

**CPC****COOPERATIVE PATENT CLASSIFICATION****H02G**

**INSTALLATION OF ELECTRIC CABLES OR LINES, OR OF COMBINED OPTICAL AND ELECTRIC CABLES OR LINES** ( [distribution points incorporating switches H02B](#) ; [guiding telephone cords H04M 1/15](#) ; [cable ducts or mountings for telephone or telegraph exchange installations H04Q 1/06](#) )

**NOTE**

1. This subclass covers installation of communication cables or lines, including those comprising a combination of optical and electrical conductors, or of lightning conductors as well as installation of power cables or lines.

2. This subclass does not cover installation of purely optical cables, which is covered by groups { [G02B 6/44 C](#) }, [G02B 6/46](#) .

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

- "electric cable" includes cables comprising optical conductors, e.g. fibres, in combination with electrical conductors.

In this subclass it is desirable to add indexing codes of group [H02G 2200/00](#) whenever appropriate

**H02G 1/00**

**Methods or apparatus specially adapted for installing, maintaining, repairing or dismantling electric cables or lines**

**H02G 1/005**

. { [for cutting cables or wires, or splicing](#) }

**H02G 1/02**

. for overhead lines or cables

**H02G 1/04**

.. for mounting or stretching ( [wire stretchers in general B25B 25/00](#) )

**H02G 1/06**

. for laying cables, e.g. laying apparatus on vehicle ( [combined with trench digging or back-filling machines or dredgers E02F 5/00](#) )

**H02G 1/08**

.. through tubing or conduit, e.g. rod or draw wire for pushing or pulling { ( [inserting electrical cables into tubes using wallbores E21B 17/206](#) ; for optical cables [G02B 6/4401](#) ) }

**H02G 1/081**

... { [using pulling means at cable ends, e.g. pulling eyes or anchors](#) }

**H02G 1/083**

... { [using lines, e.g. needles, rods or tapes](#) }

**H02G 1/085**

... { [using portable tools](#) }

**H02G 1/086**

... { [using fluid as pulling means, e.g. liquid, pressurised gas or suction means](#) }

**H02G 1/088**

... { [using pulling devices movable inside conduits](#) }

**H02G 1/10**

.. in or under water

**H02G 1/12**

. for removing insulation or armouring from cables, e.g. from the end thereof ( [pliers in general B25B](#) ; [cutters in general B26B](#) )

**H02G 1/1202**

.. { [by cutting and withdrawing insulation](#) }

**H02G 1/1204**

... { [Hand-held tools](#) }

H02G 1/1207	....	{ the cutting element not rotating about the wire or cable ( making longitudinal and transverse or helical cut <a href="#">H02G 1/1229</a> ) }
H02G 1/1209	.....	{ making a transverse cut }
H02G 1/1212	.....	{ using wire or cable clamping means }
H02G 1/1214	.....	{ not using wire or cable clamping means }
H02G 1/1217	.....	{ making a longitudinal cut }
H02G 1/1221	....	{ the cutting element rotating about the wire or cable ( making longitudinal and transverse or helical cut <a href="#">H02G 1/1229</a> ) }
H02G 1/1224	.....	{ making a transverse cut }
H02G 1/1226	.....	{ making a helical cut }
H02G 1/1229	....	{ the cutting element making a longitudinal, and a transverse or a helical cut }
H02G 1/1231	.....	{ using a swivelling cutting element }
H02G 1/1234	.....	{ the tool being of the plier type }
H02G 1/1236	....	{ Features relating to cutting elements }
H02G 1/1239	.....	{ the cutting element being a disc or a circular saw }
H02G 1/1241	.....	{ the cutting element being a stack of blades }
H02G 1/1243	.....	{ the cutting element being a wire or filament }
H02G 1/1246	.....	{ the cutting element being of tubular construction }
H02G 1/1248	...	{ Machines }
H02G 1/1251	....	{ the cutting element not rotating about the wire or cable ( making longitudinal and transverse or helical cut <a href="#">H02G 1/1268</a> ) }
H02G 1/1253	.....	{ making a transverse cut }
H02G 1/1256	.....	{ using wire or cable-clamping means }
H02G 1/1258	.....	{ not using wire or cable-clamping means }
H02G 1/126	.....	{ making a longitudinal cut }
H02G 1/1265	....	{ the cutting element rotating about the wire or cable ( making longitudinal and transverse or helical cut <a href="#">H02G 1/1268</a> ) }
H02G 1/1268	....	{ the cutting element making a longitudinal in combination with a transverse or a helical cut }
H02G 1/127	....	{ Features relating to cutting elements }
H02G 1/1273	..	{ by pushing backwards insulation }
H02G 1/1275	..	{ by applying heat }
H02G 1/1278	...	{ using heated blades }
H02G 1/128	...	{ using radiant energy, e.g. a laser beam }
H02G 1/1282	...	{ removing metallic shields }
H02G 1/1285	..	{ by friction, e.g. abrading, grinding, brushing }
H02G 1/1287	..	{ by means of a solvent }
H02G 1/129	..	{ by means of a cryogenic fluid }
H02G 1/1292	..	{ Devices for dismantling twisted filaments }
H02G 1/1295	..	{ Devices for splitting and dismantling flat cables }
H02G 1/1297	..	{ Removing armouring from cables }
H02G 1/14	.	for joining or terminating cables ( joining electric conductors <a href="#">H01R 43/00</a> )

