## Cooperative Patent Classification

### H ELECTRICITY

**NOTE** omitted

### H01 BASIC ELECTRIC ELEMENTS

**NOTE** omitted

#### H01B CABLES; CONDUCTORS; INSULATORS; SELECTION OF MATERIALS FOR THEIR CONDUCTIVE, INSULATING OR DIELECTRIC PROPERTIES

(selection for magnetic properties H01F 1/00; waveguides H01P; installations of cables or lines H02G; {printed circuits H05K})

**NOTE**

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

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/00</td>
<td>Conductors or conductive bodies characterised by the conductive materials; Selection of materials as conductors (resistors H01C; selection of materials for superconductivity H01L 39/00)</td>
</tr>
<tr>
<td>3/00</td>
<td>Insulators or insulating bodies characterised by the insulating materials; Selection of materials for their insulating or dielectric properties (selection of piezo-electric or electrostrictive materials H01L 41/00)</td>
</tr>
</tbody>
</table>

**NOTE**

Groups H01B 1/14 - H01B 1/24 take precedence over groups H01B 1/02 - H01B 1/12.

1/02 . . mainly consisting of metals or alloys
1/023 . . {Alloys based on aluminium}
1/026 . . {Alloys based on copper}
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 {[organic macromolecular compounds or compositions C08]}
1/121 . . {Charge-transfer complexes}
1/122 . . {Ionic conductors}
1/124 . . {Intrinsically conductive polymers}
1/125 . . {comprising aliphatic main chains, e.g. polyacetylenes}
1/127 . . {comprising five-membered aromatic rings in the main chain, e.g. polypyrroles, polythiophenes}
1/128 . . {comprising six-membered aromatic rings in the main chain, e.g. polyanilines, polyphenylenes}
1/14 . . Conductive material dispersed in non-conductive inorganic material
1/16 . . the conductive material comprising metals or alloys
1/18 . . the conductive material comprising carbon-silicon compounds, carbon or silicon
1/20 . . Conductive material dispersed in non-conductive organic material {[organic macromolecular compounds or compositions C08]}
1/22 . . the conductive material comprising metals or alloys
1/24 . . the conductive material comprising carbon-silicon compounds, carbon or silicon

**NOTE**

Groups H01B 12/00 take precedence over groups H01B 5/00 - H01B 11/00.

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</tbody>
</table>
| 3/002 . . {Inhomogeneous material in general}
| 3/004 . . {with conductive additives or conductive layers}
| 3/006 . . {Other inhomogeneous material}
| 3/008 . . {Other insulating material}
| 3/02 . . mainly consisting of inorganic substances
| 3/025 . . {Other inorganic material}
| 3/04 . . mica
| 3/06 . . asbestos
| 3/065 . . {Wires with asbestos}
| 3/08 . . quartz; glass; glass wool; slag wool; vitreous enamels
| 3/081 . . {Wires with vitreous enamels}
| 3/082 . . {Wires with glass or glass wool}
| 3/084 . . {Glass or glass wool in binder}
| 3/085 . . {Particles bound with glass}
| 3/087 . . {Chemical composition of glass}
| 3/088 . . {Shaping of glass or deposition of glass}
| 3/10 . . metallic oxides (ceramics H01B 3/12)
| 3/105 . . {Wires with oxides}
| 3/12 . . ceramics
| 3/14 . . cements
| 3/16 . . gases
| 3/18 . . mainly consisting of organic substances {[organic macromolecular compounds or compositions C08]}
| 3/185 . . {Substances or derivates of cellulose}
| 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**

Group H01B 3/47 takes precedence over groups H01B 3/32 - H01B 3/46
3/301 . . . [Macromolecular compounds obtained by reactions forming a linkage containing sulfur with or without nitrogen, oxygen or carbon in the main chain of the macromolecule, not provided for in group H01B 3/302]

