

CPC COOPERATIVE PATENT CLASSIFICATION

E FIXED CONSTRUCTIONS

BUILDING

E04 BUILDING (layered materials, layered products in general [B32B](#))

E04D ROOF COVERINGS; SKY-LIGHTS; GUTTERS; ROOF-WORKING TOOLS (coverings of outer walls by plaster or other porous material [E04F 13/00](#))

NOTE

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

- "roof coverings" includes any similar kind of watertight covering against rain, snow, hail, or the like, for other parts of buildings

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

E04D 3/3645	covered by	E04D 3/363
E04D 3/367	covered by	E04D 3/364
E04D 13/18	covered by	F24J 2/00 , H02S 20/23

1/00	Roof covering by making use of tiles, slates, shingles, or other small roofing elements (roofing supports {and underlayers} E04D 12/00)	1/26	• Strip-shaped roofing elements appearing as a row of shingles
2001/005	• {the roofing elements having a granulated surface}	1/265	• • {the roofing elements being rigid, e.g. made of metal, wood or concrete}
1/02	• Grooved or vaulted roofing elements (E04D 1/28 , E04D 1/30 take precedence)	1/28	• Roofing elements comprising two or more layers, e.g. for insulation
1/025	• • {Diamond shaped and installed in diagonal lines}	1/30	• Special roof-covering elements, e.g. ridge tiles, gutter tiles, gable tiles, ventilation tiles (E04D 3/40 , E04D 13/03 , E04D 13/14 take precedence)
1/04	• • of ceramics, glass or concrete, with or without reinforcement	2001/301	• • {at roof edges, e.g. intersections with walls}
1/045	• • • {Vaulted roofing elements laid alternately side-up and side-down, e.g. monks and nuns tiles}	2001/302	• • • {Gable tiles}
1/06	• • of metal	2001/303	• • • {Eave tiles}
1/08	• • of plastics; {of asphalt; } of fibrous materials	2001/304	• • {at roof intersections, e.g. valley tiles, ridge tiles}
1/085	• • • {of wood}	2001/305	• • • {Ridge or hip tiles}
1/10	• • of specified materials {not covered by any one of groups E04D 1/04 - E04D 1/085 }, or of combinations of materials, {where at least one is} not covered by any one of groups E04D 1/04 - E04D 1/085	2001/306	• • • • {Under-ridge tiles}
1/12	• Roofing elements shaped as plain tiles or shingles, i.e. with flat outer surface (E04D 1/28 , E04D 1/30 take precedence)	2001/307	• • {for passages in the roof surface}
1/125	• • {Diamond shaped and installed in diagonal lines}	2001/308	• • {for special purposes not otherwise provided for, e.g. turfing tiles, step tiles}
1/14	• • of slate material, with or without fastening means	2001/309	• • {Ventilation tiles}
1/16	• • of ceramics, glass or concrete, with or without reinforcement	1/34	• Fastenings for attaching roof-covering elements to the supporting elements
1/18	• • of metal	1/3402	• • {for ridge or roofhip tiles}
1/20	• • of plastics; {of asphalt; } of fibrous materials	1/3405	• • {for eaves -, valley - or verge tiles}
1/205	• • • {of wood}	2001/3408	• • {characterised by the fastener type or material}
1/22	• • of specified materials {not covered by any one of groups E04D 1/14 - E04D 1/205 }, or of combinations of materials, {where at least one is} not covered by any one of groups E04D 1/14 - E04D 1/205	2001/3411	• • • {Metal wires or rods}
1/24	• Roofing elements with cavities, e.g. hollow tiles (E04D 1/28 takes precedence)	2001/3414	• • • {Metal strips or sheet metal}
		2001/3417	• • • {Synthetic, composite or molded material}
		2001/342	• • • {Flexible filamentous ties, e.g. to be twisted or forming nets}
		2001/3423	• • • {Nails, rivets, staples or straps piercing or perforating the roof covering material}
		2001/3426	• • • {Threaded elements, e.g. screws or bolts}
		2001/3429	• • • {Press-studs elements}
		2001/3432	• • • {Strips covering the gap between the roof covering elements}
		2001/3435	• • • {Adhesive, hardenable or heat-sensitive material}

