratively transferred to [G06F 40/51](#)>
- D G06F 17/2863
  - • • {Processing of non-latin text (kana-to-kanji conversion G06F 17/2223; vowelisation G06F 17/273)}
    - <administratively transferred to [G06F 40/53](#)>
- D G06F 17/2872
  - • • {Rule-based translation}
    - <administratively transferred to [G06F 40/55](#)>
- D G06F 17/2881
  - • • • {Natural language generation}
    - <administratively transferred to [G06F 40/56](#)>
- D G06F 17/289
  - • • {Use of machine translation, e.g. multi-lingual retrieval, server side translation for client devices, real-time translation (data retrieval G06F 16/00, administrative and business methods G06Q 10/00, G06Q 30/00)}
    - <administratively transferred to [G06F 40/58](#)>

**Project: RP0648 (G06F)**

- D G06F 17/50
  - Computer-aided design
    - <administratively transferred to [G06F 30/00](#)>
- D G06F 17/5004
  - • {Architectural design, e.g. building design}
    - <administratively transferred to [G06F 30/13](#)>
- D G06F 17/5009
  - • {using simulation}
    - <administratively transferred to [G06F 30/20](#)>
- D G06F 17/5013
  - • • {using petri-net models}
    - <administratively transferred to [G06F 30/22](#)>
- D G06F 17/5018
  - • • {using finite difference methods or finite element methods (picture mesh generation G06T 17/20)}
    - <administratively transferred to [G06F 30/23](#)>
- D G06F 17/5022
  - • • {Logic simulation, e.g. for logic circuit operation (fault-simulation G06F 11/261; test pattern synthesising G06F 11/263)}
    - <administratively transferred to [G06F 30/33](#)>
- D G06F 17/5027
  - • • • {Logic emulation using reprogrammable logic devices, e.g. field programmable gate arrays [FPGA]}
    - <administratively transferred to [G06F 30/331](#)>

- D G06F 17/5031 . . . {Timing analysis}  
<administratively transferred to [G06F 30/3312](#)>
- D G06F 17/5036 . . . {for analog modelling, e.g. for circuits, spice programme, direct methods, relaxation methods}  
<administratively transferred to [G06F 30/367](#)>
- D G06F 17/504 . . . {Formal methods}  
<administratively transferred to [G06F 30/3323](#)>
- D G06F 17/5045 . . {Circuit design (G06F 17/5068 takes precedence; logic circuits H03K 19/00)}  
<administratively transferred to [G06F 30/30](#)>
- D G06F 17/505 . . . {Logic synthesis, e.g. technology mapping, optimisation}  
<administratively transferred to [G06F 30/327](#)>
- D G06F 17/5054 . . . {for user-programmable logic devices, e.g. field programmable gate arrays [FPGA]}  
<administratively transferred to [G06F 30/34](#)>
- D G06F 17/5059 . . . {Delay-insensitive circuit design, e.g. asynchronous, self-timed}  
<administratively transferred to [G06F 30/35](#)>
- D G06F 17/5063 . . . {Analog circuit design, e.g. amplifiers}  
<administratively transferred to [G06F 30/36](#)>
- D G06F 17/5068 . . {Physical circuit design, e.g. layout for integrated circuits or printed circuit boards}  
<administratively transferred to [G06F 30/39](#)>
- D G06F 17/5072 . . . {Floorplanning, e.g. partitioning, placement}  
<administratively transferred to [G06F 30/392](#)>
- D G06F 17/5077 . . . {Routing}  
<administratively transferred to [G06F 30/394](#)>
- D G06F 17/5081 . . . {Layout analysis, e.g. layout verification, design rule check}  
<administratively transferred to [G06F 30/398](#)>
- D G06F 17/5086 . . {Mechanical design, e.g. parametric or variational design}  
<administratively transferred to [G06F 30/17](#)>
- D G06F 17/509 . . {Network design, e.g. positioning, routing, graphs (circuit design G06F 17/5068)}  
<administratively transferred to [G06F 30/18](#)>
- D G06F 17/5095 . . {Vehicle design, e.g. aircraft or automotive design}  
<administratively transferred to [G06F 30/15](#)>

**Q G06F 30/00****Computer-aided design [CAD]**NOTE

*In this group, it is desirable to add the indexing codes of groups [G06F 2111/00](#) - [G06F 2119/00](#).*

WARNING

*Group [G06F 30/00](#) is impacted by reclassification into groups [G06F 30/10](#), [G06F 30/12](#), [G06F 2111/00](#) - [G06F 2119/22](#).  
Groups [G06F 30/00](#), [G06F 30/10](#), [G06F 30/12](#), and [G06F 2111/00](#) - [G06F 2119/22](#) should be considered in order to perform a complete search.*



- N G06F 30/10
- Geometric CAD
- WARNING  
Group [G06F 30/10](#) is incomplete pending reclassification of documents from group [G06F 30/00](#).  
Groups [G06F 30/00](#) and [G06F 30/10](#) should be considered in order to perform a complete search.
- N G06F 30/12
- characterised by design entry means specially adapted for CAD, e.g. graphical user interfaces [GUI] specially adapted for CAD
- WARNING  
Group [G06F 30/12](#) is incomplete pending reclassification of documents from groups [G06F 30/00](#), [G06F 30/17](#), and [G06F 30/18](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N G06F 30/13
- Architectural design, e.g. computer-aided architectural design [CAAD] related to design of buildings, bridges, landscapes, production plants or roads
- N G06F 30/15
- Vehicle, aircraft or watercraft design
- Q G06F 30/17
- Mechanical parametric or variational design
- WARNING  
Group [G06F 30/17](#) is impacted by reclassification into groups [G06F 30/12](#) and [G06F 2111/00 - G06F 2119/22](#).  
Groups [G06F 30/17](#), [G06F 30/12](#) and [G06F 2111/00 - G06F 2119/22](#) should be considered in order to perform a complete search.
- Q G06F 30/18
- Network design, e.g. design based on topological or interconnect aspects of utility systems, piping, heating ventilation air conditioning [HVAC] or cabling (circuit design at the physical level [G06F 30/39](#); network planning tools for wireless communication networks [H04W 16/18](#))
- WARNING  
Group [G06F 30/18](#) is impacted by reclassification into groups [G06F 30/12](#) and [G06F 2111/00 - G06F 2119/22](#).  
Groups [G06F 30/18](#), [G06F 30/12](#) and [G06F 2111/00 - G06F 2119/22](#) should be considered in order to perform a complete search.
- Q G06F 30/20
- Design optimisation, verification or simulation (optimisation, verification or simulation of circuit designs [G06F 30/30](#))
- WARNING  
Group [G06F 30/20](#) is impacted by reclassification into groups [G06F 30/25](#), [G06F 30/27](#), [G06F 30/28](#) and [G06F 2111/00 - G06F 2119/22](#).  
Groups [G06F 30/20](#), [G06F 30/25](#), [G06F 30/27](#), [G06F 30/28](#) and [G06F 2111/00 - G06F 2119/22](#) should be considered in order to perform a complete search.
- N G06F 30/22
- using Petri net models
- Q G06F 30/23
- using finite element methods [FEM] or finite difference methods [FDM]
- WARNING  
Group [G06F 30/23](#) is impacted by reclassification into groups [G06F 30/25](#), [G06F 30/367](#), [G06F 30/398](#) and [G06F 2111/00 - G06F 2119/22](#).  
Groups [G06F 30/23](#), [G06F 30/25](#), [G06F 30/367](#), [G06F 30/398](#) and [G06F 2111/00 - G06F 2119/22](#) should be considered in order to perform a complete search.

- N G06F 30/25
- using particle-based methods
- WARNING  
Group [G06F 30/25](#) is incomplete pending reclassification of documents from groups [G06F 30/20](#) and [G06F 30/23](#).  
Groups [G06F 30/20](#), [G06F 30/23](#), and [G06F 30/25](#) should be considered in order to perform a complete search.
- N G06F 30/27
- using machine learning, e.g. artificial intelligence, neural networks, support vector machines [SVM] or training a model
- WARNING  
Group [G06F 30/27](#) is incomplete pending reclassification of documents from group [G06F 30/20](#).  
Groups [G06F 30/20](#) and [G06F 30/27](#) should be considered in order to perform a complete search.
- N G06F 30/28
- using fluid dynamics, e.g. using Navier-Stokes equations or computational fluid dynamics [CFD]
- WARNING  
Group [G06F 30/28](#) is incomplete pending reclassification of documents from group [G06F 30/20](#).  
Groups [G06F 30/20](#) and [G06F 30/28](#) should be considered
- Q G06F 30/30
- Circuit design
- WARNING  
Group [G06F 30/30](#) is impacted by reclassification into groups [G06F 30/31](#), [G06F 30/32](#), [G06F 30/323](#), [G06F 30/333](#), [G06F 30/337](#), [G06F 30/34](#), [G06F 30/343](#), [G06F 30/347](#), [G06F 30/38](#) and [G06F 2111/00 - G06F 2119/22](#).  
Groups [G06F 30/30](#), [G06F 30/31](#), [G06F 30/32](#), [G06F 30/323](#), [G06F 30/333](#), [G06F 30/337](#), [G06F 30/34](#), [G06F 30/343](#), [G06F 30/347](#), [G06F 30/38](#) and [G06F 2111/00 - G06F 2119/22](#) should be considered in order to perform a complete search.
- N G06F 30/31
- Design entry, e.g. editors specifically adapted for circuit design
- WARNING  
Group [G06F 30/31](#) is incomplete pending reclassification of documents from groups [G06F 30/30](#), [G06F 30/34](#), and [G06F 30/36](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N G06F 30/32
- Circuit design at the digital level (reconfigurable circuits [G06F 30/34](#))
- WARNING  
Group [G06F 30/32](#) is incomplete pending reclassification of documents from group [G06F 30/30](#).  
Groups [G06F 30/30](#) and [G06F 30/32](#) should be considered in order to perform a complete search.
- N G06F 30/323
- Translation or migration, e.g. logic to logic, hardware description language [HDL] translation or netlist translation
- WARNING  
Group [G06F 30/323](#) is incomplete pending reclassification of documents from groups [G06F 30/30](#) and [G06F 30/327](#).  
Groups [G06F 30/30](#), [G06F 30/327](#), and [G06F 30/323](#) should be considered in order to perform a complete search.

- Q G06F 30/327
- • • Logic synthesis; Behaviour synthesis, e.g. mapping logic, HDL to netlist, high-level language to RTL or netlist
- WARNING  
Group [G06F 30/327](#) is impacted by reclassification into groups [G06F 30/323](#) and [G06F 2111/00 - G06F 2119/22](#).  
Groups [G06F 30/327](#), [G06F 30/323](#) and [G06F 2111/00 - G06F 2119/22](#) should be considered in order to perform a complete search.
- Q G06F 30/33
- • • Design verification, e.g. functional simulation or model checking
- WARNING  
Group [G06F 30/33](#) is impacted by reclassification into groups [G06F 30/3308](#), [G06F 30/3315](#) and [G06F 2111/00 - G06F 2119/22](#).  
Groups [G06F 30/33](#), [G06F 30/3308](#), [G06F 30/3315](#) and [G06F 2111/00 - G06F 2119/22](#) should be considered in order to perform a complete search.
- N G06F 30/3308
- • • • using simulation
- WARNING  
Group [G06F 30/3308](#) is incomplete pending reclassification of documents from group [G06F 30/33](#).  
Groups [G06F 30/33](#) and [G06F 30/3308](#) should be considered in order to perform a complete search.
- N G06F 30/331
- • • • • with hardware acceleration, e.g. by using field programmable gate array [FPGA] or emulation
- Q G06F 30/3312
- • • • • Timing analysis
- WARNING  
Group [G06F 30/3312](#) is impacted by reclassification into groups [G06F 30/3315](#) and [G06F 2111/00 - G06F 2119/22](#).  
Groups [G06F 30/3312](#), [G06F 30/3315](#) and [G06F 2111/00 - G06F 2119/22](#) should be considered in order to perform a complete search.
- N G06F 30/3315
- • • • • using static timing analysis [STA]
- WARNING  
Group [G06F 30/3315](#) is incomplete pending reclassification of documents from groups [G06F 30/33](#) and [G06F 30/3312](#).  
Groups [G06F 30/33](#), [G06F 30/3312](#), and [G06F 30/3315](#) should be considered in order to perform a complete search.
- N G06F 30/3323
- • • • • using formal methods, e.g. equivalence checking or property checking
- N G06F 30/333
- • • Design for testability [DFT], e.g. scan chain or built-in self-test [BIST]
- WARNING  
Group [G06F 30/333](#) is incomplete pending reclassification of documents from group [G06F 30/30](#).  
Groups [G06F 30/30](#) and [G06F 30/333](#) should be considered in order to perform a complete search.
- N G06F 30/337
- • • Design optimisation
- WARNING  
Group [G06F 30/337](#) is incomplete pending reclassification of documents from group [G06F 30/30](#).  
Groups [G06F 30/30](#) and [G06F 30/337](#) should be considered in order to perform a complete search.

- Q G06F 30/34
- • for reconfigurable circuits, e.g. field programmable gate arrays [FPGA] or programmable logic devices [PLD]
- WARNING  
 Group [G06F 30/34](#) is incomplete pending reclassification of documents from group [G06F 30/30](#).  
 Group [G06F 30/34](#) is impacted by reclassification into groups [G06F 30/31](#), [G06F 30/343](#), [G06F 30/347](#) and [G06F 2111/00 - G06F 2119/22](#).  
 Groups [G06F 30/34](#), [G06F 30/31](#), [G06F 30/343](#), [G06F 30/347](#) and [G06F 2111/00 - G06F 2119/22](#) should be considered in order to perform a complete search.
- N G06F 30/343
- • • Logical level
- WARNING  
 Group [G06F 30/343](#) is incomplete pending reclassification of documents from groups [G06F 30/30](#) and [G06F 30/34](#).  
 Groups [G06F 30/30](#), [G06F 30/34](#), and [G06F 30/343](#) should be considered in order to perform a complete search.
- N G06F 30/347
- • • Physical level, e.g. placement or routing
- WARNING  
 Group [G06F 30/347](#) is incomplete pending reclassification of documents from groups [G06F 30/30](#), [G06F 30/34](#), and [G06F 30/39](#).  
 Groups [G06F 30/347](#), [G06F 30/30](#), [G06F 30/34](#) and [G06F 30/39](#) should be considered in order to perform a complete search.
- N G06F 30/35
- • Delay-insensitive circuit design, e.g. asynchronous or self-timed
- Q G06F 30/36
- • Circuit design at the analogue level
- WARNING  
 Group [G06F 30/36](#) is impacted by reclassification into groups [G06F 30/31](#), [G06F 30/373](#), [G06F 30/38](#) and [G06F 2111/00 - G06F 2119/22](#).  
 Groups [G06F 30/36](#), [G06F 30/31](#), [G06F 30/373](#), [G06F 30/38](#) and [G06F 2111/00 - G06F 2119/22](#) should be considered in order to perform a complete search.
- N G06F 30/367
- • • Design verification, e.g. using simulation, simulation program with integrated circuit emphasis [SPICE], direct methods or relaxation methods
- WARNING  
 Group [G06F 30/367](#) is incomplete pending reclassification of documents from group [G06F 30/23](#).  
 Groups [G06F 30/23](#) and [G06F 30/367](#) should be considered in order to perform a complete search.
- N G06F 30/373
- • • Design optimisation
- WARNING  
 Group [G06F 30/373](#) is incomplete pending reclassification of documents from group [G06F 30/36](#).  
 Groups [G06F 30/36](#) and [G06F 30/373](#) should be considered in order to perform a complete search.
- N G06F 30/38
- • Circuit design at the mixed level of analogue and digital signals
- WARNING  
 Group [G06F 30/38](#) is incomplete pending reclassification of documents from groups [G06F 30/30](#) and [G06F 30/36](#).

Groups [G06F 30/30](#), [G06F 30/36](#), and [G06F 30/38](#) should be considered in order to perform a complete search.

Q G06F 30/39

- • Circuit design at the physical level (physical level design for reconfigurable circuits [G06F 30/347](#))

WARNING

Group [G06F 30/39](#) is impacted by reclassification into groups [G06F 30/347](#), [G06F 30/396](#), [G06F 30/398](#) and [G06F 2111/00 - G06F 2119/22](#).

Groups [G06F 30/39](#), [G06F 30/347](#), [G06F 30/396](#), [G06F 30/398](#) and [G06F 2111/00 - G06F 2119/22](#) should be considered in order to perform a complete search.

Q G06F 30/392

- • • Floor-planning or layout, e.g. partitioning or placement

WARNING

Group [G06F 30/392](#) is impacted by reclassification into groups [G06F 30/396](#) and [G06F 2111/00 - G06F 2119/22](#).

Groups [G06F 30/392](#), [G06F 30/396](#) and [G06F 2111/00 - G06F 2119/22](#) should be considered in order to perform a complete search.

Q G06F 30/394

- • • Routing ([G06F 30/396](#) takes precedence)

WARNING

Group [G06F 30/394](#) is impacted by reclassification into groups [G06F 30/3947](#), [G06F 30/3953](#), [G06F 30/396](#) and [G06F 2111/00 - G06F 2119/22](#).

Groups [G06F 30/394](#), [G06F 30/3947](#), [G06F 30/3953](#), [G06F 30/396](#) and [G06F 2111/00 - G06F 2119/22](#) should be considered in order to perform a complete search.

N G06F 30/3947

- • • • global

WARNING

Group [G06F 30/3947](#) is incomplete pending reclassification of documents from group [G06F 30/394](#).

Groups [G06F 30/394](#) and [G06F 30/3947](#) should be considered in order to perform a complete search.

N G06F 30/3953

- • • • detailed

WARNING

Group [G06F 30/3953](#) is incomplete pending reclassification of documents from group [G06F 30/394](#).

Groups [G06F 30/394](#) and [G06F 30/3953](#) should be considered in order to perform a complete search.

Q G06F 30/396

- • • Clock trees

WARNING

Group [G06F 30/396](#) is incomplete pending reclassification of documents from groups [G06F 30/39](#), [G06F 30/392](#), and [G06F 30/394](#).

Group [G06F 30/396](#) is also impacted by reclassification into group [G06F 2117/04](#).

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

- N G06F 30/398
- • • Design verification or optimisation, e.g. using design rule check [DRC], layout versus schematics [LVS] or finite element methods [FEM] (optical proximity correction [OPC] design processes [G03F 1/36](#))
- WARNING  
 Group [G06F 30/398](#) is incomplete pending reclassification of documents from groups [G06F 30/23](#) and [G06F 30/39](#).  
 Groups [G06F 30/23](#), [G06F 30/39](#) and [G06F 30/398](#) should be considered in order to perform a complete search.

**Project: RP0650 (G06F)**

- N G06F 40/00 **Handling natural language data (speech analysis or synthesis, speech recognition [G10L](#))**
- N G06F 40/10
- Text processing (natural language analysis [G06F 40/20](#); semantic analysis [G06F 40/30](#); processing or translation of natural language [G06F 40/40](#))
- N G06F 40/103
- • Formatting, i.e. changing of presentation of documents (automatic justification [G06F 40/189](#); automatic line break hyphenation [G06F 40/191](#))
- N G06F 40/106
- • • Display of layout of documents; Previewing
- N G06F 40/109
- • • Font handling; Temporal or kinetic typography
- N G06F 40/111
- • • Mathematical or scientific formatting; Subscripts; Superscripts
- N G06F 40/114
- • • Pagination
- N G06F 40/117
- • • Tagging; Marking up (details of markup languages [G06F 40/143](#)); Designating a block; Setting of attributes (style sheets, e.g. eXtensible Stylesheet Language Transformation [XSLT], [G06F 40/154](#))
- N G06F 40/12
- • Use of codes for handling textual entities
- N G06F 40/123
- • • Storage facilities
- N G06F 40/126
- • • Character encoding
- N G06F 40/129
- • • • Handling non-Latin characters, e.g. kana-to-kanji conversion
- N G06F 40/131
- • • Fragmentation of text files, e.g. creating reusable text-blocks; Linking to fragments, e.g. using XInclude; Namespaces
- N G06F 40/134
- • • Hyperlinking
- N G06F 40/137
- • • Hierarchical processing, e.g. outlines
- Q G06F 40/14
- • • Tree-structured documents (parsing [G06F 40/205](#); validation [G06F 40/226](#))
- WARNING  
 Group [G06F 40/14](#) is impacted by reclassification into group [G06F 40/143](#). Groups [G06F 40/14](#) and [G06F 40/143](#) should be considered in order to perform a complete search.
- N G06F 40/143
- • • • Markup, e.g. Standard Generalized Markup Language [SGML] or Document Type Definition [DTD]
- WARNING  
 Group [G06F 40/143](#) is incomplete pending reclassification of documents from group [G06F 40/14](#). Groups [G06F 40/14](#) and [G06F 40/143](#) should be considered in order to perform a complete search.
- N G06F 40/146
- • • • Coding or compression of tree-structured data
- N G06F 40/149
- • • Adaptation of the text data for streaming purposes, e.g. Efficient XML Interchange [EXI] format
- N G06F 40/151
- • • Transformation



- N G06F 40/154 . . . . Tree transformation for tree-structured or markup documents, e.g. XSLT, XSL-FO or stylesheets
- N G06F 40/157 . . . . using dictionaries or tables
- N G06F 40/16 . . . . Automatic learning of transformation rules, e.g. from examples
- N G06F 40/163 . . . . Handling of whitespace
- N G06F 40/166 . . . . Editing, e.g. inserting or deleting
- N G06F 40/169 . . . . Annotation, e.g. comment data or footnotes
- N G06F 40/171 . . . . by use of digital ink
- N G06F 40/174 . . . . Form filling; Merging
- N G06F 40/177 . . . . of tables; using ruled lines
- N G06F 40/18 . . . . of spreadsheets (form-filling [G06F 40/174](#))
- N G06F 40/183 . . . . Tabulation, i.e. one-dimensional positioning
- N G06F 40/186 . . . . Templates
- N G06F 40/189 . . . . Automatic justification
- N G06F 40/191 . . . . Automatic line break hyphenation
- N G06F 40/194 . . . . Calculation of difference between files
- N G06F 40/197 . . . . Version control (for software [G06F 8/71](#))
- Q G06F 40/20 . . . . Natural language analysis (semantic analysis of natural language [G06F 40/30](#))

WARNING

Group [G06F 40/20](#) is impacted by reclassification into group [G06F 40/237](#). Groups [G06F 40/20](#) and [G06F 40/237](#) should be considered in order to perform a complete search.

- N G06F 40/205 . . . . Parsing
- N G06F 40/211 . . . . Syntactic parsing, e.g. based on context-free grammar [CFG] or unification grammars
- N G06F 40/216 . . . . using statistical methods
- N G06F 40/221 . . . . Parsing markup language streams (streaming [G06F 40/149](#))
- N G06F 40/226 . . . . Validation
- N G06F 40/232 . . . . Orthographic correction, e.g. spell checking or vowelisation
- N G06F 40/237 . . . . Lexical tools

WARNING

Group [G06F 40/237](#) is incomplete pending reclassification of documents from group [G06F 40/20](#). Groups [G06F 40/20](#) and [G06F 40/237](#) should be considered in order to perform a complete search.

- N G06F 40/242 . . . . Dictionaries
- N G06F 40/247 . . . . Thesauruses; Synonyms
- N G06F 40/253 . . . . Grammatical analysis; Style critique
- N G06F 40/258 . . . . Heading extraction; Automatic titling; Numbering
- N G06F 40/263 . . . . Language identification
- N G06F 40/268 . . . . Morphological analysis
- N G06F 40/274 . . . . Converting codes to words; Guess-ahead of partial word inputs
- N G06F 40/279 . . . . Recognition of textual entities
- N G06F 40/284 . . . . Lexical analysis, e.g. tokenisation or collocates
- N G06F 40/289 . . . . Phrasal analysis, e.g. finite state techniques or chunking

- N G06F 40/295      • • • Named entity recognition
- N G06F 40/30      • Semantic analysis
- N G06F 40/35      • Discourse or dialogue representation
- N G06F 40/40      • Processing or translation of natural language (natural language analysis [G06F 40/20](#); semantic analysis [G06F 40/30](#))
- N G06F 40/42      • Data-driven translation
- N G06F 40/44      • • Statistical methods, e.g. probability models
- N G06F 40/45      • • Example-based machine translation; Alignment
- N G06F 40/47      • • Machine-assisted translation, e.g. using translation memory
- N G06F 40/49      • • using very large corpora, e.g. the web
- N G06F 40/51      • Translation evaluation
- N G06F 40/53      • Processing of non-Latin text (kana-to-kanji conversion [G06F 40/129](#); vowelisation [G06F 40/232](#))
- N G06F 40/55      • Rule-based translation
- N G06F 40/56      • • Natural language generation
- N G06F 40/58      • Use of machine translation, e.g. for multi-lingual retrieval, for server-side translation for client devices or for real-time translation

**Project: RP0648 (G06F)**

**N G06F 2111/00 - G06F 2111/00**      **Indexing scheme associated with group [G06F 30/00](#), relating to CAD techniques**

**N G06F 2111/00**      **Details relating to CAD techniques**

**WARNING**

Groups [G06F 2111/00](#) - [G06F 2111/20](#) are incomplete pending reclassification of documents from groups [G06F 30/00](#), [G06F 30/17](#), [G06F 30/18](#), [G06F 30/20](#), [G06F 30/23](#), [G06F 30/30](#), [G06F 30/327](#), [G06F 30/33](#), [G06F 30/3312](#), [G06F 30/34](#), [G06F 30/36](#), [G06F 30/39](#), [G06F 30/392](#), and [G06F 30/394](#). All groups listed in this Warning should be considered in order to perform a complete search.

- N G06F 2111/02      • CAD in a network environment, e.g. collaborative CAD or distributed simulation
- N G06F 2111/04      • Constraint-based CAD
- N G06F 2111/06      • Multi-objective optimisation, e.g. Pareto optimisation using simulated annealing [SA], ant colony algorithms or genetic algorithms [GA]
- N G06F 2111/08      • Probabilistic or stochastic CAD
- N G06F 2111/10      • Numerical modelling
- N G06F 2111/12      • Symbolic schematics
- N G06F 2111/14      • related to nanotechnology
- N G06F 2111/16      • Customisation or personalisation
- N G06F 2111/18      • using virtual or augmented reality
- N G06F 2111/20      • Configuration CAD, e.g. designing by assembling or positioning modules selected from libraries of predesigned modules

**N G06F 2113/00 - G06F 2113/00**      **Indexing scheme associated with group [G06F 30/00](#), relating to the application field**

**N G06F 2113/00**      **Details relating to the application field**

**WARNING**

Groups [G06F 2113/00](#) - [G06F 2113/28](#) are incomplete pending reclassification of documents from groups [G06F 30/00](#), [G06F 30/17](#), [G06F 30/18](#), [G06F 30/20](#),

[G06F 30/23](#), [G06F 30/30](#), [G06F 30/327](#), [G06F 30/33](#), [G06F 30/3312](#), [G06F 30/34](#), [G06F 30/36](#), [G06F 30/39](#), [G06F 30/392](#), and [G06F 30/394](#).

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

- N G06F 2113/02      • Data centres
- N G06F 2113/04      • Power grid distribution networks
- N G06F 2113/06      • Wind turbines or wind farms
- N G06F 2113/08      • Fluids
- N G06F 2113/10      • Additive manufacturing, e.g. 3D printing
- N G06F 2113/12      • Cloth
- N G06F 2113/14      • Pipes
- N G06F 2113/16      • Cables, cable trees or wire harnesses
- N G06F 2113/18      • Chip packaging
- N G06F 2113/20      • Packaging, e.g. boxes or containers
- N G06F 2113/22      • Moulding
- N G06F 2113/24      • Sheet material
- N G06F 2113/26      • Composites
- N G06F 2113/28      • Fuselage, exterior or interior

**N G06F 2115/00 - G06F 2115/00**      **Indexing scheme associated with group [G06F 30/00](#), relating to the type of the circuit**

**N G06F 2115/00**      **Details relating to the type of the circuit**

WARNING

Groups [G06F 2115/00](#) - [G06F 2115/12](#) are incomplete pending reclassification of documents from groups [G06F 30/00](#), [G06F 30/17](#), [G06F 30/18](#), [G06F 30/20](#), [G06F 30/23](#), [G06F 30/30](#), [G06F 30/327](#), [G06F 30/33](#), [G06F 30/3312](#), [G06F 30/34](#), [G06F 30/36](#), [G06F 30/39](#), [G06F 30/392](#), and [G06F 30/394](#).

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

- N G06F 2115/02      • System on chip [SoC] design
- N G06F 2115/04      • Micro electro-mechanical systems [MEMS]
- N G06F 2115/06      • Structured ASICs
- N G06F 2115/08      • Intellectual property [IP] blocks or IP cores
- N G06F 2115/10      • Processors
- N G06F 2115/12      • Printed circuit boards [PCB] or multi-chip modules [MCM]

**N G06F 2117/00 - G06F 2117/00**      **Indexing scheme associated with group [G06F 30/00](#), relating to the type or aim of the circuit design**

**N G06F 2117/00**      **Details relating to the type or aim of the circuit design**

WARNING

Groups [G06F 2117/00](#) - [G06F 2117/12](#) are incomplete pending reclassification of documents from groups [G06F 30/00](#), [G06F 30/17](#), [G06F 30/18](#), [G06F 30/20](#), [G06F 30/23](#), [G06F 30/30](#), [G06F 30/327](#), [G06F 30/33](#), [G06F 30/3312](#), [G06F 30/34](#), [G06F 30/36](#), [G06F 30/39](#), [G06F 30/392](#), and [G06F 30/394](#).

