CPC - COOPERATIVE PATENT CLASSIFICATION

E FIXED CONSTRUCTIONS

BUILDING

E04 BUILDING

E04B GENERAL BUILDING CONSTRUCTIONS; WALLS, e.g. PARTITIONS; ROOFS; FLOORS; CEILINGS; INSULATION OR OTHER PROTECTION OF BUILDINGS (border constructions of opening in walls, floors or ceilings E06B 1/00; {electromagnetic shielding H05K 9/0001})

NOTE

In this subclass, the following term is used with the meaning indicated:
• “ceiling” includes all the finishing material concealing the underside of the load-carrying ceiling structure or roof structure.

WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   - E04B 1/682 covered by E04B 1/68
   - E04B 1/684 covered by E04B 1/68
   - E04B 1/686 covered by E04B 1/68

2. 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.
Structures comprising elongated load-supporting parts, e.g. columns, girders, skeletons (E04B 1/32 - E04B 1/36) take precedence; elongated load-supporting parts as elements, trusses, truss-like structures (E04C 3/00)

Connections not covered by E04B 1/21 and E04B 1/2403, e.g. connections between structural parts of different material

Three-dimensional framework structures (E04B 2/10)

Connecting nodes specially adapted therefor

with central spherical, semispherical or polyhedral connecting element

with central cylindrical connecting element

with central cubical connecting element

NOTE

Subgroup E04B 1/19 takes precedence over subgroups E04B 1/20 - E04B 1/30

with strut engaging means at the edges of the cube

with connecting nodes having flat radial connecting surfaces

with connecting nodes having radial connecting stubs

Struts specially adapted therefor

of essentially circular cross section

with flattened connecting parts, e.g. ends

of polygonal, e.g. square, cross section

Winged profiles, e.g. with a L-, T-, U- or X-shaped cross section

Inflatable struts

Struts adjustable in length

Wooden struts

Concrete struts

uninterrupted struts situated in the outer planes of the framework

uninterrupted struts connecting alternately with the outer planes of the framework, e.g. zig-zagging struts

Details of connections between nodes and struts

Screw connections with axis parallel to the main axis of the strut

Screw connections with axis at an angle, e.g. perpendicular, to the main axis of the strut

Formlocking connections other than screw connections

Ball and socket type connection

Welded or glued connection

Frameworks where the struts are directly connected to each other, i.e. without interposed connecting nodes or plates

Frameworks assembled from preformed subframes, e.g. pyramids

characterised by the grid type of the outer planes of the framework

rectangular, e.g. square, grid
1/2608 . . . . {Connectors made from folded sheet metal (E04B 1/2612 takes precedence;}

1/2612 . . . . {Joist hangers}

2001/2616 . . . . {Hinged connections of wooden members}

2001/262 . . . . {Connection node with interlocking of specially shaped wooden members, e.g. puzzle type connection}

2001/2624 . . . . {with dovetail-type connections}

2001/2628 . . . . {Interlocking connectors, e.g. with hooks or dovetails, added to the elongated wooden members}

2001/2632 . . . . {with dovetail-type connections}

2001/2636 . . . . {with connectors located in slots of the wooden members}

2001/264 . . . . {Glued connections}

2001/2644 . . . . {Brackets, gussets or joining plates (E04B 2001/2628 takes precedence;}

2001/2648 . . . . {located in slots of the elongated wooden members}

2001/2652 . . . . {Details of nailing, screwing, or bolting}

2001/2656 . . . . {Bent or curved bolts}

2001/266 . . . . {Socket type connectors}

2001/2664 . . . . {using a removable key}

2001/2668 . . . . {for members with a round cross-section}

2001/2672 . . . . {for members formed from a number of parallel sections}

2001/2676 . . . . {Connector nodes (E04B 2001/2628 takes precedence;}

2001/268 . . . . {Connection to foundations}

2001/2684 . . . . {with metal connectors}

2001/2688 . . . . {self adjusting, e.g. for compensation of shrinkage}

2001/2692 . . . . {End to end connections of elongated members along their common longitudinal axis}

2001/2696 . . . . {Shear bracing}

1/28 . . . . the supporting parts consisting of other material

1/30 . . . . the supporting parts being composed of two or more materials; Composite steel and concrete constructions (of reinforced concrete E04B 1/20;}

1/32 . . . . Arched structures; Vaulted structures; Folded structures ((E04B 1/34378 takes precedence; vaulted roofs E04B 7/08;}

