## CPC - COOPERATIVE PATENT CLASSIFICATION

### 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]; installations of cables or lines [H02G]; {printed circuits [H05K]})

**NOTE**

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

**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.

<table>
<thead>
<tr>
<th>1/00</th>
<th>Conductors or conductive bodies characterised by the conductive materials; Selection of materials as conductors (resistors [H01C]; selection of materials for superconductivity [H01L 39/00])</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/02</td>
<td>. . mainly consisting of metals or alloys</td>
</tr>
<tr>
<td>1/023</td>
<td>. . . {Alloys based on aluminium}</td>
</tr>
<tr>
<td>1/026</td>
<td>. . . {Alloys based on copper}</td>
</tr>
<tr>
<td>1/04</td>
<td>. . mainly consisting of carbon-silicon compounds, carbon or silicon</td>
</tr>
<tr>
<td>1/06</td>
<td>. . mainly consisting of other non-metallic substances</td>
</tr>
<tr>
<td>1/08</td>
<td>. . oxides</td>
</tr>
<tr>
<td>1/10</td>
<td>. . sulfides</td>
</tr>
<tr>
<td>1/12</td>
<td>. . organic substances {{organic macromolecular compounds or compositions [C08]}}</td>
</tr>
<tr>
<td>1/121</td>
<td>. . . [Charge-transfer complexes]</td>
</tr>
<tr>
<td>1/122</td>
<td>. . . {Ionic conductors}</td>
</tr>
<tr>
<td>1/124</td>
<td>. . . {Intrinsically conductive polymers}</td>
</tr>
<tr>
<td>1/125</td>
<td>. . . {comprising aliphatic main chains, e.g. polyactylenes}</td>
</tr>
<tr>
<td>1/127</td>
<td>. . . {comprising five-membered aromatic rings in the main chain, e.g. polyppyroles, polythiophenes}</td>
</tr>
<tr>
<td>1/128</td>
<td>. . . {comprising six-membered aromatic rings in the main chain, e.g. polyanilines, polyphenylenes}</td>
</tr>
<tr>
<td>1/14</td>
<td>. . Conductive material dispersed in non-conductive inorganic material</td>
</tr>
<tr>
<td>1/16</td>
<td>. . the conductive material comprising metals or alloys</td>
</tr>
<tr>
<td>1/18</td>
<td>. . the conductive material comprising carbon-silicon compounds, carbon or silicon</td>
</tr>
<tr>
<td>1/20</td>
<td>. . Conductive material dispersed in non-conductive organic material {{organic macromolecular compounds or compositions [C08]}}</td>
</tr>
<tr>
<td>1/22</td>
<td>. . the conductive material comprising metals or alloys</td>
</tr>
<tr>
<td>1/24</td>
<td>. . the conductive material comprising carbon-silicon compounds, carbon or silicon</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>
<tr>
<td>3/002</td>
<td>. . {Inhomogeneous material in general}</td>
</tr>
<tr>
<td>3/004</td>
<td>. . . {with conductive additives or conductive layers}</td>
</tr>
<tr>
<td>3/006</td>
<td>. . . {Other inhomogeneous material}</td>
</tr>
<tr>
<td>3/008</td>
<td>. . . {Other insulating material}</td>
</tr>
<tr>
<td>3/02</td>
<td>. . mainly consisting of inorganic substances</td>
</tr>
<tr>
<td>3/025</td>
<td>. . . {Other inorganic material}</td>
</tr>
<tr>
<td>3/04</td>
<td>. . mica</td>
</tr>
<tr>
<td>3/06</td>
<td>. . asbestos</td>
</tr>
<tr>
<td>3/065</td>
<td>. . . {Wires with asbestos}</td>
</tr>
<tr>
<td>3/08</td>
<td>. . quartz; glass; glass wool; slag wool; vitreous enamels</td>
</tr>
<tr>
<td>3/081</td>
<td>. . . {Wires with vitreous enamels}</td>
</tr>
<tr>
<td>3/082</td>
<td>. . . {Wires with glass or glass wool}</td>
</tr>
<tr>
<td>3/084</td>
<td>. . . {Glass or glass wool in binder}</td>
</tr>
<tr>
<td>3/085</td>
<td>. . . {Particles bound with glass}</td>
</tr>
<tr>
<td>3/087</td>
<td>. . . {Chemical composition of glass}</td>
</tr>
<tr>
<td>3/088</td>
<td>. . . {Shaping of glass or deposition of glass}</td>
</tr>
<tr>
<td>3/10</td>
<td>. . metallic oxides {ceramics [H01B 3/12]}</td>
</tr>
<tr>
<td>3/105</td>
<td>. . . {Wires with oxides}</td>
</tr>
<tr>
<td>3/12</td>
<td>. . ceramics</td>
</tr>
<tr>
<td>3/14</td>
<td>. . cements</td>
</tr>
<tr>
<td>3/16</td>
<td>. . gases</td>
</tr>
<tr>
<td>3/18</td>
<td>. . mainly consisting of organic substances {{organic macromolecular compounds or compositions [C08]}}</td>
</tr>
<tr>
<td>3/185</td>
<td>. . . {Substances or derivates of cellulose}</td>
</tr>
<tr>
<td>3/20</td>
<td>. . liquids, e.g. oils {silicone oils [H01B 3/46]}</td>
</tr>
<tr>
<td>3/22</td>
<td>. . . hydrocarbons</td>
</tr>
<tr>
<td>3/24</td>
<td>. . . containing halogen in the molecules, e.g. halogenated oils</td>
</tr>
</tbody>
</table>
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 polyimideamides)