H02G 1/145	.. { Moulds }
H02G 1/16	. for repairing insulation or armouring of cables
<b>H02G 3/00</b>	<b>Installations of electric cables or lines in or on buildings, equivalent structures or vehicles</b> ( installations of bus-bars <a href="#">H02G 5/00</a> ; overhead installations <a href="#">H02G 7/00</a> ; installations in or on the ground <a href="#">H02G 9/00</a> ; channels or vertical ducts for receiving utility lines <a href="#">E04F 17/08</a> ; wiring of electric apparatus in general <a href="#">H05K</a> )
H02G 3/02	. Details
H02G 3/03	.. Cooling
H02G 3/04	.. Protective tubings or conduits { or channels or other supports } ( pipes or tubings in general <a href="#">F16L</a> )
H02G 3/0406	... { Details thereof ( installation or suspension of conduit channels and other supports <a href="#">H02G 3/263</a> ) }
H02G 3/0412	.... { Heat or fire protective means ( for fire in electric circuits <a href="#">A62C 3/16</a> ) }
H02G 3/0418	.... { Covers or lids; Their fastenings }
H02G 3/0425	... { Plinths ( borders for use between floor or ceiling and wall <a href="#">E04F 19/04</a> ) }
H02G 3/0431	... { Wall trunking }
H02G 3/0437	... { Channels }
H02G 3/0443	.... { formed by wire or analogous netting }
H02G 3/045	.... { provided with perforations or slots permitting introduction or exit of wires }
H02G 3/0456	... { Ladders or other supports }
H02G 3/0462	... { Tubings, i.e. having a closed section }
H02G 3/0468	.... { Corrugated }
H02G 3/0475	.... { formed by a succession of articulated units }
H02G 3/0481	.... { with a circular cross-section ( <a href="#">H02G 3/0468</a> , <a href="#">H02G 3/0475</a> take precedence ) }
H02G 3/0487	.... { with a non-circular cross-section ( <a href="#">H02G 3/0468</a> , <a href="#">H02G 3/0475</a> take precedence ) }
H02G 3/0493	... { Service poles }
H02G 3/06	.. Joints for connecting lengths of protective tubing { or channels } , to each other or to casings, e.g. to distribution boxes ; Ensuring electrical continuity in the joint
H02G 3/0608	... { Joints for connecting non cylindrical conduits, e.g. channels }
H02G 3/0616	... { Joints for connecting tubing to casing }
H02G 3/0625	.... { with means for preventing disengagement of conductors }
H02G 3/0633	..... { with means urging the conductors to follow a non-straight line }
H02G 3/0641	..... { with means distorted around the conductors }
H02G 3/065	..... { with means biting into the conductor-insulation, e.g. teeth-like elements or gripping fingers ( <a href="#">H02G 3/0675</a> , <a href="#">H02G 3/0683</a> take precedence ) }
H02G 3/0658	..... { with means constricting the conductor-insulation ( <a href="#">H02G 3/065</a> , <a href="#">H02G 3/0675</a> , <a href="#">H02G 3/0683</a> take precedence ) }
H02G 3/0666	..... { with means clamping the armour of the conductor ( <a href="#">H02G 3/0675</a> , <a href="#">H02G 3/0683</a> take precedence ) }
H02G 3/0675	..... { with bolts operating in a direction parallel to the conductors }
H02G 3/0683	..... { with bolts operating in a direction transverse to the conductors }

