

ECLA**EUROPEAN CLASSIFICATION****E04D****ROOF COVERINGS; SKY-LIGHTS; GUTTERS; ROOF-WORKING TOOLS** (coverings of outer walls by plaster or other porous material [E04F13/00](#))[N: **WARNING**[C2010.08]

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

E04D3/3645	covered by	E04D3/363
E04D3/367	" "	E04D3/364
E04D13/18	" "	F24J2/00 , H01L31/048B

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

E04D1/00**Roof covering by making use of tiles, slates, shingles, or other small roofing elements** (roofing supports [N: and underlayers] [E04D12/00](#))

- [E04D1/02](#) . Grooved or vaulted roofing elements ([E04D1/28](#), [E04D1/30](#) take precedence)
- [E04D1/02D](#) . . [N: Diamond shaped and installed in diagonal lines] [\[N1204\]](#)
- [E04D1/04](#) . . of ceramics, glass or concrete, with or without reinforcement
- [E04D1/04A](#) . . . [N: Vaulted roofing elements laid alternately side-up and side-down] [\[N1204\]](#)
- [E04D1/06](#) . . of metal
- [E04D1/08](#) . . of plastics; [N: of asphalt;] of fibrous materials [N: or wood] [\[N1204\]](#)
- [E04D1/08W](#) . . . [N: of wood] [\[N1204\]](#)
- [E04D1/10](#) . . of specified materials [N: not covered by any one of groups E04D1/04 to E04D1/08W], or of combinations of materials, [N: where at least one is] not covered by any one of groups E04D1/04 to E04D1/08W [\[N1204\]](#)
- [E04D1/12](#) . Roofing elements shaped as plain tiles or shingles, i.e. with flat outer surface ([E04D1/28](#), [E04D1/30](#) take precedence)
- [E04D1/12D](#) . . [N: Diamond shaped and installed in diagonal lines] [\[N1204\]](#)
- [E04D1/14](#) . . of slate material, with or without fastening means
- [E04D1/16](#) . . of ceramics, glass or concrete, with or without reinforcement
- [E04D1/18](#) . . of metal
- [E04D1/20](#) . . of plastics; [N: of asphalt;] of fibrous materials, or wood [\[N1204\]](#)
- [E04D1/20W](#) . . . [N: of wood] [\[N1204\]](#)
- [E04D1/22](#) . . of specified materials [N: not covered by any one of groups E04D1/14 to E04D1/20W], or of combinations of materials, [N: where at least one is] not covered by any one of groups E04D1/14 to E04D1/20W [\[N1204\]](#)
- [E04D1/24](#) . Roofing elements with cavities, e.g. hollow tiles ([E04D1/28](#) takes precedence)
- [E04D1/26](#) . Strip-shaped roofing elements appearing as a row of shingles

- E04D1/26A . . [N: the roofing elements being rigid, e.g. made of metal, wood or concrete] [N0905]
- E04D1/28 . Roofing elements comprising two or more layers, e.g. for insulation
- E04D1/30 . Special roof-covering elements, e.g. ridge tiles, gutter tiles, gable tiles, ventilation tiles ([E04D3/40](#), [N: [E04D13/03](#), [E04D13/14](#)] take precedence)
- E04D1/34 . Fastenings for attaching roof-covering elements to the supporting elements
- E04D1/34A . . [N: for ridge or roofhip tiles] [N0107]
- E04D1/34B . . [N: for eaves -, valley - or verge tiles] [N0202]
- E04D1/36 . Devices for sealing the spaces or joints between roof-covering elements (sealing joints not restricted to roof-covering elements [E04B1/68](#); [N: channels at the intersection of roof surfaces [E04D13/04B30](#)]) [C0103]
- E04D1/36S . . [N: Sealing strips between lateral sides of roof-covering elements] [N1204]
- E04D3/00** **Roof covering by making use of flat or curved slabs or stiff sheets** ([E04D1/00](#) takes precedence; built-up roofs [E04D11/02](#))
- E04D3/02 . of plane slabs, slates, or sheets, or in which the cross-section is unimportant ([E04D3/35](#) takes precedence)
- E04D3/04 . . of concrete or ceramics (of asbestos cement [E04D3/18](#))
- E04D3/06 . . of glass or other translucent material; Fixing means therefor (fixing glass panes by means applicable to windows [E06B3/54](#))
- E04D3/08 . . . with metal glazing bars
- E04D3/14 . . . with glazing bars of other material, e.g. of glass
- E04D3/16 . . of metal
- E04D3/18 . . of specified materials, or of combinations of materials, not covered by any of groups [E04D3/04](#), [E04D3/06](#) or [E04D3/16](#)
- E04D3/24 . with special cross-section, e.g. with corrugations on both sides, with ribs, flanges, or the like ([E04D3/35](#) takes precedence)
- E04D3/26 . . of concrete or ceramics
- E04D3/28 . . of glass [N: or other translucent material]
- E04D3/30 . . of metal
- E04D3/32 . . of plastics, fibrous materials, or asbestos cement
- E04D3/34 . . of specified materials, or of combinations of materials, not covered by any one of groups [E04D3/26](#) to [E04D3/32](#)
- E04D3/35 . Roofing slabs or stiff sheets comprising two or more layers, e.g. for insulation [N: (self-supporting roofing slabs laminated with layers of insulating material [E04B7/22](#); insulating devices or arrangements in the roof covering [E04D13/16](#); connecting, fastening of double roof covering [E04D3/36E](#))] [C0502]
- E04D3/35A . . [N: at least one of the layers being composed of insulating material, e.g. fibre or foam material] [N0502]
- E04D3/35A1 . . . [N: at least one insulating layer being located between non-insulating layers, e.g. double skin slabs or sheets] [N0502]
- E04D3/35A2 . . . [N: more than one of the layers being composed of insulating material] [N0502]
- E04D3/35A3 . . . [N: the insulating layers of adjacent slabs having cooperating edges] [N0502]