1/3205 . . . . {Structures with a longitudinal horizontal axis, e.g. cylindrical or prismatic structures}

1/3211 . . . . {Structures with a vertical rotation axis or the like, e.g. semi-spherical structures}

2001/3217 . . . . {Auxiliary supporting devices used during erection of the arched structures)

2001/3223 . . . . {Theoretical polygonal geometry therefor}

2001/3229 . . . . {constructed using a boom}

2001/3235 . . . . {having a grid frame}

2001/3241 . . . . {Frame connection details)

2001/3247 . . . . {Nodes}

2001/3252 . . . . {Covering details}

2001/3258 . . . . {comprised entirely of a single self-supporting panel}

2001/3264 . . . . {hardened in situ}

2001/327 . . . . {comprised of a number of panels or blocs connected together forming a self-supporting structure}

2001/3276 . . . . {Panel connection details)

2001/3282 . . . . {Panels connected together exclusively at their corners)

2001/3288 . . . . {Panel frame details, e.g. flanges of steel sheet panels}

2001/3294 . . . . {with a faceted surface)

1/34 . . . . Extraordinary structures, e.g. with suspended or cantilever parts supported by masts or tower-like structures enclosing elevators or stairs; Features relating to the elastic stability (E04B 1/342, E04B 1/343, E04B 1/348 take precedence; for floors E04B 5/43; buildings for special purposes, e.g. withstanding earthquake, E04H}

1/3404 . . . . {supported by masts or tower-like structures}

1/3408 . . . . {Extraordinarily-supported small buildings}

1/3412 . . . . {mainly supported by a central column or footing (E04B 1/3416 takes precedence;}

1/3416 . . . . {Structures comprising mainly a central support column and a cantilevered roof)

1/342 . . . . Structures covering a large free area, whether open-sided or not, e.g. hangars, halls (roof trusses E04C 3/00; non-structural features for specified purposes, see the relevant groups of E04H;}

1/343 . . . . Structures characterised by movable, separable, or collapsible parts, e.g. for transport (movable roof parts E04B 7/16; floatable buildings B63B; small prefabricated buildings, transportable as a whole E04H 1/12; small garages E04H 602; tents or canopies, in general E04H 15/00 (; containers B65G;}

1/34305 . . . . {telescopic}

1/3431 . . . . {with only one level of nesting}

1/34315 . . . . {characterised by separable parts}

1/34321 . . . . {mainly constituted by panels}

1/34326 . . . . {mainly constituted by longitudinal elements}

1/34331 . . . . {mainly constituted by three-dimensional elements}

1/34336 . . . . {Structures movable as a whole}

1/34342 . . . . {Skirtings therefor}

1/34347 . . . . {Anchoring means therefor}

1/34352 . . . . {Base structures or supporting means therefor}

1/34357 . . . . {Foldable or retractable structures}

1/34363 . . . . {with provisions to raise or lower the whole structure}

1/34368 . . . . {Wheeled arch-type structures}

1/34373 . . . . {collapsible}

1/34378 . . . . {Structures deriving their rigidity from concertina folds}

1/34384 . . . . {Assembling details for foldable, separable, collapsible or retractable structures}

2001/34389 . . . . {Set of building elements forming a self-contained package for transport before assembly}

2001/34394 . . . . {Vertical telescopic structures}

1/344 . . . . with hinged parts

1/3441 . . . . {with articulated bar-shaped elements}

1/3442 . . . . {folding out from a core cell}

1/3444 . . . . {with only lateral unfolding}

1/3445 . . . . {foldable in a flat stack of parallel panels}

1/3447 . . . . {Portal- or saddle-shaped structures}

1/3448 . . . . {with rotating shell-forming segments}

1/346 . . . . Rotary buildings; Buildings with rotary units, e.g. rooms

1/3465 . . . . {with adapted utilities connections, e.g. for water or electricity}
1/348 . Structures composed of units comprising at least considerable parts of two sides of a room, e.g. box-like or cell-like units closed or in skeleton form