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; polyacetics

3/421 . . . . {Polysters)

3/422 . . . . . {Linear saturated polyesters derived from dicarboxylic acids and ditydroyo compounds)

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

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

3/426 . . . . . {Polycarbonates)

3/427 . . . . . {Polyethers)

3/428 . . . . . {Polyacetics)

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 halogenoethylenic 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 . . . . silicates

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)

5/004 . . . . [for protection against corona)

5/006 . . . . [for protection against vibrations)

5/008 . . . . [Fence-wire not otherwise provided for (wire fencing E04H 17/02)

5/02 . . . . Single bars, rods, wires, or strips

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

5/101 . . . . [stranded around a space)

5/102 . . . . [stranded around a high tensile strength core)

5/104 . . . . [composed of metallic wires, e.g. steel wires)

5/105 . . . . [composed of synthetic filaments, e.g. glass-fibres)

5/107 . . . . [stranded around a core supporting radial stresses, e.g. a tube, a wire helix)

5/108 . . . . [stranded around communication or control conductors)

5/12 . . . . Braided wires or the like

5/14 . . . . comprising conductive layers or films on insulating-supports (insulating-layers or insulating-lims on metal bodies H01B 17/62)

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)

7/00 Insulated conductors or cables characterised by their form

7/0009 . . . . [Details relating to the conductive cores)

7/0018 . . . . [Strip or foil conductors (H01B 7/08 takes precedence)

7/0027 . . . . [Liquid conductors)

7/0036 . . . . [Alkali metal conductors)

7/0045 . . . . [Cable-harnesses)

7/0054 . . . . [Cables with incorporated electric resistances)

7/0063 . . . . [Ignition cables)

7/0072 . . . . [Electrical cables comprising fluid supply conductors)

7/0081 . . . . [Cables of rigid construction (rigid-tube cables H01B 7/16)

7/009 . . . . [Cables with built-in connecting points or with predetermined areas for making deviations)

7/02 . . . . Disposition of insulation (materials H01B 3/00; insulators H01B 17/00)

7/0208 . . . . [Cables with several layers of insulating material)

7/0216 . . . . [Two layers)

7/0225 . . . . [Three or more layers)

7/0233 . . . . [Cables with a predominant gas dielectric)

7/0241 . . . . [comprising one or more helical wrapped layers of insulation)
H01B

