

**H 01 B CABLES; CONDUCTORS; INSULATORS; SELECTION OF MATERIALS FOR THEIR CONDUCTIVE, INSULATING, OR DIELECTRIC PROPERTIES** (selection for magnetic properties [H 01 F 1/00](#); waveguides [H 01 P](#); installation of cables or lines, or of combined optical and electric, cables or lines [H 02 G](#))

### Notes

- (1) Group [12/00](#) takes precedence over groups [5/00](#) to [11/00](#).  
 (2) Cables including at least one electrical conductor together with optical fibres are classified in group [11/22](#). [4]

### Subclass Index

CONDUCTORS OR CABLES	Manufacture; salvaging..... <a href="#">13/00</a> ; <a href="#">15/00</a>
Characterised by the material..... <a href="#">1/00</a>	INSULATORS OR INSULATING BODIES
Characterised by the construction ..... <a href="#">5/00</a> , <a href="#">7/00</a>	Characterised by the material..... <a href="#">3/00</a>
Special types for: communication; power; superconductive cables..... <a href="#">11/00</a> ; <a href="#">9/00</a> ; <a href="#">12/00</a>	Characterised by the construction ..... <a href="#">17/00</a>
	Manufacture ..... <a href="#">19/00</a>

**1/00 Conductors or conductive bodies characterised by the conductive materials; Selection of materials as conductors** (superconductive or hyperconductive conductors, cables, or transmission lines characterised by the materials [12/00](#); resistors [H 01 C](#); details of devices using superconductivity or hyperconductivity, characterised by the material [H 01 L 39/12](#)) [4]

### Note

Groups [1/14](#) to [1/24](#) take precedence over groups [1/02](#) to [1/12](#). [3]

- 1/02 . . . mainly consisting of metals or alloys
  - 1/04 . . . mainly consisting of carbon-silicon compounds, carbon, or silicon
  - 1/06 . . . mainly consisting of other non-metallic substances
  - 1/08 . . . oxides
  - 1/10 . . . sulfides
  - 1/12 . . . organic substances [3]
  - 1/14 . . . Conductive material dispersed in non-conductive inorganic material [3]
  - 1/16 . . . the conductive material comprising metals or alloys [3]
  - 1/18 . . . the conductive material comprising carbon-silicon compounds, carbon, or silicon [3]
  - 1/20 . . . Conductive material dispersed in non-conductive organic material [3]
  - 1/22 . . . the conductive material comprising metals or alloys [3]
  - 1/24 . . . the conductive material comprising carbon-silicon compounds, carbon, or silicon [3]
- 3/00 Insulators or insulating bodies characterised by the insulating materials; Selection of materials for their insulating or dielectric properties** (selection of piezoelectric or electrostrictive materials [H 01 L 41/00](#))
- 3/02 . . . mainly consisting of inorganic substances
  - 3/04 . . . mica
  - 3/06 . . . asbestos
  - 3/08 . . . quartz; glass; glass wool; slag wool; vitreous enamels
  - 3/10 . . . metallic oxides (ceramics [3/12](#))
  - 3/12 . . . ceramics
  - 3/14 . . . cements

- 3/16 . . . gases
- 3/18 . . . mainly consisting of organic substances
- 3/20 . . . liquids, e.g. oils (silicone oils [3/46](#))
- 3/22 . . . hydrocarbons
- 3/24 . . . containing halogen in the molecules, e.g. halogenated oils
- 3/26 . . . asphalts; bitumens; pitches
- 3/28 . . . natural or synthetic rubbers
- 3/30 . . . resins; waxes
- 3/32 . . . natural resins
- 3/34 . . . waxes (silicone waxes [3/46](#))
- 3/36 . . . condensation products of phenols with aldehydes or ketones
- 3/38 . . . condensation products of aldehydes with amines or amides
- 3/40 . . . epoxy resins
- 3/42 . . . polyesters; polyethers; polyacetals
- 3/44 . . . vinyl resins; acrylic resins (silicones [3/46](#))
- 3/46 . . . silicones
- 3/48 . . . fibrous materials
- 3/50 . . . fabric
- 3/52 . . . wood; paper; pressboard (insulating paper [per se D 21 H 27/12](#))
- 3/54 . . . hard paper; hard fabrics
- 3/56 . . . gases

### 5/00 Non-insulated conductors or conductive bodies characterised by their form

- 5/02 . . . *Single bars, rods, wires or strips; Bus-bars (aspects of connection with their counterparts [H 01 R 25/00](#); bus-bar layouts [H 02 B 1/20](#); installations of bus-bars [H 02 G 5/00](#))* [1,7]
- 5/04 . . . wound or coiled
- 5/06 . . . Single tubes
- 5/08 . . . Several wires or the like stranded in the form of a rope
- 5/10 . . . stranded around a space, insulating material, or dissimilar conducting material
- 5/12 . . . Braided wires or the like