H02G 3/0691	....	{ Fixing tubing to casing by auxiliary means co-operating with indentations of the tubing, e.g. with tubing-convolutions }
H02G 3/08	..	Distribution boxes ; Connection or junction boxes ( <a href="#">cable terminations H02G 15/02</a> )
H02G 3/081	...	{ Bases, casings or covers }
H02G 3/083	....	{ Inlets }
H02G 3/085	.....	{ including knock-out or tear-out sections }
H02G 3/086	...	{ Assembled boxes }
H02G 3/088	...	{ Dustproof, splashproof, drip-proof, waterproof, or flameproof casings or inlets }
H02G 3/10	...	for surface mounting on a wall
H02G 3/105	....	{ in association with a plinth, channel, raceway or similar }
H02G 3/12	...	for flush mounting
H02G 3/121	....	{ in plain walls }
H02G 3/123	....	{ in thin walls }
H02G 3/125	.....	{ with supporting bar extending between two separate studs of a wall frame }
H02G 3/126	.....	{ with supporting means for mounting on a single wall stud }
H02G 3/128	....	{ in plinths, channels, raceways or similar }
H02G 3/14	...	Fastening of cover or lid to box
H02G 3/16	...	structurally associated with support for line-connecting terminals within the box ( <a href="#">terminals H01R 9/00</a> )
H02G 3/18	...	providing line outlets
H02G 3/185	....	{ Floor outlets and access cups }
H02G 3/20	....	Ceiling roses { or other lighting sets }
H02G 3/22	.	Arrangements for leading cables or lines through walls, floors, or ceilings, e.g. into building ( <a href="#">devices for use where pipes, cables or protective tubing pass through walls or partitions F16L 5/00</a> ; <a href="#">lead-in or lead-through insulators H01B 17/26</a> ; <a href="#">insulating tubes or sleeves H01B 17/58</a> )
H02G 3/24	.	Installation of lines or cables on walls, ceilings or floors by means of insulators ( <a href="#">insulators H01B 17/00</a> )
H02G 3/26	.	Installations of cables, lines, or separate protective tubing therefor directly on or in walls, ceilings, or floors ( <a href="#">by means of insulators H02G 3/24</a> ; <a href="#">supports for pipes, cables or protective tubing F16L 3/00</a> ; <a href="#">hose-clips F16L 33/02</a> )
H02G 3/263	..	{ Installation, e.g. suspension, of conduit channels or other supports }
H02G 3/266	..	{ Mounting by adhesive material }
H02G 3/28	.	Installations of cables, lines, or separate protective tubing therefor in conduits or ducts pre-established in walls, ceilings or floors
H02G 3/281	..	{ in ceilings }
H02G 3/283	..	{ in floors }
H02G 3/285	...	{ in modular floors, e.g. access floors }
H02G 3/286	..	{ in walls }
H02G 3/288	...	{ in modular walls, e.g. wall panels }

