

SECTION H — ELECTRICITY

H01 BASIC ELECTRIC ELEMENTS

H01B CABLES; CONDUCTORS; INSULATORS; SELECTION OF MATERIALS FOR THEIR CONDUCTIVE, INSULATING OR DIELECTRIC PROPERTIES (selection for magnetic properties H01F 1/00; waveguides H01P)

Subclass index

CONDUCTORS OR CABLES

Characterised by the material.....	1/00
Characterised by the construction.....	5/00, 7/00
Special types for: communication; power; superconductive cables.....	11/00, 9/00, 12/00
Manufacture; salvaging.....	13/00, 15/00

INSULATORS OR INSULATING BODIES

Characterised by the material.....	3/00
Characterised by the construction.....	17/00
Manufacture.....	19/00

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 H01B 12/00) [4]

Note(s)

Groups H01B 1/14-H01B 1/24 take precedence over groups H01B 1/02-H01B 1/06.

- 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

- 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 H01B 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 H01B 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 • • plastics; resins; waxes

Note(s) [2006.01]

Group H01B 3/47 takes precedence over groups H01B 3/32-H01B 3/46.

- 3/32 • • • natural resins
- 3/34 • • • waxes (silicone waxes H01B 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 H01B 3/46)
- 3/46 • • • silicones
- 3/47 • • • fibre-reinforced plastics, e.g. glass-reinforced plastics [2006.01]
- 3/48 • • fibrous materials (fibre-reinforced plastics H01B 3/47) [1, 2006.01]
- 3/50 • • • fabric
- 3/52 • • • wood; paper; pressboard (insulating paper per se D21H 27/12)
- 3/54 • • • hard paper; hard fabrics
- 3/56 • • gases

Note(s)

Group H01B 12/00 takes precedence over groups H01B 5/00-H01B 11/00.

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

- 5/02 • Single bars, rods, wires or strips; Bus-bars [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
- 5/14 • comprising conductive layers or films on insulating-supports
- 5/16 • comprising conductive material in insulating or poorly conductive material, e.g. conductive rubber (H01B 1/14, H01B 1/20 take precedence; insulating bodies with conductive admixtures H01B 17/64; conductive paints C09D 5/24) [3]

7/00 Insulated conductors or cables characterised by their form

- 7/02 • Disposition of insulation
- 7/04 • Flexible cables, conductors, or cords, e.g. trailing cables
- 7/06 • Extensible conductors or cables, e.g. self-coiling cords
- 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
- 7/14 • Submarine cables
- 7/16 • Rigid-tube cables
- 7/17 • Protection against damage caused by external factors, e.g. sheaths or armouring [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 [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 (H01B 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 or leaks
- 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 [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

- 11/02 • Cables with twisted pairs or quads
- 11/04 • • with pairs or quads mutually positioned to reduce cross-talk
- 11/06 • • with means for reducing effects of electromagnetic or electrostatic disturbances, e.g. screens
- 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
- 11/14 • • • Continuously inductively loaded cables, e.g. Krarup cables
- 11/16 • • • Cables, e.g. submarine cables, with coils or other devices incorporated during cable manufacture
- 11/18 • Coaxial cables; Analogous cables having more than one inner conductor within a common outer conductor
- 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 C04B 35/00) [2, 4]

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

Note(s)

Group H01B 12/12 takes precedence over groups H01B 12/04-H01B 12/10.

- 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 H01B 13/20) [7]
- 13/02 • Stranding-up
- 13/04 • • Mutually-positioning pairs or quads to reduce cross-talk
- 13/06 • Insulating conductors or cables (H01B 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 (H01B 13/32 takes precedence) [4]
- 13/24 • • by extrusion
- 13/26 • • by winding, braiding or longitudinal lapping
- 13/28 • Applying continuous inductive loading, e.g. Krarup loading
- 13/30 • Drying; Impregnating (H01B 13/32 takes precedence) [4]
- 13/32 • Filling or coating with impervious material [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 H01B 7/38; methods or apparatus specially adapted for removing insulation from conductors H02G 1/12)

- 17/00 Insulators or insulating bodies characterised by their form**
- 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
- 17/14 • Supporting insulators (pin insulators H01B 17/20; apertured insulators H01B 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. diabolos, bobbins

- 17/26 • Lead-in insulators; Lead-through insulators
- 17/28 • • Capacitor type
- 17/30 • • Sealing
- 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 H01B 17/28); Protection against arc discharges
- 17/44 • • Structural association of insulators with corona rings
- 17/46 • • Means for providing an external arc-discharge path
- 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 (H01B 17/54 takes precedence)
- 17/54 • having heating or cooling devices
- 17/56 • Insulating bodies
- 17/58 • • Tubes, sleeves, beads or bobbins through which the conductor passes
- 17/60 • • Composite insulating bodies
- 17/62 • • Insulating-layers or insulating-films on metal bodies
- 17/64 • • with conductive admixtures inserts or layers
- 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; Impregnating
- 19/04 • Treating the surfaces, e.g. applying coatings