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

- N G06F 2117/02      • Fault tolerance, e.g. for transient fault suppression

N	G06F 2117/04	<ul style="list-style-type: none"> <li>• Clock gating</li> </ul> <p><u>WARNING</u></p> <p>Group <a href="#">G06F 2117/04</a> is incomplete pending reclassification of documents from groups <a href="#">G06F 30/00</a>, <a href="#">G06F 30/17</a>, <a href="#">G06F 30/18</a>, <a href="#">G06F 30/20</a>, <a href="#">G06F 30/23</a>, <a href="#">G06F 30/30</a>, <a href="#">G06F 30/327</a>, <a href="#">G06F 30/33</a>, <a href="#">G06F 30/3312</a>, <a href="#">G06F 30/34</a>, <a href="#">G06F 30/36</a>, <a href="#">G06F 30/39</a>, <a href="#">G06F 30/392</a>, <a href="#">G06F 30/394</a>, and <a href="#">G06F 30/396</a>. All groups listed in this Warning should be considered in order to perform a complete search.</p>
N	G06F 2117/06	<ul style="list-style-type: none"> <li>• Spare resources, e.g. for permanent fault suppression</li> </ul>
N	G06F 2117/08	<ul style="list-style-type: none"> <li>• HW-SW co-design, e.g. HW-SW partitioning</li> </ul>
N	G06F 2117/10	<ul style="list-style-type: none"> <li>• Buffer insertion</li> </ul>
N	G06F 2117/12	<ul style="list-style-type: none"> <li>• Sizing, e.g. of transistors or gates</li> </ul>
N	<b>G06F 2119/00 - G06F 2119/00</b>	<b><u>Indexing scheme associated with group <a href="#">G06F 30/00</a>, relating to the purpose – mostly applicable to circuits – but also relevant for general CAD</u></b>
N	<b>G06F 2119/00</b>	<p><b><u>Details relating to the type or aim of the analysis or the optimisation</u></b></p> <p><u>WARNING</u></p> <p>Groups <a href="#">G06F 2119/00</a> - <a href="#">G06F 2119/22</a> are incomplete pending reclassification of documents from groups <a href="#">G06F 30/00</a>, <a href="#">G06F 30/17</a>, <a href="#">G06F 30/18</a>, <a href="#">G06F 30/20</a>, <a href="#">G06F 30/23</a>, <a href="#">G06F 30/30</a>, <a href="#">G06F 30/327</a>, <a href="#">G06F 30/33</a>, <a href="#">G06F 30/3312</a>, <a href="#">G06F 30/34</a>, <a href="#">G06F 30/36</a>, <a href="#">G06F 30/39</a>, <a href="#">G06F 30/392</a>, and <a href="#">G06F 30/394</a>. All groups listed in this Warning should be considered in order to perform a complete search.</p>
N	G06F 2119/02	<ul style="list-style-type: none"> <li>• Reliability analysis or reliability optimisation; Failure analysis, e.g. worst case scenario performance, failure mode and effects analysis [FMEA]</li> </ul>
N	G06F 2119/04	<ul style="list-style-type: none"> <li>• Ageing analysis or optimisation against ageing</li> </ul>
N	G06F 2119/06	<ul style="list-style-type: none"> <li>• Power analysis or power optimisation</li> </ul>
N	G06F 2119/08	<ul style="list-style-type: none"> <li>• Thermal analysis or thermal optimisation</li> </ul>
N	G06F 2119/10	<ul style="list-style-type: none"> <li>• Noise analysis or noise optimisation</li> </ul>
N	G06F 2119/12	<ul style="list-style-type: none"> <li>• Timing analysis or timing optimisation</li> </ul>
N	G06F 2119/14	<ul style="list-style-type: none"> <li>• Force analysis or force optimisation, e.g. static or dynamic forces</li> </ul>
N	G06F 2119/16	<ul style="list-style-type: none"> <li>• Equivalence checking</li> </ul>
N	G06F 2119/18	<ul style="list-style-type: none"> <li>• Manufacturability analysis or optimisation for manufacturability</li> </ul>
N	G06F 2119/20	<ul style="list-style-type: none"> <li>• Design reuse, reusability analysis or reusability optimisation</li> </ul>
N	G06F 2119/22	<ul style="list-style-type: none"> <li>• Yield analysis or yield optimisation</li> </ul>
D	<b>G06F 2217/00</b>	<b><u>Indexing scheme relating to computer aided design [CAD]</u></b>
		<b>&lt;administratively transferred to <a href="#">G06F 2111/00</a> ADD&gt;</b>
D	G06F 2217/02	<ul style="list-style-type: none"> <li>• Component-based CAD</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2111/20</a> ADD&gt;</p>
D	G06F 2217/04	<ul style="list-style-type: none"> <li>• CAD in a network environment</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2111/02</a> ADD&gt;</p>
D	G06F 2217/06	<ul style="list-style-type: none"> <li>• Constraint-based CAD</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2111/04</a> ADD&gt;</p>
D	G06F 2217/08	<ul style="list-style-type: none"> <li>• Multi-objective optimization</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2111/06</a> ADD&gt;</p>

D	G06F 2217/10	<ul style="list-style-type: none"> <li>• Probabilistic or stochastic CAD</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2111/08</a> ADD&gt;</p>
D	G06F 2217/12	<ul style="list-style-type: none"> <li>• Design for manufacturability</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2119/18</a> ADD&gt;</p>
D	G06F 2217/14	<ul style="list-style-type: none"> <li>• Design for testability</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 30/333</a> INV&gt;</p>
D	G06F 2217/16	<ul style="list-style-type: none"> <li>• Numerical modeling</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2111/10</a> ADD&gt;</p>
D	G06F 2217/32	<ul style="list-style-type: none"> <li>• Cloth</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2113/12</a> ADD&gt;</p>
D	G06F 2217/34	<ul style="list-style-type: none"> <li>• Pipes</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2113/14</a> ADD&gt;</p>
D	G06F 2217/36	<ul style="list-style-type: none"> <li>• Cables, cable trees, wire harnesses</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2113/16</a> ADD&gt;</p>
D	G06F 2217/38	<ul style="list-style-type: none"> <li>• Packaging</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2113/20</a> ADD&gt;</p>
D	G06F 2217/40	<ul style="list-style-type: none"> <li>• Chip packaging</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2113/18</a> ADD&gt;</p>
D	G06F 2217/41	<ul style="list-style-type: none"> <li>• Molding</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2113/22</a> ADD&gt;</p>
D	G06F 2217/42	<ul style="list-style-type: none"> <li>• Sheet material</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2113/24</a> ADD&gt;</p>
D	G06F 2217/44	<ul style="list-style-type: none"> <li>• Composites</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2113/26</a> ADD&gt;</p>
D	G06F 2217/46	<ul style="list-style-type: none"> <li>• Fuselage</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2113/28</a> ADD&gt;</p>
D	G06F 2217/62	<ul style="list-style-type: none"> <li>• Clock network</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 30/396</a> INV&gt;</p>
D	G06F 2217/64	<ul style="list-style-type: none"> <li>• Structured ASICs</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2115/06</a> ADD&gt;</p>
D	G06F 2217/66	<ul style="list-style-type: none"> <li>• IP blocks</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2115/08</a> ADD&gt;</p>
D	G06F 2217/68	<ul style="list-style-type: none"> <li>• Processors</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2115/10</a> ADD&gt;</p>
D	G06F 2217/70	<ul style="list-style-type: none"> <li>• Fault tolerant, i.e. transient fault suppression</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2117/02</a> ADD&gt;</p>
D	G06F 2217/72	<ul style="list-style-type: none"> <li>• Spare resources, i.e. permanent fault suppression</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2117/06</a> ADD&gt;</p>
D	G06F 2217/74	<ul style="list-style-type: none"> <li>• Symbolic schematics</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2111/12</a> ADD&gt;</p>
D	G06F 2217/76	<ul style="list-style-type: none"> <li>• Ageing analysis and optimization</li> </ul> <p>&lt;administratively transferred to <a href="#">G06F 2119/04</a> ADD&gt;</p>

- D G06F 2217/78 • Power analysis and optimization  
<administratively transferred to [G06F 2119/06](#) ADD>
- D G06F 2217/80 • Thermal analysis and optimization  
<administratively transferred to [G06F 2119/08](#) ADD>
- D G06F 2217/82 • Noise analysis and optimization  
<administratively transferred to [G06F 2119/10](#) ADD>
- D G06F 2217/84 • Timing analysis and optimization  
<administratively transferred to [G06F 2119/12](#) ADD>
- D G06F 2217/86 • Hardware-Software co-design  
<administratively transferred to [G06F 2117/08](#) ADD>

**Project: RP0643 (G06K)**

- U G06K 19/00 **Record carriers for use with machines and with at least a part designed to carry digital markings (record carriers adapted for controlling specific machines, see the appropriate subclass for the machine, e.g. [B23Q](#), [D03C](#), [G10F](#), [H04L](#); form printing [B41](#); file cards [B42F 19/00](#); record carriers in general [G11](#))**
- U G06K 19/06 • characterised by the kind of the digital marking, e.g. shape, nature, code
- U G06K 19/067 • • Record carriers with conductive marks, printed circuits or semiconductor circuit elements, e.g. credit or identity cards {also with resonating or responding marks without active components}
- U G06K 19/07 • • • with integrated circuit chips
- U G06K 19/073 • • • • Special arrangements for circuits, e.g. for protecting identification code in memory (protection against unauthorised use of computer memories [G06F 12/14](#))
- U G06K 19/07309 • • • • • {Means for preventing undesired reading or writing from or onto record carriers}
- U G06K 19/07345 • • • • • • {by activating or deactivating at least a part of the circuit on the record carrier, e.g. ON/OFF switches}
- G06K 19/07354 • • • • • • • {by biometrically sensitive means, e.g. fingerprint sensitive (fingerprint sensors in general [G06K 9/00006](#); biometrically activated access control [G07C 9/00071](#) [G07C 9/25](#))}

**Project: RP0643 (G07B)**

- U G07B 15/00 **Arrangements or apparatus for collecting fares, tolls or entrance fees at one or more control points (handling coins or valuable papers, e.g. banknotes, [G07D](#); apparatus for vending or hiring articles or services activated by coins, credit cards, paper currency or the like [G07F 7/00](#), [G07F 17/00](#))**

NOTES

1. Data processing aspects of payment systems or protocols relating to toll, entrance fee or fare collection, e.g. in road pricing or congestion charging, are also classified in [G06Q 20/00](#).
2. { This group covers also:
  - car rental systems;
  - systems for reserving and using access tickets, e.g. check-in systems
 }



- U G07B 15/02
- taking into account a variable factor such as distance or time, e.g. for passenger transport, parking systems or car rental systems ([G07B 15/06](#) takes precedence; taximeters [G07B 13/00](#); parking meters per se [G07F 17/24](#); {car rental systems per se [G07B 15/00](#)})
- G07B 15/04
- • comprising devices to free a barrier, turnstile, or the like {(turnstiles with registering means ~~G07C 9/02~~[G07C 9/10](#); coin-freed aspects [G07F 17/00](#))}

## Project: RP0643 (G07C)

M G07C 9/00 Individual [registration on](#) entry or exit ~~registers~~

## NOTES

1. This group covers:
  - controlling and registering access of persons to restricted areas or devices
2. This group does not cover:
  - electric permutation locks using mechanical keys, covered by [E05B 49/00](#);
  - apparatus actuated by coded identity cards or credit cards, to free or actuate vending, hiring or money-dispensing, covered by [G07F 7/08](#);
  - access to facilities or services by means of coins or tokens, covered by [G07F 17/00](#);
  - arrangements actuated by coded cards for dispensing or receiving money and posting such transactions to existing accounts, e.g. automatic teller machines, covered by [G07F 19/00](#)
3. Attention is drawn to the following places, which may be of interest for search:
  - [G06K 7/00](#), [G06K 19/00](#) arrangements for sensing or reading record carriers
  - [H03K 17/00](#) electronic switching
  - [G06K 9/00](#) biometric sensors, recognising biometric patterns
  - [A61B 5/117](#) biometric identification used for diagnostic purposes
  - [G06F 1/00](#) access to data processing equipment

- D G07C 9/00007
- {Access-control involving the use of a pass (for electromagnetical or electronical keys and locks, see [E05B 49/00](#))}
- <administratively transferred to [G07C 9/20](#)>
- D G07C 9/00015
- • {the pass having a variable code, e.g. varied by the controlling system ([G07C 9/00103](#) takes precedence)}
- <administratively transferred to [G07C 9/21](#)>
- D G07C 9/00023
- • {the system having a variable access-code, e.g. varied as a function of time}
- <administratively transferred to [G07C 9/215](#)>
- D G07C 9/00031
- • {in combination with an identity-check of the pass-holder (recognizing patterns, e.g. fingerprints or signatures [G06K 9/00](#))}
- <administratively transferred to [G07C 9/22](#)>
- D G07C 9/00039
- • • {by means of a pass-word ([G07F 7/00](#) takes precedence)}
- <administratively transferred to [G07C 9/23](#)>
- D G07C 9/00047
- • • {by means of the handwritten signature of the pass-holder}
- <administratively transferred to [G07C 9/24](#)>
- D G07C 9/00055
- • • • {visually, e.g. by comparing in a viewer the written signature with a reference on the pass}
- <administratively transferred to [G07C 9/243](#)>
- D G07C 9/00063
- • • • {electronically, e.g. by comparing signal of hand-writing with a reference signal from the pass}
- <administratively transferred to [G07C 9/247](#)>

- D G07C 9/00071 . . . {by means of personal physical data, e.g. characteristic facial curves, hand geometry, voice spectrum, fingerprints (measuring or recording devices for testing the shape, pattern, size or movement of the body or parts thereof per se A61B 5/103)}  
<administratively transferred to [G07C 9/25](#)>
- D G07C 9/00079 . . . {visually}  
<administratively transferred to [G07C 9/253](#)>
- D G07C 9/00087 . . . {electronically}  
<administratively transferred to [G07C 9/257](#)>
- D G07C 2009/00095 . . . {comprising a biometric sensor on the pass}  
<administratively transferred to [G07C 9/26 INV](#)>
- D G07C 9/00103 . . {with central registration and control, e.g. for swimming pools or hotel rooms; generally in combination with a pass-dispensing system}  
<administratively transferred to [G07C 9/27](#)>
- D G07C 9/00111 . . {the pass performing a presence indicating function, e.g. identification tag or transponder (identification by using radar means G01S 13/02, G01S 13/74; detecting presence by using magnetic or electric fields produced or modified by objects in general G01V 3/08, G01V 3/165; means for indicating the location of accidentally buried persons A63B 29/02)}  
<administratively transferred to [G07C 9/28](#)>
- D G07C 9/00119 . . {the pass containing active electronic elements (active credit cards G07F 7/08; record carriers characterised by digital working G06K 19/06)}  
<administratively transferred to [G07C 9/29](#)>
- D G07C 9/00126 . {Access control not involving the use of a pass (permutation locks E05B 49/00; access to facilities or services by means of coins or tokens G07F 17/00)}  
<administratively transferred to [G07C 9/30](#)>
- D G07C 9/00134 . . {in combination with an identity-check}  
<administratively transferred to [G07C 9/32](#)>
- D G07C 9/00142 . . . {by means of a pass-word}  
<administratively transferred to [G07C 9/33](#)>
- D G07C 9/0015 . . . {by means of a handwritten signature}  
<administratively transferred to [G07C 9/35](#)>
- D G07C 9/00158 . . . {by means of a personal physical data}  
<administratively transferred to [G07C 9/37](#)>
- D G07C 9/00166 . . {with central registration and control}  
<administratively transferred to [G07C 9/38](#)>
- U G07C 9/00174 . {Electronically operated locks; Circuits therefor; Nonmechanical keys therefor, e.g. passive or active electrical keys or other data carriers without mechanical keys (mechanical locks with electric permutation [E05B 49/00](#); arrangements for sensing or reading record carriers [G06K 7/00](#), [G06K 9/00](#); electronic switching [H03K 17/00](#))}
- U G07C 2009/00968 . . {shape of the data carrier}
- U G07C 2009/00992 . . . {mechanical key}
- D G07C 9/02 . Turnstiles with registering means (turnstiles per se E04H; coin-freed aspects G07F)  
<administratively transferred to [G07C 9/10](#)>

- D G07C 9/025
- {with arrangements to prevent the passage of more than one person at a time, e.g. with fotocell-barrier}
  - <administratively transferred to [G07C 9/15](#)>
- N G07C 9/10
- Movable barriers with registering means
- N G07C 9/15
- {with arrangements to prevent the passage of more than one individual at a time}
- N G07C 9/20
- involving the use of a pass
- N G07C 9/21
- having a variable access code
- WARNING  
Group [G07C 9/21](#) is incomplete pending reclassification of documents from group [G07C 9/27](#).  
Groups [G07C 9/27](#) and [G07C 9/21](#) should be considered in order to perform a complete search.
- N G07C 9/215
- {the system having a variable access-code, e.g. varied as a function of time}
- N G07C 9/22
- in combination with an identity check of the pass holder
- N G07C 9/23
- by means of a password
- N G07C 9/24
- by means of a handwritten signature
- N G07C 9/243
- {visually, e.g. by comparing in a viewer the written signature with a reference on the pass}
- N G07C 9/247
- {electronically, e.g. by comparing signal of hand-writing with a reference signal from the pass}
- N G07C 9/25
- using biometric data, e.g. fingerprints, iris scans or voice recognition
- N G07C 9/253
- {visually}
- N G07C 9/257
- {electronically ([G07C 9/26](#) takes precedence)}
- N G07C 9/26
- using a biometric sensor integrated in the pass
- Q G07C 9/27
- with central registration
- WARNING  
Group [G07C 9/27](#) is impacted by reclassification into group [G07C 9/21](#).  
Groups [G07C 9/27](#) and [G07C 9/21](#) should be considered in order to perform a complete search.
- N G07C 9/28
- the pass enabling tracking or indicating presence
- N G07C 9/29
- the pass containing active electronic elements, e.g. smartcards
- N G07C 9/30
- not involving the use of a pass
- N G07C 9/32
- in combination with an identity check
- N G07C 9/33
- by means of a password
- N G07C 9/35
- by means of a handwritten signature
- N G07C 9/37
- using biometric data, e.g. fingerprints, iris scans or voice recognition
- N G07C 9/38
- with central registration
- M G07C 2209/00
- Indexing scheme relating to groups [G07C 9/00](#) - [G07C 9/02](#) [G07C 9/38](#)**
- M G07C 2209/40
- Indexing scheme relating to [groupgroups G07C 9/00007](#) [G07C 9/20](#) - [G07C 9/00119](#) [G07C 9/29](#)

## Project: RP0646 (G08B)

- U G08B 13/00
- Burglar, theft or intruder alarms {(fire or police telegraphic systems [G08B 25/00](#), [G08B 26/00](#), [H04M 11/04](#); vehicle theft alarms [B60R 25/10](#); cycle theft alarms [B62H 5/00](#))}

- U G08B 13/18
  - Actuation by interference with heat, light or radiation of shorter wavelength; Actuation by intruding sources of heat, light or radiation of shorter wavelength {(signalling devices using photo-electric devices in general [G09F](#))}
- U G08B 13/189
  - • using passive radiation detection systems
- G08B 13/19
  - • using infra-red radiation detection systems {([G08B 13/194](#) takes precedence; lighting devices activated by motion detection [F21V 23/0442](#); radiation pyrometry per se [G01J 5/00](#); controlling circuits for electric light sources activated by motion detection ~~H05B 37/0227~~ [H05B 47/105](#))}

**Project: RP0645 (G08B)**

- U G08B 29/00
  - **Checking or monitoring of signalling or alarm systems; Prevention or correction of operating errors, e.g. preventing unauthorised operation {(arrangements for testing electric properties, arrangements for locating electric faults [G01R 31/00](#))}**
- U G08B 29/02
  - Monitoring continuously signalling or alarm systems
- G08B 29/06
  - • Monitoring of the line circuits, e.g. signalling of line faults {(testing or locating faults in cables or lines in general ~~G01R 31/02~~ [G01R 31/55](#), [G01R 31/08](#))}
- U G08B 29/12
  - Checking intermittently signalling or alarm systems
- G08B 29/123
  - • {of line circuits (testing or locating faults in cables or lines in general ~~G01R 31/021~~ [G01R 31/50](#), ~~G01R 31/024~~, [G01R 31/08](#))}

**Project: RP0652 (G08G)**

- U G08G 5/00
  - **Traffic control systems for aircraft {, e.g. air-traffic control [ATC]}**
  - NOTES
  - 1. This groups covers arrangements, located in the aircraft or on the ground, for controlling aircraft within a traffic environment.
  - 2. This group does not cover arrangements for control of position, course, altitude or attitude of aircraft not specific to a traffic environment, e.g. automatic pilots, which are covered by group [G05D 1/00](#).
  - 3. In this group the following term is used with the meaning indicated:
    - "traffic" includes traffic on the ground and in the air.
  - 4. Attention is drawn to the following places which might be interesting for search:
    - mechanical aspects of equipment for fitting in or to aircraft [B64D](#)
    - combined instruments indicating more than one navigational value [G01C 23/00](#)
- U G08G 5/0073
  - {Surveillance aids (scene image recognition [G06K 9/00624](#))}
- G08G 5/0086
  - • {for monitoring terrain (radar or analogous systems specially adapted for terrain avoidance ~~G01S 13/94~~ [G01S 13/935](#))}
- U G08G 5/04
  - Anti-collision systems
- G08G 5/045
  - • {Navigation or guidance aids, e.g. determination of anti-collision ~~maneuvers~~ [manoeuvres](#) (radar or analogous systems specially adapted for anti-collision between aircraft ~~G01S 13/9303~~ [G01S 13/933](#))}

**Project: RP0643 (G10L)**

- U G10L 17/00
  - **Speaker identification or verification**
- G10L 17/005
  - {Speaker recognisers specially adapted for particular applications (~~G07C 9/00071~~ [G07C 9/25](#) takes precedence)}

## Project: MP0452 (G11B)

M G11B

**INFORMATION STORAGE BASED ON RELATIVE MOVEMENT BETWEEN RECORD CARRIER AND TRANSDUCER** ({producing carriers of sound records for needle playback [B29C 39/00](#)}; recording measured values in a way that does not require playback through a transducer [G01D](#); photosensitive materials or processes for photographic purposes [G03C](#); electrography, electrophotography, magnetography [G03G](#); recording or playback apparatus using mechanically marked tape, e.g. punched paper tape, or using unit records, e.g. punched or magnetically marked cards, [G06K](#); transferring data from one type of record carrier to another [G06K 1/18](#); printing of data from record carriers [G06K 3/00](#); arrangements for producing a permanent visual presentation of the output data [G06K 15/00](#); arrangements or circuits for control of indicating devices using static means to present variable information [G09G](#); coding, decoding or code conversion, in general [H03M](#); circuits for coupling output of reproducer to radio receiver [H04B 1/20](#); circuits {or arrangements} specially adapted for {pictorial or} television signal recording {[H04N 1/21](#)}, [H04N 5/76](#), [H04N 9/79](#); loudspeakers, microphones, gramophone pick-ups or like acoustic electromechanical transducers or circuits therefor [H04R](#))

NOTES

1. This subclass covers :

- recording or playback of information by relative movement between a record track and a transducer, the transducer directly producing, or being directly actuated by, modulation in the track being recorded or played-back, and the extent of modulation corresponding to the signal being recorded or played-back;
- apparatus and machines for recording or playback, and parts thereof such as heads;
- record carriers for use with such apparatus and machines;
- associated working of other apparatus with such apparatus and machines;
- {relative positioning or movement of transducers and record carriers before, during or after transducing operation, e.g. for accessing record carriers or parts thereof, or for track change, selection or acquisition or for track following or for accessing parts of tracks;}
- {driving or moving of heads or record carriers or both heads and record carriers for increasing, maintaining or decreasing the relative speed before, during or after transducing operation}

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

- "head" includes any means for converting sinusoidal or non-sinusoidal electric wave-forms into variations of the physical condition of at least the adjacent surface of the record carrier, or vice versa;
- "record carrier" means a body, such as a cylinder, disc, card, tape, or wire, capable of permanently holding information, which can be read-off by a sensing element movable relatively to the record carrier.

3. Documents concerning relative positioning or movement of transducers and record carriers are classified in groups [G11B 3/00](#) - [G11B 7/00](#) and [G11B 21/00](#) when only the transducer is controlled and in groups [G11B 15/00](#), [G11B 17/00](#) and [G11B 19/00](#) when only the record carrier is controlled. When both record carrier and head are controlled, the documents are classified in [G11B 15/1808](#), [G11B 15/1816](#), [G11B 19/00](#) and [G11B 27/002](#).

When a plurality of record carriers are controlled, the documents are classified in [G11B 15/68](#), [G11B 17/08](#), [G11B 17/22](#) and [G11B 27/002](#).

4. By "access" is meant an operation including a relative movement for positioning between record carrier and head before, during or after transducing; this operation including "seek", "select", "change", "acquire" and "follow"

functions for at least a part of a track on at least one record carrier. By "programmed access" is meant a sequence of access operations the result of the sequence being to acquire a wanted sequence of parts of tracks or a wanted sequence of tracks. Relative movement between head and record carrier also covers the movement of a coupling beam such as a light beam between the head and a stationary record carrier.

5. "Movement of the head" also covers any virtual movement or any physical movement such as obtained by switching between successive transducing parts of the head or by moving the transducing zone of the head, i.e. by "scanning". If different transducing parts of the head are switchable, the number of transducing parts should be much smaller than the number of individual storage areas of the record carrier.

6. Attention is drawn to the notes of subclass [G11C](#).

#### WARNING

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

<del>G11B 5/667</del>	<del>covered by</del>	<del>G11B 5/66</del>
<del>G11B 5/673</del>	<del>covered by</del>	<del>G11B 5/66</del>
<del>G11B 5/738</del>	<del>covered by</del>	<del>G11B 5/73, G11B 5/733, G11B 5/7334, and G11B 5/736 - G11B 5/7377</del>
<del>G11B 7/30</del>	<del>covered by</del>	<del>G11B 7/00</del>
<del>G11B 9/12 - G11B 9/14</del>	<del>covered by</del>	<del>G11B 9/00</del>
<del>G11B 11/24 - G11B 11/26</del>	<del>covered by</del>	<del>G11B 11/00</del>
<del>G11B 13/08</del>	<del>covered by</del>	<del>G11B 13/00</del>

~~2. 1.~~ In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

#### Project: RP0645 (G11C)

**U G11C 5/00**

**Details of stores covered by [G11C 11/00](#)**

U G11C 5/14

• Power supply arrangements (in general [G05F](#), [H02J](#), [H02M](#)), {e.g. Power down/chip (de)selection, layout of wiring/power grids, multiple supply levels}

G11C 5/143

• {Detection of memory cassette insertion/removal; Continuity checks of supply and ground lines (in general ~~G01R 31/02~~[G01R 31/50](#)); Detection of supply variations/interruptions/levels ([G11C 5/148](#) takes precedence); Switching between alternative supplies (~~back-up supplies per se H02J 9/061~~[back-up supplies per se H02J 9/061](#), [G11C 5/141](#) takes precedence), (~~G11C 5/141 takes precedence~~)}

#### Project: RP0653 (G16Y)

**N G16Y**

**INFORMATION AND COMMUNICATION TECHNOLOGY SPECIALLY ADAPTED FOR THE INTERNET OF THINGS [IoT]**

#### NOTES

1. This subclass covers inter-networking of physical objects ("things") that embed technology enabling the things to sense and collect information from their internal state or their external environment, wherein the information is processed by the things or by other devices, e.g. servers, to be output to the things, to other things or to other devices, and enabling these things to be connected to the Internet either directly or indirectly.

- "Directly connected to Internet" means that a thing possesses a network address of the Internet address space, which is used to communicate over the Internet.



- "Indirectly connected to Internet" means that a thing is connected to a proxy device, which possesses a network address of the Internet address space and which communicates over the Internet on behalf of the thing.
  - A network address of the Internet address space is an address uniquely identifying a device in the Internet.
2. This subclass does not cover:
- Mere monitoring, e.g. security cameras, or mere controlling, e.g. remote control arrangements.
  - Generic computing and communicating devices, e.g. computers or telephones
3. This subclass is intended to enable a complementary search of subject matter related to IoT by combination of classification symbols of this subclass with classification symbols from other subclasses. Therefore this subclass covers aspects of IoT (e.g. detection or navigation) that might also be entirely or partially covered elsewhere in the IPC.
4. This subclass is for obligatory supplementary classification of subject matter already classified as such in other classification places, when the subject matter contains an aspect of IoT.
5. The classification symbols of this subclass are not listed first when assigned to patent documents.
6. No systematic reclassification was done when this subclass was introduced. When searching using the symbols of this subclass it should be noted that many documents published before 2020 are not classified in subclass [G16Y](#).

**N G16Y 10/00**

**Economic sectors**

- |              |   |
|--------------|---|
| N G16Y 10/05 | • Agriculture                               |
| N G16Y 10/10 | • Forestry                                  |
| N G16Y 10/15 | • Fishing                                   |
| N G16Y 10/20 | • Mining                                    |
| N G16Y 10/25 | • Manufacturing                             |
| N G16Y 10/30 | • Construction                              |
| N G16Y 10/35 | • Utilities, e.g. electricity, gas or water |
| N G16Y 10/40 | • Transportation                            |
| N G16Y 10/45 | • Commerce                                  |
| N G16Y 10/50 | • Finance; Insurance                        |
| N G16Y 10/55 | • Education                                 |
| N G16Y 10/60 | • Healthcare; Welfare                       |
| N G16Y 10/65 | • Entertainment or amusement; Sports        |
| N G16Y 10/70 | • Broadcasting                              |
| N G16Y 10/75 | • Information technology; Communication     |
| N G16Y 10/80 | • Homes; Buildings                          |
| N G16Y 10/90 | • Chemistry                                 |

**N G16Y 20/00**

**Information sensed or collected by the things**

- |              |  |
|--------------|--|
| N G16Y 20/10 | • relating to the environment, e.g. temperature; relating to location    |
| N G16Y 20/20 | • relating to the thing itself   |
| N G16Y 20/30 | • relating to resources, e.g. consumed power                             |
| N G16Y 20/40 | • relating to personal data, e.g. biometric data, records or preferences |

**N G16Y 30/00**

**IoT infrastructure**

N	G16Y 30/10	• Security thereof
<b>N</b>	<b>G16Y 40/00</b>	<b>IoT characterised by the purpose of the information processing</b>
N	G16Y 40/10	• Detection; Monitoring
N	G16Y 40/20	• Analytics; Diagnosis
N	G16Y 40/30	• Control
N	G16Y 40/35	• • Management of things, i.e. controlling in accordance with a policy or in order to achieve specified objectives
N	G16Y 40/40	• Maintenance of things
N	G16Y 40/50	• Safety; Security of things, users, data or systems
N	G16Y 40/60	• Positioning; Navigation

**Project: RP0646 (H)****M H****ELECTRICITY**NOTE

These notes cover the basic principles and general instructions for use of section [H](#).

Section [H](#) covers :

- a. basic electric elements, which cover all electric units and the general mechanical structure of apparatus and circuits, including the assembly of various basic elements into what are called printed circuits and also cover to a certain extent the manufacture of these elements (when not covered elsewhere);
- b. generation of electricity, which covers the generation, conversion, and distribution of electricity together with the controlling of the corresponding gear;
- c. applied electricity, which covers :
  - i. general utilisation techniques, viz. those of electric heating and electric lighting circuits;
  - ii. some special utilisation techniques, either electric or electronic in the strict sense, which are not covered by other sections of the Classification, including :
    1. electric light sources, including lasers;
    2. electric X-ray technique;
    3. electric plasma technique and the generation and acceleration of electrically charged particles or neutrons;
- d. basic electronic circuits and their control;
- e. radio or electric communication technique, including electromechanical transducers in general;
- f. the use of a specified material for the manufacture of the article or element described. In this connection, paragraphs 56 to 58 of the Guide should be referred to.

In this section, the following general rules apply :

- a. subject to the exceptions stated in I (c) above, any electric aspect or part peculiar to a particular operation, process, apparatus, object, or article classified in one of the sections of the Classification other than section [H](#) is always classified in the subclass for that operation, process, apparatus, object, or article, or where common characteristics concerning technical subjects of similar nature have been brought out at class level, it is classified, in conjunction with the operation, process, apparatus, object, or article in a subclass which covers entirely the general electrical applications for the technical subject in question;
- b. such electrical applications, either general or particular, include
  - i. the therapeutic processes and apparatus, in class [A61](#);

- ii. the electric processes and apparatus used in various laboratory or industrial operations, in classes [B01](#), [B03](#), and subclass [B23K](#);
- iii. the electricity supply, electric propulsion and electric lighting of vehicles in general and of particular vehicles, in the "Transporting" subsection of section [B](#);
- iv. the electric ignition systems of internal-combustion engines, in subclass [F02P](#), and of combustion apparatus in general, in subclass [F23Q](#);
- v. the whole electrical part of section [G](#), i.e. measuring devices including apparatus for measuring electric variables, checking, signalling, and calculating. Electricity in that section is generally dealt with as a means and not as an end in itself;
- c. all electrical applications, both general and particular, presuppose that the "basic electricity" aspect appears in section [H](#) (see 1 (a) above) as regards the electric "basic elements" which they comprise. This rule is also valid for applied electricity, referred to under 1 (c) above, which appears in section [H](#) itself.