- H02G 3/30 . Installations of cables or lines on walls, floors or ceilings ( support for pipes, cables or protective tubing [F16L 3/00](#) ; hose clips [F16L 33/02](#) )
- H02G 3/305 .. { Mounting by adhesive material }
- H02G 3/32 .. using mounting clamps
- H02G 3/34 .. using separate protective tubing
- H02G 3/36 . Installation of cables or lines in walls, floors or ceilings ( [3/22 takes precedence](#) )
- H02G 3/38 .. the cables or lines being installed in preestablished conduits or ducts
- H02G 3/381 ... { in ceilings }
- H02G 3/383 ... { in floors }
- H02G 3/385 .... { in modular floors, e.g. access floors }
- H02G 3/386 ... { in walls }
- H02G 3/388 .... { in modular walls, e.g. wall panels }
- H02G 3/40 ... using separate protective tubing in the conduits or ducts

**H02G 5/00****Installations of bus-bars**

- H02G 5/002 . { Joints between bus-bars for compensating thermal expansion }
- H02G 5/005 . { Laminated bus-bars }
- H02G 5/007 . { Butt joining of bus-bars by means of a common bolt, e.g. splice joint ( electrically conductive connections characterised by contacting members [H01R 4/58](#) ) }
- H02G 5/02 . Open installations
- H02G 5/025 .. { Supporting structures }
- H02G 5/04 . Partially-enclosed installations, e.g. in ducts and adapted for sliding or rolling current collection ( non-rotary current collectors [H01R 41/00](#) )
- H02G 5/06 . Totally-enclosed installations, e.g. in metal casings
- H02G 5/061 .. { Tubular casings ( [H02G 5/063 takes precedence](#) ) }
- H02G 5/063 .. { filled with oil or gas }
- H02G 5/065 ... { Particle traps ( gettering in vacuum switches [H01H 33/66E1](#); in discharge or vacuum tubes [H01J 7/18](#) , [H01J 19/70](#) ) }
- H02G 5/066 .. { Devices for maintaining distance between conductor and enclosure }
- H02G 5/068 ... { being part of the junction between two enclosures }
- H02G 5/08 .. Connection boxes therefor
- H02G 5/10 . Cooling

**H02G 7/00**

**Overhead installations of electric lines or cables** ( installations of bus-bars [H02G 5/00](#) ; trolley wires or contact lines for electric railways [B60M](#) ; fastening conductors to insulators [H01B 17/00](#) , e.g. [H01B 17/06](#) , [H01B 17/16](#) , [H01B 17/22](#) ; protection against abnormal electric conditions [H01H](#) ; hook contacts for temporary connections to overhead lines [H01R 11/14](#) )

- H02G 7/02 . Devices for adjusting or maintaining mechanical tension, e.g. take-up device
- H02G 7/04 . Arrangements or devices for relieving mechanical tension
- H02G 7/05 . Suspension arrangements or devices for electric cables or lines
- H02G 7/053 . . { Suspension clamps and clips for electric overhead lines not suspended to a supporting wire }
- H02G 7/056 . . . { Dead-end clamps }
- H02G 7/06 . . Suspensions for lines or cables along a separate supporting wire, e.g. S-hook
- H02G 7/08 . . . Members clamped to the supporting wire or to the line or cable
- H02G 7/10 . . . Flexible members or lashings wrapped around both the supporting wire and the line or cable
- H02G 7/12 . Devices for maintaining distance between parallel conductors, e.g. spacer
- H02G 7/125 . . { Damping spacers }
- H02G 7/14 . Arrangements or devices for damping mechanical oscillations of lines, e.g. for reducing production of sound { ( damping spacers [H02G 7/125](#) ) }
- H02G 7/16 . Devices for removing snow or ice from lines or cables ( from insulators [H01B 17/52](#) )
- H02G 7/18 . Devices affording mechanical protection in the event of breakage of a line or cable, e.g. net for catching broken lines
- H02G 7/20 . Spatial arrangements or dispositions of lines or cables on poles, posts, or towers ( construction of poles, posts or towers [E04H 12/22](#) )
- H02G 7/205 . . { Installation of electric cables, extending along a pole }
- H02G 7/22 . Arrangements of earthing wires suspended between mastheads
- H02G 9/00** **Installations of electric cables or lines in or on the ground or water ( cathodic protection [C23F 13/02](#) ; detection of buried cables [G01V](#) )**
- H02G 9/02 . laid directly in or on the ground, river-bed or sea-bottom ; Coverings therefor, e.g. tile
- H02G 9/025 . . { Coverings therefor, e.g. tile }
- H02G 9/04 . in surface ducts ; Ducts or covers therefor
- H02G 9/06 . in underground tubes or conduits ; Tubes or conduits therefor
- H02G 9/065 . . { Longitudinally split tubes or conduits therefor }
- H02G 9/08 . in tunnels
- H02G 9/10 . in cable chambers, e.g. in manhole, in handhole ( building aspects of cable chambers Section E, e.g. [E04H 5/06](#) )
- H02G 9/12 . supported on or from floats, e.g. in water ( floating cables [H01B 7/12](#) )
- H02G 11/00** **Arrangements of electric cables or lines between relatively-movable parts ( { storing means for coiled material specially adapted for repeatedly paying-out and**