3/302 . . . [Polyurethanes or polythiourethanes; Polyurea or polythiourea]

3/303 . . . [Macromolecular compounds obtained by reactions forming a linkage containing nitrogen with or without oxygen or carbon in the main chain of the macromolecule, not provided for in groups H01B 3/38 or H01B 3/302]

3/305 . . . [Polyamides or polyesteramides]

3/306 . . . [Polyimides or polyesterimides]

3/307 . . . [Other macromolecular compounds]

3/308 . . . [Wires with resins]

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; polycetals

3/421 . . . [Polymers]

3/422 . . . . . . (Linear saturated polyesters derived from dicarboxylic acids and dihydroxy compounds)

3/423 . . . . . . (Linear aromatic polyesters)

3/425 . . . . . . (Non-saturated polyesters derived from polycarboxylic acids and polyhydroxy compounds, in which at least one of the two components contains aliphatic unsaturation)

3/426 . . . . . . [Polycarbonates]

3/427 . . . . . . [Polyethers]

3/428 . . . . . . [Polycetals]

3/44 . . . . . . vinyl resins; acrylic resins (silicones H01B 3/46)

3/441 . . . . . . from alkenes

3/442 . . . . . . from aromatic vinyl compounds

3/443 . . . . . . from vinylhalogenides or other halogenethylenic compounds

3/445 . . . . . . from vinylfluorides or other fluoroethylenic compounds

3/446 . . . . . . from vinylacetals

3/447 . . . . . . from acrylic compounds

3/448 . . . . . . from other vinyl compounds

3/46 . . . . . . silicones

3/465 . . . . . . [Silicone oils]

3/47 . . . . . . fibre-reinforced plastics, e.g. glass-reinforced plastics

3/48 . . . . . . fibrous materials (fibre-reinforced plastics H01B 3/47)

3/485 . . . . . . [Other fibrous materials fabric]

3/50 . . . . fabric

3/52 . . . . wood; paper; press board

3/54 . . . . hard paper; hard fabrics

3/545 . . . . . . [Hard fabrics]

3/56 . . . . gases

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

5/002 . . . [Auxiliary arrangements]
cables H01B 11/14

with screens H01B 11/06

with screens H01B 9/02

Protection against damage caused by external factors, e.g. sheaths or armouring (power cables with screens H01B 9/02; communication cables with screens H01B 11/06; continuously-loaded cables H01B 11/14; installation of conduits H02G)

Protection against damage caused by wear, mechanical force or pressure; (Sheaths; Armouring)

[Protection not provided for in groups H01B 7/182 - H01B 7/26]

[composed of beads or rings]

[composed of longitudinal inserts]
Power cables

[using material resistant to heat]

[using material resistant to flame]

with arrangements for reducing conductor losses when carrying alternating current, e.g. due to skin effect

Conductors comprising interwire insulation

Transposed conductors

with arrangements for indicating defects, e.g. breaks, leaks, (locating defects by measuring G01)

[comprising humidity sensing means]

[comprising temperature sensing means]

[comprising pressure sensing means]

[comprising violation sensing means]

with distinguishing or length marks

[being the colour of the insulation or conductor]

[being the form of the insulation or conductor]

[being indicia imposed on the insulation or conductor]

[being a tape, thread or wire extending the full length of the conductor or cable]

[being a sleeve, ferrule, tag, clip, label or short length strip]

with arrangements for facilitating removal of insulation

[comprising a rip cord or wire]

with arrangements for facilitating mounting or securing

for heat dissipation

[using a cooling fluid]

[the construction being bendable]

[using cooling fins, ribs]

[Heat conduction]

Oil-pressure cables

[using material resistant to heat]

[using material resistant to flame]

with arrangements for reducing conductor losses when carrying alternating current, e.g. due to skin effect

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[using cooling fins, ribs]

[Heat conduction]

Communication cables or conductors (waveguides H01P)

Pair constructions

Quad constructions

[for overhead application]