7/025 . . . [comprising in addition one or more other layers of non-helical wrapped insulation]
7/0258 . . . [comprising one or more longitudinal lapped layers of insulation]
7/0266 . . . [comprising one or more braided layers of insulation]
7/0275 . . . [comprising one or more extruded layers of insulation]
7/0283 . . . [comprising in addition one or more other layers of non-extruded insulation]
7/0291 . . . [comprising two or more layers of insulation having different electrical properties]
7/04 . Flexible cables, conductors, or cords, e.g. trailing cables
7/041 . . . [attached to mobile objects, e.g. portable tools, elevators, mining equipment, hoisting cables]
7/043 . . . [attached to flying objects, e.g. aircraft towline, cables connecting an aerodyne to the ground]
7/045 . . . [attached to marine objects, e.g. buoys, diving equipment, aquatic probes, marine towline]
7/046 . . . [attached to objects sunk in bore holes, e.g. well drilling means, well pumps]
7/048 . . . [for implantation into a human or animal body, e.g. pacemaker leads]
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 B65H 75/34]
7/065 . . . [having the shape of an helix]
7/08 . Flat or ribbon cables
7/0807 . . . (' Twin conductor or cable ]
7/0815 . . . [covered with gluten for wall-fixing]
7/0823 . . . [Parallel wires, incorporated in a flat insulating profile]
7/083 . . . [Parallel wires, incorporated in a fabric]
7/0838 . . . [Parallel wires, sandwiched between two insulating layers]
7/0846 . . . [Parallel wires, fixed upon a support layer]
7/0853 . . . [Juxtaposed parallel wires, fixed to each other without a support layer]
7/0861 . . . [comprising one or more screens]
7/0869 . . . [comprising one or more armouring, tensile- or compression-resistant elements]
7/0876 . . . [comprising twisted pairs]
7/0884 . . . [comprising connection wire loops]
7/0892 . . . [incorporated in a cable of non-flat configuration]
7/10 . Contact cables, i.e. having conductors which may be brought into contact by distortion of the cable
7/102 . . . [responsive to heat]
7/104 . . . [responsive to pressure]
7/106 . . . [comprising concentric conductors]
7/108 . . . [comprising parallel conductors]
7/12 . Floating cables (installations of cables supported on or from floats H02G 9/12]
7/14 . Submarine cables
7/145 . . . [associated with hydrodynamic bodies]
7/16 . Rigid-tube cables (heating elements of similar construction H05B]
7/17 . 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]
7/18 . . . [Protection against damage caused] by wear, mechanical force or pressure; [Sheaths; Armouring]
7/1805 . . . [Protections not provided for in groups H01B 7/182 - H01B 7/26]
7/181 . . . [composed of beads or rings]
7/1815 . . . [composed of longitudinal inserts]
7/182 . . . [comprising synthetic filaments]
7/1825 . . . [forming part of a high tensile strength core]
7/183 . . . [forming part of an outer sheath]
7/1835 . . . [Sheaths comprising abrasive charges]
7/184 . . . [Sheaths comprising grooves, ribs or other projections]
7/1845 . . . [Sheaths comprising perforations]
7/185 . . . [Sheaths comprising internal cavities or channels]
7/1855 . . . [Sheaths comprising helical wrapped non-metallic layers]
7/186 . . . [Sheaths comprising longitudinal lapped non-metallic layers]
7/1865 . . . [Sheaths comprising braided non-metallic layers]
7/187 . . . [Sheaths comprising extruded non-metallic layers]
7/1875 . . . [Multi-layer sheaths]
7/188 . . . [Inter-layer adherence promoting means]
7/1885 . . . [Inter-layer adherence preventing means]
7/189 . . . [Radial force absorbing layers providing a cushioning effect (H01B 7/185 takes precedence)]
7/1895 . . . [Internal space filling-up means]
7/20 . . . Metal tubes, e.g. lead sheaths
7/201 . . . [Extruded metal tubes]
7/202 . . . [Longitudinal lapped metal tubes]
7/204 . . . [composed of lead]
7/205 . . . [composed of aluminium]
7/207 . . . [composed of iron or steel]
7/208 . . . [composed of composite laminated metals]
7/22 . . . Metal wires or tapes, e.g. made of steel
7/221 . . . [Longitudinally placed metal wires or tapes]
7/223 . . . [forming part of a high tensile strength core]
7/225 . . . [forming part of an outer sheath]
7/226 . . . [Helicoidally wound metal wires or tapes]
7/228 . . . [Metal braid]
7/24 . . . Devices affording localised protection against mechanical force or pressure
7/26 . . . Reduction of losses in sheaths or armouring
7/28 . . . [Protection against damage caused] by moisture, corrosion, chemical attack or weather ([sheaths, armouring H01B 7/185)]
7/2806 . . . [Protection against damage caused by corrosion]
7/2813 . . . [Protection against damage caused by electrical, chemical or water tree deterioration]
7/282 . . . Preventing penetration of fluid, e.g. water or humidity, 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, H01B 17/50)]
7/2825 . . . [using a water impermeable sheath]
Power cables