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- 5/14 . comprising conductive layers or films on insulating-supports (insulating-layers or insulating-films on metal bodies [17/62](#))
- 5/16 . comprising conductive material in insulating or poorly conductive material, e.g. conductive rubber ([1/14](#), [1/20](#) take precedence; insulating bodies with conductive admixtures [17/64](#); conductive paints [C 09 D 5/24](#)) [3]
- 7/00 Insulated conductors or cables characterised by their form**
- 7/02 . Disposition of insulation (materials [3/00](#); insulators [17/00](#))
- 7/04 . Flexible cables, conductors, or cords, e.g. trailing cables
- 7/06 . Extensible conductors or cables, e.g. self-coiling cords (arrangements for storing and repeatedly paying-out and re-storing lengths of conductors or cables [B 65 H 75/34](#))
- 7/08 . Flat or ribbon cables
- 7/10 . Contact cables, i.e. having conductors which may be brought into contact by distortion of the cable
- 7/12 . Floating cables (installations of cables supported on or from floats [H 02 G 9/12](#))
- 7/14 . Submarine cables
- 7/16 . Rigid-tube cables (heating elements of similar construction [H 05 B](#))
- 7/17 . *Protection against damage caused by external factors, e.g. sheaths or armouring (power cables with screens [9/02](#); communication cables with screens [11/06](#); installation of conduits [H 02 G](#)) [7]*
  - 7/18 . . by wear, mechanical force or pressure [1,7]
  - 7/20 . . . Metal tubes, e.g. lead sheaths [1,7]
  - 7/22 . . . Metal wires or tapes, e.g. made of steel [1,7]
  - 7/24 . . . Devices affording localised protection against mechanical force or pressure [1,7]
  - 7/26 . . . Reduction of losses in sheaths or armouring [1,7]
  - 7/28 . . by moisture, corrosion, chemical attack or weather [1,7]
  - 7/282 . . . Preventing penetration of fluid into conductor or cable (insulators or insulating bodies with surfaces specially treated for preserving insulating properties, e.g. for protection against moisture, dirt, or the like, [17/50](#)) [7]
  - 7/285 . . . . by completely or partially filling interstices in the cable [7]
  - 7/288 . . . . . using hygroscopic material or material swelling in the presence of liquid [7]
  - 7/29 . . by extremes of temperature or by flame ([7/42](#) takes precedence) [7]
  - 7/295 . . . using material resistant to flame [7]
- 7/30 . with arrangements for reducing conductor losses when carrying ac, e.g. due to skin effect
- 7/32 . with arrangements for indicating defects, e.g. breaks, leaks (locating defects by measuring [G 01](#))
- 7/34 (*transferred to [7/29](#), [7/42](#)*)
- 7/36 . with distinguishing or length marks
- 7/38 . with arrangements for facilitating removal of insulation [7]
- 7/40 . with arrangements for facilitating mounting or securing [7]
- 7/42 . with arrangements for heat dissipation or conduction (insulators or insulating bodies having heating or cooling devices [17/54](#)) [7]

## 9/00 Power cables

- 9/02 . with screens or conductive layers, e.g. for avoiding large potential gradients
- 9/04 . Concentric cables
- 9/06 . Gas-pressure cables; Oil-pressure cables; Cables for use in conduits under fluid pressure

## 11/00 Communication cables or conductors (waveguides [H 01 P](#))

- 11/02 . Cables with twisted pairs or quads (transposing, crossing, or twisting at joints [H 04 B](#); balancing of earth capacitance [H 04 B](#))
- 11/04 . . with pairs or quads mutually positioned to reduce cross-talk (balancing by making use of additional capacitors or coils [H 04 B](#))
- 11/06 . . with means for reducing effects of electromagnetic or electrostatic disturbances, e.g. screen (screening in general [H 05 K 9/00](#))
- 11/08 . . . Screens specially adapted for reducing cross-talk
- 11/10 . . . Screens specially adapted for reducing interference from external sources
- 11/12 . . Arrangements for exhibiting specific transmission characteristics (loading coils *per se* [H 01 F 17/08](#); coil-loaded circuits [H 04 B](#))
- 11/14 . . . Continuously inductively loaded cables, e.g. Krarup cables
- 11/16 . . . Cables, e.g. submarine cable, with coils or other devices incorporated during cable manufacture (junction boxes for cables [H 02 G 15/10](#))
- 11/18 . Coaxial cables; Analogous cables having more than one inner conductor within a common outer conductor (suitable for handling frequencies considerably beyond the audio range [H 01 P 3/06](#))
- 11/20 . . Cables having a multiplicity of coaxial lines [3]
- 11/22 . Cables including at least one electrical conductor together with optical fibres [4]

## 12/00 Superconductive or hyperconductive conductors, cables, or transmission lines (superconductors characterised by the ceramic-forming technique or the ceramic composition [C 04 B 35/00](#); details or devices using superconductivity or hyperconductivity characterised by the material [H 01 L 39/12](#)) [2,4]

- 12/02 . characterised by their form [4]

### Note

Group [12/12](#) takes precedence over groups [12/04](#) to [12/10](#). [4]

- 12/04 . . Single wire [4]
- 12/06 . . Films or wires on bases or cores [4]
- 12/08 . . Stranded or braided wires [4]
- 12/10 . . Multi-filaments embedded in normal conductors [4]
- 12/12 . . Hollow conductors [4]
- 12/14 . characterised by the disposition of thermal insulation [4]
- 12/16 . characterised by cooling [4]