Cables with twisted pairs or quads (transposing, crossing or twisting at joints H04B; balancing of earth capacitance H04B)

with pairs or quads mutually positioned to reduce cross-talk (balancing by making use of additional capacitors or coils H04B)

with means for reducing effects of electromagnetic or electrostatic disturbances, e.g. screen (screening in general H05K 9/00)

Screens specially adapted for reducing electromagnetic or electrostatic disturbances, e.g. screen (screening in general H05K 9/00)

[composed of longitudinal tape conductors]

[composed of helicoidally wound tape-conductors]

[composed of braided metal wire]

[composed of helicoidally wound wire-conductors]

[composed of longitudinally posed wire-conductors]

[composed of semi-conducting layers]

[with screen grounding means, e.g. drain wires]

[Screen interconnecting circuits]

Concentric cables

Gas-pressure cables; Oil-pressure cables; Cables for use in conduits under fluid pressure

Gas-pressure cables with enclosed conduits
12/00 Superconductive or hyperconductive conductors, cables, or transmission lines (details or devices using superconductivity or hyperconductivity characterised by the material H01L 39/12)

12/02 . characterised by their form

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

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

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

13/003 . [for feeding conductors or cables]
13/0006 . [for reducing the size of conductors or cables]
13/0009 . [for forming corrugations on conductors or cables]
13/0013 . [for embedding wires in plastic layers]
13/0016 . [for heat treatment]
13/0002 . [for heat extraction]
13/0023 . [for welding together plastic insulated wires side-by-side]
13/0026 . [Apparatus for manufacturing conducting or semi-conducting layers, e.g. deposition of metal]
13/0003 . [using irradiation]
13/0033 . [by electrostatic coating]
13/0036 . [Details]
13/0004 . [for manufacturing rigid-tube cables]
13/0008 . [for manufacturing extensible conductors or cables]
13/012 . [for manufacturing wire harnesses]
13/01209 . [Details]
13/01218 . [the wires being disposed by hand]
13/01227 . [using a layout board]
13/01236 . [the wires being disposed by machine]
13/01245 . [using a layout board]
13/01254 . [Flat-harness manufacturing]
13/01263 . [Tying, wrapping, binding, facing, strapping or sheathing harnesses]
13/01272 . [Harness tying apparatus]
13/01281 . [Harness wrapping apparatus]
13/0129 . [Sheathing harnesses with foil material]
13/016 . [for manufacturing co-axial cables (applying discontinuous insulation H01B 13/20)]
13/0162 . [of the central conductor]
13/0165 . [of the layers outside the outer conductor]
13/0167 . [After-treatment]
13/02 . Stranding-up (stranding-up ropes D07B)
13/0207 . [Details; Auxiliary devices]
13/0214 . [by a twisting pay-off device]
13/0221 . [by a twisting take-up device]
13/0228 . [by a twisting pay-off and take-up device]
13/0235 . [by a twisting device situated between a pay-off device and a take-up device]
13/0242 . [being an accumulator]
13/025 . [of tubular construction]
13/0257 . [being a perforated disc]
13/0264 . . . [being rollers, pulleys, drums or belts
(H01B 13/0242 takes precedence)]
13/0271 . . . [Alternate stranding processes]
13/0278 . . . [Stranding machines comprising a transposing
mechanism]
13/0285 . . . [Pretreatment]
13/0292 . . . [After-treatment]
13/04 . . . Mutually positioning pairs or quads to reduce
cross-talk
13/06 . . . Insulating conductors or cables (H01B 13/32 takes
precedence)
13/062 . . . [by pulling on an insulating sleeve]
13/065 . . . [Insulating conductors with lacquers or enamels]
13/067 . . . [Insulating coaxial cables (H01B 13/20 takes
precedence)]
13/08 . . . by winding
13/0808 . . . [Hand-held devices]
13/0816 . . . [Apparatus having a coaxial rotation of the
supply reels about the conductor or cable]
13/0825 . . . [Apparatus having a planetary rotation of the
supply reels around the conductor or cable]
13/0833 . . . [the supply reel axis being arranged parallel
to the conductor or cable axis]
13/0841 . . . [the supply reel axis being arranged