~~In this section, the following special cases occur:~~

- ~~a. among the general applications covered by sections other than section H, it is worth noting that electric heating in general is covered by subclasses F24D or F24H or class F27, and that electric lighting in general is partly covered by class F21, since in section H (see 1 (c) above) there are places in H05B which cover the same technical subjects;~~
- ~~b. in the above two cases, the subclasses of section F, which deal with the respective subjects, essentially cover in the first place the whole mechanical aspect of the apparatus or devices, whereas the electrical aspect, as such, is covered by subclass H05B;~~
- ~~c. in the case of lighting, this mechanical aspect should be taken to cover the material arrangement of the various electric elements, i.e. their geometrical, or physical, position in relation to one another; this is covered by subclass F21V, the elements themselves and the primary circuits remaining in section H. The same applies to electric light sources, when combined with light sources of a different kind. These are covered by subclass H05B, whereas the physical arrangement which their combination constitutes is covered by the various subclasses of class F21;~~
- ~~d. as regards heating, not only the electric elements and circuitry designs, as such, are covered by subclass H05B, but also the electric aspects of their arrangement, where these concern cases of general application; electric furnaces being considered as such. The physical disposition of the electric elements in furnaces is covered by section F. If a comparison is made with electric welding circuits which are covered by subclass B23K in connection with welding, it can be seen that electric heating is not covered by the general rule stated in 2 above.~~

## Project: RP0645 (H01B)

U	H01B 13/00	<b>Apparatus or processes specially adapted for manufacturing conductors or cables</b>
U	H01B 13/06	• Insulating conductors or cables ( <a href="#">H01B 13/32</a> takes precedence)
U	H01B 13/14	• • by extrusion {(extrusion in general <a href="#">B29C 48/00</a> )}
	H01B 13/146	• • • {Controlling the extrusion apparatus dependent on the capacitance or the thickness of the insulating material (measuring thickness <a href="#">G01B</a> ; testing during manufacturing <a href="#">G01R 31/022</a> <a href="#">G01R 31/59</a> )}

**Project: N/A (H01C)**

- U H01C 7/00 Non-adjustable resistors formed as one or more layers or coatings; Non-adjustable resistors made from powdered conducting material or powdered semi-conducting material with or without insulating material (consisting of loose powdered or granular material [H01C 8/00](#); {measuring deformation in a solid state using the change in resistance formed by printed-circuit technique [G01B 7/20](#); insulating materials [H01B 3/00](#); passive thin-film or thick-film semiconductor or solid state devices [H01L 27/00](#); resistors without a potential-jump or surface barrier specially adapted for integrated circuits, details thereof, multistep manufacturing processes therefor [H01L 28/20](#); resistors with a potential-jump barrier or surface barrier, e.g. field effect resistors [H01L 29/00](#); semiconductor devices sensitive to electromagnetic or corpuscular radiation, e.g. photoresistors, [H01L 31/00](#); devices using superconductivity [H01L 39/00](#); devices using galvanomagnetic or similar magnetic effects, e.g. magnetic-field-controlled resistors, [H01L 43/00](#); solid state devices for rectifying, amplifying, oscillating or switching without a potential-jump barrier or surface barrier [H01L 45/00](#); bulk negative resistance effect devices [H01L 47/00](#); {ohmic resistance heating [H05B 3/00](#); printed circuits [H05K](#)})
- U H01C 7/02 • having positive temperature coefficient {(ceramics [C04B](#))}
- U H01C 7/022 • • {mainly consisting of non-metallic substances ([H01C 7/021](#) takes precedence)}
- U H01C 7/023 • • • {containing oxides or oxidic compounds, e.g. ferrites}
- H01C 7/025 • • • • {[Perowskites](#)[Perovskites](#), e.g. titanates}
- U H01C 7/04 • having negative temperature coefficient {(thermometers using resistive elements [G01K 7/16](#))}
- U H01C 7/042 • • {mainly consisting of inorganic non-metallic substances ([H01C 7/041](#) takes precedence)}
- NOTE
- In groups [H01C 7/043](#) - [H01C 7/049](#), in the absence of an indication to the contrary, classification is made in the last appropriate place
- U H01C 7/043 • • • {Oxides or oxidic compounds}
- H01C 7/045 • • • • {[Perowskites](#)[Perovskites](#), e.g. titanates}

**Project: RP0386 (H01F)**

- U H01F 38/00 Adaptations of transformers or inductances for specific applications or functions
- H01F 38/14 • Inductive couplings {(for charging batteries from ac mains by converters [H02J 7/025](#) for wireless supply or distribution of electric power using inductive coupling [H02J 50/10](#))}

**Project: RP0547 (H01L)**

- U H01L 21/00 Processes or apparatus adapted for the manufacture or treatment of semiconductor or solid state devices or of parts thereof ({testing or measuring during manufacture or treatment, or reliability measurements [H01L 22/00](#); multistep manufacturing processes for passive two-terminal components without a potential-jump or surface barrier for integrated circuits [H01L 28/00](#); } processes or apparatus peculiar to the manufacture or treatment of devices provided for in groups [H01L 31/00](#) - [H01L 51/00](#) or of parts thereof, see these groups; single-step processes covered by other subclasses, see the relevant subclasses, e.g. [C23C](#), [C30B](#); photomechanical production of textured or patterned surfaces, materials or originals therefor, apparatus specially adapted therefor, in general [G03F](#))

- U H01L 21/02      • Manufacture or treatment of semiconductor devices or of parts thereof
  - U H01L 21/04      • • the devices having at least one potential-jump barrier or surface barrier, e.g. PN junction, depletion layer or carrier concentration layer {(multistep manufacturing processes for semiconductor bodies of said devices [H01L 29/02](#); multistep manufacturing processes for electrodes of said devices [H01L 29/401](#); multistep manufacturing processes for said devices [H01L 29/66007](#))}
  - U H01L 21/18      • • the devices having semiconductor bodies comprising elements of Group IV of the Periodic System or  $A_{III}B_V$  compounds with or without impurities, e.g. doping materials {([H01L 21/041](#) - [H01L 21/0425](#), [H01L 21/045](#) - [H01L 21/048](#) take precedence)}
- NOTE**  
This group covers also processes and apparatus which, by using the appropriate technology, are clearly suitable for manufacture or treatment of devices whose bodies comprise elements of Group IV of the Periodic System or  $A_{III}B_V$  compounds, even if the material used is not explicitly specified.
- U H01L 21/28      • • • Manufacture of electrodes on semiconductor bodies using processes or apparatus not provided for in groups [H01L 21/20](#) - [H01L 21/268](#) {(etching for patterning the electrodes [H01L 21/311](#), [H01L 21/3213](#); multistep manufacturing processes for data storage electrodes [H01L 29/4011](#))}
  - U H01L 21/283     • • • • Deposition of conductive or insulating materials for electrodes {conducting electric current}
  - U H01L 21/285     • • • • • from a gas or vapour, e.g. condensation
  - U H01L 21/28506   • • • • • {of conductive layers}
  - U H01L 21/28512   • • • • • {on semiconductor bodies comprising elements of Group IV of the Periodic System}
  - D H01L 2021/28543 • • • • • {on semiconductor bodies comprising diamond}
- <administratively transferred to [H01L 21/0425](#)>

**Project: RP0648 (H01L)**

- 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 of preformed electrical components [H05K 3/00](#), [H05K 13/00](#)}
- U H01L 21/71      • • Manufacture of specific parts of devices defined in group [H01L 21/70](#) {([H01L 21/0405](#), [H01L 21/0445](#)), [H01L 21/28](#), [H01L 21/44](#), [H01L 21/48](#) take precedence)}
- U H01L 21/768     • • Applying interconnections to be used for carrying current between separate components within a device {comprising conductors and dielectrics}

**NOTE**

Groups [H01L 21/768](#) - [H01L 21/76898](#) cover multi-step processes for manufacturing interconnections. Information peculiar to single-step processes should also be classified in the corresponding group, e.g.

- cleaning [H01L 21/02041](#)
- etching [H01L 21/311](#), [H01L 21/3213](#)
- masking [H01L 21/027](#), [H01L 21/033](#), [H01L 21/31144](#), [H01L 21/32139](#)
- planarizing [H01L 21/3105](#), [H01L 21/321](#)

- 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}
- H01L 21/76816 . . . . . {Aspects relating to the layout of the pattern or to the size of vias or trenches (layout of the interconnections per se [H01L 23/528](#); CAD of ICs [G06F 17/50](#) [G06F 30/00](#))}

- U H01L 23/00 **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](#) - [H01L 51/00](#), which details are covered by those groups.

- U H01L 23/52 . Arrangements for conducting electric current within the device in operation from one component to another {, i.e. interconnections, e.g. wires, lead frames (optical interconnections [G02B 6/00](#))}
- U H01L 23/522 . . including external interconnections consisting of a multilayer structure of conductive and insulating layers inseparably formed on the semiconductor body
- H01L 23/528 . . . {Geometry or} layout of the interconnection structure {([H01L 27/0207](#) takes precedence; algorithms [G06F 17/50](#) [G06F 30/00](#))}

**Project: MP0461 (H01L)**

- U H01L 24/00 **{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](#) - [H01L 51/00](#), which details are covered by those groups.
- printed circuits, which are covered by groups [H05K 1/00](#) - [H05K 1/189](#);
- apparatus or manufacturing processes for printed circuits, which are covered by groups [H05K 3/00](#) - [H05K 3/4685](#);
- manufacture or treatment of parts, which are covered by group [H01L 21/48](#) and subgroups except [H01L 21/4885](#) - [H01L 21/4896](#);
- assemblies of semiconductor devices, which are covered by groups [H01L 21/50](#) - [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](#) - [H01L 23/10](#);
- mountings, which are covered by groups [H01L 23/12](#) - [H01L 23/15](#) and subgroups;
- arrangements for cooling, heating, ventilating or temperature compensation, which are covered by groups [H01L 23/34](#) - [H01L 23/4735](#);
- arrangements for conducting electric current, which are covered by groups [H01L 23/48](#) - [H01L 23/50](#), and by groups [H01L 23/52](#) - [H01L 23/5389](#);



- structural electrical arrangements, which are covered by groups [H01L 24/80](#) - [H01L 23/66](#);
- assemblies of semiconductor or other solid state devices, which are covered by groups [H01L 25/00](#) - [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

- U 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}
- U H01L 24/42 • • {Wire connectors; Manufacturing methods related thereto}
- M H01L 24/43 • • • {Manufacturing methods}

**WARNING**

Group H01L 24/43 is incomplete pending reclassification of documents from groups H01L 24/42 and H01L 24/85.  
Groups H01L 24/43, 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**

Group H01L 24/44 is 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**

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.

- U H01L 27/00 **Devices consisting of a plurality of semiconductor or other solid-state components formed in or on a common substrate (details thereof [H01L 23/00](#), [H01L 29/00](#) - [H01L 51/00](#); assemblies consisting of a plurality of individual solid state devices [H01L 25/00](#))**

**NOTES**

1. In this group, with the exception of groups [H01L 27/115](#) - [H01L 27/11597](#), the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place.
2. When classifying in this group, subject matter relating to electrically programmable read-only memories is classified in group [H01L 27/115](#), irrespective of the last place priority rule.

- U H01L 27/28 • including components using organic materials as the active part, or using a combination of organic materials with other materials as the active part
- U H01L 27/32 • • 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](#))}
- U H01L 27/3206 • • • {Multi-colour light emission}

M H01L 27/3211 . . . {using RGB sub-pixels}

WARNING

Groups H01L 27/3213 – H01L 27/3218 are incomplete pending reclassification of documents from group H01L 27/3211.

Groups H01L 27/3213 – H01L 27/3218 and H01L 27/3211 should be considered in order to perform a complete search.

## Project: RP0547 (H01L)

M H01L 27/3241 . . . {Matrix-type displays}

WARNING

From 1.2.2012 onwards, groups H01L 27/3295 and H01L 27/3297 are no longer used for classification of new documents. The backfile is being reclassified to H01L 27/3244 and H01L 27/3281 and subgroups thereof

U H01L 27/3244 . . . {Active matrix displays}

T H01L 27/3246 . . . . {~~Banks~~ Pixel defining structures, i.e.g. pixel defining layers ~~banks~~}

WARNING

Group H01L 27/3246 is incomplete pending reclassification of documents from group H01L 27/3295.

Groups H01L 27/3295 and H01L 27/3246 should be considered in order to perform a complete search.

M H01L 27/3276 . . . . {Wiring lines}

WARNING

Group H01L 27/3276 is incomplete pending reclassification of documents from group H01L 27/3297.

Groups H01L 27/3297 and H01L 27/3276 should be considered in order to perform a complete search.

U H01L 27/3281 . . . . {Passive matrix displays}

T H01L 27/3283 . . . . {~~Including~~ including banks or shadow masks}

WARNING

Group H01L 27/3283 is incomplete pending reclassification of documents from group H01L 27/3295.

Groups H01L 27/3295 and H01L 27/3283 should be considered in order to perform a complete search.

M H01L 27/3288 . . . . {Wiring lines}

WARNING

Group H01L 27/3288 is incomplete pending reclassification of documents from group H01L 27/3297.

Groups H01L 27/3297 and H01L 27/3288 should be considered in order to perform a complete search.

F H01L 27/3295  
(Frozen) . . . . {including banks or shadow masks}

WARNING

Group H01L 27/3295 is no longer used for the classification of documents as of January 1, 2020.

The content of this group is being reclassified into groups H01L 27/3246 and H01L 27/3283.

Groups H01L 27/3295, H01L 27/3246 and H01L 27/3283 should be considered in order to perform a complete search.

- F H01L 27/3297  
(Frozen) . . . {Wiring lines, e.g. power supply lines}

**WARNING**

*Group H01L 27/3297 is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups H01L 27/3276 and H01L 27/3288.*

*Groups H01L 27/3297, H01L 27/3276 and H01L 27/3288 should be considered in order to perform a complete search.*

- 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 51/0032

- . {Selection of organic semiconducting materials, e.g. organic light sensitive or organic light emitting materials}

**NOTE**

This group only covers the selection of organic materials for their electrical or other properties insofar as they are specific for their use in devices covered by the group [H01L 51/00](#).

For the materials per se, see the relevant subclasses.

Attention is drawn to the following places:

- organic materials in general [C07C](#), [C07D](#), [C07F](#), [C08L](#);
- organic materials as electrical conductors [H01B 1/12](#);
- organic materials as electrical insulators [H01B 3/18](#)

- U H01L 51/005

- . {Macromolecular systems with low molecular weight, e.g. cyanine dyes, coumarine dyes, tetrathiafulvalene ([H01L 51/0045](#), [H01L 51/0077](#), [H01L 51/0093](#), [H01L 51/0094](#) take precedence)}

- U H01L 51/0062

- . . {aromatic compounds comprising a hetero atom, e.g.: N,P,S}

- D H01L 2051/0063

- . . . {Oxadiazole Compounds}

<administratively transferred to [H01L 51/007](#)>

- U H01L 51/0069

- . . . {comprising two or more different heteroatoms per ring, e.g. S and N ([H01L 51/0064](#) takes precedence)}

- T H01L 51/007

- . . . . {~~oxadiazole~~ **Oxadiazole** compounds}

**Project: RP0646 (H01L)**

- H01L 51/50

- . ~~specialy adapted for light emission, e.g. organic light emitting diodes [OLED] or polymer light emitting devices [PLED]; 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~~ [H05B 45/60](#); control arrangements for organic electroluminescent displays [G09G 3/3208](#)})

**Project: RP0547 (H01L)**

- U H01L 51/5048

- . {Carrier transporting layer}

- F H01L 51/5052  
(Frozen)

- . . {Doped transporting layer}

**WARNING**

*Groups H01L 51/5052 is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups [H01L 51/506](#) and [H01L 51/5076](#).  
Groups [H01L 51/5052](#), [H01L 51/506](#) and [H01L 51/5076](#) should be considered in order to perform a complete search.*

- U H01L 51/5056      • • • {Hole transporting layer}
- M H01L 51/506      • • • • {comprising a dopant}

**WARNING**

*Group [H01L 51/506](#) is incomplete pending reclassification of documents from group [H01L 51/5052](#).  
Groups [H01L 51/5052](#) and [H01L 51/506](#) should be considered in order to perform a complete search.*

- U H01L 51/5072      • • • {Electron transporting layer}
- M H01L 51/5076      • • • • {comprising a dopant}

**WARNING**

*Group [H01L 51/5076](#) is incomplete pending reclassification of documents from group [H01L 51/5052](#).  
Groups [H01L 51/5052](#) and [H01L 51/5076](#) should be considered in order to perform a complete search.*

**Project: RP0656 (H01R)**

- U H01R 13/00      **Details of coupling devices of the kinds covered by groups [H01R 12/70](#) or [H01R 24/00](#) - [H01R 33/00](#)**

- M H01R 13/646      • specially adapted for high-frequency, e.g. structures providing an impedance match or phase match (non-coaxed protective earth or shield arrangements [H01R 13/648](#) - [H01R 13/6599](#); coaxial connectors ~~specifically~~ specially adapted for high frequency [H01R 24/40](#) - [H01R 24/56](#))

**WARNING**

This group and its subgroups are not complete pending completion of a reclassification, see also [H01R 9/035](#), [H01R 13/6658](#), [H01R 24/44](#), [H01R 24/00](#), [H01R 12/00](#)

- M H01R 13/648      • ~~Protective earth or shield arrangements on coupling devices (coaxially arranged shields [H01R 24/38](#))~~ Protective earth or shield arrangements on coupling devices {, e.g. anti-static shielding} (coaxially arranged shields [H01R 24/38](#))
- M H01R 13/66      • Structural association with built-in electrical component (coupling devices having concentrically or coaxially-arranged contacts [H01R 24/38](#) - [H01R 24/56](#))

- M H01R 24/00      **Two-part coupling devices, or either of their cooperating parts, characterised by their overall structure (contact members [H01R 13/02](#); securing contact members in or to a base or case or insulating of contact members [H01R 13/40](#); bases or cases [H01R 13/46](#); means for supporting coupling part when not engaged [H01R 13/60](#); means for facilitating engagement or disengagement of coupling parts or for holding them in engagement [H01R 13/62](#); means for preventing, inhibiting or avoiding incorrect coupling [H01R 13/64](#))**

**NOTE**

In this group, it is desirable to add the indexing codes of groups [H01R 2101/00](#) - [H01R 2107/00](#)

**Project: RP0646 (H02H)**

- U H02H 3/00** Emergency protective circuit arrangements for automatic disconnection directly responsive to an undesired change from normal electric working condition with or without subsequent reconnection (specially adapted for specific types of electric machines or apparatus or for sectionalised protection of cable or line systems [H02H 7/00](#); systems for change-over to standby supply [H02J 9/00](#) ); integrated protection (for motors [H02H 7/0822](#))
- U H02H 3/02** • Details
- U H02H 3/04** • • with warning or supervision in addition to disconnection, e.g. for indicating that protective apparatus has functioned {(watching of pilot wires [H02H 1/0084](#); protection of protective arrangements [H02H 7/008](#); indication of the state of electronic switches [H03K 17/18](#))}
- H02H 3/046** • • • {Signalling the blowing of a fuse (detecting non functioning of a lamp [H05B 37/03](#) [H05B 47/20](#))}

**Project: RP0386 (H02H)**

- U H02H 7/00** Emergency protective circuit arrangements specially adapted for specific types of electric machines or apparatus or for sectionalised protection of cable or line systems, and effecting automatic switching in the event of an undesired change from normal working conditions (structural association of protective devices with specific machines or apparatus and their protection without automatic disconnection, see the relevant subclass for the machine or apparatus)
- U H02H 7/06** • for dynamo-electric generators; for synchronous capacitors
- H02H 7/067** • • {on occurrence of a load dump (control on sudden change of load [H02P 9/10](#); [safety devices for generators driven at varying speed H02J 7/1461](#))}

**Project: RP0386 (H02J)**

- C H02J 1/00** Circuit arrangements for dc mains or dc distribution networks
- WARNING**  
*Group [H02J 1/00](#) is incomplete pending reclassification of documents from group [H02J 13/0003](#).  
 Group [H02J 1/00](#) is also impacted by reclassification into group [H02J 1/001](#).  
 Groups [H02J 13/0003](#), [H02J 1/00](#), and [H02J 1/001](#) should be considered in order to perform a complete search.*
- N H02J 1/001** • {Hot plugging or unplugging of load or power modules to or from power distribution networks}
- WARNING**  
*Group [H02J 1/001](#) is incomplete pending reclassification of documents from groups [H02J 1/00](#) and [H02J 13/0003](#).  
 Groups [H02J 1/00](#), [H02J 13/0003](#), and [H02J 1/001](#) should be considered in order to perform a complete search.*
- D H02J 2001/002** • {Intermediate ac, e.g. dc supply with intermediated ac distribution}  
 <administratively transferred to [H02J 1/002](#)>
- N H02J 1/002** • {Intermediate AC, e.g. DC supply with intermediated AC distribution}
- WARNING**  
*Group [H02J 1/002](#) is incomplete pending reclassification of documents from group [H02J 13/0003](#).*

Groups [H02J 13/0003](#) and [H02J 1/002](#) should be considered in order to perform a complete search.

- D H02J 2001/004 • {Distribution of power generated by fuel cells}  
<administratively transferred to [H02J 2300/30](#) ADD>
- D H02J 2001/006 • {Provisions for temporary connection of dc sources of essentially the same voltage, e.g. jumpstart cables}  
<administratively transferred to [H02J 1/122](#)>
- D H02J 2001/008 • {Plural dc voltage, e.g. dc supply voltage with at least two different dc voltage levels}  
<administratively transferred to [H02J 1/082](#)>
- M H02J 1/02 • Arrangements for reducing harmonics or ripples

**WARNING**

Group [H02J 1/02](#) is incomplete pending reclassification of documents from group [H02J 13/0003](#).  
Groups [H02J 13/0003](#) and [H02J 1/02](#) should be considered in order to perform a complete search.

- M H02J 1/04 • Constant-current supply systems

**WARNING**

Group [H02J 1/04](#) is incomplete pending reclassification of documents from group [H02J 13/0003](#).  
Groups [H02J 13/0003](#) and [H02J 1/04](#) should be considered in order to perform a complete search.

- M H02J 1/06 • Two-wire systems

**WARNING**

Group [H02J 1/06](#) is incomplete pending reclassification of documents from group [H02J 13/0003](#).  
Groups [H02J 13/0003](#) and [H02J 1/06](#) should be considered in order to perform a complete search.

- T H02J 1/08 • Three-wire systems; Systems having more than three wires

**WARNING**

Group [H02J 1/08](#) is incomplete pending reclassification of documents from group [H02J 13/0003](#).  
Groups [H02J 13/0003](#) and [H02J 1/08](#) should be considered in order to perform a complete search.

- N H02J 1/082 • {Plural DC voltage, e.g. DC supply voltage with at least two different DC voltage levels}

**WARNING**

Group [H02J 1/082](#) is incomplete pending reclassification of documents from group [H02J 13/0003](#).  
Groups [H02J 13/0003](#) and [H02J 1/082](#) should be considered in order to perform a complete search.

- N H02J 1/084 • {for selectively connecting the load or loads to one or several among a plurality of power lines or power sources}

**WARNING**

Group [H02J 1/084](#) is incomplete pending reclassification of documents from group [H02J 13/0003](#).



Groups [H02J 13/0003](#) and [H02J 1/084](#) should be considered in order to perform a complete search.

- |   |                           |   |
|---|---------------------------|---|
| N | H02J 1/086                | <ul style="list-style-type: none"> <li>• • {for providing alternative feeding paths between load or loads and source or sources when the main path fails}</li> </ul> <p><b>WARNING</b><br/>Group <a href="#">H02J 1/086</a> is incomplete pending reclassification of documents from group <a href="#">H02J 13/0003</a>.<br/>Groups <a href="#">H02J 13/0003</a> and <a href="#">H02J 1/086</a> should be considered in order to perform a complete search.</p>   |
| M | H02J 1/10                 | <ul style="list-style-type: none"> <li>• Parallel operation of dc sources</li> </ul> <p><b>WARNING</b><br/>Group <a href="#">H02J 1/10</a> is incomplete pending reclassification of documents from groups <a href="#">H02J 2001/104</a> and <a href="#">H02J 13/0003</a>.<br/>Groups <a href="#">H02J 2001/104</a>, <a href="#">H02J 13/0003</a>, and <a href="#">H02J 1/10</a> should be considered in order to perform a complete search.</p>  |
| M | H02J 1/102                | <ul style="list-style-type: none"> <li>• {being switching converters (<a href="#">H02J 1/108</a>, <a href="#">H02J 1/12</a> take precedence)}</li> </ul> <p><b>WARNING</b><br/>Group <a href="#">H02J 1/102</a> is incomplete pending reclassification of documents from groups <a href="#">H02J 2001/104</a> and <a href="#">H02J 13/0003</a>.<br/>Groups <a href="#">H02J 2001/104</a>, <a href="#">H02J 13/0003</a>, and <a href="#">H02J 1/102</a> should be considered in order to perform a complete search.</p>  |
| F | H02J 2001/104<br>(Frozen) | <ul style="list-style-type: none"> <li>• • {for synchronisation}</li> </ul> <p><b>WARNING</b><br/>Group <a href="#">H02J 2001/104</a> is no longer used for the classification of documents as of January 1, 2020.<br/>The content of this group is being reclassified into groups <a href="#">H02J 1/10</a>, <a href="#">H02J 1/102</a>, <a href="#">H02J 1/106</a>, <a href="#">H02J 1/108</a>, <a href="#">H02J 1/109</a>, <a href="#">H02J 1/12</a>, and <a href="#">H02J 1/122</a>.<br/>Groups <a href="#">H02J 2001/104</a>, <a href="#">H02J 1/10</a>, <a href="#">H02J 1/102</a>, <a href="#">H02J 1/106</a>, <a href="#">H02J 1/108</a>, <a href="#">H02J 1/109</a>, <a href="#">H02J 1/12</a>, and <a href="#">H02J 1/122</a> should be considered in order to perform a complete search.</p> |
| N | H02J 1/106                | <ul style="list-style-type: none"> <li>• {for load balancing, symmetrisation, or sharing}</li> </ul> <p><b>WARNING</b><br/>Group <a href="#">H02J 1/106</a> is incomplete pending reclassification of documents from groups <a href="#">H02J 2001/104</a> and <a href="#">H02J 13/0003</a>.<br/>Groups <a href="#">H02J 2001/104</a>, <a href="#">H02J 13/0003</a>, and <a href="#">H02J 1/106</a> should be considered in order to perform a complete search.</p>  |
| D | H02J 2001/106             | <ul style="list-style-type: none"> <li>• • {for load balancing or load symmetrisation}</li> </ul> <p>&lt;administratively transferred to <a href="#">H02J 1/106</a>&gt;</p>   |
| T | H02J 1/108                | <ul style="list-style-type: none"> <li>• {using diodes blocking reverse current flow (<a href="#">H02J 1/12</a> takes precedence)}</li> </ul> <p><b>WARNING</b><br/>Group <a href="#">H02J 1/108</a> is incomplete pending reclassification of documents from groups <a href="#">H02J 2001/104</a> and <a href="#">H02J 13/0003</a>.<br/>Groups <a href="#">H02J 2001/104</a>, <a href="#">H02J 13/0003</a>, and <a href="#">H02J 1/108</a> should be considered in order to perform a complete search.</p>   |

- N H02J 1/109
- {Scheduling or re-scheduling the operation of the DC sources in a particular order, e.g. connecting or disconnecting the sources in sequential, alternating or in subsets, to meet a given demand}
- WARNING  
Group [H02J 1/109](#) is incomplete pending reclassification of documents from groups [H02J 2001/104](#) and [H02J 13/0003](#).  
Groups [H02J 2001/104](#), [H02J 13/0003](#), and [H02J 1/109](#) should be considered in order to perform a complete search.
- T H02J 1/12
- Parallel operation of dc generators with converters, e.g. with mercury-arc rectifier
- WARNING  
Group [H02J 1/12](#) is incomplete pending reclassification of documents from groups [H02J 2001/104](#) and [H02J 13/0003](#).  
Groups [H02J 2001/104](#), [H02J 13/0003](#), and [H02J 1/12](#) should be considered in order to perform a complete search.
- N H02J 1/122
- {Provisions for temporary connection of DC sources of essentially the same voltage, e.g. jumpstart cables}
- WARNING  
Group [H02J 1/122](#) is incomplete pending reclassification of documents from groups [H02J 2001/104](#) and [H02J 13/0003](#).  
Groups [H02J 2001/104](#), [H02J 13/0003](#), and [H02J 1/122](#) should be considered in order to perform a complete search.
- T H02J 1/14
- Balancing the load in a network
- WARNING  
Group [H02J 1/14](#) is incomplete pending reclassification of documents from group [H02J 13/0003](#).  
Groups [H02J 13/0003](#) and [H02J 1/14](#) should be considered in order to perform a complete search.
- M H02J 1/16
- using dynamo-electric machines coupled to flywheels
- WARNING  
Group [H02J 1/16](#) is incomplete pending reclassification of documents from group [H02J 13/0003](#).  
Groups [H02J 13/0003](#) and [H02J 1/16](#) should be considered in order to perform a complete search.
- T H02J 3/00
- Circuit arrangements for ac mains or ac distribution networks**
- WARNING  
Group [H02J 3/00](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
Groups [H02J 13/0006](#) and [H02J 3/00](#) should be considered in order to perform a complete search.
- D H02J 2003/001
- {Emergency control, e.g. method to deal with contingencies}
- <administratively transferred to [H02J 3/001](#)>
- Q H02J 3/001
- {Methods to deal with contingencies, e.g. abnormalities, faults or failures}
- WARNING  
Group [H02J 3/001](#) is impacted by reclassification into groups [H02J 3/0012](#) and [H02J 3/00125](#).

Groups [H02J 3/001](#), [H02J 3/0012](#), and [H02J 3/00125](#) should be considered in order to perform a complete search.