2001/3438	. . . {Fasteners comprising several coating elements}	2003/0806	. . . . {the supporting section of the glazing bar consisting of one single extruded or rolled metal part}
2001/3441	. . . {Series of easily separable fasteners}	2003/0812	. . . . {the supporting section of the glazing bar consisting of one single bent or otherwise deformed sheetmetal}
2001/3444	. . {characterised by the roof covering or structure with integral or premounted fastening means}	2003/0818	. . . . {the supporting section of the glazing bar consisting of several parts, e.g. compound sections}
2001/3447	. . . {the fastening means being integral or premounted to the roof covering}	2003/0825	. . . . . {the metal section covered by parts of other material}
2001/345	. . . {the fastening means being integral or premounted to the roof structure}	2003/0831	. . . . . {Glazing gaskets of particular shape}
2001/3452	. . {characterised by the location of the fastening means}	2003/0837	. . . . . {Sections comprising intermediate parts of insulating material}
2001/3455	. . . {on the internal surface of the roof covering elements}	2003/0843	. . . . {Clamping of the sheets or glass panes to the glazing bars by means of covering strips}
2001/3458	. . . {on the upper or lower transverse edges of the roof covering elements}	2003/085	. . . . . {locked by snap action}
2001/3461	. . . {on the lateral edges of the roof covering elements}	2003/0856	. . . . . {locked by screws, bolts or pins}
2001/3464	. . . {on the lateral corners of the roof covering elements for diagonally tiled roofs}	2003/0862	. . . . {by means of separate clips or hooks}
2001/3467	. . . {through apertures, holes or slots}	2003/0868	. . . . {Mutual connections and details of glazing bars}
2001/347	. . {characterised by the fastening pattern}	2003/0875	. . . . . {on the ridge of the roof or on intersecting roof parts}
2001/3473	. . . {fastening single roof elements to the roof structure with or without indirect clamping of neighbouring roof covering elements}	2003/0881	. . . . . {on the eaves of the roof}
2001/3476	. . . {the fastening means taking hold directly on adjacent elements of the same row and fastening them simultaneously to the roof structure}	2003/0887	. . . . {Glazing bars for coverings consisting of more than one sheet or glass pane}
2001/3479	. . . {the fastening means taking hold directly on adjacent elements of the same row and fastening them only to each other}	2003/0893	. . . . {Glazing bars comprising means for draining condensation water or infiltrated rainwater}
2001/3482	. . . {the fastening means taking hold directly on elements of succeeding rows and fastening them simultaneously to the structure}	3/14	. . . with glazing bars of other material, e.g. of glass
2001/3485	. . . {the fastening means taking hold directly on elements of succeeding rows and fastening them only to each other}	3/16	. . of metal
2001/3488	. . {characterised by the type of roof covering elements being fastened}	3/18	. . of specified materials, or of combinations of materials, not covered by any of groups E04D 3/04 , E04D 3/06 or E04D 3/16
2001/3491	. . . {made of flexible material, e.g. shingles}	3/24	. with special cross-section, e.g. with corrugations on both sides, with ribs, flanges, or the like (E04D 3/35 takes precedence)
2001/3494	. . . {made of rigid material having a flat external surface}	3/26	. . of concrete or ceramics
2001/3497	. . . {Spanish type tiles}	3/28	. . of glass {or other translucent material}
1/36	. Devices for sealing the spaces or joints between roof-covering elements (sealing joints not restricted to roof-covering elements E04B 1/68 ; {channels at the intersection of roof surfaces E04D 13/0445 })	2003/285	. . . {with specially profiled marginal portions for connecting purposes}
1/365	. . {Sealing strips between lateral sides of roof-covering elements}	3/30	. . of metal
3/00	Roof covering by making use of flat or curved slabs or stiff sheets (E04D 1/00 takes precedence; built-up roofs E04D 11/02)	3/32	. . of plastics, fibrous materials, or asbestos cement
3/02	. of plane slabs, slates, or sheets, or in which the cross-section is unimportant (E04D 3/35 takes precedence)	3/34	. . of specified materials, or of combinations of materials, not covered by any one of groups E04D 3/26 - E04D 3/32
3/04	. . of concrete or ceramics (of asbestos cement E04D 3/18)	3/35	. Roofing slabs or stiff sheets comprising two or more layers, e.g. for insulation ({ self-supporting roofing slabs laminated with layers of insulating material E04B 7/22 ; insulating devices or arrangements in the roof covering E04D 13/16 ; connecting, fastening of double roof covering E04D 3/3608 })
3/06	. . of glass or other translucent material; Fixing means therefor (fixing glass panes by means applicable to windows E06B 3/54)	3/351	. . {at least one of the layers being composed of insulating material, e.g. fibre or foam material}
2003/065	. . . {Corner- or point-supported glazing}	3/352	. . . {at least one insulating layer being located between non-insulating layers, e.g. double skin slabs or sheets}
3/08	. . . with metal glazing bars	3/354	. . . {more than one of the layers being composed of insulating material}
		3/355	. . . {the insulating layers of adjacent slabs having cooperating edges}
		3/357	. . {comprising hollow cavities}
		3/358	. . {with at least one of the layers being offset with respect to another layer}
		3/36	. Connecting; Fastening