- E04D3/35B . . [N: comprising hollow cavities] [N0502]
- E04D3/35F . . [N: with at least one of the layers being offset with respect to another layer] [N0502]
- E04D3/36 . Connecting; Fastening
- E04D3/36A . . [N: of roof covering supported by the roof structure with interposition of a insulating layer ([E04D3/36D](#), [E04D3/36E](#), [E04D3/361](#) to [E04D3/369](#) take precedence)]
- E04D3/36A1 . . . [N: The fastening means comprising elongated profiles installed in or on the insulation layer] [N1204]
- E04D3/36A2 . . . [N: the fastening means being screws or nails]
- E04D3/36C . . [N: of roof covering supported directly by the roof structure ([E04D3/36D](#), [E04D3/36E](#), [E04D3/361](#) to [E04D3/369](#) take precedence)]
- E04D3/36C2 . . . [N: the fastening means being screws or nails]
- E04D3/36D . . [N: the fastening means comprising spacer means adapted to the shape of the profiled roof covering]
- E04D3/36E . . [N: for double roof covering or overroofing]

Note

In groups [E04D3/361](#) to [E04D3/368](#), additional small fastening elements, e.g. nails, screws, are not to be considered to be separate connecting elements.

- E04D3/361 . . by specially-profiled marginal portions of the slabs or sheets
- E04D3/362 . . . 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
- E04D3/363 . . . with snap action ([E04D3/366](#) takes precedence)
- E04D3/364 . . . [N: IPC 3] by folding of the edges
- E04D3/365 . . by simple overlapping of the marginal portions with use of separate connecting elements, e.g. hooks or bolts for corrugated sheets
- E04D3/366 . . by closing the space between the slabs or sheets by gutters, bulges, or bridging elements, e.g. strips
- E04D3/368 . . by forcing together the marginal portions of adjacent slabs or sheets
- E04D3/369 . . by welding of the marginal portions of adjacent slabs or sheets [N: also by soldering, glueing]
- E04D3/38 . Devices for sealing spaces or joints between roof-covering elements ([E04D3/36](#) takes precedence; sealing joints not restricted to roof-covering elements [E04B1/68](#))
- E04D3/40 . 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 ([N: [E04D13/15](#) and [E04D13/16C4](#) take precedence; ridge sealing [E04D1/36](#); solar collectors [F24J2/00](#); photovoltaic devices [H01L31/00](#)) [C9901]
- E04D3/40A . . [N: Wall copings]

E04D5/00 Roof covering by making use of flexible material, e.g. supplied in roll form (using stiff sheets [E04D3/00](#); gravelling of flat roofs [E04D7/00](#); [N: granulated roof covering [E04D7/00B](#)]; built-up roofs [E04D11/02](#)) [C9701]

Note

Group [E04D5/12](#) takes precedence over groups [E04D5/02](#) to [E04D5/10](#)