- |   |                        |  |
|---|------------------------|--|
| N | H02J 3/0012            | <ul style="list-style-type: none"> <li>• {Contingency detection}</li> </ul> <p><u>WARNING</u></p> <p>Group <a href="#">H02J 3/0012</a> is incomplete pending reclassification of documents from groups <a href="#">H02J 3/001</a> and <a href="#">H02J 13/0006</a>.<br/>Groups <a href="#">H02J 3/001</a>, <a href="#">H02J 13/0006</a>, and <a href="#">H02J 3/0012</a> should be considered in order to perform a complete search.</p>   |
| N | H02J 3/00125           | <ul style="list-style-type: none"> <li>• {Transmission line or load transient problems, e.g. overvoltage, resonance or self-excitation of inductive loads (<a href="#">H02J 3/01</a> takes precedence)}</li> </ul> <p><u>WARNING</u></p> <p>Group <a href="#">H02J 3/00125</a> is incomplete pending reclassification of documents from groups <a href="#">H02J 3/001</a> and <a href="#">H02J 13/0006</a>.<br/>Groups <a href="#">H02J 3/001</a>, <a href="#">H02J 13/0006</a>, and <a href="#">H02J 3/00125</a> should be considered in order to perform a complete search.</p>  |
| D | H02J 2003/002          | <ul style="list-style-type: none"> <li>• {Flicker reduction, e.g. compensation of flicker introduced by non-linear load}</li> </ul> <p>&lt;administratively transferred to <a href="#">H02J 3/002</a>&gt;</p>  |
| N | H02J 3/002             | <ul style="list-style-type: none"> <li>• {Flicker reduction, e.g. compensation of flicker introduced by non-linear load}</li> </ul> <p><u>WARNING</u></p> <p>Group <a href="#">H02J 3/002</a> is incomplete pending reclassification of documents from group <a href="#">H02J 13/0006</a>.<br/>Groups <a href="#">H02J 13/0006</a> and <a href="#">H02J 3/002</a> should be considered in order to perform a complete search.</p>  |
| D | H02J 2003/003          | <ul style="list-style-type: none"> <li>• {Load forecast, e.g. method and systems for forecasting future load demand}</li> </ul> <p>&lt;administratively transferred to <a href="#">H02J 3/003</a>&gt;</p>  |
| N | H02J 3/003             | <ul style="list-style-type: none"> <li>• {Load forecast, e.g. methods or systems for forecasting future load demand}</li> </ul> <p><u>WARNING</u></p> <p>Group <a href="#">H02J 3/003</a> is incomplete pending reclassification of documents from group <a href="#">H02J 13/0006</a>.<br/>Groups <a href="#">H02J 13/0006</a> and <a href="#">H02J 3/003</a> should be considered in order to perform a complete search.</p>  |
| N | H02J 3/004             | <ul style="list-style-type: none"> <li>• {Generation forecast, e.g. methods or systems for forecasting future energy generation}</li> </ul> <p><u>WARNING</u></p> <p>Group <a href="#">H02J 3/004</a> is incomplete pending reclassification of documents from group <a href="#">H02J 13/0006</a>.<br/>Groups <a href="#">H02J 13/0006</a> and <a href="#">H02J 3/004</a> should be considered in order to perform a complete search.</p>  |
| F | H02J 3/005<br>(Frozen) | <ul style="list-style-type: none"> <li>• {Arrangements for selectively connecting the load to one among a plurality of power lines or power sources (for providing uninterruptable power supply <a href="#">H02J 9/00</a>)}</li> </ul> <p><u>WARNING</u></p> <p>Group <a href="#">H02J 3/005</a> is no longer used for the classification of documents as of January 1, 2020.<br/>The content of this group is being reclassified into groups <a href="#">H02J 3/007</a> and <a href="#">H02J 3/0075</a>.<br/>Groups <a href="#">H02J 3/005</a>, <a href="#">H02J 3/007</a>, and <a href="#">H02J 3/0075</a> should be considered in order to perform a complete search.</p> |

- D H02J 3/006
- {for providing alternative feeding paths between load and source when the main path fails, e.g. transformers, busbars}
- <administratively transferred to [H02J 3/0073](#)>
- D H02J 2003/007
- {Simulating, e. g. planning, reliability check, modeling}
- <administratively transferred to [H02J 2203/20](#) ADD>
- N H02J 3/007
- {Arrangements for selectively connecting the load or loads to one or several among a plurality of power lines or power sources (for providing uninterruptable power supply [H02J 9/00](#))}
- WARNING  
Group [H02J 3/007](#) is incomplete pending reclassification of documents from groups [H02J 3/005](#) and [H02J 13/0006](#).  
Groups [H02J 3/005](#), [H02J 13/0006](#), and [H02J 3/007](#) should be considered in order to perform a complete search.
- N H02J 3/0073
- {for providing alternative feeding paths between load and source when the main path fails, e.g. transformers, busbars}
- WARNING  
Group [H02J 3/0073](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
Groups [H02J 13/0006](#) and [H02J 3/0073](#) should be considered in order to perform a complete search.
- N H02J 3/0075
- {for providing alternative feeding paths between load and source according to economic or energy efficiency considerations, e.g. economic dispatch}
- WARNING  
Group [H02J 3/0075](#) is incomplete pending reclassification of documents from groups [H02J 3/005](#) and [H02J 13/0006](#).  
Groups [H02J 3/005](#), [H02J 13/0006](#), and [H02J 3/0075](#) should be considered in order to perform a complete search.
- M H02J 3/008
- {involving trading of energy or energy transmission rights}
- WARNING  
Group [H02J 3/008](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
Groups [H02J 13/0006](#) and [H02J 3/008](#) should be considered in order to perform a complete search.
- M H02J 3/01
- Arrangements for reducing harmonics or ripples
- WARNING  
Group [H02J 3/01](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
Groups [H02J 13/0006](#) and [H02J 3/01](#) should be considered in order to perform a complete search.
- M H02J 3/02
- using a single network for simultaneous distribution of power at different frequencies; using a single network for simultaneous distribution of ac power and of dc power
- WARNING  
Group [H02J 3/02](#) is incomplete pending reclassification of documents from groups [H02J 13/0006](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
Groups [H02J 3/02](#), [H02J 13/0006](#), [H02J 13/0093](#), and [H02J 13/0096](#) should be considered in order to perform a complete search.

M	H02J 3/04	<ul style="list-style-type: none"> <li>• for connecting networks of the same frequency but supplied from different sources</li> </ul> <p><b>WARNING</b>  Group <a href="#">H02J 3/04</a> is incomplete pending reclassification of documents from group <a href="#">H02J 13/0006</a>.  Groups <a href="#">H02J 13/0006</a> and <a href="#">H02J 3/04</a> should be considered in order to perform a complete search.</p>
M	H02J 3/06	<ul style="list-style-type: none"> <li>• Controlling transfer of power between connected networks; Controlling sharing of load between connected networks</li> </ul> <p><b>WARNING</b>  Group <a href="#">H02J 3/06</a> is incomplete pending reclassification of documents from group <a href="#">H02J 13/0006</a>.  Groups <a href="#">H02J 13/0006</a> and <a href="#">H02J 3/06</a> should be considered in order to perform a complete search.</p>
M	H02J 3/08	<ul style="list-style-type: none"> <li>• Synchronising of networks</li> </ul> <p><b>WARNING</b>  Group <a href="#">H02J 3/08</a> is incomplete pending reclassification of documents from group <a href="#">H02J 13/0006</a>.  Groups <a href="#">H02J 13/0006</a> and <a href="#">H02J 3/08</a> should be considered in order to perform a complete search.</p>
M	H02J 3/10	<ul style="list-style-type: none"> <li>• Constant-current supply systems</li> </ul> <p><b>WARNING</b>  Group <a href="#">H02J 3/10</a> is incomplete pending reclassification of documents from group <a href="#">H02J 13/0006</a>.  Groups <a href="#">H02J 13/0006</a> and <a href="#">H02J 3/10</a> should be considered in order to perform a complete search.</p>
M	H02J 3/12	<ul style="list-style-type: none"> <li>• for adjusting voltage in ac networks by changing a characteristic of the network load</li> </ul> <p><b>WARNING</b>  Group <a href="#">H02J 3/12</a> is incomplete pending reclassification of documents from group <a href="#">H02J 13/0006</a>.  Groups <a href="#">H02J 13/0006</a> and <a href="#">H02J 3/12</a> should be considered in order to perform a complete search.</p>
C	H02J 3/14	<ul style="list-style-type: none"> <li>• by switching loads on to, or off from, network, e.g. progressively balanced loading</li> </ul> <p><b>WARNING</b>  Group <a href="#">H02J 3/14</a> is incomplete pending reclassification of documents from group <a href="#">H02J 13/0006</a>.  Group <a href="#">H02J 3/14</a> is also impacted by reclassification into group <a href="#">H02J 3/144</a>.  Groups <a href="#">H02J 13/0006</a>, <a href="#">H02J 3/14</a>, and <a href="#">H02J 3/144</a> should be considered in order to perform a complete search.</p>
D	H02J 2003/143	<ul style="list-style-type: none"> <li>• {Household appliances management}</li> </ul> <p>&lt;administratively transferred to <a href="#">H02J 2310/14</a> ADD&gt;</p>
N	H02J 3/144	<ul style="list-style-type: none"> <li>• {Demand-response operation of the power transmission or distribution network}</li> </ul> <p><b>WARNING</b>  Group <a href="#">H02J 3/144</a> is incomplete pending reclassification of documents from groups <a href="#">H02J 3/14</a> and <a href="#">H02J 13/0006</a>.</p>

Groups [H02J 3/14](#), [H02J 13/0006](#), and [H02J 3/144](#) should be considered in order to perform a complete search.

D H02J 2003/146

- • • {Tariff based load management}
- <administratively transferred to [H02J 2310/64](#) ADD>

M H02J 3/16

- • by adjustment of reactive power

**WARNING**

Group [H02J 3/16](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).

Groups [H02J 13/0006](#) and [H02J 3/16](#) should be considered in order to perform a complete search.

M H02J 3/18

- Arrangements for adjusting, eliminating or compensating reactive power in networks (for adjustment of voltage [H02J 3/16](#))

**WARNING**

Group [H02J 3/18](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).

Groups [H02J 13/0006](#) and [H02J 3/18](#) should be considered in order to perform a complete search.

M H02J 3/1807

- • {using series compensators}

**WARNING**

Group [H02J 3/1807](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).

Groups [H02J 13/0006](#) and [H02J 3/1807](#) should be considered in order to perform a complete search.

M H02J 3/1814

- • • {wherein at least one reactive element is actively controlled by a bridge converter, e.g. unified power flow controllers [UPFC]}

**WARNING**

Group [H02J 3/1814](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).

Groups [H02J 13/0006](#) and [H02J 3/1814](#) should be considered in order to perform a complete search.

M H02J 3/1821

- • {using shunt compensators ([H02J 3/1807](#), [H02J 3/1878](#) take precedence)}

**WARNING**

Group [H02J 3/1821](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).

Groups [H02J 13/0006](#) and [H02J 3/1821](#) should be considered in order to perform a complete search.

M H02J 3/1828

- • • {with stepwise control, the possibility of switching in or out the entire compensating arrangement not being considered as stepwise control}

**WARNING**

Group [H02J 3/1828](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).

Groups [H02J 13/0006](#) and [H02J 3/1828](#) should be considered in order to perform a complete search.

M H02J 3/1835

- • • {with stepless control}

**WARNING**

Group [H02J 3/1835](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).



*Groups H02J 13/0006 and H02J 3/1835 should be considered in order to perform a complete search.*

- M H02J 3/1842      • • • {wherein at least one reactive element is actively controlled by a bridge converter, e.g. active filters}

**WARNING**

*Group H02J 3/1842 is incomplete pending reclassification of documents from group H02J 13/0006.*

*Groups H02J 13/0006 and H02J 3/1842 should be considered in order to perform a complete search.*

- M H02J 3/185      • • • {wherein such reactive element is purely inductive, e.g. superconductive magnetic energy storage systems [SMES]}

**WARNING**

*Group H02J 3/185 is incomplete pending reclassification of documents from group H02J 13/0006.*

*Groups H02J 13/0006 and H02J 3/185 should be considered in order to perform a complete search.*

- M H02J 3/1857      • • • {wherein such bridge converter is a multilevel converter}

**WARNING**

*Group H02J 3/1857 is incomplete pending reclassification of documents from group H02J 13/0006.*

*Groups H02J 13/0006 and H02J 3/1857 should be considered in order to perform a complete search.*

- M H02J 3/1864      • • • {wherein the stepless control of reactive power is obtained by at least one reactive element connected in series with a semiconductor switch}

**WARNING**

*Group H02J 3/1864 is incomplete pending reclassification of documents from group H02J 13/0006.*

*Groups H02J 13/0006 and H02J 3/1864 should be considered in order to perform a complete search.*

- M H02J 3/1871      • • {Methods for planning installation of shunt reactive power compensators}

**WARNING**

*Group H02J 3/1871 is incomplete pending reclassification of documents from group H02J 13/0006.*

*Groups H02J 13/0006 and H02J 3/1871 should be considered in order to perform a complete search.*

- M H02J 3/1878      • {using tap changing or phase shifting transformers}

**WARNING**

*Group H02J 3/1878 is incomplete pending reclassification of documents from group H02J 13/0006.*

*Groups H02J 13/0006 and H02J 3/1878 should be considered in order to perform a complete search.*

- M H02J 3/1885      • {using rotating means, e.g. synchronous generators}

**WARNING**

*Group H02J 3/1885 is incomplete pending reclassification of documents from group H02J 13/0006.*

*Groups H02J 13/0006 and H02J 3/1885 should be considered in order to perform a complete search.*

- M H02J 3/1892
- {the arrangements being an integral part of the load, e.g. a motor, or of its control circuit}
- WARNING  
 Group [H02J 3/1892](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
 Groups [H02J 13/0006](#) and [H02J 3/1892](#) should be considered in order to perform a complete search.
- M H02J 3/20
- in long overhead lines
- WARNING  
 Group [H02J 3/20](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
 Groups [H02J 13/0006](#) and [H02J 3/20](#) should be considered in order to perform a complete search.
- M H02J 3/22
- in cables
- WARNING  
 Group [H02J 3/22](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
 Groups [H02J 13/0006](#) and [H02J 3/22](#) should be considered in order to perform a complete search.
- C H02J 3/24
- Arrangements for preventing or reducing oscillations of power in networks (by control effected upon a single generator [H02P 9/00](#))
- WARNING  
 Group [H02J 3/24](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
 Group [H02J 3/24](#) is also impacted by reclassification into groups [H02J 3/241](#) and [H02J 3/242](#).  
 Groups [H02J 3/24](#), [H02J 13/0006](#), [H02J 3/241](#) and [H02J 3/242](#) should be considered in order to perform a complete search.
- N H02J 3/241
- {The oscillation concerning frequency}
- WARNING  
 Group [H02J 3/241](#) is incomplete pending reclassification of documents from groups [H02J 3/24](#) and [H02J 13/0006](#).  
 Groups [H02J 3/24](#), [H02J 13/0006](#), and [H02J 3/241](#) should be considered in order to perform a complete search.
- N H02J 3/242
- {using phasor measuring units [PMU]}
- WARNING  
 Group [H02J 3/242](#) is incomplete pending reclassification of documents from groups [H02J 3/24](#) and [H02J 13/0006](#).  
 Groups [H02J 3/24](#), [H02J 13/0006](#), and [H02J 3/242](#) should be considered in order to perform a complete search.
- M H02J 3/26
- Arrangements for eliminating or reducing asymmetry in polyphase networks
- WARNING  
 Group [H02J 3/26](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
 Groups [H02J 13/0006](#) and [H02J 3/26](#) should be considered in order to perform a complete search.

- M H02J 3/28
- Arrangements for balancing of the load in a network by storage of energy
- WARNING**  
 Group [H02J 3/28](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
 Groups [H02J 13/0006](#) and [H02J 3/28](#) should be considered in order to perform a complete search.
- M H02J 3/30
- • using dynamo-electric machines coupled to flywheels
- WARNING**  
 Group [H02J 3/30](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
 Groups [H02J 13/0006](#) and [H02J 3/30](#) should be considered in order to perform a complete search.
- C H02J 3/32
- • using batteries with converting means
- WARNING**  
 Group [H02J 3/32](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
 Group [H02J 3/32](#) is also impacted by reclassification into group [H02J 3/322](#).  
 Groups [H02J 13/0006](#), [H02J 3/32](#), and [H02J 3/322](#) should be considered in order to perform a complete search.
- N H02J 3/322
- • • {the battery being on-board an electric or hybrid vehicle, e.g. vehicle to grid arrangements [V2G], power aggregation, use of the battery for network load balancing, coordinated or cooperative battery charging}
- WARNING**  
 Group [H02J 3/322](#) is incomplete pending reclassification of documents from groups [H02J 3/32](#), [H02J 7/0027](#), and [H02J 13/0006](#).  
 Groups [H02J 3/322](#), [H02J 3/32](#), [H02J 7/0027](#), and [H02J 13/0006](#) should be considered in order to perform a complete search.
- M H02J 3/34
- Arrangements for transfer of electric power between networks of substantially different frequency
- WARNING**  
 Group [H02J 3/34](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
 Groups [H02J 13/0006](#) and [H02J 3/34](#) should be considered in order to perform a complete search.
- M H02J 3/36
- Arrangements for transfer of electric power between ac networks via a high-tension dc link
- WARNING**  
 Group [H02J 3/36](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
 Groups [H02J 13/0006](#) and [H02J 3/36](#) should be considered in order to perform a complete search.
- T H02J 3/38
- Arrangements for parallelly feeding a single network by two or more generators, converters or transformers
- WARNING**  
 Group [H02J 3/38](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
 Groups [H02J 13/0006](#) and [H02J 3/38](#) should be considered in order to perform a complete search.

- T H02J 3/381      • • {Dispersed generators}
- WARNING  
Group [H02J 3/381](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
Groups [H02J 13/0006](#) and [H02J 3/381](#) should be considered in order to perform a complete search.
- F H02J 3/382  
(Frozen)      • • {the generators exploiting renewable energy}
- WARNING  
Group [H02J 3/382](#) is no longer used for the classification of documents as of January 1, 2020.  
The content of this group is being reclassified into groups [H02J 2300/20](#), [H02J 2300/22](#), [H02J 3/388](#), [H02J 3/40](#), [H02J 3/42](#), [H02J 3/44](#), [H02J 3/46](#), [H02J 3/466](#), [H02J 3/472](#), [H02J 3/48](#), and [H02J 3/50](#).  
Groups [H02J 3/382](#), [H02J 2300/20](#), [H02J 2300/22](#), [H02J 3/388](#), [H02J 3/40](#), [H02J 3/42](#), [H02J 3/44](#), [H02J 3/46](#), [H02J 3/466](#), [H02J 3/472](#), [H02J 3/48](#), and [H02J 3/50](#) should be considered in order to perform a complete search.
- F H02J 3/383  
(Frozen)      • • • {Solar energy, e.g. photovoltaic energy (generation of electric power by conversion of light [H02S](#))}
- WARNING  
Group [H02J 3/383](#) is no longer used for the classification of documents as of January 1, 2020.  
The content of this group is being reclassified into groups [H02J 2300/24](#), [H02J 3/388](#), [H02J 3/40](#), [H02J 3/42](#), [H02J 3/44](#), [H02J 3/46](#), [H02J 3/466](#), [H02J 3/472](#), [H02J 3/48](#), and [H02J 3/50](#).  
Groups [H02J 3/383](#), [H02J 2300/24](#), [H02J 3/388](#), [H02J 3/40](#), [H02J 3/42](#), [H02J 3/44](#), [H02J 3/46](#), [H02J 3/466](#), [H02J 3/472](#), [H02J 3/48](#), and [H02J 3/50](#) should be considered in order to perform a complete search.
- F H02J 3/385  
(Frozen)      • • • • {Maximum power point tracking control for photovoltaic sources}
- WARNING  
Group [H02J 3/385](#) is no longer used for the classification of documents as of January 1, 2020.  
The content of this group is being reclassified into groups [H02J 2300/26](#), [H02J 3/388](#), [H02J 3/40](#), [H02J 3/42](#), [H02J 3/44](#), [H02J 3/46](#), [H02J 3/466](#), [H02J 3/472](#), [H02J 3/48](#), and [H02J 3/50](#).  
Groups [H02J 3/385](#), [H02J 2300/26](#), [H02J 3/388](#), [H02J 3/40](#), [H02J 3/42](#), [H02J 3/44](#), [H02J 3/46](#), [H02J 3/466](#), [H02J 3/472](#), [H02J 3/48](#), and [H02J 3/50](#) should be considered in order to perform a complete search.
- F H02J 3/386  
(Frozen)      • • • • {Wind energy (wind motors [F03D](#))}
- WARNING  
Group [H02J 3/386](#) is no longer used for the classification of documents as of January 1, 2020.  
The content of this group is being reclassified into groups [H02J 2300/28](#), [H02J 3/388](#), [H02J 3/40](#), [H02J 3/42](#), [H02J 3/44](#), [H02J 3/46](#), [H02J 3/466](#), [H02J 3/472](#), [H02J 3/48](#), and [H02J 3/50](#).  
Groups [H02J 3/386](#), [H02J 2300/28](#), [H02J 3/388](#), [H02J 3/40](#), [H02J 3/42](#), [H02J 3/44](#), [H02J 3/46](#), [H02J 3/466](#), [H02J 3/472](#), [H02J 3/48](#), and [H02J 3/50](#) should be considered in order to perform a complete search.
- F H02J 3/387  
(Frozen)      • • • {using fuel cells (fuel cells per se [H01M 8/00](#))}
- WARNING  
Group [H02J 3/387](#) is no longer used for the classification of documents as of January 1, 2020.

*The content of this group is being reclassified into groups [H02J 2300/30](#), [H02J 3/388](#), [H02J 3/40](#), [H02J 3/42](#), [H02J 3/44](#), [H02J 3/46](#), [H02J 3/466](#), [H02J 3/472](#), [H02J 3/48](#), and [H02J 3/50](#).  
Groups [H02J 3/387](#), [H02J 2300/30](#), [H02J 3/388](#), [H02J 3/40](#), [H02J 3/42](#), [H02J 3/44](#), [H02J 3/46](#), [H02J 3/466](#), [H02J 3/472](#), [H02J 3/48](#), and [H02J 3/50](#) should be considered in order to perform a complete search.*

- D H02J 2003/388
- {Islanding, i.e. disconnection of local power supply from the network}  
<administratively transferred to [H02J 3/388](#)>

- N H02J 3/388
- {Islanding, i.e. disconnection of local power supply from the network}

**WARNING**

Group [H02J 3/388](#) is incomplete pending reclassification of documents from groups [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 13/0006](#).

Groups [H02J 3/388](#), [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 13/0006](#) should be considered in order to perform a complete search.

- M H02J 3/40
- Synchronising a generator for connection to a network or to another generator

**WARNING**

Group [H02J 3/40](#) is incomplete pending reclassification of documents from groups [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 13/0006](#).

Groups [H02J 3/40](#), [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 13/0006](#) should be considered in order to perform a complete search.

- M H02J 3/42
- with automatic parallel connection when synchronisation is achieved

**WARNING**

Group [H02J 3/42](#) is incomplete pending reclassification of documents from groups [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 13/0006](#).

Groups [H02J 3/42](#), [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 13/0006](#) should be considered in order to perform a complete search.

- M H02J 3/44
- with means for ensuring correct phase sequence

**WARNING**

Group [H02J 3/44](#) is incomplete pending reclassification of documents from groups [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 13/0006](#).

Groups [H02J 3/44](#), [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 13/0006](#) should be considered in order to perform a complete search.

- C H02J 3/46
- Controlling of the sharing of output between the generators, converters, or transformers

**WARNING**

Group [H02J 3/46](#) is incomplete pending reclassification of documents from groups [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 13/0006](#).

Group [H02J 3/46](#) is also impacted by reclassification into groups [H02J 3/466](#) and [H02J 3/472](#).

*Groups H02J 3/46, H02J 3/382, H02J 3/383, H02J 3/385, H02J 3/386, H02J 3/387, H02J 13/0006, H02J 3/466 and H02J 3/472 should be considered in order to perform a complete search.*

N H02J 3/466

- • {Scheduling the operation of the generators, e.g. connecting or disconnecting generators to meet a given demand}

WARNING

Group [H02J 3/466](#) is incomplete pending reclassification of documents from groups [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 3/46](#).

Groups [H02J 3/466](#), [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 3/46](#) should be considered in order to perform a complete search.

N H02J 3/472

- • • {For selectively connecting the AC sources in a particular order, e.g. sequential, alternating or subsets of sources}

WARNING

Group [H02J 3/472](#) is incomplete pending reclassification of documents from groups [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), [H02J 3/46](#), and [H02J 13/0006](#).

Groups [H02J 3/472](#), [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), [H02J 3/46](#), and [H02J 13/0006](#) should be considered in order to perform a complete search.

M H02J 3/48

- • Controlling the sharing of the in-phase component

WARNING

Group [H02J 3/48](#) is incomplete pending reclassification of documents from groups [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 13/0006](#).

Groups [H02J 3/48](#), [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 13/0006](#) should be considered in order to perform a complete search.

M H02J 3/50

- • Controlling the sharing of the out-of-phase component

WARNING

Group [H02J 3/50](#) is incomplete pending reclassification of documents from groups [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 13/0006](#).

Groups [H02J 3/50](#), [H02J 3/382](#), [H02J 3/383](#), [H02J 3/385](#), [H02J 3/386](#), [H02J 3/387](#), and [H02J 13/0006](#) should be considered in order to perform a complete search.

M H02J 4/00

**Circuit arrangements for mains or distribution networks not specified as ac or dc**

WARNING

Group [H02J 4/00](#) is incomplete pending reclassification of documents from group [H02J 13/0096](#).

Groups [H02J 13/0096](#) and [H02J 4/00](#) should be considered in order to perform a complete search.

T H02J 5/00

**Circuit arrangements for transfer of electric power between ac networks and dc networks ([H02J 3/36](#) takes precedence)**

WARNING

Group [H02J 5/00](#) is impacted by reclassification into groups [H02J 50/00](#)—[H02J 50/90](#).



~~Groups H02J 5/00 and H02J 50/00 — H02J 50/90 should be considered in order to perform a complete search.~~

*Group H02J 5/00 is incomplete pending reclassification of documents from group H02J 5/005.*

*Groups H02J 5/005 and H02J 5/00 should be considered in order to perform a complete search.*

F H02J 5/005  
(Frozen)

- {with inductive power transfer (for charging [H02J 7/025](#))}

WARNING

Group [H02J 5/005](#) is ~~impacted by reclassification~~ no longer used for the classification of documents as of January 1, 2020.

*The content of this group is being reclassified into groups ~~H02J 50/00~~ — ~~H02J 5/00~~, ~~H02J 50/001~~, ~~H02J 50/005~~, ~~H02J 50/10~~, ~~H02J 50/12~~, ~~H02J 50/30~~, ~~H02J 50/40~~, ~~H02J 50/402~~, ~~H02J 50/50~~, ~~H02J 50/502~~, ~~H02J 50/60~~, ~~H02J 50/70~~, ~~H02J 50/80~~, and [H02J 50/90](#).*

*All*

~~Groups H02J 5/005 and groups listed H02J 50/00 — in this H02J 50/90 Warning~~ should be considered in order to perform a complete search.

T H02J 7/00

**Circuit arrangements for charging or depolarising batteries or for supplying loads from batteries**

WARNING

*Group H02J 7/00 is incomplete pending reclassification of documents from groups [H02J 7/0077](#), [H02J 7/0085](#), [H02J 7/0088](#), and [H02J 7/025](#).*

*Groups [H02J 7/00](#), [H02J 7/0077](#), [H02J 7/0085](#), [H02J 7/0088](#), and [H02J 7/025](#) should be considered in order to perform a complete search.*

D H02J 2007/0001

- {Authentication, i.e. circuits for checking compatibility between one component, e.g. a battery or a battery charger, and another component, e.g. a power source}

<administratively transferred to [H02J 7/00045](#)>

F H02J 7/0003  
(Frozen)

- {with provision for charging different types of batteries}

WARNING

*Group [H02J 7/0003](#) is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups [H02J 7/00032](#), [H02J 7/00034](#), [H02J 7/00045](#), and [H02J 7/00047](#).*

*Groups [H02J 7/0003](#), [H02J 7/00032](#), [H02J 7/00034](#), [H02J 7/00045](#), and [H02J 7/00047](#) should be considered in order to perform a complete search.*

N H02J 7/00032

- {characterised by data exchange}

WARNING

Group [H02J 7/00032](#) is incomplete pending reclassification of documents from group [H02J 7/0003](#).

Groups [H02J 7/0003](#) and [H02J 7/00032](#) should be considered in order to perform a complete search.

N H02J 7/00034

- {Charger exchanging data with an electronic device, i.e. telephone, whose internal battery is under charge}

WARNING

Group [H02J 7/00034](#) is incomplete pending reclassification of documents from group [H02J 7/0003](#).

Groups [H02J 7/0003](#) and [H02J 7/00034](#) should be considered in order to perform a complete search.

- N H02J 7/00036 • • {Charger exchanging data with battery}
- N H02J 7/00038 • • {using passive battery identification means, e.g. resistors or capacitors (identification by mechanical connections [H02J 7/0045](#))}
- D H02J 7/0004 • • {with data exchange between battery and charger (H02J 7/0011 takes precedence)}  
<administratively transferred to [H02J 7/00036](#)>
- N H02J 7/00041 • • • {in response to measured battery parameters, e.g. voltage, current or temperature profile}
- N H02J 7/00043 • • • {using switches, contacts or markings, e.g. optical, magnetic or barcode}
- N H02J 7/00045 • • {Authentication, i.e. circuits for checking compatibility between one component, e.g. a battery or a battery charger, and another component, e.g. a power source}

WARNING

Group [H02J 7/00045](#) is incomplete pending reclassification of documents from group [H02J 7/0003](#).

Groups [H02J 7/0003](#) and [H02J 7/00045](#) should be considered in order to perform a complete search.

- N H02J 7/00047 • {with provisions for charging different types of batteries}

WARNING

Group [H02J 7/00047](#) is incomplete pending reclassification of documents from group [H02J 7/0003](#).

Groups [H02J 7/0003](#) and [H02J 7/00047](#) should be considered in order to perform a complete search.

- D H02J 7/0006 • • {using passive battery identification means, e.g. resistors, capacitors (H02J 7/0011 takes precedence; identification by mechanical connections [H02J 7/0045](#))}

<administratively transferred to [H02J 7/00038](#)>

- D H02J 7/0008 • • • {in response to measured battery parameters, e.g. voltage, current, temperature profile}

<administratively transferred to [H02J 7/00041](#)>

- D H02J 7/0009 • • • {using switches, contacts or markings, e.g. optical, magnetic, barcode}

<administratively transferred to [H02J 7/00043](#)>

- D H02J 7/0011 • • {with charge circuits contained within battery unit}

<administratively transferred to [H02J 7/00](#)>

- T H02J 7/0013 • {for charging acting upon several batteries simultaneously or sequentially ([H02J 7/1423](#) takes precedence)}

WARNING

Group [H02J 7/0013](#) is incomplete pending reclassification of documents from groups [H02J 7/0021](#), [H02J 7/0022](#), and [H02J 7/0027](#).

Groups [H02J 7/0013](#), [H02J 7/0021](#), [H02J 7/0022](#), and [H02J 7/0027](#) should be considered in order to perform a complete search.

- M H02J 7/0014 • • {Circuits for equalisation of charge between batteries}

WARNING

Group [H02J 7/0014](#) is incomplete pending reclassification of documents from groups [H02J 7/0021](#), [H02J 7/0022](#), and [H02J 7/0027](#).

Groups [H02J 7/0014](#), [H02J 7/0021](#), [H02J 7/0022](#), and [H02J 7/0027](#) should be considered in order to perform a complete search.