re-storing length of material for particular purposes [B65H 75/34](#) } ; current collectors [H01R](#) ; { winding-up telephone cord [H04M 1/15](#) } )

- H02G 11/003 . { using gravity-loaded or spring-loaded loop }
- H02G 11/006 . { using extensible carrier for the cable, e.g. self-coiling spring ( extensible conductors or cables [H01B 7/06](#) ) }
- H02G 11/02 . using take-up reel or drum

**H02G 13/00** **Installations of lightning conductors ; Fastening thereof to supporting structure ( indicating, counting or recording lightning strokes [G01](#) ; lightning arrestors [H01C 7/12](#) , [H01C 8/04](#) , [H01G 9/18](#) , [H01T](#) ; earth plates, pins or other contacts [H01R](#) )**

### **WARNING**

Groups [H02G 13/20](#) to [H02G 13/80](#) do not correspond to former or current IPC groups. Concordance CPC : IPC for these groups is as follows: -  
[H02G 13/20](#) - [H02G 13/80](#) : [H02G 13/00](#)

- H02G 13/20 . { Active discharge triggering }
- H02G 13/40 . { Connection to earth }
- H02G 13/60 . { Detecting; Measuring; Sensing; Testing; Simulating }
- H02G 13/80 . { Discharge by conduction or dissipation, e.g. rods, arresters, spark gaps }

**H02G 15/00** **Cable fittings**

- H02G 15/003 . { Filling materials, e.g. solid or fluid insulation }
- H02G 15/007 . Devices for relieving mechanical stress
- H02G 15/013 . Sealing means for cable inlets ( inlets for cables filled with, or surrounded by, gas or oil [H02G 15/32](#) )
- H02G 15/02 . Cable terminations ( for gas- or oil-filled cables [H02G 15/22](#) )
- H02G 15/025 . . { for coaxial cables or hollow conductors ( connections between HF conductors [H01P 1/04](#) ; plug and socket connections per se [H01R 24/38](#) ) }
- H02G 15/04 . . Cable-end sealings
- H02G 15/043 . . . { with end caps, e.g. sleeve closed at one end }
- H02G 15/046 . . . . { with bores or protruding portions allowing passage of cable conductors }
- H02G 15/06 . . Cable terminating boxes, frames, or other structures ( terminal blocks [H01R 9/00](#) )
- H02G 15/064 . . . with devices for relieving electrical stress
- H02G 15/068 . . . . connected to the cable shield only ( [H02G 15/072](#) takes precedence )
- H02G 15/072 . . . . of the condenser type