1/34807 . . . (Elements integrated in a skeleton)
1/34815 . . . (Elements not integrated in a skeleton)
1/34823 . . . (the supporting structure consisting of concrete)
1/3483 . . . (the supporting structure consisting of metal)
1/34838 . . . (the supporting structure consisting of wood)
1/34846 . . . (the supporting structure consisting of other specified material, e.g. of plastics)
1/34853 . . . (the supporting structure being composed of two or more materials)
1/34861 . . . (particular arrangement of habitable rooms or their component parts; modular co-ordination)
1/34869 . . . (Elements for special technical purposes, e.g. with a sanitary equipment (combination of baths, douches, sinks, wash-basins, closets or urinals A47K 4/00; plumbing installations for baths, douches, or the like, E03C 1/01; panels serving for locating conduits E04C 2/521; ducts for receiving installation lines E04F 17/08))

2001/34876 . . . (with a sloping or barrel roof)
2001/34884 . . . (creating a living space between several units)
2001/34892 . . . (Means allowing access to the units, e.g. stairs or cantilevered gangways)

1/35 . Extraordinary methods of construction, e.g. lift-slab, jack-block (E04B 1/34 takes precedence; falsework, shuttering for shaping walls, floors, ceilings or roofs in situ E04G 11/04; conveying or assembling of building materials E04G 21/00; working measures on existing buildings E04G 23/00)
1/3511 . . . (Lift-slab; characterised by a purely vertical lifting of floors or roofs or parts thereof)
1/3516 . . . (characterised by erecting a vertical structure and then adding the floors from top to bottom)
1/3522 . . . (characterised by raising a structure and then adding structural elements under it (E04B 1/3511, E04B 1/3516, E04B 1/3533 take precedence))
1/3527 . . . (the structure being a roof)
1/3533 . . . (characterised by the raising of hingedly-connected building elements, e.g. arches, portal frames (E04B 1/355 takes precedence))
1/3538 . . . (the elements being a floor slab with hingedly-connected wall panels)
1/3544 . . . (characterised by the use of a central column to lift and temporarily or permanently support structural elements (E04B 1/3516 and E04B 1/355 take precedence))
1/355 . . . (characterised by the tilting up of whole buildings or sections thereof, e.g. walls, portal frames)
1/3555 . . . (Constructions using straw bales)
2001/3561 . . . (adding living space above existing structures)
2001/3566 . . . (mounting masonry against a forwork)
2001/3572 . . . (using templates or jigs to set out buildings or parts thereof)
2001/3577 . . . (prefabricating a building and moving it as a whole to the erection site)

2001/3583 . . . (using permanent tensioning means, e.g. cables or rods, to assemble or rigidify structures (not pre- or poststressig concrete, e.g. by tying them around the structure)
2001/3588 . . . (using special lifting or handling devices, e.g. gantries, overhead conveying rails)
2001/3594 . . . (inflatable lifting or handling devices)
1/36 . . . (Bearings or like supports allowing movement (for bridges E01D 19/04; buildings with-standing earthquakes E04H 9/02))
1/38 . . . (Connections for building structures in general)

NOTE
Connections specially adapted for particular building parts or for particular building structures are classified in the groups for those parts or structures, e.g. in groups E04B 1/21, E04B 2/00, E04B 5/00, E04B 7/00 or E04B 9/00. Joints not specially adapted for building construction, or of more general application, are classified in the appropriate subclasses, e.g. F16B.

1/383 . . . (Connection of concrete parts using adhesive materials, e.g. mortar or glue)
2001/386 . . . (Nailable or screwable inserts for foam panels)
1/40 . . . (Separate connecting elements (for forms, falsework, or shutterings E04G 17/00; releasable clips or clamps, hooks, wedges, wall-dowels, nails, bolts, rivets, screws, wood-screws F16B))
2001/405 . . . (Brackets)
1/41 . . . (Connecting devices specially adapted for embedding in concrete (Joist hangers E04B 1/2612; shear dowels E04B 1/483; spacers [other than masonry wall ties] for cavity walls E04B 2/30; E04B 2/44; connectors for reinforcing elements E04C 5/16; supporting devices for connector reinforcing rods for concrete walls E04G 21/125; fastening frames to the border of openings E06B 1/56)
1/4107 . . . (Longitudinal elements having an open profile, with the opening parallel to the concrete or masonry surface, i.e. anchoring rails)
1/4114 . . . (Elements with sockets (E04B 1/4107 takes precedence))
1/4121 . . . (with internal threads or non-adjustable captive nuts)
1/4128 . . . (receiving adjustable or removal nuts)
1/4135 . . . (receiving removal bolt heads (E04B 1/415 takes precedence))
1/4142 . . . (with transverse hook- or loop-receiving parts (E04B 1/415 takes precedence))
1/415 . . . (with captive and extendable anchoring parts, e.g. spring-loaded bolts, hanging rings)
1/4157 . . . (Longitudinally-externally threaded elements extending from the concrete or masonry, e.g. anchoring bolt with embedded head)
1/4164 . . . (with an adjustment sleeve)
1/4171 . . . (Nailable or non-threaded screwable elements (dowels F16B 13/00))
1/4178 . . . (Masonry wall ties (with insulation-layer locating devices E04B 1/7616; replacing or adding wall ties E04G 23/0222))
Connections E04B 1/21, E04B 1/2403, E04B 1/2604