M	H02J 7/0016	<ul style="list-style-type: none"> <li>• • • {using shunting, discharge or bypass circuits}</li> </ul> <p><u>WARNING</u> Group <a href="#">H02J 7/0016</a> is incomplete pending reclassification of documents from groups <a href="#">H02J 7/0021</a>, <a href="#">H02J 7/0022</a>, and <a href="#">H02J 7/0027</a>. Groups <a href="#">H02J 7/0016</a>, <a href="#">H02J 7/0021</a>, <a href="#">H02J 7/0022</a>, and <a href="#">H02J 7/0027</a> should be considered in order to perform a complete search.</p>
M	H02J 7/0018	<ul style="list-style-type: none"> <li>• • • {using separate charge circuits}</li> </ul> <p><u>WARNING</u> Group <a href="#">H02J 7/0018</a> is incomplete pending reclassification of documents from groups <a href="#">H02J 7/0021</a>, <a href="#">H02J 7/0022</a>, and <a href="#">H02J 7/0027</a>. Groups <a href="#">H02J 7/0018</a>, <a href="#">H02J 7/0021</a>, <a href="#">H02J 7/0022</a>, and <a href="#">H02J 7/0027</a> should be considered in order to perform a complete search.</p>
M	H02J 7/0019	<ul style="list-style-type: none"> <li>• • • {using switched or multiplexed charge circuits}</li> </ul> <p><u>WARNING</u> Group <a href="#">H02J 7/0019</a> is incomplete pending reclassification of documents from groups <a href="#">H02J 7/0021</a>, <a href="#">H02J 7/0022</a>, and <a href="#">H02J 7/0027</a>. Groups <a href="#">H02J 7/0019</a>, <a href="#">H02J 7/0021</a>, <a href="#">H02J 7/0022</a>, and <a href="#">H02J 7/0027</a> should be considered in order to perform a complete search.</p>
F	H02J 7/0021 (Frozen)	<ul style="list-style-type: none"> <li>• • {Monitoring or indicating circuits (<a href="#">H02J 7/0026</a> takes precedence)}</li> </ul> <p><u>WARNING</u> Group <a href="#">H02J 7/0021</a> is no longer used for the classification of documents as of January 1, 2020. The content of this group is being reclassified into groups <a href="#">H02J 7/0047</a>, <a href="#">H02J 7/0048</a>, <a href="#">H02J 7/0049</a>, <a href="#">H02J 7/005</a>, <a href="#">H02J 7/0013</a>, <a href="#">H02J 7/0014</a>, <a href="#">H02J 7/0016</a>, <a href="#">H02J 7/0018</a>, <a href="#">H02J 7/0019</a>, <a href="#">H02J 7/0024</a>, and <a href="#">H02J 7/0025</a>. All groups listed in this Warning should be considered in order to perform a complete search.</p>
F	H02J 7/0022 (Frozen)	<ul style="list-style-type: none"> <li>• • {Management of charging with batteries permanently connected to charge circuit (<a href="#">H02J 7/0014</a> takes precedence)}</li> </ul> <p><u>WARNING</u> Group <a href="#">H02J 7/0022</a> is no longer used for the classification of documents as of January 1, 2020. The content of this group is being reclassified into groups <a href="#">H02J 7/0013</a>, <a href="#">H02J 7/0014</a>, <a href="#">H02J 7/0016</a>, <a href="#">H02J 7/0018</a>, <a href="#">H02J 7/0019</a>, <a href="#">H02J 7/0024</a>, and <a href="#">H02J 7/0025</a>. All groups listed in this Warning should be considered in order to perform a complete search.</p>
T	H02J 7/0024	<ul style="list-style-type: none"> <li>• • {Parallel/serial switching of connection of batteries to charge or load circuit}</li> </ul> <p><u>WARNING</u> Group <a href="#">H02J 7/0024</a> is incomplete pending reclassification of documents from groups <a href="#">H02J 7/0021</a>, <a href="#">H02J 7/0022</a>, and <a href="#">H02J 7/0027</a>. Groups <a href="#">H02J 7/0024</a>, <a href="#">H02J 7/0021</a>, <a href="#">H02J 7/0022</a>, and <a href="#">H02J 7/0027</a> should be considered in order to perform a complete search.</p>
N	H02J 7/0025	<ul style="list-style-type: none"> <li>• • {Sequential battery discharge in systems with a plurality of batteries}</li> </ul> <p><u>WARNING</u> Group <a href="#">H02J 7/0025</a> is incomplete pending reclassification of documents from groups <a href="#">H02J 7/0021</a>, <a href="#">H02J 7/0022</a>, <a href="#">H02J 7/0027</a>, <a href="#">H02J 7/0063</a>, and <a href="#">H02J 2007/0067</a>.</p>

Groups [H02J 7/0025](#), [H02J 7/0021](#), [H02J 7/0022](#), [H02J 7/0027](#), [H02J 7/0063](#), and [H02J 2007/0067](#) should be considered in order to perform a complete search.

F H02J 7/0026  
(Frozen)

- {using safety or protection circuits, e.g. overcharge/discharge disconnection}

**WARNING**

Group [H02J 7/0026](#) is no longer used for the classification of documents as of January 1, 2020.

The content of this group is being reclassified into groups [H02J 7/0029](#), [H02J 7/00302](#), [H02J 7/00304](#), [H02J 7/00306](#), [H02J 7/00308](#), and [H02J 7/00309](#).

Groups [H02J 7/0026](#), [H02J 7/0029](#), [H02J 7/00302](#), [H02J 7/00304](#), [H02J 7/00306](#), [H02J 7/00308](#), and [H02J 7/00309](#) should be considered in order to perform a complete search.

F H02J 7/0027  
(Frozen)

- {Stations for charging mobile units, e.g. of electric vehicles, of mobile telephones ([H02J 7/0021](#), [H02J 7/0026](#) take precedence)}

**WARNING**

Group [H02J 7/0027](#) is no longer used for the classification of documents as of January 1, 2020.

The content of this group is being reclassified into groups [H02J 3/322](#), [H02J 7/0013](#), [H02J 7/0014](#), [H02J 7/0016](#), [H02J 7/0018](#), [H02J 7/0019](#), [H02J 7/0024](#), [H02J 7/0025](#), [H02J 7/0042](#), [H02J 7/0044](#), [H02J 7/0045](#), [H02J 2310/22](#), [H02J 2310/40](#), [H02J 2310/42](#), [H02J 2310/44](#), [H02J 2310/46](#), and [H02J 2310/48](#).

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

C H02J 7/0029

- {with safety **or protection** devices **or circuits**}~~{H02J 7/0026 takes precedence}~~

**WARNING**

Group [H02J 7/0029](#) is incomplete pending reclassification of documents from groups [H02J 7/0026](#), [H02J 7/0027](#), [H02J 7/1461](#), and [H02J 7/166](#).

Group [H02J 7/0029](#) is also impacted by reclassification into groups [H02J 7/00302](#), [H02J 7/00304](#), [H02J 7/00306](#), [H02J 7/00308](#), and [H02J 7/00309](#).

Groups [H02J 7/0029](#), [H02J 7/0026](#), [H02J 7/0027](#), [H02J 7/1461](#), and [H02J 7/166](#), [H02J 7/00302](#), [H02J 7/00304](#), [H02J 7/00306](#), [H02J 7/00308](#), and [H02J 7/00309](#) should be considered in order to perform a complete search.

N H02J 7/00302

- {Overcharge protection}

**WARNING**

Group [H02J 7/00302](#) is incomplete pending reclassification of documents from groups [H02J 7/0026](#), [H02J 7/0029](#), [H02J 7/0027](#), [H02J 7/1461](#), and [H02J 7/166](#).

Groups [H02J 7/00302](#), [H02J 7/0026](#), [H02J 7/0029](#), [H02J 7/0027](#), [H02J 7/1461](#), and [H02J 7/166](#) should be considered in order to perform a complete search.

N H02J 7/00304

- {Overcurrent protection}

**WARNING**

Group [H02J 7/00304](#) is incomplete pending reclassification of documents from groups [H02J 7/0026](#), [H02J 7/0029](#), [H02J 7/0027](#), [H02J 7/1461](#), and [H02J 7/166](#).

Groups [H02J 7/00304](#), [H02J 7/0026](#), [H02J 7/0029](#), [H02J 7/0027](#), [H02J 7/1461](#), and [H02J 7/166](#) should be considered in order to perform a complete search.

- N H02J 7/00306
- {Overdischarge protection}
- WARNING  
Group [H02J 7/00306](#) is incomplete pending reclassification of documents from groups [H02J 7/0026](#), [H02J 7/0029](#), [H02J 7/027](#), [H02J 7/1461](#), and [H02J 7/166](#).  
Groups [H02J 7/00306](#), [H02J 7/0026](#), [H02J 7/0029](#), [H02J 7/027](#), [H02J 7/1461](#), and [H02J 7/166](#) should be considered in order to perform a complete search.
- N H02J 7/00308
- {Overvoltage protection}
- WARNING  
Group [H02J 7/00308](#) is incomplete pending reclassification of documents from groups [H02J 7/0026](#), [H02J 7/0029](#), [H02J 7/027](#), [H02J 7/1461](#), and [H02J 7/166](#).  
Groups [H02J 7/00308](#), [H02J 7/0026](#), [H02J 7/0029](#), [H02J 7/027](#), [H02J 7/1461](#), and [H02J 7/166](#) should be considered in order to perform a complete search.
- N H02J 7/00309
- {Overheat or overtemperature protection}
- WARNING  
Group [H02J 7/00309](#) is incomplete pending reclassification of documents from groups [H02J 7/0026](#), [H02J 7/0029](#), [H02J 7/027](#), [H02J 7/1461](#), and [H02J 7/166](#).  
Groups [H02J 7/00309](#), [H02J 7/0026](#), [H02J 7/0029](#), [H02J 7/027](#), [H02J 7/1461](#), and [H02J 7/166](#) should be considered in order to perform a complete search.
- D H02J 2007/0037
- {Overcharge protection}
- <administratively transferred to [H02J 7/00302](#)>
- D H02J 2007/0039
- {Overcurrent protection}
- <administratively transferred to [H02J 7/00304](#)>
- D H02J 2007/004
- {Overdischarge protection}
- <administratively transferred to [H02J 7/00306](#)>
- T H02J 7/0042
- {characterised by the mechanical construction ~~(H02J 7/355 takes precedence)~~}
- WARNING  
Group [H02J 7/0042](#) is incomplete pending reclassification of documents from groups [H02J 7/0027](#) and [H02J 7/025](#).  
Groups [H02J 7/0027](#), [H02J 7/025](#), and [H02J 7/0042](#) should be considered in order to perform a complete search.
- M H02J 7/0044
- {specially adapted for holding portable devices containing batteries ([H02J 7/0045](#) takes precedence)}
- WARNING  
Group [H02J 7/0044](#) is incomplete pending reclassification of documents from groups [H02J 7/0027](#) and [H02J 7/025](#).  
Groups [H02J 7/0027](#), [H02J 7/025](#), and [H02J 7/0044](#) should be considered in order to perform a complete search.
- T H02J 7/0045
- {concerning the insertion or the connection of the batteries ~~(charging from ac mains using non-contact coupling H02J 7/025)~~}
- WARNING  
Group [H02J 7/0045](#) is incomplete pending reclassification of documents from groups [H02J 7/0027](#) and [H02J 7/025](#).

*Groups H02J 7/0027, H02J 7/025, and H02J 7/0045 should be considered in order to perform a complete search.*

- C H02J 7/0047
- {with *monitoring or* indicating devices *or circuits*} (~~H02J 7/0021 takes precedence~~)
- WARNING**  
Group *H02J 7/0047* is incomplete pending reclassification of documents from groups *H02J 7/0021*, *H02J 7/027*, *H02J 7/1461*, and *H02J 7/166*.  
Group *H02J 7/0047* is also impacted by reclassification into groups *H02J 7/0048* and *H02J 7/005*.  
Groups *H02J 7/0047*, *H02J 7/0021*, *H02J 7/027*, *H02J 7/1461*, and *H02J 7/166* should be considered in order to perform a complete search.
- N H02J 7/0048
- {Detection of remaining charge capacity or state of charge [SOC]}
- WARNING**  
Group *H02J 7/0048* is incomplete pending reclassification of documents from groups *H02J 7/0021*, *H02J 7/0047*, *H02J 7/027*, *H02J 7/1461*, and *H02J 7/166*.  
Groups *H02J 7/0048*, *H02J 7/0021*, *H02J 7/0047*, *H02J 7/027*, *H02J 7/1461*, and *H02J 7/166* should be considered in order to perform a complete search.
- D H02J 2007/0049
- {Detection of fully charged condition}
- <administratively transferred to [H02J 7/0049](#)>
- N H02J 7/0049
- • {Detection of fully charged condition}
- WARNING**  
Group *H02J 7/0049* is incomplete pending reclassification of documents from groups *H02J 7/0021*, *H02J 7/027*, *H02J 7/1461*, and *H02J 7/166*.  
Groups *H02J 7/0049*, *H02J 7/0021*, *H02J 7/027*, *H02J 7/1461*, and *H02J 7/166* should be considered in order to perform a complete search.
- D H02J 2007/005
- • {Detection of remaining charge capacity}
- <administratively transferred to [H02J 7/0048](#)>
- N H02J 7/005
- • {Detection of state of health [SOH]}
- WARNING**  
Group *H02J 7/005* is incomplete pending reclassification of documents from groups *H02J 7/0021*, *H02J 7/0047*, *H02J 7/027*, *H02J 7/1461*, and *H02J 7/166*.  
Groups *H02J 7/005*, *H02J 7/0021*, *H02J 7/0047*, *H02J 7/027*, *H02J 7/1461*, and *H02J 7/166* should be considered in order to perform a complete search.
- D H02J 7/0052
- {Charge circuits only (H02J 7/0003, H02J 7/0013, H02J 7/007 take precedence)}
- <administratively transferred to [H02J 7/00](#)>
- D H02J 7/0054
- • {Battery to battery charging (with circuits for polarity protection H02J 7/0034)}
- <administratively transferred to [H02J 7/342](#)>
- D H02J 7/0055
- • {adapted for charging from various sources, e.g. AC, DC, multivoltage}
- <administratively transferred to [H02J 2207/40](#) ADD>
- D H02J 7/0057
- • {adapted for charge maintenance or battery rejuvenation (H02J 7/0075 takes precedence)}
- <administratively transferred to [H02J 7/0069](#)>
- D H02J 2007/0059
- • {characterised by the converter}
- <administratively transferred to [H02J 2207/20](#) ADD>



- D H02J 2007/006
  - {Charge provided using dc bus or data bus of a computer}
    - <administratively transferred to [H02J 2207/30](#) ADD>
- D H02J 2007/0062
  - {Charge provided using USB port connectors}
    - <administratively transferred to [H02J 7/00](#)>
- C H02J 7/0063
  - {**Circuits** with **circuits** adapted for supplying loads **only** from the battery}

**WARNING**

Group [H02J 7/0063](#) is impacted by reclassification into groups [H02J 7/0025](#), [H02J 7/007](#), [H02J 7/0071](#), [H02J 7/00711](#), [H02J 7/00712](#), [H02J 7/00714](#), [H02J 7/00716](#), [H02J 7/00718](#), [H02J 7/007182](#), [H02J 7/007184](#), [H02J 7/007186](#), [H02J 7/007188](#), [H02J 7/00719](#), [H02J 7/007192](#), and [H02J 7/007194](#).

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

- D H02J 7/0065
  - {using converters specially adapted for use with a battery}
    - <administratively transferred to [H02J 2207/20](#) ADD>
- F H02J 2007/0067  
(Frozen)
  - {Discharge management, i.e. discharge current reduction at low state of charge, sequential battery discharge in systems with a plurality of battery}

**WARNING**

Group [H02J 2007/0067](#) is no longer used for the classification of documents as of January 1, 2020.

The content of this group is being reclassified into groups [H02J 7/0025](#), [H02J 7/007](#), [H02J 7/0071](#), [H02J 7/00711](#), [H02J 7/00712](#), [H02J 7/00714](#), [H02J 7/00716](#), [H02J 7/00718](#), [H02J 7/007182](#), [H02J 7/007184](#), [H02J 7/007186](#), [H02J 7/007188](#), [H02J 7/00719](#), [H02J 7/007192](#), and [H02J 7/007194](#).

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

- U H02J 7/0068
  - {Battery or charger load switching, e.g. concurrent charging and load supply ([H02J 7/0013](#) takes precedence)}
- N H02J 7/0069
  - {Charging or discharging for charge maintenance, battery initiation or rejuvenation}
- C H02J 7/007
  - {Regulation of charging **or discharging** current or voltage}

**WARNING**

Group [H02J 7/007](#) is incomplete pending reclassification of documents from groups [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/042](#), [H02J 2007/10](#), and [H02J 7/125](#).

Group [H02J 7/007](#) is also impacted by reclassification into groups [H02J 7/00712](#) and [H02J 7/007188](#).

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

- N H02J 7/0071
    - {with a programmable schedule}
- WARNING**
- Group [H02J 7/0071](#) is incomplete pending reclassification of documents from groups [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/0072](#), [H02J 7/042](#), [H02J 2007/10](#), and [H02J 7/125](#).
- Groups [H02J 7/0071](#), [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/0072](#), [H02J 7/042](#), [H02J 2007/10](#), and [H02J 7/125](#) should be considered in order to perform a complete search.

- N H02J 7/00711      • • {with introduction of pulses during the charging process}
- WARNING  
Group [H02J 7/00711](#) is incomplete pending reclassification of documents from groups [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/0072](#), [H02J 7/042](#), [H02J 2007/10](#), and [H02J 7/125](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 7/00712      • • {the cycle being controlled or terminated in response to electric parameters}
- WARNING  
Group [H02J 7/00712](#) is incomplete pending reclassification of documents from groups [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/007](#), [H02J 7/0077](#), [H02J 7/008](#), [H02J 7/042](#), [H02J 7/085](#), [H02J 2007/10](#), and [H02J 7/125](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 7/00714      • • • {in response to battery charging or discharging current}
- WARNING  
Group [H02J 7/00714](#) is incomplete pending reclassification of documents from groups [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/0072](#), [H02J 7/0078](#), [H02J 7/008](#), [H02J 7/042](#), [H02J 7/045](#), [H02J 7/085](#), [H02J 2007/10](#), and [H02J 7/125](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 7/00716      • • • • {in response to integrated charge or discharge current}
- WARNING  
Group [H02J 7/00716](#) is incomplete pending reclassification of documents from groups [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/0072](#), [H02J 7/0078](#), [H02J 7/008](#), [H02J 7/042](#), [H02J 7/085](#), [H02J 2007/10](#), and [H02J 7/125](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 7/00718      • • • • {in response to charge current gradient}
- WARNING  
Group [H02J 7/00718](#) is incomplete pending reclassification of documents from groups [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/0072](#), [H02J 7/0078](#), [H02J 7/008](#), [H02J 7/042](#), [H02J 7/045](#), [H02J 7/085](#), [H02J 2007/10](#), and [H02J 7/125](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 7/007182      • • • {in response to battery voltage}
- WARNING  
Group [H02J 7/007182](#) is incomplete pending reclassification of documents from groups [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/0072](#), [H02J 7/008](#), [H02J 7/0086](#), [H02J 7/042](#), [H02J 7/045](#), [H02J 7/085](#), [H02J 2007/10](#), and [H02J 7/125](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 7/007184      • • • • {in response to battery voltage gradient}
- WARNING  
Group [H02J 7/007184](#) is incomplete pending reclassification of documents from groups [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/0072](#),

[H02J 7/008](#), [H02J 7/0086](#), [H02J 7/042](#), [H02J 7/045](#), [H02J 7/085](#),  
[H02J 2007/10](#), and [H02J 7/125](#).

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

- N H02J 7/007186 . . . {obtained with the battery disconnected from the charge or discharge circuit}

WARNING

Group [H02J 7/007186](#) is incomplete pending reclassification of documents from groups [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/0072](#), [H02J 7/0085](#), [H02J 7/042](#), [H02J 7/045](#), [H02J 7/085](#), [H02J 2007/10](#), and [H02J 7/125](#).

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

- N H02J 7/007188 . . {the charge cycle being controlled or terminated in response to non-electric parameters}

WARNING

Group [H02J 7/007188](#) is incomplete pending reclassification of documents from groups [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/007](#), [H02J 7/0072](#), [H02J 7/0088](#), [H02J 7/042](#), [H02J 7/087](#), [H02J 2007/10](#), and [H02J 7/125](#).

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

- N H02J 7/00719 . . . {in response to degree of gas development in the battery}

WARNING

Group [H02J 7/00719](#) is incomplete pending reclassification of documents from groups [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/0072](#), [H02J 7/042](#), [H02J 7/087](#), [H02J 2007/10](#), and [H02J 7/125](#).

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

- N H02J 7/007192 . . . {in response to temperature}

WARNING

Group [H02J 7/007192](#) is incomplete pending reclassification of documents from groups [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/0072](#), [H02J 7/0091](#), [H02J 7/042](#), [H02J 7/087](#), [H02J 2007/10](#), and [H02J 7/125](#).

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

- N H02J 7/007194 . . . . {of the battery}

WARNING

Group [H02J 7/007194](#) is incomplete pending reclassification of documents from groups [H02J 7/0063](#), [H02J 2007/0067](#), [H02J 7/0072](#), [H02J 7/0091](#), [H02J 7/042](#), [H02J 7/087](#), [H02J 2007/10](#), and [H02J 7/125](#).

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

- F H02J 7/0072  
(Frozen) . . {using semiconductor devices only}

WARNING

Group [H02J 7/0072](#) is no longer used for the classification of documents as of January 1, 2020.

The content of this group is being reclassified into groups [H02J 7/0071](#), [H02J 7/00711](#), [H02J 7/00714](#), [H02J 7/00716](#), [H02J 7/00718](#), [H02J 7/007182](#), [H02J 7/007184](#), [H02J 7/007186](#), [H02J 7/007188](#), [H02J 7/00719](#), [H02J 7/007192](#), and [H02J 7/007194](#).

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

- D H02J 7/0073
  - • {with a programmable charge schedule (H02J 7/0093 takes precedence)}  
<administratively transferred to [H02J 7/0071](#)>
- D H02J 7/0075
  - • • {for charge maintenance, battery initiation or rejuvenation}  
<administratively transferred to [H02J 7/0069](#)>
- F H02J 7/0077  
(Frozen)
  - • {the charge cycle being terminated in response to electric parameters  
(~~H02J 7/0093~~ **H02J 7/0093** takes precedence)}

**WARNING**

*Group [H02J 7/0077](#) is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups [H02J 7/00](#) and [H02J 7/00712](#).*

*Groups [H02J 7/0077](#), [H02J 7/00](#), and [H02J 7/00712](#) should be considered in order to perform a complete search.*

- F H02J 7/0078  
(Frozen)
  - • • {in response to discharge current, e.g. using a coulometer, pilot cell}

**WARNING**

*Group [H02J 7/0078](#) is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups [H02J 7/00714](#), [H02J 7/00716](#), and [H02J 7/00718](#).*

*Groups [H02J 7/0078](#), [H02J 7/00714](#), [H02J 7/00716](#), and [H02J 7/00718](#) should be considered in order to perform a complete search.*

- F H02J 7/008  
(Frozen)
  - • • {with the battery connected to the charge circuit}

**WARNING**

*Group [H02J 7/008](#) is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups [H02J 7/00712](#), [H02J 7/00714](#), [H02J 7/00716](#), [H02J 7/00718](#), [H02J 7/007182](#), and [H02J 7/007184](#).*

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

- D H02J 7/0081
  - • • • {and in response to battery voltage gradient}  
<administratively transferred to [H02J 7/007184](#)>

- D H02J 7/0083
  - • • • {and in response to charge current gradient}  
<administratively transferred to [H02J 7/00718](#)>

- F H02J 7/0085  
(Frozen)
  - • • • {with the battery disconnected from the charge circuit}

**WARNING**

*Group [H02J 7/0085](#) is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups [H02J 7/00](#) and [H02J 7/007186](#).*

*Groups [H02J 7/0085](#), [H02J 7/00](#), and [H02J 7/007186](#) should be considered in order to perform a complete search.*

- F H02J 7/0086  
(Frozen)
  - • • • {and in response to battery voltage}

**WARNING**

*Group [H02J 7/0086](#) is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups H02J 7/007182 and H02J 7/007184. Groups H02J 7/0086, H02J 7/007182, and H02J 7/007184 should be considered in order to perform a complete search.*

F H02J 7/0088  
(Frozen)

- • {the charge cycle being terminated in response to non-electric parameters (H02J 7/0093 H02J 7/0093 takes precedence)}

**WARNING**

*Group H02J 7/0088 is no longer used for the classification of documents as of January 1, 2020. The content of this group is being reclassified into groups H02J 7/00 and H02J 7/007188. Groups H02J 7/0088, H02J 7/00, and H02J 7/007188 should be considered in order to perform a complete search.*

D H02J 7/009

- • • {in response to degree of gas development in the battery}  
<administratively transferred to H02J 7/00719>

F H02J 7/0091  
(Frozen)

- • • {in response to temperature of the battery}

**WARNING**

*Group H02J 7/0091 is no longer used for the classification of documents as of January 1, 2020. The content of this group is being reclassified into groups H02J 7/007192 and H02J 7/007194. Groups H02J 7/0091, H02J 7/007192, and H02J 7/007194 should be considered in order to perform a complete search.*

D H02J 7/0093

- • • {with introduction of pulses during the charging process}  
<administratively transferred to H02J 7/00711>

D H02J 2007/0095

- {Control circuit supply, e.g. means for supplying power to the control circuit}  
<administratively transferred to H02J 2207/10 ADD>

D H02J 2007/0096

- {Charger exchanging data with an electronic device, i.e. telephone, whose internal battery is under charge}  
<administratively transferred to H02J 7/00034>

D H02J 2007/0098

- {Smart battery, e.g. battery with means for data exchanging with charger}  
<administratively transferred to H01M 10/4257>

T H02J 7/02

- for charging batteries from ac mains by converters

**WARNING**

*Group H02J 7/02 is impacted by reclassification into groups H02J 50/00 – H02J 50/90. Groups H02J 7/02 and H02J 50/00 – H02J 50/90 should be considered in order to perform a complete search.*

*Group H02J 7/02 is incomplete pending reclassification of documents from group H02J 7/022. Groups H02J 7/022 and H02J 7/02 should be considered in order to perform a complete search.*

F H02J 7/022  
(Frozen)

- {characterised by the type of converter}

**WARNING**

*Group H02J 7/022 is no longer used for the classification of documents as of January 1, 2020. The content of this group is being reclassified into groups H02J 7/02 and H02J 2207/20.*

*Groups H02J 7/022, H02J 7/02, and H02J 2207/20 should be considered in order to perform a complete search.*

F H02J 7/025  
(Frozen)

- • • {using non-contact coupling, e.g. inductive, capacitive}

**WARNING**

Group H02J 7/025 is **impacted by reclassification** no longer used for the classification of documents as of January 1, 2020.

The content of this group is being reclassified into groups **H02J 50/00** – H02J 50/001, H02J 50/005, H02J 50/10, H02J 50/12, H02J 50/30, H02J 50/40, H02J 50/402, H02J 50/50, H02J 50/502, H02J 50/60, H02J 50/70, H02J 50/80, H02J 50/90, H02J 7/00, H02J 7/0042, H02J 7/0044,

**Groups H02J 7/025 and H02J 50/00 – and H02J 7/0045.**

**All H02J 50/90 groups listed in this Warning should be considered in order to perform a complete search.**

F H02J 7/027  
(Frozen)

- • {with safety or indicating device}

**WARNING**

Group H02J 7/027 is no longer used for the classification of documents as of January 1, 2020.

The content of this group is being reclassified into groups H02J 7/0029, H02J 7/00302, H02J 7/00304, H02J 7/00306, H02J 7/00308, H02J 7/00309, H02J 7/0047, H02J 7/0048, H02J 7/0049, and H02J 7/005.

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

U H02J 7/04

- • Regulation of charging current or voltage

D H02J 7/041

- • • {with a programmable charge schedule}

<administratively transferred to H02J 7/0071>

F H02J 7/042  
(Frozen)

- • • {the charge cycle being controlled in response to a measured parameter}

**WARNING**

Group H02J 7/042 is no longer used for the classification of documents as of January 1, 2020.

The content of this group is being reclassified into groups H02J 7/007, H02J 7/0071, H02J 7/00711, H02J 7/00712, H02J 7/00714, H02J 7/00716, H02J 7/00718, H02J 7/007182, H02J 7/007184, H02J 7/007186, H02J 7/007188, H02J 7/00719, H02J 7/007192, and H02J 7/007194.

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

D H02J 7/044

- • • • {in response to integrated charge or discharge current}

<administratively transferred to H02J 7/00716>

F H02J 7/045  
(Frozen)

- • • • {in response to voltage or current}

**WARNING**

Group H02J 7/045 is no longer used for the classification of documents as of January 1, 2020.

The content of this group is being reclassified into groups H02J 7/00714, H02J 7/00718, H02J 7/007182, H02J 7/007184, and H02J 7/007186.