- E04D5/02 . of materials impregnated with sealing substances, e.g. roofing felt

- E04D5/04 . by making use of metal foils
- E04D5/06 . by making use of plastics
- E04D5/08 . by making use of other materials
- E04D5/10 . by making use of compounded or laminated materials, e.g. metal foils or plastic films coated with bitumen
- E04D5/12 . specially modified, e.g. perforated, with granulated surface, with attached pads
- E04D5/14 . Fastening means therefor
- E04D5/14L . . [N: characterised by the location of the fastening means] [N0311]
- E04D5/14L1 . . . [N: along the edge of the flexible material] [N0311]
- E04D5/14L2 . . . [N: in the field of the flexible material] [N0311]
- E04D5/14M . . [N: Mechanical fastening means] [N0311]
- E04D5/14M1 . . . [N: Discrete fastening means, e.g. discs or clips] [N0311]
- E04D5/14M2 . . . [N: Linear fastening means, e.g. strips] [N1204]
- E04D5/14M3 . . . [N: not perforating the flexible material] [N0311]
- E04D5/14W . . [N: fastening by gluing] [N0311]
- E04D5/14X . . [N: fastening by welding] [N0311]

- E04D7/00** **Roof covering [N: exclusively consisting of] sealing masses applied in situ; Gravelling of flat roofs**

- E04D7/00B . [N: characterised by loose or embedded gravel or granules as an outer protection of the roof covering] [N9701]

- E04D9/00** **Roof covering by using straw, thatch, or like materials (impregnation against incendiary damage [B27K](#))**

- E04D11/00** **Roof covering, as far as not restricted to features covered by only one of groups [E04D1/00](#) to [E04D9/00](#); Roof covering in ways not provided for by groups [E04D1/00](#) to [E04D9/00](#), [N: e.g. built-up roofs, elevated load-supporting roof coverings] [C0501]**

- E04D11/00B . [N: consisting of two or more layers, at least one of the layers permitting turving of the roof]

- E04D11/00D . [N: Supports for elevated load-supporting roof coverings] [C0501] [M1207]
- E04D11/00D1 . . [N: Height-adjustable spacers] [N1204]

- E04D11/02 . Build-up roofs, i.e. consisting of two or more layers bonded together in situ, at least one of the layers being of watertight composition ([gravelling of flat roofs \[E04D7/00\]\(#\); venting or ventilation \[E04D13/17\]\(#\)](#)) [C0103]

- E04D12/00** **Non-structural supports for roofing materials, e.g. battens, boards ([E04D11/02](#) [N: and [E04D13/16](#)] take precedence; [N: self-supporting slabs with non-structural supports for roofing materials [E04B7/20B](#)]) [C9611]**

- E04D12/00B . [N: Sheets of flexible material, e.g. roofing tile underlay] [N9611]
- E04D12/00C . [N: Battens] [N9611]
- E04D12/00C1 . . [N: Batten-supporting means] [N9611]
- E04D12/00C1A . . . [N: Ridge-batten brackets] [N9611]

- E04D13/00** **Special arrangements or devices in connection with roof coverings; [N: Protection against birds]; Roof drainage; [N: Sky-lights] (ventilation tiles [E04D1/30](#); ventilation slabs [E04D3/40](#); internal channels [E04F17/00](#); elements therefor, see the relevant groups)**

- E04D13/00A . [N: Provisions for preventing vegetational growth, e.g. fungi, algae or moss][N0410]
- E04D13/00B . [N: Protection against birds, mice or the like (scaring devices for birds in general [A01M29/00](#))] [N0410]
- E04D13/00D . [N: Provisions for detecting water leakage] [N1204]
- E04D13/00N . [N: Provisions for reducing rain noise] [N1204]
- E04D13/02 . Roof-covering aspects of dormer windows ([E04D13/14](#) takes precedence; structures therefor [E04B7/18](#))
- E04D13/03 . Sky-lights; Domes; Ventilating sky-lights ([E04D13/14](#) takes precedence; structures therefor, [N: e.g. dormer windows] [E04B7/18](#); [N: saw-tooth roofs with light-transmission [E04B7/12](#)])
 - E04D13/03A . . [N: Supports or connecting means for sky-lights of flat or domed shape]
 - E04D13/03A2 . . . [N: characterised by a frame for connection to an inclined roof]
 - E04D13/03A4 . . . [N: characterised by a curb frame]
 - E04D13/03B . . [N: Supports or connecting means for sky-lights of vaulted shape]
 - E04D13/03D . . [N: provided with ventilating means (roof ventilation [F24F7/02](#))]
 - E04D13/03E . . [N: provided with means for controlling the light-transmission or the heat-reflection, (e.g. shields, reflectors, cleaning devices)]
 - E04D13/03G . . [N: Skylight guards, security devices protecting skylights or preventing objects or persons from falling through skylight openings] [N9611]
 - E04D13/035 . . characterised by having movable parts [N: (preventing the spread of fire [A62C3/00](#); roof structures with movable roof parts [E04B7/16](#); operating mechanisms for sky-lights [E05F11/00](#); automatically acting closers [E05F17/00](#))] [C9505] [M1207]
 - E04D13/035A . . . [N: the parts pivoting about a fixed axis] [N9505]
 - E04D13/035A1 [N: the parts being of domed or pyramidal shape] [N9505]
 - E04D13/035A2 [N: the parts being flat] [N9505]
 - E04D13/035A3 [N: The parts being of vaulted shape] [N9505] [M1207]
 - E04D13/035B . . . [N: the parts pivoting about an axis supported on a hinged frame or arms] [N9505]
 - E04D13/035C . . . [N: 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] [N9505]
- E04D13/04 . Roof drainage; Drainage fittings in flat roofs, [N: balconies or the like] (gutter tiles [E04D1/30](#); gutter slabs [E04D3/40](#); [N: vessels for collecting rainwater [E03B3/03](#)];