3/3601	. . {of roof covering supported by the roof structure with interposition of a insulating layer (E04D 3/3607 , E04D 3/3608 , E04D 3/361 - E04D 3/369 take precedence)}	5/00	Roof covering by making use of flexible material, e.g. supplied in roll form (using stiff sheets E04D 3/00 ; gravelling of flat roofs E04D 7/00 {; granulated roof covering E04D 7/005 }; built-up roofs E04D 11/02)
3/3602	. . . {The fastening means comprising elongated profiles installed in or on the insulation layer}		NOTE
3/3603	. . . {the fastening means being screws or nails}		Group E04D 5/12 takes precedence over groups E04D 5/02 - E04D 5/10
3/3605	. . {of roof covering supported directly by the roof structure (E04D 3/3607 , E04D 3/3608 , E04D 3/361 - E04D 3/369 take precedence)}	5/02	. of materials impregnated with sealing substances, e.g. roofing felt
3/3606	. . . {the fastening means being screws or nails}	5/04	. by making use of metal foils
3/3607	. . {the fastening means comprising spacer means adapted to the shape of the profiled roof covering}	5/06	. by making use of plastics
3/3608	. . {for double roof covering or overroofing}	5/08	. by making use of other materials
	NOTE	5/10	. by making use of compounded or laminated materials, e.g. metal foils or plastic films coated with bitumen
	In groups E04D 3/361 - E04D 3/368 , additional small fastening elements, e.g. nails, screws, are not to be considered to be separate connecting elements.	5/12	. specially modified, e.g. perforated, with granulated surface, with attached pads
3/361	. . by specially-profiled marginal portions of the slabs or sheets	5/14	. Fastening means therefor
2003/3612	. . . {Separate fastening elements fixed to the roof structure and comprising plastic parts for avoiding thermal bridges}	5/141	. . {characterised by the location of the fastening means}
2003/3615	. . . {Separate fastening elements fixed to the roof structure and consisting of parts permitting relative movement to each other, e.g. for thermal expansion}	5/142	. . . {along the edge of the flexible material}
2003/3617	. . . {with locking or snapping edges located in the thickness of the slab or sheet}	5/143	. . . {in the field of the flexible material}
3/362	. . . by locking the edge of one slab or sheet within the profiled marginal portion of the adjacent slab or sheet, e.g. using separate connecting elements	5/144	. . {Mechanical fastening means}
3/363	. . . with snap action (E04D 3/366 takes precedence)	5/145	. . . {Discrete fastening means, e.g. discs or clips}
3/364	. . . {by folding of the edges}	5/146	. . . {Linear fastening means, e.g. strips}
3/365	. . by simple overlapping of the marginal portions with use of separate connecting elements, e.g. hooks or bolts for corrugated sheets	5/147	. . . {not perforating the flexible material}
3/366	. . by closing the space between the slabs or sheets by gutters, bulges, or bridging elements, e.g. strips	5/148	. . {fastening by gluing}
3/368	. . by forcing together the marginal portions of adjacent slabs or sheets	5/149	. . {fastening by welding}
3/369	. . by welding of the marginal portions of adjacent slabs or sheets {also by soldering, glueing}		7/00
3/38	. Devices for sealing spaces or joints between roof-covering elements (E04D 3/36 takes precedence; sealing joints not restricted to roof-covering elements E04B 1/68)		Roof covering {exclusively consisting of} sealing masses applied in situ; Gravelling of flat roofs
3/40	. Slabs or sheets locally modified for auxiliary purposes, e.g. for resting on walls, for serving as guttering; Elements for particular purposes, e.g. ridge elements, specially designed for use in conjunction with slabs or sheets {(E04D 13/15 and E04D 13/174 take precedence; ridge sealing E04D 1/36 ; solar collectors F24J 2/00 ; photovoltaic devices H01L 31/00)}	7/005	. {characterised by loose or embedded gravel or granules as an outer protection of the roof covering}
3/405	. . {Wall copings}		9/00
			Roof covering by using straw, thatch, or like materials (impregnation against incendiary damage B27K)
		11/00	Roof covering, as far as not restricted to features covered by only one of groups E04D 1/00 - E04D 9/00; Roof covering in ways not provided for by groups E04D 1/00 - E04D 9/00, {e.g. built-up roofs, elevated load-supporting roof coverings}
		11/002	. {consisting of two or more layers, at least one of the layers permitting turfing of the roof}
		11/005	. {Supports for elevated load-supporting roof coverings}
		11/007	. . {Height-adjustable spacers}
		11/02	. Build-up roofs, i.e. consisting of two or more layers bonded together <i>in situ</i> , at least one of the layers being of watertight composition (gravelling of flat roofs E04D 7/00 ; venting or ventilation E04D 13/17)
		12/00	Non-structural supports for roofing materials, e.g. battens, boards (E04D 11/02 {and E04D 13/16} take precedence; {self-supporting slabs with non-structural supports for roofing materials E04B 7/205})
		12/002	. {Sheets of flexible material, e.g. roofing tile underlay}
		12/004	. {Battens}
		12/006	. . {Batten-supporting means}