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

D H02J 7/047

- • • • {in response to temperature}

D H02J 7/048

- • • • {in response to degree of gas development in the battery}

<administratively transferred to H02J 7/00719>



- |   |                          |   |
|---|--------------------------|---|
| U | H02J 7/06                | • • • using discharge tubes or semiconductor devices  |
| U | H02J 7/08                | • • • • using discharge tubes only  |
| D | H02J 7/082               | • • • • • {with a programmable charge schedule}<br><administratively transferred to <a href="#">H02J 7/0071</a> >   |
| F | H02J 7/085<br>(Frozen)   | • • • • • {the charge cycle being terminated in response to electric parameters}<br><br><b>WARNING</b><br><i>Group <a href="#">H02J 7/085</a> is no longer used for the classification of documents as of January 1, 2020.</i><br><i>The content of this group is being reclassified into groups <a href="#">H02J 7/00712</a>, <a href="#">H02J 7/00714</a>, <a href="#">H02J 7/00716</a>, <a href="#">H02J 7/00718</a>, <a href="#">H02J 7/007182</a>, <a href="#">H02J 7/007184</a>, and <a href="#">H02J 7/007186</a>.</i><br><i>All groups listed in this Warning should be considered in order to perform a complete search.</i>   |
| F | H02J 7/087<br>(Frozen)   | • • • • • {the charge cycle being terminated in response to non-electric parameters}<br><br><b>WARNING</b><br><i>Group <a href="#">H02J 7/087</a> is no longer used for the classification of documents as of January 1, 2020.</i><br><i>The content of this group is being reclassified into groups <a href="#">H02J 7/007188</a>, <a href="#">H02J 7/00719</a>, <a href="#">H02J 7/007192</a>, and <a href="#">H02J 7/007194</a>.</i><br><i>All groups listed in this Warning should be considered in order to perform a complete search.</i>   |
| F | H02J 2007/10<br>(Frozen) | • • • • • {using semiconductor devices only}<br><br><b>WARNING</b><br><i>Group <a href="#">H02J 2007/10</a> is no longer used for the classification of documents as of January 1, 2020.</i><br><i>The content of this group is being reclassified into groups <a href="#">H02J 7/007</a>, <a href="#">H02J 7/0071</a>, <a href="#">H02J 7/00711</a>, <a href="#">H02J 7/00712</a>, <a href="#">H02J 7/00714</a>, <a href="#">H02J 7/00716</a>, <a href="#">H02J 7/00718</a>, <a href="#">H02J 7/007182</a>, <a href="#">H02J 7/007184</a>, <a href="#">H02J 7/007186</a>, <a href="#">H02J 7/007188</a>, <a href="#">H02J 7/00719</a>, <a href="#">H02J 7/007192</a>, and <a href="#">H02J 7/007194</a>.</i><br><i>All groups listed in this Warning should be considered in order to perform a complete search.</i>                           |
| D | H02J 2007/105            | • • • • • {with introduction of pulses during the charging process}<br><administratively transferred to <a href="#">H02J 7/00711</a> >  |
| U | H02J 7/12                | • • • using magnetic devices having controllable degree of saturation, i.e. transducers   |
| F | H02J 7/125<br>(Frozen)   | • • • • • {in combination with discharge tubes or semiconductor devices}<br><br><b>WARNING</b><br><i>Group <a href="#">H02J 7/125</a> is no longer used for the classification of documents as of January 1, 2020.</i><br><i>The content of this group is being reclassified into groups <a href="#">H02J 7/007</a>, <a href="#">H02J 7/0071</a>, <a href="#">H02J 7/00711</a>, <a href="#">H02J 7/00712</a>, <a href="#">H02J 7/00714</a>, <a href="#">H02J 7/00716</a>, <a href="#">H02J 7/00718</a>, <a href="#">H02J 7/007182</a>, <a href="#">H02J 7/007184</a>, <a href="#">H02J 7/007186</a>, <a href="#">H02J 7/007188</a>, <a href="#">H02J 7/00719</a>, <a href="#">H02J 7/007192</a>, and <a href="#">H02J 7/007194</a>.</i><br><i>All groups listed in this Warning should be considered in order to perform a complete search.</i> |
| U | H02J 7/14                | • for charging batteries from dynamo-electric generators driven at varying speed, e.g. on vehicle   |

M	H02J 7/1423	• • {with multiple batteries <del>or generators</del> }
N	H02J 7/143	• • {with multiple generators}
D	H02J 2007/143	• • • {Multiple generators} <administratively transferred to <a href="#">H02J 7/143</a> >
D	H02J 7/1453	• • {with temperature compensation}
F	H02J 7/1461 (Frozen)	• • {with safety or indicating devices}  <b>WARNING</b> Group <a href="#">H02J 7/1461</a> is no longer used for the classification of documents as of January 1, 2020. The content of this group is being reclassified into groups <a href="#">H02J 7/0029</a> , <a href="#">H02J 7/00302</a> , <a href="#">H02J 7/00304</a> , <a href="#">H02J 7/00306</a> , <a href="#">H02J 7/00308</a> , <a href="#">H02J 7/00309</a> , <a href="#">H02J 7/0047</a> , <a href="#">H02J 7/0048</a> , <a href="#">H02J 7/0049</a> , and <a href="#">H02J 7/005</a> . All groups listed in this Warning should be considered in order to perform a complete search.
U	H02J 7/16	• • Regulation of the charging current or voltage by variation of field
F	H02J 7/166 (Frozen)	• • • {with safety or indicating devices}  <b>WARNING</b> Group <a href="#">H02J 7/166</a> is no longer used for the classification of documents as of January 1, 2020. The content of this group is being reclassified into groups <a href="#">H02J 7/0029</a> , <a href="#">H02J 7/00302</a> , <a href="#">H02J 7/00304</a> , <a href="#">H02J 7/00306</a> , <a href="#">H02J 7/00308</a> , <a href="#">H02J 7/00309</a> , <a href="#">H02J 7/0047</a> , <a href="#">H02J 7/0048</a> , <a href="#">H02J 7/0049</a> , and <a href="#">H02J 7/005</a> . All groups listed in this Warning should be considered in order to perform a complete search.
T	H02J 7/24	• • • using discharge tubes or semiconductor devices
D	H02J 7/241	• • • • {using discharge tubes only} <administratively transferred to <a href="#">H02J 7/24</a> >
D	H02J 7/242	• • • • {using semiconductor devices as final control devices} <administratively transferred to <a href="#">H02J 7/24</a> >
N	H02J 7/243	• • • • {with on/off action}
N	H02J 7/2434	• • • • {with pulse modulation}
N	H02J 7/2437	• • • • {using thyristors or triacs as final control devices}
D	H02J 7/244	• • • • • {with on/off action} <administratively transferred to <a href="#">H02J 7/243</a> >
D	H02J 7/245	• • • • • {with pulse modulation} <administratively transferred to <a href="#">H02J 7/2434</a> >
D	H02J 7/247	• • • • • {using thyristors or triacs as final control devices} <administratively transferred to <a href="#">H02J 7/2437</a> >
D	H02J 7/248	• • • • • {characterised by the mechanical construction} <administratively transferred to <a href="#">H02J 7/0042</a> >
U	H02J 7/32	• for charging batteries from a charging set comprising a non-electric prime mover {rotating at constant speed}
D	H02J 7/322	• • {by variation of field, using discharge tubes} <administratively transferred to <a href="#">H02J 7/32</a> >
D	H02J 7/324	• • {by variation of field, using semiconductor devices} <administratively transferred to <a href="#">H02J 7/32</a> >

- D H02J 7/326
- {by variation of field, using armature-reaction-excited machines}
  - <administratively transferred to [H02J 7/32](#)>
- D H02J 7/328
- {by variation of field, using magnetic devices having controllable degree of saturation}
  - <administratively transferred to [H02J 7/32](#)>
- U H02J 7/34
- Parallel operation in networks using both storage and other dc sources, e.g. providing buffering ([H02J 7/14](#) takes precedence)
- N H02J 7/342
- {The other DC source being a battery actively interacting with the first one, i.e. battery to battery charging (with circuits for polarity protection [H02J 7/0034](#))}
- U H02J 7/35
- with light sensitive cells
- D H02J 7/355
- {characterised by the mechanical construction}
  - <administratively transferred to [H02J 7/35](#)>
- U H02J 9/00**
- Circuit arrangements for emergency or stand-by power supply, e.g. for emergency lighting**
- U H02J 9/005
- {using a power saving mode (for copiers [G03G 15/5004](#))}
- D H02J 2009/007
- {Detection of the absence of a load}
  - <administratively transferred to [H02J 9/007](#)>
- N H02J 9/007
- {Detection of the absence of a load}
- U H02J 9/04
- in which the distribution system is disconnected from the normal source and connected to a standby source
- M H02J 9/06
- with automatic change-over {, e.g. UPS systems}
- M H02J 9/061
- {characterised by the use of electronic means for DC powered loads} ([H02J 9/062](#) and [H02J 9/065](#) take precedence)
- M H02J 9/062
- {involving non-rotating DC/for AC converters powered loads}
- D H02J 2009/063
- {Common neutral, e.g. ac input neutral line connected to ac output neutral line and dc middle point}
  - <administratively transferred to [H02J 9/063](#)>
- N H02J 9/063
- {Common neutral, e.g. AC input neutral line connected to AC output neutral line and DC middle point}
- U H02J 9/065
- {for lighting purposes}
- D H02J 2009/067
- {using multi-primary transformers, e.g. transformer having one primary for each ac energy source and a secondary for the loads}
  - <administratively transferred to [H02J 9/067](#)>
- N H02J 9/067
- {using multi-primary transformers, e.g. transformer having one primary for each AC energy source and a secondary for the loads}
- D H02J 2009/068
- {Electronic means for switching from one power supply to another power supply, e.g. to avoid parallel connection}
  - <administratively transferred to [H02J 9/068](#)>
- N H02J 9/068
- {Electronic means for switching from one power supply to another power supply, e.g. to avoid parallel connection}

- T H02J 13/00** Circuit arrangements for providing remote indication of network conditions, e.g. an instantaneous record of the open or closed condition of each circuitbreaker in the network; Circuit arrangements for providing remote control of switching means in a power distribution network, e.g. switching in and out of current consumers by using a pulse code signal carried by the network ~~{{circuits for indication of single switches H01H 9/167; circuits specially adapted for remote switching of lighting via the power line H05B 37/0263}}~~
- WARNING  
 Group [H02J 13/00](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0013](#), [H02J 13/0079](#), and [H02J 13/0086](#).  
 Groups [H02J 13/00](#), [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0013](#), [H02J 13/0079](#), and [H02J 13/0086](#) should be considered in order to perform a complete search.
- N H02J 13/00001** • {characterised by the display of information or by user interaction, e.g. supervisory control and data acquisition systems [SCADA] or graphical user interfaces [GUI]}
- WARNING  
 Group [H02J 13/00001](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00002** • {characterised by monitoring}
- WARNING  
 Group [H02J 13/00002](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00004** • {characterised by the power network being locally controlled}
- WARNING  
 Group [H02J 13/00004](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00006** • {characterised by information or instructions transport means between the monitoring, controlling or managing units and monitored, controlled or operated power network element or electrical equipment}
- WARNING  
 Group [H02J 13/00006](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0013](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
 All groups listed in this Warning should be considered in order to perform a complete search.

- N H02J 13/00007      • • {using the power network as support for the transmission}
- WARNING  
Group [H02J 13/00007](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0082](#), [H02J 13/0086](#), [H02J 13/0089](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00009      • • • {using pulsed signals}
- WARNING  
Group [H02J 13/00009](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0082](#), [H02J 13/0086](#), [H02J 13/0089](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/0001      • • • {using modification of a parameter of the network power signal}
- WARNING  
Group [H02J 13/0001](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0082](#), [H02J 13/0086](#), [H02J 13/0089](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00012      • • {using an auxiliary transmission line}
- WARNING  
Group [H02J 13/00012](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00014      • • • {carrying signals having the network frequency or DC signals}
- WARNING  
Group [H02J 13/00014](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00016      • • {using a wired telecommunication network or a data transmission bus}
- WARNING  
Group [H02J 13/00016](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0062](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.

- N H02J 13/00017      • • • {using optical fiber}
- WARNING  
Group [H02J 13/00017](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0062](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00018      • • • {using phone lines}
- WARNING  
Group [H02J 13/00018](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00019      • • {using optical means}
- WARNING  
Group [H02J 13/00019](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/0002      • • {using ultrasonic means}
- WARNING  
Group [H02J 13/0002](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00022      • • {using wireless data transmission}
- WARNING  
Group [H02J 13/00022](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0075](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00024      • • • {by means of mobile telephony}
- WARNING  
Group [H02J 13/00024](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0075](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00026      • • • {involving a local wireless network, e.g. Wi-Fi, ZigBee or Bluetooth}
- WARNING  
Group [H02J 13/00026](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0075](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.



- N H02J 13/00028
- {involving the use of Internet protocols}
- WARNING
- Group [H02J 13/00028](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- F H02J 13/0003  
(Frozen)
- {for DC networks}
- WARNING
- Group [H02J 13/0003](#) is no longer used for the classification of documents as of January 1, 2020.  
The content of this group is being reclassified into groups [H02J 1/00](#), [H02J 1/001](#), [H02J 1/002](#), [H02J 1/02](#), [H02J 1/04](#), [H02J 1/06](#), [H02J 1/08](#), [H02J 1/082](#), [H02J 1/084](#), [H02J 1/086](#), [H02J 1/10](#), [H02J 1/102](#), [H02J 1/106](#), [H02J 1/108](#), [H02J 1/109](#), [H02J 1/12](#), [H02J 1/122](#), [H02J 1/14](#), [H02J 1/16](#), [H02J 13/00](#), [H02J 13/00001](#), [H02J 13/00002](#), [H02J 13/00004](#), [H02J 13/00006](#), [H02J 13/00007](#), [H02J 13/00009](#), [H02J 13/0001](#), [H02J 13/00012](#), [H02J 13/00014](#), [H02J 13/00016](#), [H02J 13/00017](#), [H02J 13/00018](#), [H02J 13/00019](#), [H02J 13/0002](#), [H02J 13/00022](#), [H02J 13/00024](#), [H02J 13/00026](#), [H02J 13/00028](#), [H02J 13/00032](#), [H02J 13/00034](#), [H02J 13/00036](#), [H02J 13/0004](#), [H02J 13/0005](#), and [H02J 2213/10](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00032
- {Systems characterised by the controlled or operated power network elements or equipment, the power network elements or equipment not otherwise provided for (circuits specially adapted for remote switching of lighting via the power line [H05B 47/185](#))}
- WARNING
- Group [H02J 13/00032](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00034
- {the elements or equipment being or involving an electric power substation}
- WARNING
- Group [H02J 13/00034](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/00036
- {the elements or equipment being or involving switches, relays or circuit breakers (circuits for indication of single switches [H01H 9/167](#))}
- WARNING
- Group [H02J 13/00036](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.

- N H02J 13/0004
- • {involved in a protection system}
- WARNING  
Group [H02J 13/0004](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 13/0005
- • {the elements or equipment being or involving power plugs or sockets}
- WARNING  
Group [H02J 13/0005](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0086](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- F H02J 13/0006  
(Frozen)
- {for single frequency AC networks}
- WARNING  
Group [H02J 13/0006](#) is no longer used for the classification of documents as of January 1, 2020.  
The content of this group is being reclassified into groups [H02J 3/00](#), [H02J 3/0012](#), [H02J 3/00125](#), [H02J 3/002](#), [H02J 3/003](#), [H02J 3/004](#), [H02J 2203/10](#), [H02J 2203/20](#), [H02J 3/007](#), [H02J 3/0073](#), [H02J 3/0075](#), [H02J 3/008](#), [H02J 3/01](#), [H02J 3/02](#), [H02J 3/04](#), [H02J 3/06](#), [H02J 3/08](#), [H02J 3/10](#), [H02J 3/12](#), [H02J 3/14](#), [H02J 3/144](#), [H02J 3/16](#), [H02J 3/18](#), [H02J 3/1807](#), [H02J 3/1814](#), [H02J 3/1821](#), [H02J 3/1828](#), [H02J 3/1835](#), [H02J 3/1842](#), [H02J 3/185](#), [H02J 3/1857](#), [H02J 3/1864](#), [H02J 3/1871](#), [H02J 3/1878](#), [H02J 3/1885](#), [H02J 3/1892](#), [H02J 3/20](#), [H02J 3/22](#), [H02J 3/24](#), [H02J 3/241](#), [H02J 3/242](#), [H02J 3/26](#), [H02J 3/28](#), [H02J 3/30](#), [H02J 3/32](#), [H02J 3/322](#), [H02J 3/34](#), [H02J 3/36](#), [H02J 3/38](#), [H02J 3/381](#), [H02J 3/472](#), [H02J 3/388](#), [H02J 3/40](#), [H02J 3/42](#), [H02J 3/44](#), [H02J 3/46](#), [H02J 3/48](#), [H02J 3/50](#), [H02J 13/00](#), [H02J 13/00001](#), [H02J 13/00002](#), [H02J 13/00004](#), [H02J 13/00006](#), [H02J 13/00007](#), [H02J 13/00009](#), [H02J 13/0001](#), [H02J 13/00012](#), [H02J 13/00014](#), [H02J 13/00016](#), [H02J 13/00017](#), [H02J 13/00018](#), [H02J 13/00019](#), [H02J 13/0002](#), [H02J 13/00022](#), [H02J 13/00024](#), [H02J 13/00026](#), [H02J 13/00028](#), [H02J 13/00032](#), [H02J 13/00034](#), [H02J 13/00036](#), [H02J 13/0004](#), [H02J 13/0005](#), and [H02J 2213/10](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- D H02J 13/001
- • {characterised by the display, e.g. of data or controls}
- <administratively transferred to [H02J 13/00001](#)>
- F H02J 13/0013  
(Frozen)
- • {characterised by transmission structure between the control or monitoring unit and the controlled or monitored unit}
- WARNING  
Group [H02J 13/0013](#) is no longer used for the classification of documents as of January 1, 2020.  
The content of this group is being reclassified into groups [H02J 13/00](#) and [H02J 13/00006](#).  
Groups [H02J 13/0013](#), [H02J 13/00](#), and [H02J 13/00006](#) should be considered in order to perform a complete search.

- F H02J 13/0017  
(Frozen)
- • • {with direct transmission between the control or monitoring unit and the controlled or monitored unit}

**WARNING**

*Group H02J 13/0017 is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups [H02J 13/00007](#), [H02J 13/00009](#), [H02J 13/0001](#), [H02J 13/00012](#), [H02J 13/00014](#), [H02J 13/00016](#), [H02J 13/00017](#), [H02J 13/00018](#), [H02J 13/00019](#), [H02J 13/0002](#), [H02J 13/00022](#), [H02J 13/00024](#), [H02J 13/00026](#), [H02J 13/00028](#), [H02J 13/00032](#), [H02J 13/00034](#), [H02J 13/00036](#), [H02J 13/0004](#), [H02J 13/0005](#), and [H02J 22 13/10](#).*

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

- D H02J 13/002
- • • {using the power network as support for the transmission}
  - <administratively transferred to [H02J 13/00007](#)>
- D H02J 13/0024
- • • • {using pulsed signals}
  - <administratively transferred to [H02J 13/00009](#)>
- D H02J 13/0027
- • • • • {Details of signals treatment means}
  - <administratively transferred to [H02J 13/00009](#)>
- D H02J 13/0031
- • • • • {using static semiconductor means}
  - <administratively transferred to [H02J 13/00009](#)>
- D H02J 13/0034
- • • • • • {Transmitters}
  - <administratively transferred to [H02J 13/00009](#)>
- D H02J 13/0037
- • • • • • {Receivers}
  - <administratively transferred to [H02J 13/00009](#)>
- D H02J 13/0041
- • • • • • {using lamps or electromechanical means}
  - <administratively transferred to [H02J 13/00009](#)>
- D H02J 13/0044
- • • • • {using DC signal superposition}
  - <administratively transferred to [H02J 13/00009](#)>
- D H02J 13/0048
- • • • • {using modification of a parameter of the network power signal}
  - <administratively transferred to [H02J 13/00009](#)>
- D H02J 13/0051
- • • • • {Zero-crossing time}
  - <administratively transferred to [H02J 13/00009](#)>
- D H02J 13/0055
- • • • {using an auxiliary transmission line}
  - <administratively transferred to [H02J 13/00012](#)>
- D H02J 13/0058
- • • • • {carrying signals having the network frequency or DC signals}
  - <administratively transferred to [H02J 13/00014](#)>
- F H02J 13/0062  
(Frozen)
- • • • {using a data transmission bus}

**WARNING**

*Group H02J 13/0062 is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups [H02J 13/00016](#) and [H02J 13/00017](#).*

*Groups [H02J 13/0062](#), [H02J 13/00016](#), and [H02J 13/00017](#) should be considered in order to perform a complete search.*

- D H02J 13/0065 . . . {using optical means}  
<administratively transferred to [H02J 13/00019](#)>
- D H02J 13/0068 . . . {using ultrasonic means}  
<administratively transferred to [H02J 13/0002](#)>
- D H02J 13/0072 . . . {using phone lines}  
<administratively transferred to [H02J 13/00018](#)>
- F H02J 13/0075  
(Frozen) . . . {using radio means}
- WARNING**  
Group [H02J 13/0075](#) is no longer used for the classification of documents as of January 1, 2020.  
The content of this group is being reclassified into groups [H02J 13/00022](#), [H02J 13/00024](#), and [H02J 13/00026](#).  
Groups [H02J 13/0075](#), [H02J 13/00022](#), [H02J 13/00024](#), and [H02J 13/00026](#) should be considered in order to perform a complete search.
- F H02J 13/0079  
(Frozen) . . . {with transmission using an intermediate treatment level between the control or monitoring unit and the controlled or monitored unit}
- WARNING**  
Group [H02J 13/0079](#) is no longer used for the classification of documents as of January 1, 2020.  
The content of this group is being reclassified into groups [H02J 13/00](#), [H02J 13/00001](#), [H02J 13/00002](#), [H02J 13/00004](#), [H02J 13/00006](#), [H02J 13/00007](#), [H02J 13/00009](#), [H02J 13/0001](#), [H02J 13/00012](#), [H02J 13/00014](#), [H02J 13/00016](#), [H02J 13/00017](#), [H02J 13/00018](#), [H02J 13/00019](#), [H02J 13/0002](#), [H02J 13/00022](#), [H02J 13/00024](#), [H02J 13/00026](#), [H02J 13/00028](#), [H02J 13/00032](#), [H02J 13/00034](#), [H02J 13/00036](#), [H02J 13/0004](#), [H02J 13/0005](#), and [H02J 2213/10](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- F H02J 13/0082  
(Frozen) . . . {using the power network as transmission support}
- WARNING**  
Group [H02J 13/0082](#) is no longer used for the classification of documents as of January 1, 2020.  
The content of this group is being reclassified into groups [H02J 2213/10](#), [H02J 13/00007](#), [H02J 13/00009](#), and [H02J 13/0001](#).  
Groups [H02J 13/0082](#), [H02J 2213/10](#), [H02J 13/00007](#), [H02J 13/00009](#), and [H02J 13/0001](#) should be considered in order to perform a complete search.
- F H02J 13/0086  
(Frozen) . . . {with transmission using plurality of intermediate treatment level between the control or monitoring unit and the controlled or monitored unit}
- WARNING**  
Group [H02J 13/0086](#) is no longer used for the classification of documents as of January 1, 2020.  
The content of this group is being reclassified into groups [H02J 13/00](#), [H02J 13/00001](#), [H02J 13/00002](#), [H02J 13/00004](#), [H02J 13/00006](#), [H02J 13/00007](#), [H02J 13/00009](#), [H02J 13/0001](#), [H02J 13/00012](#), [H02J 13/00014](#), [H02J 13/00016](#), [H02J 13/00017](#), [H02J 13/00018](#), [H02J 13/00019](#), [H02J 13/0002](#), [H02J 13/00022](#), [H02J 13/00024](#), [H02J 13/00026](#), [H02J 13/00028](#), [H02J 13/00032](#), [H02J 13/00034](#), [H02J 13/00036](#), [H02J 13/0004](#), [H02J 13/0005](#), and [H02J 2213/10](#).

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

F H02J 13/0089  
(Frozen)

- • • {using the power network as transmission support}

**WARNING**

*Group H02J 13/0089 is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups H02J 2213/10, H02J 13/00007, H02J 13/00009, and H02J 13/0001.*

*Groups H02J 13/0089, H02J 2213/10, H02J 13/00007, H02J 13/00009, and H02J 13/0001 should be considered in order to perform a complete search.*

F H02J 13/0093  
(Frozen)

- {for AC networks with plurality frequencies}

**WARNING**

*Group H02J 13/0093 is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups H02J 3/02, H02J 13/00001, H02J 13/00002, H02J 13/00004, H02J 13/00006, H02J 13/00007, H02J 13/00009, H02J 13/0001, H02J 13/00012, H02J 13/00014, H02J 13/00016, H02J 13/00017, H02J 13/00018, H02J 13/00019, H02J 13/0002, H02J 13/00022, H02J 13/00024, H02J 13/00026, H02J 13/00028, H02J 13/00032, H02J 13/00034, H02J 13/00036, H02J 13/0004, H02J 13/0005, and H02J 2213/10.*

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

F H02J 13/0096  
(Frozen)

- {for networks combining AC and DC power}

**WARNING**

*Group H02J 13/0096 is no longer used for the classification of documents as of January 1, 2020.*

*The content of this group is being reclassified into groups H02J 3/02, H02J 4/00, H02J 13/00001, H02J 13/00002, H02J 13/00004, H02J 13/00006, H02J 13/00007, H02J 13/00009, H02J 13/0001, H02J 13/00012, H02J 13/00014, H02J 13/00016, H02J 13/00017, H02J 13/00018, H02J 13/00019, H02J 13/0002, H02J 13/00022, H02J 13/00024, H02J 13/00026, H02J 13/00028, H02J 13/00032, H02J 13/00034, H02J 13/00036, H02J 13/0004, H02J 13/0005, and H02J 2213/10.*

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

C H02J 15/00

**Systems for storing electric energy (mechanical systems therefor [F01](#)--[F04](#); in chemical form [H01M](#))**

**WARNING**

*Group H02J 15/00 is impacted by reclassification into groups H02J 15/007 and H02J 15/008.*

*Groups H02J 15/00, H02J 15/007, and H02J 15/008 should be considered in order to perform a complete search.*

M H02J 15/006

- {in the form of pneumatic energy, e.g. *compressed air energy storage* [CAES] (accumulators for supplying fluid under pressure [F15B 1/04](#))}

N H02J 15/007

- {involving storage in the form of mechanical energy, e.g. fly-wheels}

**WARNING**

*Group [H02J 15/007](#) is incomplete pending reclassification of documents from group [H02J 15/00](#).*

Groups [H02J 15/00](#) and [H02J 15/007](#) should be considered in order to perform a complete search.

N H02J 15/008

- {using hydrogen as energy vector}

WARNING

Group [H02J 15/008](#) is incomplete pending reclassification of documents from group [H02J 15/00](#).

Groups [H02J 15/00](#) and [H02J 15/008](#) should be considered in order to perform a complete search.

C H02J 50/00

**Circuit arrangements or systems for wireless supply or distribution of electric power**

NOTES

1. In this main group, the specific types of wireless technology used for the power transmission are covered in groups [H02J 50/05-H02J 50/30](#), while aspects relevant to the circuit arrangements or systems thereof are covered in groups [H02J 50/40-H02J 50/90](#).

2. In this main group, multi-aspect classification is applied, so that subject matter characterised by aspects covered by more than one of its groups should be classified in each of those groups.

WARNING

Groups [H02J 50/00](#) — [H02J 50/90](#) are incomplete pending reclassification of documents from groups [H02J 5/00](#), [H02J 5/005](#), [H02J 7/02](#) and [H02J 17/00](#). Groups [H02J 5/00](#), [H02J 5/005](#), [H02J 7/02](#) and [H02J 17/00](#) and [H02J 50/00](#) — [H02J 50/90](#) should be considered in order to perform a complete search.

Group [H02J 50/00](#) is impacted by reclassification into groups [H02J 50/001](#) and [H02J 50/005](#).

Groups [H02J 50/00](#), [H02J 50/001](#), and [H02J 50/005](#) should be considered in order to perform a complete search.

N H02J 50/001

- {Energy harvesting or scavenging}

WARNING

Group [H02J 50/001](#) is incomplete pending reclassification of documents from groups [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/00](#).

Groups [H02J 50/001](#), [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/00](#) should be considered in order to perform a complete search.

N H02J 50/005

- {Mechanical details of housing or structure aiming to accommodate the power transfer means, e.g. mechanical integration of coils, antennas or transducers into emitting or receiving devices}

WARNING

Group [H02J 50/005](#) is incomplete pending reclassification of documents from groups [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/00](#).

Groups [H02J 50/005](#), [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/00](#) should be considered in order to perform a complete search.

M H02J 50/10

- using inductive coupling

WARNING

Group [H02J 50/10](#) is incomplete pending reclassification of documents from groups [H02J 5/005](#) and [H02J 7/025](#).

Groups [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/10](#) should be considered in order to perform a complete search.



- M H02J 50/12
- of the resonant type

WARNING

Group [H02J 50/12](#) is incomplete pending reclassification of documents from groups [H02J 5/005](#) and [H02J 7/025](#).

Groups [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/12](#) should be considered in order to perform a complete search.

- M H02J 50/30
- using light, e.g. lasers

WARNING

Group [H02J 50/30](#) is incomplete pending reclassification of documents from groups [H02J 5/005](#) and [H02J 7/025](#).

Groups [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/30](#) should be considered in order to perform a complete search.

- C H02J 50/40
- using two or more transmitting or receiving devices ([H02J 50/50](#) takes precedence)

WARNING

Group [H02J 50/40](#) is incomplete pending reclassification of documents from groups [H02J 5/005](#) and [H02J 7/025](#).

Group [H02J 50/40](#) is also impacted by reclassification into group [H02J 50/402](#). Groups [H02J 50/40](#), [H02J 5/005](#) and [H02J 7/025](#) and [H02J 50/402](#) should be considered in order to perform a complete search.

- N H02J 50/402
- {the two or more transmitting or the two or more receiving devices being integrated in the same unit, e.g. power mats with several coils or antennas with several sub-antennas}

WARNING

Group [H02J 50/402](#) is incomplete pending reclassification of documents from groups [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/40](#).

Groups [H02J 50/402](#), [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/40](#) should be considered in order to perform a complete search.

- C H02J 50/50
- using additional energy repeaters between transmitting devices and receiving devices

WARNING

Group [H02J 50/50](#) is incomplete pending reclassification of documents from groups [H02J 5/005](#) and [H02J 7/025](#).

Group [H02J 50/50](#) is also impacted by reclassification into group [H02J 50/502](#). Groups [H02J 50/50](#), [H02J 5/005](#) and [H02J 7/025](#) should be considered in order to perform a complete search.

- N H02J 50/502
- {the energy repeater being integrated together with the emitter or the receiver}

WARNING

Group [H02J 50/502](#) is incomplete pending reclassification of documents from groups [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/50](#).

Groups [H02J 50/502](#), [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/50](#) should be considered in order to perform a complete search.

- M H02J 50/60
- responsive to the presence of foreign objects, e.g. detection of living beings

WARNING

Group [H02J 50/60](#) is incomplete pending reclassification of documents from groups [H02J 5/005](#) and [H02J 7/025](#).

Groups [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/60](#) should be considered in order to perform a complete search.

- M H02J 50/70
- involving the reduction of electric, magnetic or electromagnetic leakage fields
- WARNING**  
 Group [H02J 50/70](#) is incomplete pending reclassification of documents from groups [H02J 5/005](#) and [H02J 7/025](#).  
 Groups [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/70](#) should be considered in order to perform a complete search.
- M H02J 50/80
- involving the exchange of data, concerning supply or distribution of electric power, between transmitting devices and receiving devices
- WARNING**  
 Group [H02J 50/80](#) is incomplete pending reclassification of documents from groups [H02J 5/005](#) and [H02J 7/025](#).  
 Groups [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/80](#) should be considered in order to perform a complete search.
- M H02J 50/90
- involving detection or optimisation of position, e.g. alignment
- WARNING**  
 Group [H02J 50/90](#) is incomplete pending reclassification of documents from groups [H02J 5/005](#) and [H02J 7/025](#).  
 Groups [H02J 5/005](#), [H02J 7/025](#), and [H02J 50/90](#) should be considered in order to perform a complete search.
- N H02J 2203/00** **Indexing scheme relating to details of circuit arrangements for AC mains or AC distribution networks**
- N H02J 2203/10
- Power transmission or distribution systems management focussing at grid-level, e.g. load flow analysis, node profile computation, meshed network optimisation, active network management or spinning reserve management
- WARNING**  
 Group [H02J 2203/10](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
 Groups [H02J 13/0006](#) and [H02J 2203/10](#) should be considered in order to perform a complete search.
- N H02J 2203/20
- Simulating, e.g. planning, reliability check, modelling or computer assisted design [CAD]
- WARNING**  
 Group [H02J 2203/20](#) is incomplete pending reclassification of documents from group [H02J 13/0006](#).  
 Groups [H02J 13/0006](#) and [H02J 2203/20](#) should be considered in order to perform a complete search.
- N H02J 2207/00** **Indexing scheme relating to details of circuit arrangements for charging or depolarising batteries or for supplying loads from batteries**
- N H02J 2207/10
- Control circuit supply, e.g. means for supplying power to the control circuit
- N H02J 2207/20
- Charging or discharging characterised by the power electronics converter
- WARNING**  
 Group [H02J 2207/20](#) is incomplete pending reclassification of documents from group [H02J 7/022](#).  
 Groups [H02J 7/022](#) and [H02J 2207/20](#) should be considered in order to perform a complete search.
- N H02J 2207/30
- Charge provided using DC bus or data bus of a computer
- N H02J 2207/40
- adapted for charging from various sources, e.g. AC, DC or multivoltage

- N H02J 2207/50
- Charging of capacitors, supercapacitors, ultra-capacitors or double layer capacitors (using capacitors as storage or buffering device in cooperation with batteries [H02J 7/345](#))
- N H02J 2213/00
- Indexing scheme relating to details of circuit arrangements for providing remote indication of network conditions of for circuit arrangements for providing remote control of switching means in a power distribution network**
- N H02J 2213/10
- using simultaneously two or more different transmission means
- WARNING  
Group [H02J 2213/10](#) is incomplete pending reclassification of documents from groups [H02J 13/0003](#), [H02J 13/0006](#), [H02J 13/0017](#), [H02J 13/0079](#), [H02J 13/0082](#), [H02J 13/0086](#), [H02J 13/0089](#), [H02J 13/0093](#), and [H02J 13/0096](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H02J 2300/00
- Systems for supplying or distributing electric power characterised by decentralized, dispersed, or local generation**
- N H02J 2300/10
- The dispersed energy generation being of fossil origin, e.g. diesel generators
- N H02J 2300/20
- The dispersed energy generation being of renewable origin
- WARNING  
Group [H02J 2300/20](#) is incomplete pending reclassification of documents from group [H02J 3/382](#).  
Groups [H02J 3/382](#) and [H02J 2300/20](#) should be considered in order to perform a complete search.
- N H02J 2300/22
- The renewable source being solar energy
- WARNING  
Group [H02J 2300/22](#) is incomplete pending reclassification of documents from group [H02J 3/382](#).  
Groups [H02J 3/382](#) and [H02J 2300/22](#) should be considered in order to perform a complete search.
- N H02J 2300/24
- of photovoltaic origin
- WARNING  
Group [H02J 2300/24](#) is incomplete pending reclassification of documents from group [H02J 3/383](#).  
Groups [H02J 3/383](#) and [H02J 2300/24](#) should be considered in order to perform a complete search.
- N H02J 2300/26
- involving maximum power point tracking control for photovoltaic sources (maximum power point systems in particular [G05F 1/67](#))
- WARNING  
Group [H02J 2300/26](#) is incomplete pending reclassification of documents from group [H02J 3/385](#).  
Groups [H02J 3/385](#) and [H02J 2300/26](#) should be considered in order to perform a complete search.
- N H02J 2300/28
- The renewable source being wind energy (wind motors [F03D](#))
- WARNING  
Group [H02J 2300/28](#) is incomplete pending reclassification of documents from group [H02J 3/386](#).