- Dowels, i.e. members adapted to penetrate the surfaces of two parts and to take the shear stresses
- Dowels to be embedded in concrete
- Dowels for wood (E04B 1/49 takes precedence)
- with self-penetrating parts, e.g. claw dowels (nailed plates F16B 15/0023)
- Joints substantially without separate connecting elements, e.g. jointing by inter-engagement (welded, glued, or the like joints, in general F16B)
- of bar-shaped building elements ([framework connections E04B 1/21, E04B 1/2403, E04B 1/2604])

- [with a cross-section having an open profile]
- [of substantially I - or H - form]
- [of substantially U - form]
- [with a closed cross-section]
- [of substantially rectangular form]
- [of substantially circular form]
- [with ends provided with protuberances]
- [with separate connection devices]

- [using the insides thereof]
- [Angularly adjustable connections without hinge pin]
- [Hinged connections]
- [using exterior clamping plates or shells]
- [using an undercut groove, e.g. dovetail groove]
- [using connectors with sockets]
- [Puzzle type connections]

- of slab-shaped building elements with each other
- the overlapping ends of the slabs connected together
- the frontal surfaces of the slabs connected together
- by clamping, e.g. friction, means on lateral surfaces
- by locking means on lateral surfaces
- by means between frontal surfaces
- with protrusions on the one frontal surface co-operating with recesses in the other frontal surface
- [the connection made by expansion]
- [the connection made by friction-grip]
- [the connection made by formlocking]
- [the connection made by an additional locking key]
- [with recesses in both frontal surfaces co-operating with an additional connecting element]
- [the connection made by expansion]
- [the connection made by friction-grip]
- [the connection made by formlocking]
- [the connection made by an additional locking key]
- [with protrusions on both frontal surfaces]

- with one protrusion on each frontal surface
- with two or more protrusions on each frontal surface
- with protrusions and recesses on each frontal surface
- with rotatable locking means co-operating with a recess (similar devices for sliding doors E05B 65/0817)
- [by means on top and/or bottom surfaces of the slabs]

- [by means on the corners of the slabs]
- [the slabs being connected at an angle, e.g. forming a corner]

- Insulation or other protection; Elements or use of specified material therefor (chemical compositions C01 - C11; implements for applying insulation or sealings E04F 21/00; buildings to withstand or to provide protection against external undesired influences E04H 9/00; sealing pipes in walls or partitions F16L 5/02; shielding against dangerous radiation G21E; constructions of particular parts of buildings, see the relevant groups for those parts)

- Sheets or foils allowing passage of water vapor but impervious to liquid water; house wraps
- for making damp-proof; Protection against corrosion (sealings E04B 1/66)

**NOTE**

Group E04B 1/64 is not used for classification. Documents are classified in subgroups only or in groups E04B 1/66, E04B 1/70

- {Protecting metallic construction elements against corrosion (for concrete reinforcing elements made of steel E04C 5A01; anodic or cathodic protection C23F 13/00)}
- [Damp-proof courses (in combination with lintels E04C 3/02)]
- {obtained by removal and replacement of a horizontal layer of an existing wall}
- {obtained by injection or infiltration of water-proofing agents into an existing wall}
- Sealings (damp-proof courses E04B 1/644; fire-proof sealings E04B 1/948; additions of anti-leak properties to plaster C04B; bituminous sealing masses C08L 95/00; sealings for hydraulic engineering work in general E02B 3/16; against ground humidity or ground water E02D 31/02; coverings against rain or other precipitations of the atmosphere E04D; composition of material or manufacture of sealing foils, see the relevant classes for these foils)
- {Sheets or foils impervious to water and water vapor}
Heat, sound or noise insulation, absorption, or reflection (forms of, or arrangements in, rooms for influencing or directing sound E04B 1/99). Other building methods affording favourable thermal or acoustical conditions, e.g. accumulating of heat within walls (fire protection E04B 1/94; elements chiefly adapted for structural purposes E04C 1/00 - E04C 3/00; chiefly adapted for surface coverings E04F 13/00; as underlayers for floor coverings E04F 15/18; closures for wall or like openings E06B 1/76).