- street gullies [E03F5/04](#)) [C0103]
- E04D13/04B . . [N: Drainage on the roof surface] [N0103]
- E04D13/04B20 . . . [N: Drainage outlets, e.g. gullies] [N0103]
- E04D13/04B20H [N: with horizontal evacuation over the border of the roof] [N0103]
- E04D13/04B30 . . . [N: Drainage channels] [N0103]
- E04D13/04B40 . . . [N: Drainage borders, e.g. dripping edges, gravel stops or dispersers][N0103]
- E04D13/04B50 . . . [N: Underroof drainage layers (layers permitting turving of the roof [E04D11/00B](#))] [N0103]
- E04D13/04B60 . . . [N: Drainage guiding provisions, e.g. deflectors or stimulation by inclined surfaces] [N0103]
- E04D13/064 . . Gutters [N: drainage channels on the roof surface [E04D13/04B3](#); gutters for greenhouses [A01G9/14G](#)] [N0103]
- E04D13/064A . . . [N: Gutter ends] [N0603]
- E04D13/064B . . . [N: Gutter corners] [N0603]
- E04D13/064C . . . [N: Connections between gutter and down pipe] [N0603]
- E04D13/064D . . . [N: made of concrete or stone-like material] [N1204]
- E04D13/064E . . . [N: comprising provisions for heat insulation, e.g. an insulation layer] [N1204]
- E04D13/068 . . . Means for fastening gutter parts together [N0103]
- E04D13/068B [N: in combination with hanging means] [N0103]
- E04D13/072 . . . Hanging means (in combination with means for fastening gutter parts together [N: [E04D13/068B](#)]) [N0103]
- E04D13/072B [N: extending mainly under the gutter] [N0704]
- E04D13/072D [N: situated above or inside the gutter] [N0704]
- E04D13/072F [N: situated mainly at the rear side of the gutter] [N0704]
- E04D13/076 . . Devices or arrangements for removing snow, ice or debris from gutters or for preventing accumulation thereof [N0103]
- E04D13/076A . . . [N: De-icing devices or snow melters] [N1204]
- E04D13/076B . . . [N: Cleaning tools] [N0103]
- E04D13/076C . . . [N: Strainers at connection between gutter and down pipe] [N0603]
- E04D13/08 . . Down pipes; Special clamping means therefor (clamping pipes in general [F16B](#), [F16L](#))
- E04D13/10 . . Snow traps; [N: Removing snow from roofs; Snow melters] [C0410]
- E04D13/10A . . [N: De-icing devices or snow melters (for drainage outlets [E04D13/04B20](#), for gutters [E04D13/076A](#), for down pipes [E04D13/08](#))] [N0410] [M1207]
- E04D13/10B . . [N: Snow removing devices (for gutters [E04D13/076](#))] [N1204]
- E04D13/12 . . Devices or arrangements allowing walking on the roof or in the gutter
- E04D13/14 . . Junctions of roof sheathings to chimneys or other parts extending above the roof
- E04D13/14A . . . [N: for flat roofs]
- E04D13/14A2 . . . [N: Junctions to walls extending above the perimeter of the roof (trimming strips, edge strips or fascias retaining the roof sheathing [E04D13/155](#))] [C0103]
- E04D13/143 . . with ventilating means [N: in junctions of roof sheathings to parts extending above the roof] [N0103]