Groups [H02J 3/386](#) and [H02J 2300/28](#) should be considered in order to perform a complete search.

N H02J 2300/30

- The power source being a fuel cell

WARNING

Group [H02J 2300/30](#) is incomplete pending reclassification of documents from group [H02J 3/387](#).

Groups [H02J 3/387](#) and [H02J 2300/30](#) should be considered in order to perform a complete search.

N H02J 2300/40

- wherein a plurality of decentralised, dispersed or local energy generation technologies are operated simultaneously

**N H02J 2310/00**

**The network for supplying or distributing electric power characterised by its spatial reach or by the load**

N H02J 2310/10

- The network having a local or delimited stationary reach

N H02J 2310/12

- • The local stationary network supplying a household or a building

N H02J 2310/14

- • • The load or loads being home appliances

N H02J 2310/16

- • • The load or loads being an Information and Communication Technology [ICT] facility

N H02J 2310/18

- • The network being internal to a power source or plant

N H02J 2310/20

- • The network being internal to a load

N H02J 2310/22

- • • The load being a portable electronic device

WARNING

Group [H02J 2310/22](#) is incomplete pending reclassification of documents from group [H02J 7/0027](#).

Groups [H02J 7/0027](#) and [H02J 2310/22](#) should be considered in order to perform a complete search.

N H02J 2310/23

- • • The load being a medical device, a medical implant, or a life supporting device

N H02J 2310/40

- The network being an on-board power network, i.e. within a vehicle

WARNING

Group [H02J 2310/40](#) is incomplete pending reclassification of documents from group [H02J 7/0027](#).

Groups [H02J 7/0027](#) and [H02J 2310/40](#) should be considered in order to perform a complete search.

N H02J 2310/42

- • for ships or vessels

WARNING

Group [H02J 2310/42](#) is incomplete pending reclassification of documents from group [H02J 7/0027](#).

Groups [H02J 7/0027](#) and [H02J 2310/42](#) should be considered in order to perform a complete search.

N H02J 2310/44

- • for aircrafts

WARNING

Group [H02J 2310/44](#) is incomplete pending reclassification of documents from group [H02J 7/0027](#).

Groups [H02J 7/0027](#) and [H02J 2310/44](#) should be considered in order to perform a complete search.

- N H02J 2310/46
- • for ICE-powered road vehicles
- WARNING  
Group [H02J 2310/46](#) is incomplete pending reclassification of documents from group [H02J 7/0027](#).  
Groups [H02J 7/0027](#) and [H02J 2310/46](#) should be considered in order to perform a complete search.
- N H02J 2310/48
- • for electric vehicles [EV] or hybrid vehicles [HEV]
- WARNING  
Group [H02J 2310/48](#) is incomplete pending reclassification of documents from group [H02J 7/0027](#).  
Groups [H02J 7/0027](#) and [H02J 2310/48](#) should be considered in order to perform a complete search.
- N H02J 2310/50
- for selectively controlling the operation of the loads
- N H02J 2310/52
- • The controlling of the operation of the load not being the total disconnection of the load, i.e. entering a degraded mode or in current limitation
- N H02J 2310/54
- • according to a pre-established time schedule
- N H02J 2310/56
- • characterised by the condition upon which the selective controlling is based
- N H02J 2310/58
- • • The condition being electrical
- N H02J 2310/60
- • • Limiting power consumption in the network or in one section of the network, e.g. load shedding or peak shaving
- N H02J 2310/62
- • • The condition being non-electrical, e.g. temperature
- N H02J 2310/64
- • • The condition being economic, e.g. tariff based load management
- N H02J 2310/66
- • one of the loads acting as master and the other or others acting as slaves
- N H02J 2310/70
- Load identification

**Project: RP0386 (H02M)****H02M 3/00**

**Conversion of dc power input into dc power output ~~{{converters specially adapted for use in combination with a battery H02J 7/0065}}~~**

**Project: RP0070-F (H02S)****M H02S 10/00**

**PV power plants; Combinations of PV energy systems with other systems for the generation of electric power**

**WARNING**

Groups H02S 10/10 – H02S 10/40 are incomplete pending reclassification of documents from group H02S 10/00.

Until reclassification is complete, groups H02S 10/00 should be considered in order to perform a complete search.

**M H02S 20/00**

**Supporting structures for PV modules**

**NOTE**

Supporting structures also intended for use with solar heat collectors should also be classified in groups [F24S 25/00-F24S 30/00](#) or [F24S 50/20](#)

**WARNING**

Groups H02S 20/10 – H02S 20/32 are incomplete pending reclassification of documents from groups H02S 20/00, F24S 21/00, F24S 50/20, and H01L 31/048.

Until reclassification is complete, groups H02S 20/00, F24S 21/00, F24S 50/20, and H01L 31/048 should be considered in order to perform a complete search.

**M H02S 30/00**

Structural details of PV modules other than those related to light conversion (semiconductor device aspects of modules of electrolytic light sensitive devices [H01G 9/20](#), of inorganic PV modules [H01L 31/00](#), of organic PV modules [H01L 51/42](#))

**WARNING**

Groups H02S 30/10 and H02S 30/20 are incomplete pending reclassification of documents from group H02S 30/00.

Until reclassification is complete, group H02S 30/00 should be considered in order to perform a complete search.

**M H02S 40/00**

Components or accessories in combination with PV modules, not provided for in groups [H02S 10/00](#) - [H02S 30/00](#)

**WARNING**

Groups H02S 40/10 - H02S 40/44 are incomplete pending reclassification of documents from groups H02S 40/00, F24S 21/00, H01L 31/0232, H01L 31/05 - H01L 31/055.

Until reclassification is complete, groups H02S 40/00, F24S 21/00, H01L 31/0232 and H01L 31/05 - H01L 31/055 should be considered in order to perform a complete search.

**M H02S 50/00**

Monitoring or testing of PV systems, e.g. load balancing or fault identification

**WARNING**

Groups H02S 50/10 - H02S 50/15 are incomplete pending reclassification of documents from group H02S 50/00.

Until reclassification is complete, group H02S 50/00 should be considered in order to perform a complete search.

**Project: RP0655 (H03K)**

**M H03K**

**PULSE TECHNIQUE** (measuring pulse characteristics [G01R](#); ~~mechanical counters having an electrical input G06M~~; ~~information storage devices in general G11~~; ~~sample-and-hold arrangements in electric analogue stores G11C 27/02~~; ~~construction of switches involving contact making and breaking for generation of pulses, e.g. by using a moving magnet, H01H~~; ~~static conversion of electric power H02M~~; ~~generation of oscillations by circuits employing active elements which operate in a non-switching manner H03B~~; ~~modulating sinusoidal oscillations with pulses H03C~~; ~~H04L~~; ~~transmission of digital information H04L~~; ~~discriminator circuits involving pulse counting H03D~~; ~~discriminator circuits detecting phase difference between two signals by counting or integrating cycles of oscillation H03D 3/04~~; ~~automatic control, starting, synchronisation or stabilisation of generators of electronic oscillations or pulses where the type of generator is irrelevant or unspecified H03L~~; ~~starting, synchronisation or stabilisation of generators where the type of generator is irrelevant or unspecified H03L~~; coding, decoding or code conversion, in general [H03M](#))

**NOTES**

1. This subclass covers:



- methods, circuits, devices, or apparatus using active elements operating in a discontinuous or switching manner for generating, counting, amplifying, shaping, modulating, demodulating, or otherwise manipulating signals;
  - electronic switching not involving contact-making and braking;
  - logic circuits handling electric pulses.
2. In this subclass, the following expression is used with the meaning indicated:
- "active element" exercises control over the conversion of input energy into an oscillation or a discontinuous flow of energy.
3. In this subclass, where the claims of a patent document are not limited to a specific circuit element, the document is classified at least according to the elements used in the described embodiment.

#### WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:  
[H03K 17/695](#) covered by [H03K 17/687](#)
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

- |   |            |  |
|---|------------|--|
| M   | H03K 3/00  | <b>Circuits for generating electric pulses; Monostable, bistable or multistable circuits (<a href="#">H03K 4/00</a> takes precedence; <del>for digital computers G06F 1/025, {G06F 1/04}; for digital function generators in computers G06F 1/02</del>)</b>  |
| M   | H03K 3/80  | • Generating trains of sinusoidal oscillations ( <del>by interrupting H03C, H04L by</del> <i>keying or interruption of sinusoidal oscillations <a href="#">H03C</a>; for transmission of digital information <a href="#">H04L</a></i> )  |
| M   | H03K 4/00  | <b>Generating pulses having essentially a finite slope or stepped portions (<del>generation of supply voltages from deflection waveforms H04N 3/18</del>)</b>  |
| U   | H03K 4/06  | • having triangular shape  |
| U   | H03K 4/08  | • • having sawtooth shape  |
| M   | H03K 4/90  | • • • Linearisation of ramp (modifying slopes of pulses <a href="#">H03K 6/04</a> ; <del>scanning correction for television receivers H04N 3/16; scanning distortion correction for television receivers H04N 3/23</del> ); Synchronisation of pulses ( <del>in pictorial communication systems H04N 1/36, H04N 5/04; colour synchronisation H04N 9/44</del> ) |
| M   | H03K 5/00  | <b>Manipulating <i>of</i> pulses not covered by one of the other main groups <i>in of</i> this subclass (circuits with regenerative action <a href="#">H03K 3/00</a>, <a href="#">H03K 4/00</a>; by the use of non-linear magnetic or dielectric devices <a href="#">H03K 3/45</a>)</b>  |
| <u>NOTE</u>   |            |  |
| In this group, the input signals are of the pulse type. |            |  |
| M   | H03K 5/003 | • Changing the DC level ( <del>television signals H04N 3/00</del> <i>reinsertion of dc component of a television signal <a href="#">H04N 5/16</a></i> )  |
| U   | H03K 5/01  | • Shaping pulses (discrimination against noise or interference <a href="#">H03K 5/125</a> )  |
| M   | H03K 5/02  | • • by amplifying ( <a href="#">H03K 5/04</a> takes precedence; <del>wide-band amplifiers in general H03F</del> )  |
| M   | H03K 5/125 | • Discriminating pulses ( <del>measuring or indicating G01R 19/00, G01R 23/00, G01R 25/00, G01R 29/00; measuring characteristics of individual pulses G01R 29/02</del> ; separation of synchronising signals in television systems <a href="#">H04N 5/08</a> )   |
| U   | H03K 5/153 | • Arrangements in which a pulse is delivered at the instant when a predetermined characteristic of an input signal is present or at a fixed time interval after this instant (switching at zero crossing <a href="#">H03K 17/13</a> {; measuring characteristics of individual pulses <a href="#">G01R 29/02</a> })  |

- M H03K 5/1532
  - • Peak detectors (*measuring characteristics of individual pulses G01R 29/02*)
- U H03K 6/00
 

Manipulating pulses having a finite slope and not covered by one of the other main groups of this subclass (circuits with regenerative action [H03K 4/00](#))
- M H03K 6/04
  - Modifying slopes of pulses, {e.g. S-correction} (*S-correction in television H04N 3/23*)
- M H03K 12/00
 

Producing pulses by distorting or combining sinusoidal waveforms (*shaping pulses H03K 5/01*; combining sinewaves using elements operating in a non-switching manner **H03B H03B 21/00**; {limiting or clipping, e.g. **H03G 11/00**})
- M H03K 17/00
 

Electronic switching or gating, i.e. not by contact-making ~~or braking and breaking~~ (~~selection of the stylus or auxiliary electrode in electric printing B41J 2/405~~; ~~sample-and-hold arrangements G11C 27/02~~; ~~switching or interrupting devices in waveguides H01P~~; gated amplifiers [H03F 3/72](#); switching arrangements for exchange systems using static devices [H04Q 3/52](#))
- U H03K 17/08
  - Modifications for protecting switching circuit against overcurrent or overvoltage
- M H03K 17/082
  - • by feedback from the output ~~circuit~~ to the control circuit
- M H03K 17/13
  - Modifications for switching at zero crossing (generating an impulse at zero crossing ~~H03K 5/153~~ [H03K 5/1536](#))
- M H03K 17/28
  - Modifications for introducing a time delay before switching (~~time-programme switches providing a choice of time-intervals for executing more than one switching action H03K 17/296~~; {measuring time intervals using electronic timing, e.g. counting means G04F 1/005} *modifications to provide a choice of time-intervals for executing more than one switching action H03K 17/296*)
- U H03K 17/51
  - characterised by the components used ([H03K 17/04](#) - [H03K 17/30](#), [H03K 17/94](#) take precedence)
- M H03K 17/52
  - • *using by the use, as active elements, of* gas-filled tubes
- M H03K 17/54
  - • *using by the use, as active elements of* vacuum tubes (using diodes [H03K 17/74](#))
- M H03K 17/56
  - • *using by the use, as active elements, of* semiconductor devices (using diodes [H03K 17/74](#))
- M H03K 17/58
  - • • *using the devices being* tunnel diodes
- M H03K 17/60
  - • • *using the devices being* bipolar transistors (*bipolar transistors having four or more electrodes H03K 17/72*)
- M H03K 17/62
  - • • Switching arrangements with several input- ~~or~~ output-terminals, e.g. *multiplexers, distributors* (*logic circuits H03K 19/00*; code converters [H03M 5/00](#), [H03M 7/00](#))
- M H03K 17/687
  - • • *using the devices being* field-effect transistors
- M H03K 17/693
  - • • Switching arrangements with several input- or output-terminals, e.g. *multiplexers, distributors* (*logic circuits H03K 19/00*; code converters [H03M 5/00](#), [H03M 7/00](#))
- M H03K 17/70
  - • • *the devices* having *only* two electrodes and exhibiting negative resistance (~~using tunnel diodes H03K 17/58~~ *the devices being tunnel diodes H03K 17/58*)
- U H03K 17/72
  - • having more than two PN junctions; having more than three electrodes; having more than one electrode connected to the same conductivity region
- M H03K 17/735
  - • • Switching arrangements with several input- or output-terminals, e.g. *multiplexers, distributors* ([H03K 17/722](#) takes precedence; *logic circuits H03K 19/00*; code converters [H03M 5/00](#), [H03M 7/00](#))

M	H03K 17/74	<ul style="list-style-type: none"> <li>• • <i>using by the use, as active elements, of</i> diodes <i>{(using a combination of diodes and other devices H03K 17/567; using tunnel diodes H03K 17/58 by the use of more than one type of semiconductor device H03K 17/567; by the use of tunnel diodes H03K 17/58; by the use of negative resistance diodes H03K 17/70)}</i></li> </ul>
M	H03K 17/76	<ul style="list-style-type: none"> <li>• • • Switching arrangements with several input- or output-terminals, <i>e.g. multiplexers, distributors</i> (logic circuits H03K 19/00; code converters H03M 5/00, H03M 7/00)</li> </ul>
U	H03K 17/80	<ul style="list-style-type: none"> <li>• • using non-linear magnetic devices; using non-linear dielectric devices <i>{(H03K 17/95, H03K 17/97 take precedence)}</i></li> </ul>
M	H03K 17/81	<ul style="list-style-type: none"> <li>• • • Switching arrangements with several input- or output-terminals, <i>e.g. multiplexers, distributors</i> (logic circuits H03K 19/00; code converters H03M 5/00, H03M 7/00)</li> </ul>
M	H03K 17/82	<ul style="list-style-type: none"> <li>• • • <i>using the devices being</i> transfluxors</li> </ul>
M	H03K 17/84	<ul style="list-style-type: none"> <li>• • • <i>using the devices being</i> thin-film devices</li> </ul>
M	H03K 17/86	<ul style="list-style-type: none"> <li>• • • <i>using the devices being</i> twistors</li> </ul>
M	H03K 17/88	<ul style="list-style-type: none"> <li>• • <i>using By the use, as active elements, of</i> beam-deflection tubes</li> </ul>
M	H03K 17/90	<ul style="list-style-type: none"> <li>• • <i>using by the use, as active elements, of</i> galvano-magnetic devices, <i>e.g. Hall-effect devices</i> (H03K 17/95, H03K 17/97 take precedence)</li> </ul>
M	H03K 17/92	<ul style="list-style-type: none"> <li>• • <i>using by the use, as active elements, of</i> superconductive devices</li> </ul>
M	H03K 17/94	<ul style="list-style-type: none"> <li>• characterised by the way in which the control <del>signal is</del> <i>signals are</i> generated <i>(mechanical structural details of control members of switches or keyboards; such as keys, push-buttons, levers or other mechanisms for transferring force to the activated elements; not directly producing electronic effects H01H; keyboards for special applications, see the relevant places, e.g. B41J; G06F 3/023, H04L 15/00, H04L 17/00, H04M 1/00)</i></li> </ul>
M	H03K 17/96	<ul style="list-style-type: none"> <li>• • Touch switches <i>(specially adapted for electronic time-pieces with no moving parts G04G 21/08)</i></li> </ul>
M	H03K 19/00	<p><b>Logic circuits, i.e. having at least two inputs acting on one output <i>(circuits for computer systems using fuzzy logic G06N 7/02)</i>; Inverting circuits <i>{(inverting circuits used as delay elements H03K 5/13)}</i></b></p>
U	H03K 19/02	<ul style="list-style-type: none"> <li>• using specified components <i>{(H03K 19/0005 - H03K 19/0021, H03K 19/003 - H03K 19/0175 take precedence)}</i></li> </ul>
U	H03K 19/173	<ul style="list-style-type: none"> <li>• • using elementary logic circuits as components</li> </ul>
U	H03K 19/177	<ul style="list-style-type: none"> <li>• • • arranged in matrix form</li> </ul>
M	H03K 19/17704	<ul style="list-style-type: none"> <li>• • • • <i>{the logic functions being realised by the interconnection of rows and columns}</i></li> </ul>
M	H03K 19/17724	<ul style="list-style-type: none"> <li>• • • • <i>{Structural details of logic blocks}</i></li> </ul>
M	H03K 19/17728	<ul style="list-style-type: none"> <li>• • • • • <i>{Reconfigurable logic blocks, e.g. lookup tables}</i></li> </ul>
M	H03K 19/17732	<ul style="list-style-type: none"> <li>• • • • • <i>{Macro-blocks} Macroblocks</i></li> </ul>
M	H03K 19/17736	<ul style="list-style-type: none"> <li>• • • • <i>{Structural details of routing resources}</i></li> </ul>
M	H03K 19/17748	<ul style="list-style-type: none"> <li>• • • • <i>{Structural details of configuration resources}</i></li> </ul>
M	H03K 19/17752	<ul style="list-style-type: none"> <li>• • • • • <i>{for hot reconfiguration}</i></li> </ul>
M	H03K 19/17756	<ul style="list-style-type: none"> <li>• • • • • <i>{for partial configuration or <i>partial</i> reconfiguration}</i></li> </ul>
N	H03K 19/17758	<ul style="list-style-type: none"> <li>• • • • • <i>for speeding up configuration or reconfiguration</i></li> </ul>
M	H03K 19/1776	<ul style="list-style-type: none"> <li>• • • • • <i>{for memories}</i></li> </ul>
M	H03K 19/17764	<ul style="list-style-type: none"> <li>• • • • • <i>{for reliability}</i></li> </ul>
M	H03K 19/17768	<ul style="list-style-type: none"> <li>• • • • • <i>{for security}</i></li> </ul>
M	H03K 19/17772	<ul style="list-style-type: none"> <li>• • • • • <i>{for powering on or off}</i></li> </ul>

- |   |               |  |
|---|---------------|--|
| D | H03K 19/17776 | . . . . {for speeding up configuration or reconfiguration}       |
|   |               | <administratively transferred to <a href="#">H03K 19/17758</a> > |
| M | H03K 19/1778  | . . . . {Structural details for adapting physical parameters}    |
| M | H03K 19/17784 | . . . . {for supply voltage}                                     |
| M | H03K 19/17788 | . . . . {for <u>input/output</u> [I/O] voltages}                 |
| M | H03K 19/17792 | . . . . {for operating speed}                                    |
| M | H03K 19/17796 | . . . . {for physical disposition of blocks}                     |

**Project: MP0461 (H04L)**

- |   |           |  |
|---|-----------|--|
| U | H04L 1/00 | Arrangements for detecting or preventing errors in the information received (correcting synchronisation <a href="#">H04L 7/00</a> ; {for digital computers <a href="#">G06F 11/00</a> } ; arrangements in the transmission path <a href="#">H04B</a> ) |
| M | H04L 1/20 | <ul style="list-style-type: none"> <li>- using signal quality detector</li> </ul>  |

~~WARNING~~

~~see G01R 29/02~~

**Project: RP0649 (H04M)**

- |   |      |   |
|---|------|---|
| M | H04M | <p>TELEPHONIC COMMUNICATION (<del>counting mechanisms G06M</del>; circuits for controlling other apparatus via a telephone cable and not involving telephone switching apparatus <a href="#">G08</a>; <del>reels or other take-up devices for cords H02G 11/00</del>; <del>multiplex transmission between switching centres H04J</del>; selecting arrangements H04Q; loudspeakers, microphones, gramophone pick-ups or like electromechanical transducers H04R)</p> |
|---|------|---|

## NOTES

1. This subclass covers :
  - *substation equipment*;
  - telephonic communication systems combined with other electrical systems;
  - testing arrangements peculiar to telephonic communication systems.
2. In this subclass, the following terms or expressions are used with the meanings indicated :
  - "subscriber" is a general term for terminal equipment, e.g. *telephone fixed, wireless, mobile or cellular phones, or* for *public use a user of terminal equipment*;
  - "substation" means a subscriber or monitoring equipment which may connect a single subscriber to a line without choice as to subscriber;
  - "satellite" is a type of exchange the operation of which depends upon control signals received from a supervisory exchange;
  - "switching centres" *includes include* exchanges and satellites.

## WARNINGS

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

H04M 7/02	covered by	<a href="#">H04Q 3/00</a>
H04M 7/04	covered by	<a href="#">H04Q 3/00</a>
H04M 7/10	covered by	<a href="#">H04Q 3/00</a>
H04M 15/02	covered by	<a href="#">H04M 15/888</a>

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

- U 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](#)})
- U H04M 1/26 . Devices for signalling identity of wanted subscriber (constructional features [H04M 1/23](#))
- U H04M 1/27 . . Devices whereby a plurality of signals may be stored simultaneously {(devices disposed in the exchange [H04M 3/424](#), [H04M 3/44](#))}
- U H04M 1/274 . . . with provision for storing more than one subscriber number at a time, e.g. using toothed disc
- C H04M 1/2745 . . . . using static electronic memories, ~~i.e. memories whose operation does not require relative movement between storage means and a transducer~~, e.g. chips; ~~{(fax machines H04N 1/32037)}~~
- WARNING**  
*Group H04M 1/2745 is impacted by reclassification into groups H04M 1/27467 and H04M 1/2753.  
 Groups H04M 1/2745, H04M 1/27467, and H04M 1/2753 should be considered in order to perform a complete search.*
- D H04M 1/274508 . . . . {Telephone number directory allowing to store a plurality of information regarding one subscriber}  
 <administratively transferred to [H04M 1/27453](#)>
- D H04M 1/274516 . . . . {whose content are provided by data transmission or downloaded}  
 <administratively transferred to [H04M 1/2757](#)>
- D H04M 1/274525 . . . . {Retrieving by scrolling on a display}  
 <administratively transferred to [H04M 1/2747](#)>
- N H04M 1/27453 . . . . Directories allowing storage of additional subscriber data, e.g. metadata
- D H04M 1/274533 . . . . {Telephone number directory management, e.g. manually editing, erasing or modifying data stored in the directory}  
 <administratively transferred to [H04M 1/27457](#)>
- D H04M 2001/274541 . . . . {Predictive input, predictive dialling by comparing the dialled sequence with the content of a telephone directory}  
 <administratively transferred to [H04M 1/27463](#)>
- D H04M 1/27455 . . . . {Retrieving by interactive graphical means or pictorial representation}  
 <administratively transferred to [H04M 1/27475](#)>
- D H04M 1/274558 . . . . {Retrieving by matching an alphabetic string}  
 <administratively transferred to [H04M 1/2748](#)>
- D H04M 1/274566 . . . . {Appending a prefix or inserting a pause to a dialling sequence}  
 <administratively transferred to [H04M 1/27485](#)>
- N H04M 1/27457 . . . . . Management thereof, e.g. manual editing of data
- D H04M 1/274575 . . . . {Automatic call origination and retry systems, e.g. on off-hook or redial on busy}  
 <administratively transferred to [H04M 1/2749](#)>
- D H04M 1/274583 . . . . {Sorted according to a specific criteria, e.g. history or frequency of use}  
 <administratively transferred to [H04M 1/2746](#)>



- D H04M 1/274591 . . . . {Implemented by means of discrete electronic components, i.e. neither programmable nor microprocessor-controlled (H04M 1/274516–H04M 1/274583 take precedence)}  
<administratively transferred to [H04M 1/27495](#)>
- N H04M 1/2746 . . . . . Sorting, e.g. according to history or frequency of use
- N H04M 1/27463 . . . . . {Predictive input, predictive dialling by comparing the dialled sequence with the content of a telephone directory}
- N H04M 1/27467 . . . . . Methods of retrieving data  
WARNING  
Group [H04M 1/27467](#) is incomplete pending reclassification of documents from group [H04M 1/2745](#).  
Groups [H04M 1/2745](#) and [H04M 1/27467](#) should be considered in order to perform a complete search.
- N H04M 1/2747 . . . . . Scrolling on a display
- N H04M 1/27475 . . . . . using interactive graphical means or pictorial representations
- N H04M 1/2748 . . . . . by matching character strings
- N H04M 1/27485 . . . . . Appending a prefix to or inserting a pause into a dialling sequence
- N H04M 1/2749 . . . . . Automatic dialling or redialling systems, e.g. on off-hook or redial on busy
- N H04M 1/27495 . . . . . implemented by means of discrete electronic components, i.e. neither programmable nor microprocessor-controlled ([H04M 1/27457](#)–[H04M 1/2749](#) take precedence)
- U H04M 1/275 . . . . . implemented by means of portable electronic directories
- N H04M 1/2753 . . . . . providing data content  
WARNING  
Group [H04M 1/2753](#) is incomplete pending reclassification of documents from group [H04M 1/2745](#). Groups [H04M 1/2745](#) and [H04M 1/2753](#) should be considered in order to perform a complete search.
- M H04M 1/2755 . . . . . ~~whose contents are provided~~ by optical scanning
- N H04M 1/2757 . . . . . by data transmission, e.g. downloading

**Project: RP0646 (H04N)**

- U H04N 9/00 Details of colour television systems**
- U H04N 9/12 . . . . . Picture reproducers ([H04N 9/11](#) takes precedence)
- U H04N 9/31 . . . . . Projection devices for colour picture display {, e.g. using electronic spatial light modulators [ESLM]}
- U H04N 9/3141 . . . . {Constructional details thereof (details not peculiar to the presence of an electronic spatial light modulator [G03B 21/14](#))}
- U H04N 9/315 . . . . {Modulator illumination systems (general applications of lighting devices [F21V](#); general optical systems [G02B](#); lamp houses for projectors not peculiar to the presence of an electronic spatial light modulator [G03B 21/20](#))}
- H04N 9/3155 . . . . . {for controlling the light source (light source control per se [H05B 37/00](#); [H05B 35/00](#) [H05B 41/00](#)– [H05B 47/00](#); control of an illumination source for displays in general [G09G 3/3406](#))}



**Project: RP0651 (H04N)****U H04N 13/00****Stereoscopic video systems; Multi-view video systems; Details thereof**NOTE

This group covers systems providing a three-dimensional [3D] effect, or different views to one or more viewers by means of electronic signals representing images, which could be taken from different viewpoints, or by means of signals including depth information {, e.g. taken from different viewpoint locations representing the interocular distance}

H04N 13/30

- Image reproducers (optical systems for producing stereoscopic or other three-dimensional effects ~~G02B 27/22~~ G02B 30/00)

WARNING

Group [H04N 13/30](#) is impacted by reclassification into groups [H04N 13/365](#) and [H04N 13/385](#).