12/008	. . . {Ridge-batten brackets}	2013/0427	. . . . {with means for controlling the flow in the outlet}
13/00	Special arrangements or devices in connection with roof coverings; (Protection against birds); Roof drainage; {Sky-lights} (ventilation tiles E04D 1/30; ventilation slabs E04D 3/40; internal channels E04F 17/00; elements therefor, see the relevant groups)	13/0431	. . . . {with horizontal evacuation over the border of the roof}
13/002	. {Provisions for preventing vegetational growth, e.g. fungi, algae or moss}	2013/0436	. . . . {with sealing means}
13/004	. {Protection against birds, mice or the like (scaring devices for birds in general A01M 29/00)}	2013/044	. . . . . {on multiple levels}
13/006	. {Provisions for detecting water leakage}	13/0445	. . . {Drainage channels}
13/008	. {Provisions for reducing rain noise}	2013/045	. . . . {on inclined roofs}
13/02	. Roof-covering aspects of dormer windows (E04D 13/14 takes precedence; structures therefor E04B 7/18)	2013/0454	. . . . . {at the intersection of roof surfaces, e.g. roof valleys}
13/03	. Sky-lights; Domes; Ventilating sky-lights (E04D 13/14 takes precedence; structures therefor, {e.g. dormer windows} E04B 7/18 ; {saw-tooth roofs with light-transmission E04B 7/12 })	13/0459	. . . {Drainage borders, e.g. dripping edges, gravel stops or dispersers}
13/0305	. . {Supports or connecting means for sky-lights of flat or domed shape}	2013/0463	. . . . {Dispersers}
13/031	. . . {characterised by a frame for connection to an inclined roof}	2013/0468	. . . . {Drip edges}
13/0315	. . . {characterised by a curb frame}	2013/0472	. . . . {Gravel stops}
13/032	. . {Supports or connecting means for sky-lights of vaulted shape}	13/0477	. . . {Underroof drainage layers (layers permitting turfing of the roof E04D 11/002)}
13/0325	. . {provided with ventilating means (roof ventilation F24F 7/02)}	13/0481	. . . {Drainage guiding provisions, e.g. deflectors or stimulation by inclined surfaces}
13/033	. . {provided with means for controlling the light-transmission or the heat-reflection, (e.g. shields, reflectors, cleaning devices)}	2013/0486	. . . . {Deflectors}
13/0335	. . {Skylight guards, security devices protecting skylights or preventing objects or persons from falling through skylight openings}	2013/049	. . . {of condensation water or infiltrated rainwater}
2013/034	. . {Daylight conveying tubular skylights}	2013/0495	. . . {to storage tanks}
2013/0345	. . . {with skylight shafts extending from roof to ceiling}	13/064	. . Gutters ({drainage channels on the roof surface E04D 13/0445 ; gutters for greenhouses A01G 9/1476)