9/001 . . . [Power supply cables for the electrodes of electric-welding apparatus or electric-arc furnaces]
9/003 . . . [including electrical control or communication wires]
9/005 . . . [including optical transmission elements]
9/006 . . . [Constructional features relating to the conductors]
9/008 . . . [for overhead application]
9/02 . . . with screens or conductive layers, e.g. for avoiding large potential gradients
9/021 . . . [Features relating to screening tape per se]
9/022 . . . [composed of longitudinal lapped tape-conductors]
9/023 . . . [composed of helicoidally wound tape-conductors]
9/024 . . . [composed of braided metal wire]
9/025 . . . [composed of helicoidally wound wire-conductors]
9/026 . . . [composed of longitudinally posed wire-conductors]
9/027 . . . [composed of semi-conducting layers]
9/028 . . . [with screen grounding means, e.g. drain wires]
9/029 . . . [Screen interconnecting circuits]
9/04 . . . Concentric cables
9/06 . . . Gas-pressure cables; Oil-pressure cables; Cables for use in conduits under fluid pressure
9/0605 . . . [Gas-pressure cables with enclosed conduits]
9/0611 . . . [Oil-pressure cables]
9/0616 . . . [Oil-pressure cables with enclosed conduits]
9/0622 . . . [Cables for use in conduits under gas-pressure]
9/0627 . . . [Cables for use in conduits under oil-pressure]
9/0633 . . . [Expansion-absorbing apparatus, enclosed within the cable]
9/0638 . . . [Features relating to the conductors of gas-pressure cables]
9/064 . . . [Features relating to the dielectric of gas-pressure cables]
9/065 . . . [Tubular insulation]
9/0655 . . . [Helically wrapped insulation]
9/0661 . . . [Longitudinally wrapped insulation]
9/0666 . . . [Discontinuous insulation]
9/0672 . . . [having the shape of a disc]
9/0677 . . . [Features relating to the enclosing sheath of gas-pressure cables]
9/0683 . . . [Features relating to the conductors of oil-pressure cables]
9/0688 . . . [Features relating to the dielectric of oil-pressure cables]
9/0694 . . . [Features relating to the enclosing sheath of oil-pressure cables]

Communication cables or conductors (waveguides)

11/00 . . . [Pair constructions]
11/005 . . . [Quad constructions]
11/007 . . . [for overhead application]
11/02 . . . Cables with twisted pairs or quads (transposing, crossing or twisting at joints; balancing of earth capacitance)
11/04 . . . with pairs or quads mutually positioned to reduce cross-talk (balancing by making use of additional capacitors or coils)
11/06 . . . with means for reducing effects of electromagnetic or electrostatic disturbances, e.g. screen (screening in general)
11/08 . . . Screens specially adapted for reducing cross-talk
11/085 . . . [composed of longitudinal tape conductors]
11/10 . . . Screens specially adapted for reducing interference from external sources
11/1008 . . . [Features relating to screening tape per se]
11/1016 . . . [composed of a longitudinal lapped tape-conductor]
11/1025 . . . [composed of a helicoidally wound tape-conductor]
11/1033 . . . [composed of a wire-braided conductor]
11/1041 . . . [composed of a helicoidally wound wire-conductor]
11/105 . . . [composed of a longitudinally posed wire-conductor]
11/1058 . . . [using a coating, e.g. a loaded polymer, ink or print]
11/1066 . . . [the coating containing conductive or semiconductive material]
Coaxial cables; Analogous cables having more than one inner conductor within a common outer conductor

**NOTE**

If suitable for handling frequencies considerably beyond the audio range and if typical HF-features of coaxial cables are disclosed, e.g. propagation of non-TEM modes, multimoding, oversized coaxial cables, particular cross-section adapted for HF-propagation, classification is made in H01F 17/08.