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

**Project: RP0646 (H05B)****M H05B**

**ELECTRIC HEATING; ELECTRIC LIGHTING NOT OTHERWISE PROVIDED FOR** (~~apparatus for special application, see the relevant places, e.g. A47J, G21, G22, G23, F21, F24, F27~~)

NOTE

~~Attention is drawn to~~ In this subclass, the ~~Note (paragraph III)~~ following the ~~contents of Section of Section H~~ special cases occur:

- Among the general applications covered by sections other than section H, it is worth noting that electric heating in general is covered by subclasses [F24D](#) or [F24H](#) or class [F27](#), and that electric lighting in general is partly covered by class [F21](#), since in section H (see Note I(c) after the title of section H) there are places in [H05B](#) which cover the same technical subjects;*
- In the two cases referred to in Note (a) above, the subclasses of section E, which deal with the respective subjects, essentially cover in the first place the whole mechanical aspect of the apparatus or devices, whereas the electrical aspect, as such, is covered by subclass [H05B](#);*
- In the case of lighting, this mechanical aspect should be taken to cover the material arrangement of the various electric elements, i.e. their geometrical or physical position in relation to one another; this aspect is covered by subclasses of class [F21](#), the elements themselves and the primary circuits remaining in section H. The same applies to electric light sources, when combined with light sources of a different kind. These are covered by subclass [H05B](#), whereas the physical arrangement which their combination constitutes is covered by subclasses of class [F21](#);*
- As regards heating, not only the electric elements and circuitry designs, as such, are covered by subclass [H05B](#), but also the electric aspects of their arrangement, where these concern cases of general application; electric furnaces being considered as such. The physical disposition of the electric elements in furnaces is covered by section E. If a comparison is made with electric welding circuits, which are covered by subclass [B23K](#) in connection with welding, it can be seen that electric heating is not covered by the general rule stated in Note II after the title of section H.*

WARNING

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

M	H05B 6/00	Heating by electric, magnetic, or electromagnetic fields ( <del>for therapeutic purposes A61N 5/00; joining of preformed parts by heating of plastics or substances in a plastic state B29C 65/02</del> <b>radiation therapy using microwaves A61N 5/02</b> )
M	H05B 7/00	Heating by electric discharge ( <del>electron beam or ion beam tubes for localised treatment of objects H01J 37/30;</del> plasma torches <a href="#">H05H 1/26</a> )
U	H05B 7/02	• Details
M	H05B 7/11	• • Arrangements for conducting current to the electrode terminals ( <del>non-insulated conductors or conductive bodies in general H01B 5/00; insulated conductors or cables in general H01B 7/00</del> )
M	H05B 7/144	• • Power supplies specially adapted for heating by electric discharge; Automatic control of power, e.g. by positioning of electrodes ( <del>circuit arrangements for supplying electric power in general H02J</del> )
	<b>H05B 31/00</b> <b>- H05B 43/00</b> <b>H05B 47/00</b>	<b>Lighting</b>
M	H05B 31/00	Electric arc lamps (regulating electric characteristics of arcs <a href="#">G05F 1/02</a> ; <del>with non-consumable electrodes H01J 61/00</del> )
M	H05B 33/00	Electroluminescent light sources ( <del>discharge lamps H01J 61/00 - H01J 65/00; semi-conductor devices with at least one particular jump barrier or surface barrier adapted for light emission H01L 27/15, H01L 33/00; organic light emitting devices H01L 27/32, H01L 51/50; lasers H01S 3/00, H01S 5/00; compositions per se, see the relevant subclasses; {luminescent scales or hands G01D 13/20, G01D 13/28; luminescent dials G09F 13/20; conductive layers on isolated substrate H01B 1/00; solid state image amplifiers H01L 31/14; electronic gates with electroluminescent elements H03K 17/78; pulse generation with electroluminescent elements H03K 3/00}</del> )
U	H05B 33/02	• Details
C	H05B 33/08	• • Circuit arrangements <del>not adapted to a particular application for operating electroluminescent light sources (for operating light emitting diodes H05B 45/00)</del>  <b>WARNING</b> <i>Group H05B 33/08 is impacted by reclassification into group H05B 45/00. Groups H05B 33/08 and H05B 45/00 should be considered in order to perform a complete search.</i>
D	H05B 33/0803	• • • {for light emitting diodes [LEDs] comprising only inorganic semiconductor materials} <administratively transferred to <a href="#">H05B 45/00</a> >
D	H05B 33/0806	• • • • {Structural details of the circuit} <administratively transferred to <a href="#">H05B 45/00</a> >
D	H05B 33/0809	• • • • • {in the conversion stage} <administratively transferred to <a href="#">H05B 45/37</a> >
D	H05B 33/0812	• • • • • • {with a controlled linear regulator} <administratively transferred to <a href="#">H05B 45/395</a> >
D	H05B 33/0815	• • • • • • {with a controlled switching regulator} <administratively transferred to <a href="#">H05B 45/37</a> >
D	H05B 33/0818	• • • • • • • {wherein HF AC or pulses are generated in the final stage} <administratively transferred to <a href="#">H05B 45/37</a> >

- D H05B 33/0821 . . . . . {in the load stage}  
<administratively transferred to [H05B 45/40](#)>
- D H05B 33/0824 . . . . . {with an active control inside the LED load configuration}  
<administratively transferred to [H05B 45/44](#)>
- D H05B 33/0827 . . . . . {organized essentially in parallel configuration}  
<administratively transferred to [H05B 45/46](#)>
- D H05B 33/083 . . . . . {organized essentially in string configuration with shunting switches}  
<administratively transferred to [H05B 45/48](#)>
- D H05B 33/0842 . . . . {with control (H05B 33/0884 takes precedence)}  
<administratively transferred to [H05B 45/00](#)>
- D H05B 33/0845 . . . . . {of the light intensity (H05B 33/0857 takes precedence)}  
<administratively transferred to [H05B 45/10](#)>
- D H05B 33/0848 . . . . . {involving load characteristic sensing means}  
<administratively transferred to [H05B 45/14](#)>
- D H05B 33/0851 . . . . . {with permanent feedback from the light source}  
<administratively transferred to [H05B 45/10](#)>
- D H05B 33/0854 . . . . . {involving load external environment sensing means}  
<administratively transferred to [H05B 45/10](#)>
- D H05B 33/0857 . . . . . {of the color point of the light}  
<administratively transferred to [H05B 45/20](#)>
- D H05B 33/086 . . . . . {involving set point control means}  
<administratively transferred to [H05B 45/20](#)>
- D H05B 33/0863 . . . . . {by user interfaces}  
<administratively transferred to [H05B 45/20](#)>
- D H05B 33/0866 . . . . . {involving load characteristic sensing means}  
<administratively transferred to [H05B 45/24](#)>
- D H05B 33/0869 . . . . . {optical sensing means}  
<administratively transferred to [H05B 45/22](#)>
- D H05B 33/0872 . . . . . {involving load external environment sensing means}  
<administratively transferred to [H05B 45/20](#)>
- D H05B 33/0884 . . . . {with monitoring or protection}  
<administratively transferred to [H05B 45/50](#)>
- D H05B 33/0887 . . . . . {of the conversion stage}  
<administratively transferred to [H05B 45/50](#)>
- D H05B 33/089 . . . . . {of the load stage}  
<administratively transferred to [H05B 45/50](#)>
- D H05B 33/0893 . . . . . {involving end of life detection of LEDs}  
<administratively transferred to [H05B 45/58](#)>
- D H05B 33/0896 . . . {for light emitting diodes [LEDs] comprising organic materials, e.g. polymer LEDs [PLEDs] or organic LEDs [OLEDs]}  
<administratively transferred to [H05B 45/60](#)>

- D H05B 37/00** **Circuit arrangements for electric light sources in general** ~~{{vehicle lights B60L 1/14, B60Q; railways light signals B61L; lighting for photographic purposes G03B 15/02, for advertising purposes G09F}}~~  
**<administratively transferred to [H05B 47/00](#)>**
- D H05B 37/02** ~~• Controlling {{apparatus for performing colour music A63J 17/00; regulating light by electrical means without regulating the light source itself G05D 25/00}; regulating voltage or current G05F; {illuminated switch circuits G08B, G08C; H02B 15/00; traffic signals G08G 1/00}}~~  
**<administratively transferred to [H05B 47/10](#)>**
- D H05B 37/0209** ~~• {the instant of the ignition or of the extinction (H05B 37/029 takes precedence; light or sound activated electronic switches H03K 17/94)}~~  
**<administratively transferred to [H05B 47/10](#)>**
- D H05B 37/0218** ~~• • {by the ambient light}~~  
**<administratively transferred to [H05B 47/11](#)>**
- D H05B 37/0227** ~~• • {by detection only of parameters other than ambient light, e.g. by sound detectors, by passive infra-red detectors}~~  
**<administratively transferred to [H05B 47/105](#)>**
- D H05B 37/0236** ~~• • • {by detection of audible sound}~~  
**<administratively transferred to [H05B 47/12](#)>**
- D H05B 37/0245** ~~• • {by remote-control involving emission and detection units}~~  
**<administratively transferred to [H05B 47/175](#)>**
- D H05B 37/0254** ~~• • • {linked via data bus transmission}~~  
**<administratively transferred to [H05B 47/18](#)>**
- D H05B 37/0263** ~~• • • {linked via power line carrier transmission}~~  
**<administratively transferred to [H05B 47/185](#)>**
- D H05B 37/0272** ~~• • • {linked via wireless transmission, e.g. IR transmission}~~  
**<administratively transferred to [H05B 47/19](#)>**
- D H05B 37/0281** ~~• • {by timing means (H05B 37/0245 takes precedence; time-controlled switching in general G04, H01H, H03K)}~~  
**<administratively transferred to [H05B 47/16](#)>**
- D H05B 37/029** ~~• {a plurality of lamps following a preassigned sequence, e.g. theater lights, diapositive projector}~~  
**<administratively transferred to [H05B 47/155](#)>**
- D H05B 37/03** ~~• Detecting lamp failure {{monitoring vehicle lamps B60Q 11/00; changing to a reserve source of current H02J 9/00}}~~  
**<administratively transferred to [H05B 47/20](#)>**
- D H05B 37/032** ~~• {of a plurality of lamps connected in parallel}~~  
**<administratively transferred to [H05B 47/21](#)>**
- D H05B 37/034** ~~• • {with communication between the lamps and a central unit}~~  
**<administratively transferred to [H05B 47/22](#)>**
- D H05B 37/036** ~~• {of a plurality of lamps connected in series}~~  
**<administratively transferred to [H05B 47/23](#)>**
- D H05B 37/038** ~~• • {with communication between the lamps and a central unit}~~  
**<administratively transferred to [H05B 47/235](#)>**

- D H05B 37/04
- Circuits providing for substitution of the light source in case of its failure {, e.g. by switching over to a reserve light source (incandescent lamps with reserve body H01K)}
- <administratively transferred to [H05B 47/29](#)>
- M H05B 39/00
- Circuit arrangements or apparatus for operating incandescent light sources and not adapted to a particular application ~~{{(incandescent lamps per se H01K)}~~**
- M H05B 39/04
- Controlling ~~(regulating voltage in general G05F)~~
- M H05B 41/00
- Circuit arrangements or apparatus for igniting or operating discharge lamps ~~{{(circuit elements structurally associated with discharge lamps H01J 7/44, H01J 19/78; discharge lamps per se H01J 61/00 – H01J 65/00; arc lamps with consumable electrodes H05B 31/00; transformers or chokes for supplying discharge lamps H01F 38/08)}~~**
- U H05B 41/02
- Details
- M H05B 41/04
- Starting switches ~~{{(igniting arrangements for discharge lamps H01J 7/30, H01J 17/30, H01J 61/54; switches in general H01H)}~~
- U H05B 41/14
- Circuit arrangements
- M H05B 41/30
- in which the lamp is fed by pulses, e.g. flash lamp ~~{{(welding with accumulated energy B23K 11/24; for gas discharge lasers H01S 3/097; electrical pulse generators with charge and discharge of an accumulating element H03K 3/53)}~~
- M H05B 41/36
- Controlling ~~(regulating voltage or current G05F)~~
- M H05B 41/44
- for providing special optical effects, e.g. progressive motion of light ~~{{(advertising using lights G09F)}~~
- M H05B 41/46
- Circuits providing for substitution in case of failure of the lamp ~~{{(changing to a reserve current source H02J 9/00)}~~
- D H05B 43/00
- Circuit arrangements for light sources, not otherwise provided for (H05B 37/00 takes precedence)**
- <administratively transferred to [H05B 47/00](#)>
- D H05B 43/02
- for light sources using a charge of combustible material {, e.g. magnesium lamps}
- <administratively transferred to [H05B 46/00](#)>
- Q H05B 45/00
- Circuit arrangements for operating light emitting diodes [LED]**
- NOTE
- In this group, multi-aspect classification is applied, so that subject matter characterised by aspects covered by more than one of its subgroups, which is considered to represent information of interest for search, may also be classified in each of those subgroups.*
- WARNING
- Group [H05B 45/00](#) is incomplete pending reclassification of documents from group [H05B 33/08](#).
- Group [H05B 45/00](#) is also impacted by reclassification into groups [H05B 45/30](#) -[H05B 45/397](#). Groups [H05B 33/08](#), [H05B 45/00](#), and [H05B 45/30-H05B 45/397](#) should be considered in order to perform a complete search.
- Q H05B 45/10
- Controlling the intensity of the light
- WARNING
- Group [H05B 45/10](#) is impacted by reclassification into groups [H05B 45/12](#) and [H05B 45/18](#).

Groups [H05B 45/10](#), [H05B 45/12](#), and [H05B 45/18](#) should be considered in order to perform a complete search.

N H05B 45/12

- using optical feedback

WARNING

Group [H05B 45/12](#) is incomplete pending reclassification of documents from group [H05B 45/10](#).

Groups [H05B 45/10](#) and [H05B 45/12](#) should be considered in order to perform a complete search.

N H05B 45/14

- using electrical feedback from LEDs or from LED modules

N H05B 45/18

- using temperature feedback

WARNING

Group [H05B 45/18](#) is incomplete pending reclassification of documents from group [H05B 45/10](#).

Groups [H05B 45/10](#) and [H05B 45/18](#) should be considered in order to perform a complete search.

Q H05B 45/20

- Controlling the colour of the light

WARNING

Group [H05B 45/20](#) is impacted by reclassification into group [H05B 45/28](#).

Groups [H05B 45/20](#) and [H05B 45/28](#) should be considered in order to perform a complete search.

N H05B 45/22

- using optical feedback

N H05B 45/24

- using electrical feedback from LEDs or from LED modules

N H05B 45/28

- using temperature feedback

WARNING

Group [H05B 45/28](#) is incomplete pending reclassification of documents from group [H05B 45/20](#).

Groups [H05B 45/20](#) and [H05B 45/28](#) should be considered in order to perform a complete search.

N H05B 45/30

- Driver circuits

WARNING

Group [H05B 45/30](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).

Groups [H05B 45/00](#) and [H05B 45/30](#) should be considered in order to perform a complete search.

N H05B 45/305

- Frequency-control circuits

WARNING

Group [H05B 45/305](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).

Groups [H05B 45/00](#) and [H05B 45/305](#) should be considered in order to perform a complete search.

N H05B 45/31

- Phase-control circuits

WARNING

Group [H05B 45/31](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).

Groups [H05B 45/00](#) and [H05B 45/31](#) should be considered in order to perform a complete search.



- N H05B 45/315
- • • Reverse phase-control circuits
- WARNING  
Group [H05B 45/315](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).  
Groups [H05B 45/00](#) and [H05B 45/315](#) should be considered in order to perform a complete search.
- N H05B 45/32
- • Pulse-control circuits
- WARNING  
Group [H05B 45/32](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).  
Groups [H05B 45/00](#) and [H05B 45/32](#) should be considered in order to perform a complete search.
- N H05B 45/325
- • • Pulse-width modulation [PWM]
- WARNING  
Group [H05B 45/325](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).  
Groups [H05B 45/00](#) and [H05B 45/325](#) should be considered in order to perform a complete search.
- N H05B 45/327
- • • Burst dimming
- WARNING  
Group [H05B 45/327](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).  
Groups [H05B 45/00](#) and [H05B 45/327](#) should be considered in order to perform a complete search.
- N H05B 45/33
- • • Pulse-amplitude modulation [PAM]
- WARNING  
Group [H05B 45/33](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).  
Groups [H05B 45/00](#) and [H05B 45/33](#) should be considered in order to perform a complete search.
- N H05B 45/335
- • • Pulse-frequency modulation [PFM]
- WARNING  
Group [H05B 45/335](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).  
Groups [H05B 45/00](#) and [H05B 45/335](#) should be considered in order to perform a complete search.
- N H05B 45/34
- • Voltage stabilisation; Maintaining constant voltage
- WARNING  
Group [H05B 45/34](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).  
Groups [H05B 45/00](#) and [H05B 45/34](#) should be considered in order to perform a complete search.
- N H05B 45/345
- • Current stabilisation; Maintaining constant current
- WARNING  
Group [H05B 45/345](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).

Groups [H05B 45/00](#) and [H05B 45/345](#) should be considered in order to perform a complete search.

N H05B 45/347

- • Dynamic headroom control [DHC]

WARNING

Group [H05B 45/347](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).

Groups [H05B 45/00](#) and [H05B 45/347](#) should be considered in order to perform a complete search.

N H05B 45/35

- • Balancing circuits

WARNING

Group [H05B 45/35](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).

Groups [H05B 45/00](#) and [H05B 45/35](#) should be considered in order to perform a complete search.

N H05B 45/355

- • Power factor correction [PFC]; Reactive power compensation

WARNING

Group [H05B 45/355](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).

Groups [H05B 45/00](#) and [H05B 45/355](#) should be considered in order to perform a complete search.

N H05B 45/357

- • specially adapted for retrofit LED light sources

WARNING

Group [H05B 45/357](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).

Groups [H05B 45/00](#) and [H05B 45/357](#) should be considered in order to perform a complete search.

N H05B 45/3574

- • • Emulating the electrical or functional characteristics of incandescent lamps

WARNING

Group [H05B 45/3574](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).

Groups [H05B 45/00](#) and [H05B 45/3574](#) should be considered in order to perform a complete search.

N H05B 45/3575

- • • by means of dummy loads or bleeder circuits, e.g. for dimmers

WARNING

Group [H05B 45/3575](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).

Groups [H05B 45/00](#) and [H05B 45/3575](#) should be considered in order to perform a complete search.

N H05B 45/3577

- • • Emulating the dimming characteristics, brightness or colour temperature of incandescent lamps

WARNING

Group [H05B 45/3577](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).

Groups [H05B 45/00](#) and [H05B 45/3577](#) should be considered in order to perform a complete search.

- N H05B 45/3578
- • • Emulating the electrical or functional characteristics of discharge lamps
- WARNING  
Group [H05B 45/3578](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).  
Groups [H05B 45/00](#) and [H05B 45/3578](#) should be considered in order to perform a complete search.
- N H05B 45/36
- • Circuits for reducing harmonics, ripples or electromagnetic interferences [EMI]
- WARNING  
Group [H05B 45/36](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).  
Groups [H05B 45/00](#) and [H05B 45/36](#) should be considered in order to perform a complete search.
- Q H05B 45/37
- • Converter circuits
- WARNING  
Group [H05B 45/37](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).  
Group [H05B 45/37](#) is also impacted by reclassification into groups [H05B 45/3725](#), [H05B 45/375](#), [H05B 45/38](#), [H05B 45/382](#), [H05B 45/385](#), [H05B 45/39](#), and [H05B 45/392](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H05B 45/3725
- • • Switched mode power supply [SMPS]
- WARNING  
Group [H05B 45/3725](#) is incomplete pending reclassification of documents from groups [H05B 45/00](#) and [H05B 45/37](#).  
Groups [H05B 45/00](#), [H05B 45/37](#), and [H05B 45/3725](#) should be considered in order to perform a complete search.
- N H05B 45/375
- • • • using buck topology
- WARNING  
Group [H05B 45/375](#) is incomplete pending reclassification of documents from groups [H05B 45/00](#) and [H05B 45/37](#).  
Groups [H05B 45/00](#), [H05B 45/37](#), and [H05B 45/375](#) should be considered in order to perform a complete search.
- N H05B 45/38
- • • • using boost topology
- WARNING  
Group [H05B 45/38](#) is incomplete pending reclassification of documents from groups [H05B 45/00](#) and [H05B 45/37](#).  
Groups [H05B 45/00](#), [H05B 45/37](#), and [H05B 45/38](#) should be considered in order to perform a complete search.
- N H05B 45/382
- • • • with galvanic isolation between input and output
- WARNING  
Group [H05B 45/382](#) is incomplete pending reclassification of documents from groups [H05B 45/00](#) and [H05B 45/37](#).  
Groups [H05B 45/00](#), [H05B 45/37](#), and [H05B 45/382](#) should be considered in order to perform a complete search.

- N H05B 45/385
- • • using flyback topology
- WARNING  
Group [H05B 45/385](#) is incomplete pending reclassification of documents from groups [H05B 45/00](#) and [H05B 45/37](#).  
Groups [H05B 45/00](#), [H05B 45/37](#), and [H05B 45/385](#) should be considered in order to perform a complete search.
- N H05B 45/39
- • • Circuits containing inverter bridges
- WARNING  
Group [H05B 45/39](#) is incomplete pending reclassification of documents from groups [H05B 45/00](#) and [H05B 45/37](#).  
Groups [H05B 45/00](#), [H05B 45/37](#), and [H05B 45/39](#) should be considered in order to perform a complete search.
- N H05B 45/392
- • • wherein the LEDs are placed as freewheeling diodes at the secondary side of an isolation transformer
- WARNING  
Group [H05B 45/392](#) is incomplete pending reclassification of documents from groups [H05B 45/00](#) and [H05B 45/37](#).  
Groups [H05B 45/00](#), [H05B 45/37](#), and [H05B 45/392](#) should be considered in order to perform a complete search.
- Q H05B 45/395
- • Linear regulators
- WARNING  
Group [H05B 45/395](#) is incomplete pending reclassification of documents from group [H05B 45/00](#).  
Group [H05B 45/395](#) is also impacted by reclassification into group [H05B 45/397](#).  
Groups [H05B 45/00](#), [H05B 45/395](#), and [H05B 45/397](#) should be considered in order to perform a complete search.
- N H05B 45/397
- • • Current mirror circuits
- WARNING  
Group [H05B 45/397](#) is incomplete pending reclassification of documents from groups [H05B 45/00](#) and [H05B 45/395](#).  
Groups [H05B 45/00](#), [H05B 45/395](#), and [H05B 45/397](#) should be considered in order to perform a complete search.
- Q H05B 45/40
- Details of LED load circuits
- WARNING  
Group [H05B 45/40](#) is impacted by reclassification into group [H05B 45/42](#).  
Groups [H05B 45/40](#) and [H05B 45/42](#) should be considered in order to perform a complete search.
- N H05B 45/42
- • Antiparallel configurations
- WARNING  
Group [H05B 45/42](#) is incomplete pending reclassification of documents from group [H05B 45/40](#).  
Groups [H05B 45/40](#) and [H05B 45/42](#) should be considered in order to perform a complete search.
- N H05B 45/44
- • with an active control inside an LED matrix
- N H05B 45/46
- • • having LEDs disposed in parallel lines
- N H05B 45/48
- • • having LEDs organised in strings and incorporating parallel shunting devices

- Q H05B 45/50
- responsive to malfunctions of LEDs; responsive to LED life; Protective circuits
- WARNING  
Group [H05B 45/50](#) is impacted by reclassification into groups [H05B 45/52](#), [H05B 45/54](#), and [H05B 45/56](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H05B 45/52
- • in a parallel array of LEDs
- WARNING  
Group [H05B 45/52](#) is incomplete pending reclassification of documents from group [H05B 45/50](#).  
Groups [H05B 45/50](#) and [H05B 45/52](#) should be considered in order to perform a complete search.
- N H05B 45/54
- • in a series array of LEDs
- WARNING  
Group [H05B 45/54](#) is incomplete pending reclassification of documents from group [H05B 45/50](#).  
Groups [H05B 45/50](#) and [H05B 45/54](#) should be considered in order to perform a complete search.
- N H05B 45/56
- • involving measures to prevent abnormal temperature of the LEDs
- WARNING  
Group [H05B 45/56](#) is incomplete pending reclassification of documents from group [H05B 45/50](#).  
Groups [H05B 45/50](#) and [H05B 45/56](#) should be considered in order to perform a complete search.
- N H05B 45/58
- • involving end of life detection of LEDs
- N H05B 45/60
- {Circuit arrangements for operating light emitting diodes [LEDs] comprising organic materials, e.g. polymer LEDs [PLED] or organic LEDs [OLED]}
- N H05B 46/00
- Circuit arrangements for light sources using a charge of combustible material**
- Q H05B 47/00
- Circuit arrangements for operating light sources in general, i.e. where the type of the light source is not relevant**
- NOTE  
In this group, multi-aspect classification is applied, so that subject matter characterised by aspects covered by more than one of its subgroups, which is considered to represent information of interest for search, may also be classified in each of those subgroups.
- WARNING  
Group [H05B 47/00](#) is impacted by reclassification into groups [H05B 47/10](#) - [H05B 47/29](#).  
Groups [H05B 47/00](#) and [H05B 47/10](#) - [H05B 47/29](#) should be considered in order to perform a complete search.
- Q H05B 47/10
- Controlling the light source
- WARNING  
Group [H05B 47/10](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).  
Group [H05B 47/10](#) is also impacted by reclassification into groups [H05B 47/165](#) and [H05B 47/17](#).

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

Q H05B 47/105

- • in response to determined parameters

WARNING

Group [H05B 47/105](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).

Group [H05B 47/105](#) is also impacted by reclassification into groups [H05B 47/115](#), [H05B 47/125](#), [H05B 47/13](#), [H05B 47/135](#), and [H05B 47/14](#). All groups listed in this Warning should be considered in order to perform a complete search.

N H05B 47/11

- • by determining the brightness or colour temperature of ambient light

WARNING

Group [H05B 47/11](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).

Groups [H05B 47/00](#) and [H05B 47/11](#) should be considered in order to perform a complete search.

N H05B 47/115

- • by determining the presence or movement of objects or living beings

WARNING

Group [H05B 47/115](#) is incomplete pending reclassification of documents from groups [H05B 47/00](#) and [H05B 47/105](#).

Groups [H05B 47/00](#), [H05B 47/105](#), and [H05B 47/115](#) should be considered in order to perform a complete search.

N H05B 47/12

- • • by detecting audible sound

WARNING

Group [H05B 47/12](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).

Groups [H05B 47/00](#) and [H05B 47/12](#) should be considered in order to perform a complete search.

N H05B 47/125

- • • by using cameras

WARNING

Group [H05B 47/125](#) is incomplete pending reclassification of documents from groups [H05B 47/00](#) and [H05B 47/105](#).

Groups [H05B 47/00](#), [H05B 47/105](#), and [H05B 47/125](#) should be considered in order to perform a complete search.

N H05B 47/13

- • • by using passive infrared detectors

WARNING

Group [H05B 47/13](#) is incomplete pending reclassification of documents from groups [H05B 47/00](#) and [H05B 47/105](#).

Groups [H05B 47/00](#), [H05B 47/105](#), and [H05B 47/13](#) should be considered in order to perform a complete search.

N H05B 47/135

- • by determining the type of light source being controlled (electrical parameters of light source being controlled [H05B 47/14](#))

WARNING

Group [H05B 47/135](#) is incomplete pending reclassification of documents from groups [H05B 47/00](#) and [H05B 47/105](#).

Groups [H05B 47/00](#), [H05B 47/105](#), and [H05B 47/135](#) should be considered in order to perform a complete search.



- N H05B 47/14
- • • by determining electrical parameters of the light source
- WARNING  
Group [H05B 47/14](#) is incomplete pending reclassification of documents from groups [H05B 47/00](#) and [H05B 47/105](#).  
Groups [H05B 47/00](#), [H05B 47/105](#), and [H05B 47/14](#) should be considered in order to perform a complete search.
- N H05B 47/155
- • Coordinated control of two or more light sources
- WARNING  
Group [H05B 47/155](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).  
Groups [H05B 47/00](#) and [H05B 47/155](#) should be considered in order to perform a complete search.
- N H05B 47/16
- • by timing means
- WARNING  
Group [H05B 47/16](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).  
Groups [H05B 47/00](#) and [H05B 47/16](#) should be considered in order to perform a complete search.
- N H05B 47/165
- • following a pre-assigned programmed sequence; Logic control [LC]
- WARNING  
Group [H05B 47/165](#) is incomplete pending reclassification of documents from groups [H05B 47/00](#) and [H05B 47/10](#).  
Groups [H05B 47/00](#), [H05B 47/10](#), and [H05B 47/165](#) should be considered in order to perform a complete search.
- N H05B 47/17
- • Operational modes, e.g. switching from manual to automatic mode or prohibiting specific operations
- WARNING  
Group [H05B 47/17](#) is incomplete pending reclassification of documents from groups [H05B 47/00](#) and [H05B 47/10](#).  
Groups [H05B 47/00](#), [H05B 47/10](#), and [H05B 47/17](#) should be considered in order to perform a complete search.
- N H05B 47/175
- • by remote control
- WARNING  
Group [H05B 47/175](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).  
Groups [H05B 47/00](#) and [H05B 47/175](#) should be considered in order to perform a complete search.
- N H05B 47/18
- • • via data-bus transmission
- WARNING  
Group [H05B 47/18](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).  
Groups [H05B 47/00](#) and [H05B 47/18](#) should be considered in order to perform a complete search.
- N H05B 47/185
- • • via power line carrier transmission
- WARNING  
Group [H05B 47/185](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).

Groups [H05B 47/00](#) and [H05B 47/185](#) should be considered in order to perform a complete search.

Q H05B 47/19

- • • via wireless transmission

WARNING

Group [H05B 47/19](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).

Group [H05B 47/19](#) is also impacted by reclassification into group [H05B 47/195](#).

Groups [H05B 47/00](#), [H05B 47/19](#), and [H05B 47/195](#) should be considered in order to perform a complete search.

N H05B 47/195

- • • the transmission using visible or infrared light

WARNING

Group [H05B 47/195](#) is incomplete pending reclassification of documents from groups [H05B 47/00](#) and [H05B 47/19](#).

Groups [H05B 47/00](#), [H05B 47/19](#), and [H05B 47/195](#) should be considered in order to perform a complete search.

Q H05B 47/20

- Responsive to malfunctions or to light source life; for protection

WARNING

Group [H05B 47/20](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).

Group [H05B 47/20](#) is also impacted by reclassification into groups [H05B 47/24](#), [H05B 47/25](#), [H05B 47/26](#), and [H05B 47/28](#).

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

N H05B 47/21

- • of two or more light sources connected in parallel

WARNING

Group [H05B 47/21](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).

Groups [H05B 47/00](#) and [H05B 47/21](#) should be considered in order to perform a complete search.

N H05B 47/22

- • {with communication between the lamps and a central unit}

WARNING

Group [H05B 47/22](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).

Groups [H05B 47/00](#) and [H05B 47/22](#) should be considered in order to perform a complete search.

N H05B 47/23

- • of two or more light sources connected in series

WARNING

Group [H05B 47/23](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).

Groups [H05B 47/00](#) and [H05B 47/23](#) should be considered in order to perform a complete search.

N H05B 47/235

- • {with communication between the lamps and a central unit}

WARNING

Group [H05B 47/235](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).

Groups [H05B 47/00](#) and [H05B 47/235](#) should be considered in order to perform a complete search.

- N H05B 47/24
- • Circuit arrangements for protecting against overvoltage
- WARNING  
Group [H05B 47/24](#) is incomplete pending reclassification of documents from groups [H05B 47/00](#) and [H05B 47/20](#).  
Groups [H05B 47/00](#), [H05B 47/20](#), and [H05B 47/24](#) should be considered in order to perform a complete search.
- N H05B 47/25
- • Circuit arrangements for protecting against overcurrent
- WARNING  
Group [H05B 47/25](#) is incomplete pending reclassification of documents from groups [H05B 47/00](#) and [H05B 47/20](#).  
Groups [H05B 47/00](#), [H05B 47/20](#), and [H05B 47/25](#) should be considered in order to perform a complete search.
- N H05B 47/26
- • Circuit arrangements for protecting against earth faults
- WARNING  
Group [H05B 47/26](#) is incomplete pending reclassification of documents from groups [H05B 47/00](#) and [H05B 47/20](#).  
Groups [H05B 47/00](#), [H05B 47/20](#), and [H05B 47/26](#) should be considered in order to perform a complete search.
- N H05B 47/28
- • Circuit arrangements for protecting against abnormal temperature
- WARNING  
Group [H05B 47/28](#) is incomplete pending reclassification of documents from groups [H05B 47/00](#) and [H05B 47/20](#).  
Groups [H05B 47/00](#), [H05B 47/20](#), and [H05B 47/28](#) should be considered in order to perform a complete search.
- N H05B 47/29
- • Circuits providing for substitution of the light source in case of its failure
- WARNING  
Group [H05B 47/29](#) is incomplete pending reclassification of documents from group [H05B 47/00](#).  
Groups [H05B 47/00](#) and [H05B 47/29](#) should be considered in order to perform a complete search.