13/035	. . characterised by having movable parts ({preventing the spread of fire A62C 3/00 ; roof structures with movable roof parts E04B 7/16 ; operating mechanisms for sky-lights E05F 11/00 ; automatically acting closers E05F 17/00)	13/0641	. . . {Gutter ends}
13/0351	. . . {the parts pivoting about a fixed axis}	13/0643	. . . {Gutter corners}
13/0352	. . . . {the parts being of domed or pyramidal shape}	13/0645	. . . {Connections between gutter and down pipe}
13/0354	. . . . {the parts being flat}	13/0646	. . . {made of concrete or stone-like material}
13/0355	. . . . {The parts being of vaulted shape}	13/0648	. . . {comprising provisions for heat insulation, e.g. an insulation layer}
13/0357	. . . {the parts pivoting about an axis supported on a hinged frame or arms}	13/068	. . . Means for fastening gutter parts together
13/0358	. . . {the parts moving, in their own plane, e.g. rolling or sliding, or moving in parallel planes with or without an additional movement, e.g. both pivoting and rolling or sliding}	13/0685	. . . . {in combination with hanging means}
13/04	. Roof drainage; Drainage fittings in flat roofs, {balconies or the like} (gutter tiles E04D 1/30 ; gutter slabs E04D 3/40 ; {vessels for collecting rainwater E03B 3/03 ;} street gullies E03F 5/04)	13/072	. . . Hanging means (in combination with means for fastening gutter parts together E04D 13/0685)
13/0404	. . {Drainage on the roof surface}	13/0722	. . . . {extending mainly under the gutter}
13/0409	. . . {Drainage outlets, e.g. gullies}	13/0725	. . . . {situated above or inside the gutter}
2013/0413	. . . . {Strainers for drainage outlets}	13/0727	. . . . {situated mainly at the rear side of the gutter}
2013/0418	. . . . {with de-icing devices or snow melters}	13/076	. . Devices or arrangements for removing snow, ice or debris from gutters or for preventing accumulation thereof
2013/0422	. . . . {for draining water above the roof level, e.g. gullies with overflow ports}	13/0762	. . . {De-icing devices or snow melters}
		13/0765	. . . {Cleaning tools}
		13/0767	. . . {Strainers at connection between gutter and down pipe}
		13/08	. . Down pipes; Special clamping means therefor (clamping pipes in general F16B, F16L)
		2013/0806	. . . {Details of lower end of down pipes, e.g. connection to water disposal system}
		2013/0813	. . . . {Water diverters}
		2013/082	. . . {Down pipe branches}
		2013/0826	. . . {Passages of down pipes through walls or floors}
		2013/0833	. . . {Elbow pieces}
		2013/084	. . . {Means for fixing down pipes to structure}
		2013/0846	. . . {Interconnecting down pipe parts}
		2013/0853	. . . {Valves for controlling the rain water flow}
		2013/086	. . . {Filters}
		2013/0866	. . . {Access opening for cleaning; Devices for avoiding cumulation of debris}