perpendicular to the conductor or cable axis]
13/085 . . . [Apparatus having the supply reels in a fixed
position, the conductor or cable rotating about its
own axis]
13/0858 . . . [Details of winding apparatus; Auxiliary
devices]
13/0866 . . . [Brakes or tension regulating means]
13/0875 . . . [Detecting breakage or run-out of winding
material]
13/0883 . . . [Pretreatment]
13/0891 . . . [After-treatment]
13/10 . . . by longitudinal lapping
13/103 . . . [combined with pressing of plastic material
around the conductors]
13/106 . . . [the conductor having a rectangular cross-
section]
13/12 . . . by applying loose fibres
13/14 . . . by extrusion (extrusion in general B29C 47/00)
13/141 . . . [of two or more insulating layers]
13/142 . . . [of cellular material]
13/143 . . . [with a special opening of the extrusion head]
13/144 . . . [Heads for simultaneous extrusion on two or
more conductors]
13/145 . . . [Pretreatment or after-treatment]
13/146 . . . [Controlling the extrusion apparatus dependent
on the capacitance or the thickness of the
insulating material (measuring thickness G01B;
testing during manufacturing G01R 31/022)]
13/147 . . . [Feeding of the insulating material]
13/148 . . . [Selection of the insulating material therefor]
13/16 . . . by passing through or dipping in a liquid bath; by
spraying
13/165 . . . [by spraying]
13/18 . . . Applying discontinuous insulation, e.g. discs, beads
13/185 . . . [by periodically constricting an insulating
sleeve]
13/20 . . . for concentric or coaxial cables
13/202 . . . [by molding spacers]
13/204 . . . [by punching spacers]
13/206 . . . [by forming a helical web]
13/208 . . . [by mechanically removing parts of a
continuous insulation]
13/22 . . . Sheathing; Armouring; Screening; Applying other
protective layers (H01B 13/32 takes precedence)
13/221 . . . [filling-up interstices]
13/222 . . . [by electro-plating]
13/224 . . . [by drawing a cable core into an oversized tube
by means of a tow line]
13/225 . . . [Screening coaxial cables]
13/227 . . . [Pretreatment]
13/228 . . . [After-treatment]
13/24 . . . by extrusion (extrusion of cables with plastic
material in general B29C 47/02)]
13/245 . . . [of metal layers]
13/26 . . . by winding, braiding, or longitudinal lapping
(winding in general B65H]
13/2606 . . . [by braiding]
13/2613 . . . [by longitudinal lapping]
13/262 . . . [of an outer metallic screen]
13/2626 . . . [of a coaxial cable outer conductor]
13/2633 . . . [Bending and welding of a metallic screen]
13/264 . . . [Details of the welding stage]
13/2646 . . . [Bending and soldering of a metallic screen]
13/2653 . . . [Details of the soldering stage]
13/266 . . . [Bending and adhesively bonding of a
metallic screen]
13/2666 . . . [Details of the bonding stage]
13/2673 . . . [of a compartment separating metallic
screen]
13/268 . . . [of a non-metallic sheet]
13/2686 . . . [Pretreatment]
13/2693 . . . [After-treatment]
13/28 . . . Applying continuous inductive loading, e.g. Krarup
loading
13/282 . . . [by winding]
13/285 . . . [by extrusion]
13/287 . . . [by passing through a coating bath]
13/30 . . . Drying; (in general B26B); Impregnating
(H01B 13/32 takes precedence; impregnating of
fibres D06B 3/00; D06B 5/00; H01G 4/00; H01G 4/06; drying and impregnating of wood
or the like B27K; impregnation of stones, basic
materials therefor C04B 20/10 - C04B 20/12,
C04B 41/45 - C04B 41/52)]
13/32 . . . Filling or coating with impervious material (for
cable installations H02G 15/00)
13/321 . . . [the material being a powder]
13/322 . . . [the material being a liquid, jelly-like or viscous
substance]
13/323 . . . [using a filling or coating head]
13/324 . . . [in combination with a vacuum chamber]
13/325 . . . [in combination with vibration generating
means]
13/326 . . . [Material preparing or feeding devices]
13/327 . . . [using a filling or coating cone or die]
13/328 . . . [using a filling or coating bath]
13/329 . . . [the material being a foam]
13/334 . . . for marking conductors or cables
13/341 . . . [using marking wheels, discs, rollers, drums,
balls or belts]
Apparatus or processes for salvaging material from cables (for removing insulation from conductors H02G 1/12)