- E04D13/147 . . specially adapted for inclined roofs [N: trays for cavity walls [E04B1/70](#)] [N0103]
- E04D13/147A . . . [N: using a hinge mechanism for adaptation to the inclined roof] [N0103]
[C0705]
- E04D13/147D . . . [N: specially adapted to the cross-section of the parts extending above the roof]
[N0704]
- E04D13/147D1 [N: wherein the parts extending above the roof have a generally rectangular
cross-section] [N0704]
- E04D13/147D2 [N: wherein the parts extending above the roof have a generally circular
cross-section] [N0704]
- E04D13/147F . . . [N: Junctions to walls extending above the roof] [N0704]

- E04D13/15 . Trimming strips; Edge strips; Fascias; [N: Expansion joints for roofs (wall copings
[E04D3/40A](#); drainage borders [E04D13/04B40](#); joints in general [E04B1/68](#))] [C0103]
- E04D13/15D . . [N: Expansion joints for roofs]
- E04D13/152 . . with ventilating means [N: in soffits or fascias; (on the eaves of the roof
[E04D13/17D](#))] [N0103]
- E04D13/155 . . retaining the roof sheathing [N0103]
- E04D13/158 . . covering the overhang at the eave side, e.g. soffits, or the verge of saddle roofs
[N0103]
- E04D13/158C . . . [N: covering the verge of saddle roofs (gable tiles [E04D1/30](#))] [N0103]

- E04D13/16 . Insulating devices or arrangements in so far as the roof covering is concerned, [N: e.g.
characterised by the material or composition of the roof insulating material or its
integration in the roof structure] [C0103]
- E04D13/16A . . [N: Insulation of the roof covering characterised by its integration in the roof
structure (self-supporting insulating slabs [E04B7/20A](#), [E04B7/20B2](#))] [N1204]
- E04D13/16A1 . . . [N: the roof structure comprising a supporting framework of roof purlins or
rafters] [N1204]
- E04D13/16A1B [N: with means for fixing the insulating material between the roof covering
and the upper surface of the roof purlins or rafters] [N9611]
- E04D13/16A1C [N: with means for supporting the insulating material between the purlins or
rafters (insulating layers disposed between two longitudinal supporting
elements [E04B1/76E](#))] [N9611]
- E04D13/16A1C1 [N: the means deriving from the nature or the shape of the insulating
material itself] [N9611]
- E04D13/16A1D [N: 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] [N9611]
- E04D13/16A2 . . . [N: the roof structure being formed by load bearing corrugated sheets, e.g.
profiled sheet metal roofs] [N1204]
- E04D13/16A2B [N: Double skin roofs] [N9611]
- E04D13/16A2C [N: Closure strips or elements filling the spaces between the corrugated
sheets and a supporting wall] [N1204]
- E04D13/16A3 . . . [N: Inverted roofs or exteriorly insulated roofs] [N1204]
- E04D13/16A4 . . . [N: the insulating material being masses or granules applied in situ] [N9611]
- E04D13/16A4B [N: on saddle-roofs or inclined roof surfaces] [N9611]
- E04D13/16A5 . . . [N: Insulating of pre-existing roofs with or without ventilating arrangements]
[N1204]
- E04D13/16B . . [N: the insulating material having provisions for roof drainage] [N9611]

- E04D13/16B1 . . . [N: the upper surface of the insulating material forming an inclined surface] [N9611]
- E04D13/17 . Ventilation of roof coverings not otherwise provided for ([ventilation of rooms or spaces F24F](#)) [N0103]
- E04D13/17A . . [N: Roof insulating material with provisions for or being arranged for permitting ventilation of the roof covering] [N1204]
- E04D13/17C . . [N: on the ridge of the roof] [N0103]
- E04D13/17C1 . . . [N: formed by flexible material suitable to be rolled up] [N0704]
- E04D13/17D . . [N: on the eaves of the roof] [N0103]

- E04D15/00 Apparatus or tools for roof working**
- E04D15/00A . [N: for removing roof material ([for floor coverings E04G23/00D](#))] [N0505]
- E04D15/00C . [N: for cleaning the roof ([for cleaning gutters E04D13/076B](#); [for removing snow from roofs E04D13/10B](#))] [N1206]
- E04D15/02 . for roof coverings comprising tiles, shingles, or like roofing elements [N: ([E04D15/00A takes precedence](#))] [C0505]
- E04D15/02T . . [N: Templates, gauges or spacers for installing roof tiles or roof laths ([templates for rafters E04G21/18D](#))] [N1206]
- E04D15/04 . for roof coverings comprising slabs, sheets or flexible material
- E04D15/06 . for handling roofing or sealing material in roll form
- E04D15/07 . for handling roofing or sealing material in bulk form