- H02G 15/076 . . . for multi-conductor cables
- H02G 15/08 . Cable junctions ( for gas- or oil-filled cables [H02G 15/24](#) ; disconnectible junctions, electrical connections [H01R](#) )
- H02G 15/085 .. { for coaxial cables or hollow conductors ( plug and socket connections between HF conductors [H01P 1/04](#) ; plug and socket connections per se [H01R 24/38](#) ) }
- H02G 15/10 .. protected by boxes, e.g. by distribution, connection or junction boxes ( terminal blocks [H01R 9/00](#) ; { distribution boxes per se [H02G 3/08](#) } )
- H02G 15/103 . . . with devices for relieving electrical stress
- H02G 15/105 . . . . connected to the cable shield only ( [H02G 15/107](#) takes precedence )
- H02G 15/1055 . . . . . { with cross-bonding of cable shields }
- H02G 15/107 . . . . of the condenser type
- H02G 15/113 . . . Boxes split longitudinally in main cable direction
- H02G 15/115 . . . Boxes split perpendicularly to main cable direction
- H02G 15/117 . . . for multiconductor cables
- H02G 15/12 . . . for incorporating transformers, loading coils or amplifiers
- H02G 15/14 . . . . specially adapted for submarine cables
- H02G 15/16 . . . structurally associated with support for line-connecting terminals within the box
- H02G 15/18 .. protected by sleeves, e.g. for communication cable ( two-part covers [H02G 15/10](#) ; { preforms having internal stresses [B29C 61/00](#) } )
- H02G 15/1806 . . . { Heat shrinkable sleeves ( insulation of electrical connections using a heat shrinking insulating sleeve [H01R 4/72](#) ) }
- H02G 15/1813 . . . . { Wraparound or slotted sleeves }
- H02G 15/182 . . . { held in expanded condition in radial direction prior to installation }
- H02G 15/1826 . . . . { on a removable hollow core, e.g. a tube }
- H02G 15/1833 . . . . . { formed of helically wound strip with adjacent windings, which are removable by applying a pulling force to a strip end }
- H02G 15/184 . . . with devices for relieving electrical stress
- H02G 15/188 . . . . connected to a cable shield only
- H02G 15/192 . . . with support means for ends of the sleeves
- H02G 15/196 . . . having lapped insulation
- H02G 15/20 . Cable fittings for cables filled with or surrounded by gas or oil ( [H02G 15/34](#) takes precedence )
- H02G 15/205 .. { for coaxial cables }
- H02G 15/22 . . Cable terminations
- H02G 15/23 . . . Cable-end sealings
- H02G 15/24 . . Cable junctions
- H02G 15/25 . . . Stop junctions
- H02G 15/26 . . Expansion vessels ; Locking heads ; Auxiliary pipe-lines
- H02G 15/28 . . structurally associated with devices for indicating the presence or location of non-electric faults ( combined with electric protective means [H02H](#) )
- H02G 15/30 . . with devices for relieving electrical stress
- H02G 15/32 . . Cable inlets
- H02G 15/34 . Cable fittings for cryogenic cables { ( superconductive cables per se [H01B 12/00](#) ) }

<b>H02G 2001/00</b>	<b>Methods or apparatus specially adapted for installing, maintaining, repairing or dismantling electric cables or lines</b>
H02G 2001/12	. for removing insulation or armouring from cables, e.g. from the end thereof ( <a href="#">pliers in general B25B</a> ; <a href="#">cutters in general B26B</a> )
H02G 2001/1202	.. { <a href="#">by cutting and withdrawing insulation</a> }
H02G 2001/1204	... { <a href="#">Hand-held tools</a> }
H02G 2001/1207	.... { <a href="#">the cutting element not rotating about the wire or cable ( making longitudinal and transverse or helical cut <a href="#">H02G 1/1229</a> )</a> }
<a href="#">H02G 2001/1219</a>	..... making a transverse and longitudinal cut
H02G 2001/1248	... { <a href="#">Machines</a> }
H02G 2001/1251	.... { <a href="#">the cutting element not rotating about the wire or cable ( making longitudinal and transverse or helical cut <a href="#">H02G 1/1268</a> )</a> }
<a href="#">H02G 2001/1263</a>	..... making a transverse and longitudinal cut
<b><a href="#">H02G 2200/00</a></b>	<b>Indexing scheme relating to installation of electric cables or lines covered by <a href="#">H02G</a></b>
<a href="#">H02G 2200/10</a>	. Prevention of theft of valuable metals
<a href="#">H02G 2200/20</a>	. Identification of installed cables
<a href="#">H02G 2200/30</a>	. Tools for installing cables comprising a spirit level