2013/0873	. . . {Rain water reservoirs integrated in down pipes}	13/1625	. . . . {with means for supporting the insulating material between the purlins or rafters (insulating layers disposed between two longitudinal supporting elements E04B 1/7654)}
2013/088	. . . {De-icing devices or snow melters}	13/1631	. . . . . {the means deriving from the nature or the shape of the insulating material itself}
2013/0886	. . . {Devices for preventing climbing on down pipes}	13/1637	. . . . {the roof purlins or rafters being mainly insulated from the interior, e.g. the insulating material being fixed under or suspended from the supporting framework}
2013/0893	. . . {incorporated in building structure}	13/1643	. . . {the roof structure being formed by load bearing corrugated sheets, e.g. profiled sheet metal roofs}
13/10	. Snow traps{; Removing snow from roofs; Snow melters}	13/165	. . . . {Double skin roofs}
13/103	. . {De-icing devices or snow melters (for drainage outlets E04D 13/0409 , for gutters E04D 13/0762 , for down pipes E04D 13/08)}	13/1656	. . . . {Closure strips or elements filling the spaces between the corrugated sheets and a supporting wall}
13/106	. . {Snow removing devices (for gutters E04D 13/076)}	13/1662	. . . {Inverted roofs or exteriorly insulated roofs}
13/12	. Devices or arrangements allowing walking on the roof or in the gutter	13/1668	. . . {the insulating material being masses or granules applied <i>in situ</i> }
13/14	. Junctions of roof sheathings to chimneys or other parts extending above the roof	13/1675	. . . . {on saddle-roofs or inclined roof surfaces}
13/1407	. . {for flat roofs}	13/1681	. . . {Insulating of pre-existing roofs with or without ventilating arrangements}
13/1415	. . . {Junctions to walls extending above the perimeter of the roof (trimming strips, edge strips or fascias retaining the roof sheathing E04D 13/155)}	13/1687	. . {the insulating material having provisions for roof drainage}
2013/1422	. . {Parapet building elements for retaining the roof flashing}	13/1693	. . . {the upper surface of the insulating material forming an inclined surface}
13/143	. . with ventilating means {in junctions of roof sheathings to parts extending above the roof}	13/17	. Ventilation of roof coverings not otherwise provided for (ventilation of rooms or spaces F24F)
13/147	. . specially adapted for inclined roofs {(trays for cavity walls E04B 1/70)}	13/172	. . {Roof insulating material with provisions for or being arranged for permitting ventilation of the roof covering}
13/1471	. . . {using a hinge mechanism for adaptation to the inclined roof}	13/174	. . {on the ridge of the roof}
13/1473	. . . {specially adapted to the cross-section of the parts extending above the roof}	13/176	. . . {formed by flexible material suitable to be rolled up}
13/1475	. . . . {wherein the parts extending above the roof have a generally rectangular cross-section}	13/178	. . {on the eaves of the roof}
13/1476	. . . . {wherein the parts extending above the roof have a generally circular cross-section}	15/00	Apparatus or tools for roof working
13/1478	. . . {Junctions to walls extending above the roof}	15/003	. {for removing roof material (for floor coverings E04G 23/006)}
13/15	. Trimming strips; Edge strips; Fascias; {Expansion joints for roofs (wall copings E04D 3/405 ; drainage borders E04D 13/0459 ; joints in general E04B 1/68)}	15/006	. {for cleaning the roof (for cleaning gutters E04D 13/0765 ; for removing snow from roofs E04D 13/106)}
13/151	. . {Expansion joints for roofs}	15/02	. for roof coverings comprising tiles, shingles, or like roofing elements {(E04D 15/003 takes precedence)}
13/152	. . with ventilating means {in soffits or fascias; (on the eaves of the roof E04D 13/178)}	15/025	. . {Templates, gauges or spacers for installing roof tiles or roof laths (templates for rafters E04G 21/1891)}
13/155	. . retaining the roof sheathing	15/04	. for roof coverings comprising slabs, sheets or flexible material
13/158	. . covering the overhang at the eave side, e.g. soffits, or the verge of saddle roofs	2015/042	. . {Fixing to the roof supporting structure}
13/1585	. . . {covering the verge of saddle roofs (gable tiles E04D 1/30)}	2015/045	. . . {by nailing}
13/16	. Insulating devices or arrangements in so far as the roof covering is concerned, {e.g. characterised by the material or composition of the roof insulating material or its integration in the roof structure}	2015/047	. . . {by screwing}
13/1606	. . {Insulation of the roof covering characterised by its integration in the roof structure (self-supporting insulating slabs E04B 7/22 , E04B 7/225)}	15/06	. for handling roofing or sealing material in roll form
13/1612	. . . {the roof structure comprising a supporting framework of roof purlins or rafters}	15/07	. for handling roofing or sealing material in bulk form
13/1618	. . . . {with means for fixing the insulating material between the roof covering and the upper surface of the roof purlins or rafters}		