2001/7411  Insulation elements with markings, e.g. identification or cutting template

2001/7422  Use of special materials; Materials having special structures or shape

2001/7433  Animal products, e.g. wool, feathers

2001/7454  Vegetal products, e.g. plant stems, barks

2001/7465  Recycled materials, e.g. made of used tires, bumpers or newspapers

2001/7476  Corrugated materials

2001/7487  Honeycomb materials

1/76  Specifically with respect to heat only (heat insulation in general F16L 59/00)

1/7604  Fillings for cavity walls

1/7608  Comprising a prefabricated insulating layer, disposed between two other layers or panels

1/7612  In combination with an air space

1/7616  With insulation-layer locating devices combined with wall ties

1/762  Exterior insulation of exterior walls

1/7625  Details of the adhesive connection of the insulation to the wall

1/7629  Details of the mechanical connection of the insulation to the wall

1/7633  Dowels with enlarged insulation retaining head

1/7637  Anchoring of separate elements through the lining to the wall

1/7641  Elements for window or door openings, or for corners of the building

1/7645  With ventilation means for the insulation

1/765  Bottom edge finishing profile

1/7654  Comprising an insulating layer, disposed between two longitudinal supporting elements, e.g. to insulate ceilings

1/7658  Comprising fiber insulation, e.g. as panels or loose filled fibres

1/766  Comprising fiber blankets or batts

1/7666  Connection of blankets or batts to the longitudinal supporting elements

1/767  Blankets or batts with connecting flanges

1/7675  Insulating linings for the interior face of exterior walls

2001/7679  Means preventing cold bridging at the junction of an exterior wall with an interior wall or a floor

2001/7683  Fibrous blankets or panels characterised by the orientation of the fibres

2001/7687  Crumle resistant fibrous blankets or panels using adhesives or meltable fibres

2001/7691  Heat reflecting layers or coatings

2001/7695  Panels with adjustable width
Sound-absorbing elements, e.g. baffles, for conveying sound only; (E04B 1/8218, E04B 1/8222 take precedence)

Soundproof enclosures

Screens (E04B 2/274 takes precedence; for road or railway traffic E01F); Arrangements of sound-absorbing elements, e.g. baffles

Stage shells

Machines for manufacturing, shaping, piercing or filling sound insulating elements

Soundproof supporting of building elements, e.g. stairs, floor slabs or beams, on a structure

Mounting of acoustical elements on supporting structure, e.g. framework or wall surface

Resiliently mounted wall cladding acting as a diaphragmatic sound damper

Flat elements mounted parallel to a supporting surface with an acoustically active air gap between the elements and the mounting surface

Flat elements mounted at an angle, e.g. right angle, to the supporting surface

Sound-absorbing elements

Block-shaped

Sheet-shaped

Acoustical cones or the like, e.g. for anechoic chambers

Tray or frame type panels or blocks, with or without acoustical filling

Containing specially shaped acoustical bodies, e.g. funnels, egg-crates, fanfolds

With holes in their face

Slot shaped holes

Tray type elements

With two facing trays

With peripheral frame members

Solid slabs or blocks

Layered

With an intermediate layer formed of lines or dots of elastic material

With non-planar interior transition surfaces between layers, e.g. faceted, corrugated

With acoustical cavities, with or without acoustical filling

The cavities opening onto the face of the element

The opening being restricted, e.g. forming Helmholtz resonators

Groove or slot type openings

The openings going through from one face to the other face of the element

Slab-shaped

Insulating elements for both heat and sound

Slab-shaped

Protection against other undesired influences or dangers (buildings providing protection against external dangers E04H 9/00; shielding against dangerous radiation G21F)

Protection against harmful electro-magnetic or radio-active radiations, e.g. X-rays

Against fire (fire protection of partitions E04B 2/7403, E04B 2/7409; supporting constructions for ceilings having the capability of expansion in case of fire E04B 9/08; fire-fighting A62C; e.g. fire prevention or containment A62C 2/00; impregnation of wood or similar materials B27K; fireproof paints C09D 5/18; fireproofing materials C09K 21/00; flame-resistant papers D21H 5/0002; coverings or linings, e.g. for walls or ceilings, in general E04F 13/00; fireproof doors E06B 5/16; firebreak devices for pipes or the like passing through walls F16L 5/04; protection of pipes by means of non-inflammable material F16L 57/04)