**12/00** Superconductive or hyperconductive conductors, cables, or transmission lines (details or devices using superconductivity or hyperconductivity characterised by the material H01L 39/12)

- characterised by their form

**12/02**

- Single wire
- Films or wires on bases or cores
- Stranded or braided wires
- Multi-filaments embedded in normal conductors
- Hollow conductors
- characterised by the disposition of thermal insulation
- characterised by cooling

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

- [for feeding conductors or cables]
- [for reducing the size of conductors or cables]
- [for forming corrugations on conductors or cables]
- [embedding wires in plastic layers]
- [for heat treatment]
- [for heat extraction]
- [for welding together plastic insulated wires side-by-side]
- [Apparatus for manufacturing conducting or semi-conducting layers, e.g. deposition of metal]
- [using irradiation]
- [by electrostatic coating]
- [Details]
- [for manufacturing rigid-tube cables]
- [for manufacturing extensible conductors or cables]
- [for manufacturing wire harnesses]
- [Details]
- [the wires being disposed by hand]
- [using a layout board]
- [the wires being disposed by machine]
- [using a layout board]
- [Flat-harness manufacturing]
- [Tying, wrapping, binding, lacing, strapping or sheathing harnesses]
- [Harness tying apparatus]
- [Harness wrapping apparatus]
- [Sheathing harnesses with foil material]
- [for manufacturing co-axial cables (applying discontinuous insulation H01B 13/20)]
- [of the central conductor]
- [of the layers outside the outer conductor]
- [After-treatment]
- [Stranding-up (stranding-up ropes D07B)]
- [Details; Auxiliary devices]
- [by a twisting pay-off device]
- [by a twisting take-up device]
- [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 13/242 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]
13/0893 . . . . (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 48/00)
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 48/15}
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 F26B); 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 41/521)
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]
H01B

13/328 . . . [using a filling or coating bath]
13/329 . . . [the material being a foam]
13/34 . for marking conductors or cables
13/341 . . . [using marking wheels, discs, rollers, drums, balls or belts]
13/342 . . . [by applying marked tape, thread or wire on the full length of the conductor or cable]
13/344 . . . [by applying sleeves, ferrules, tags, clips, labels or short length strips]
13/345 . . . [by spraying, ejecting or dispensing marking fluid]
13/347 . . . Electrostatic deflection of the fluid jets
13/348 . . . [using radiant energy, e.g. a laser beam]

15/00 Apparatus or processes for salvaging material from cables (for removing insulation from conductors H02G 1/12)
15/001 . [by cooling down]
15/003 . [by heating up]
15/005 . [by cutting]
15/006 . [Making a longitudinal cut]
15/008 . [by crushing]

17/00 Insulators or insulating bodies characterised by their form (section insulators for electric traction B60M 1/18; insulating rail-joints E01B 11/54)
17/005 . [Insulators structurally associated with built-in electrical equipment]
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 H02G 7/04)
17/14 . Supporting insulators (pin insulators H01B 17/20; apertured insulators H01B 17/24)
17/145 . . . [Insulators, poles, handles, or the like in electric fences]
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. diabolo, bobbin
17/26 . . Lead-in insulators; Lead-through insulators
17/265 . . . [Fastening of insulators to support (H01B 17/301 takes precedence)]
17/28 . . . Capacitor type (capacitors H01G)
17/30 . . Sealing (packings in general F16J)
17/301 . . . [Sealing of insulators to support]
17/303 . . . [Sealing of leads to lead-through insulators]
17/305 . . . . [by embedding in glass or ceramic material]
17/306 . . . . [by embedding in material other than glass or ceramics]
17/308 . . . . [by compressing packing material]
17/32 . . . Single insulators consisting of two or more dissimilar insulating bodies
17/325 . . . [comprising a fibre-reinforced insulating core member]
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 (corona rings H01T 19/02)
17/46 . . . Means for providing an external arc-discharge path (spark-gap arresters H01T)
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)
17/525 . . . [Self-cleaning, e.g. by shape or disposition of screens]
17/54 . . . having heating or cooling devices
17/56 . . . Insulating bodies (insulators H01B 17/02 - H01B 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 H02G 3/04)
17/583 . . . [Grommets; Bushings]
17/586 . . . . [with strain relief arrangements]
17/60 . . . Composite insulating bodies (cables or conductors H01B 7/00; H01B 9/00; resistors H01C; capacitors H01G)
17/62 . . . Insulating-layers or insulating films on metal bodies (conductive layers or films on insulating-bodies H01B 5/14)
17/64 . . . with conductive admixtures, inserts, or layers (conductive bodies comprising conductive material dispersed in insulating material H01B 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 (manufacture of porcelain for electric insulation C04B 33/26)
19/02 . . Drying (in general F26B); Impregnating
19/04 . . Treating the surfaces, e.g. applying coatings