## 13/00 Apparatus or processes specially adapted for manufacturing conductors or cables

- 13/004 . for manufacturing rigid-tube cables [7]
- 13/008 . for manufacturing extensible conductors or cables [7]
- 13/012 . for manufacturing wire harnesses [7]
- 13/016 . for manufacturing co-axial cables (applying discontinuous insulation [13/20](#)) [7]

- 13/02 . Stranding-up (stranding-up ropes [D 07 B](#))
- 13/04 . . Mutually-positioning pairs or quads to reduce cross-talk
- 13/06 . Insulating conductors or cables ([13/32](#) takes precedence) [[4](#)]
- 13/08 . . by winding
- 13/10 . . by longitudinal lapping
- 13/12 . . by applying loose fibres
- 13/14 . . by extrusion
- 13/16 . . by passing through, or dipping in, a liquid bath; by spraying
- 13/18 . . Applying discontinuous insulation, e.g. discs, beads
- 13/20 . . . for concentric or coaxial cables
- 13/22 . Sheathing; Armouring; Screening; Applying other protective layers ([13/32](#) takes precedence) [[4](#)]
- 13/24 . . by extrusion
- 13/26 . . by winding, braiding, or longitudinal lapping (winding in general [B 65 H](#))
- 13/28 . Applying continuous inductive loading, e.g. Krarup loading
- 13/30 . Drying (in general [F 26 B](#)); Impregnating ([13/32](#) takes precedence) [[4](#)]
- 13/32 . Filling or coating with impervious material (for cable installations [H 02 G 15/00](#)) [[4](#)]
- 13/34 . for marking conductors or cables* [[7](#)]
- 15/00 Apparatus or processes for salvaging material from cables** (insulated conductors or cables with arrangements for facilitating removal of insulation [7/38](#); methods or apparatus specially adapted for removing insulation from conductors [H 02 G 1/12](#))
- 17/00 Insulators or insulating bodies characterised by their form** (section insulators for electric traction [B 60 M 1/18](#); insulating rail-joints [E 01 B 11/54](#))
- 17/02 . Suspension insulators; Strain insulators
- 17/04 . . Chains; Multiple chains
- 17/06 . . Fastening of insulator to support, to conductor, or to adjoining insulator
- 17/08 . . . by cap-and-bolt
- 17/10 . . . by intermediate link
- 17/12 . . Special features of strain insulators (devices for relieving mechanical tension of electric lines or cables [H 02 G 7/04](#))
- 17/14 . Supporting insulators (pin insulators [17/20](#); apertured insulators [17/24](#))
- 17/16 . . Fastening of insulators to support, to conductor, or to adjoining insulator
- 17/18 . . for very heavy conductors, e.g. bus-bars, rails
- 17/20 . Pin insulators
- 17/22 . . Fastening of conductors to insulator
- 17/24 . Insulators apertured for fixing by nail, screw, wire, or bar, e.g. diablo, bobbin
- 17/26 . Lead-in insulators; Lead-through insulators
- 17/28 . . Capacitor type (capacitors [H 01 G](#))
- 17/30 . . Sealing (packings in general [F 16 J](#))
- 17/32 . Single insulators consisting of two or more dissimilar insulating bodies
- 17/34 . Insulators containing liquid, e.g. oil
- 17/36 . Insulators having evacuated or gas-filled spaces
- 17/38 . Fittings, e.g. caps; Fastenings therefor
- 17/40 . . Cementless fittings
- 17/42 . Means for obtaining improved distribution of voltage (capacitor-type lead-through insulators [17/28](#)); Protection against arc discharges
- 17/44 . . Structural association of insulators with corona rings (corona rings [H 01 T 19/02](#))
- 17/46 . . Means for providing an external arc-discharge path (spark-gap arresters [H 01 T](#))
- 17/48 . . over chains or other serially-arranged insulators
- 17/50 . with surfaces specially treated for preserving insulating properties, e.g. for protection against moisture, dirt, or the like
- 17/52 . having cleaning devices ([17/54](#) takes precedence)
- 17/54 . having heating or cooling devices
- 17/56 . Insulating bodies (insulators [17/02](#) to [17/54](#))
- 17/58 . . Tubes, sleeves, beads, or bobbins through which the conductor passes (protective tubings for the installation of lines or cables in buildings [H 02 G 3/04](#))
- 17/60 . . Composite insulating bodies (cables or conductors [7/00](#), [9/00](#); resistors [H 01 C](#); capacitors [H 01 G](#))
- 17/62 . . Insulating-layers or insulating-films on metal bodies (conductive layers or films on insulating bodies [5/14](#))
- 17/64 . . with conductive admixtures, inserts, or layers (conductive bodies comprising conductive material dispersed in insulating material [5/16](#))
- 17/66 . . Joining insulating bodies together, e.g. by bonding
- 19/00 Apparatus or processes specially adapted for manufacturing insulators or insulating bodies**
- 19/02 . Drying (in general [F 26 B](#)); Impregnating
- 19/04 . Treating the surfaces, e.g. applying coatings