Insulators or insulating bodies characterised by their form (section insulators for electric traction B60M 1/18; insulating rail-joints E01B 11/54)

Insulators structurally associated with built-in electrical equipment

Suspension insulators; Strain insulators

Chains; Multiple chains

Fastening of insulator to support, to conductor, or to adjoining insulator

by cap-and-bolt

by intermediate link

Special features of strain insulators (devices for relieving mechanical tension of electric lines or cables H02G 7/04)

Supporting insulators (pin insulators H01B 17/20; apertured insulators H01B 17/24)

Insulators, poles, handles, or the like in electric fences

Fastening of insulators to support, to conductor, or to adjoining insulator

for very heavy conductors, e.g. bus-bars, rails

Pin insulators

Fastening of conductors to insulator

Insulators apertured for fixing by nail, screw, wire, or bar, e.g. diabolo, bobbin

Lead-in insulators; Lead-through insulators

(Fastening of insulators to support (H01B 17/301 takes precedence))

Capacitor type (capacitors H01G)

Sealing (packings in general F16J)

Sealing of insulators to support

Sealing of leads to lead-through insulators

(by embedding in glass or ceramic material)

(by embedding in material other than glass or ceramics)

(by compressing packing material)

Single insulators consisting of two or more dissimilar insulating bodies

(by comprising a fibre-reinforced insulating core member)

Insulators containing liquid, e.g. oil

Insulators having evacuated or gas-filled spaces

Fittings, e.g. caps; Fastenings therefor

Cementless fittings

Means for obtaining improved distribution of voltage (capacitor-type lead-through insulators H01B 17/28; Protection against arc discharges

Structural association of insulators with corona rings (corona rings H01T 19/02)

Means for providing an external arc-discharge path (spark-gap arresters H01U)

over chains or other serially-arranged insulators

with surfaces specially treated for preserving insulating properties, e.g. for protection against moisture, dirt, or the like

having cleaning devices (H01B 17/54 takes precedence)

(Self-cleaning, e.g. by shape or disposition of screens)

having heating or cooling devices

Insulating bodies (insulators H01B 17/02 - H01B 17/54)

Tubes, sleeves, beads, or bobbins through which the conductor passes (protective tubings for the installation of lines or cables in buildings H02G 3/04)

(Grommets; Bushings)

(with strain relief arrangements)

Composite insulating bodies (cables or conductors H01B 7/00, H01B 9/00; resistors H01C; capacitors H01G)

Insulating-layers or insulating films on metal bodies (conductive layers or films on insulating-bodies H01B 5/14)

with conductive admixtures, inserts, or layers (conductive bodies comprising conductive material dispersed in insulating material H01B 5/16)

Joining insulating bodies together, e.g. by bonding

Apparatus or processes specially adapted for manufacturing insulators or insulating bodies (manufacture of porcelain for electric insulation C04B 33/26)

Drying (in general F26B); Impregnating

Treating the surfaces, e.g. applying coatings