Building elements specially adapted therefor

Slab-shaped

Elongated

Covered with fire-proofing material

Load-supporting structures specially adapted therefor

Protection against smoke or toxic gases

By closing openings in walls or the like in the case of fire (fire-proof doors E06B 5/16)

Fire-proof sealings or joints (for doors or windows E06B 5/1641)

Construction elements filled with liquid, e.g. water, either permanently or only in case of fire

Against vibrations or shocks (on foundations E02D 31/08); against mechanical destruction, e.g. by air-raids (against incendiary damage only E04B 1/94; finishing work therefor E04F; buildings withstandiing earthquake or the like, shelters, arrangements of splintercatching walls E04H 9/00)

Involving active or passive dynamic mass damping systems

Room acoustics, i.e. forms of, or arrangements in, rooms for influencing or directing sound (E04B 1/82 takes precedence; acoustics in general G10K 11/00; electric signal processing for producing a reverberation or echo sound G10K 15/08)

Acoustical surfaces with adjustment mechanisms
2/00  Walls, e.g. partitions, for buildings; Wall construction with regard to insulation;
Connections specially adapted to walls (connections for building structures in general E04B 1/38; insulation for buildings in general E04B 1/62; building elements of relatively thin form for parts of buildings E04C 2/00)

2/02 . . . built-up from layers of building elements

2002/0202 . . . [Details of connections]
2002/0204 . . . [Non-undercut connections, e.g. tongue and groove connections]
2002/0206 . . . . . . [of rectangular shape]
2002/0208 . . . . . . [of trapezoidal shape]
2002/021 . . . . . . [of triangular shape]
2002/0213 . . . . . . [of round shape]
2002/0215 . . . . . . [with separate protrusions]
2002/0217 . . . . . . [of prismatic shape]
2002/0219 . . . . . . [of pyramidal shape]
2002/0221 . . . . . . [of conical shape]
2002/0223 . . . . . . [of cylindrical shape]
2002/0226 . . . . . . [with tongues and grooves next to each other on the end surface]
2002/0228 . . . . . . [with tongues next to each other on one end surface and grooves next to each other on opposite end surface]
2002/023 . . . . . . [with rabbets, e.g. stepped]
2002/0232 . . . . . . [Undercut connections, e.g. using undercut tongues and grooves]
2002/0234 . . . . . . [Angular dovetails]
2002/0236 . . . . . . . [tapered, i.e. dovetail narrows in the direction of tongue or groove]
2002/0239 . . . . . . [Round dovetails]
2002/0241 . . . . . . [tapered, i.e. dovetail narrows in the direction of tongue or groove]
2002/0243 . . . . . . [Separate connectors or inserts, e.g. pegs, pins or keys]
2002/0245 . . . . . . [Pegs or pins]
2002/0247 . . . . . . [Strips or bars]
2002/025 . . . . . . [U-shaped, e.g. brackets]
2002/0252 . . . . . . [Dovetail keys]
2002/0254 . . . . . . [Tie rods]
2002/0256 . . . . . . [Special features of building elements]
2002/0258 . . . . . . [Gripping or handling aids]
2002/026 . . . . . . [Splittable building elements]
2002/0263 . . . . . . [Building elements for making angled walls]
2002/0265 . . . . . . [Building elements for making arcuate walls]
2002/0267 . . . . . . [Building elements with the appearance of several bricks]
2002/0269 . . . . . . [Building elements with a natural stone facing]
2002/0271 . . . . . . [Building elements with the appearance of rock layers]
2002/0273 . . . . . . [Adhesive layers other than mortar between building elements]
2002/0276 . . . . . . [Separate layers or strips]
2002/0278 . . . . . . [forming a unity with the building elements]
2002/028 . . . . . . [Spacers between building elements]
2002/0282 . . . . . . [Separate spacers]
2002/0284 . . . . . . [forming a unity with the building elements]
2002/0286 . . . . . . [Building elements with coatings]
2002/0289 . . . . . . [Building elements with holes filled with insulating material]
2002/0291 . . . . . . [loose material]
2002/0293 . . . . . . [solid material]
2/46 . . . . by interlocking of projections or inserts with indentations, e.g. of tongues, grooves, dovetails
2/48 . . . . by filling material with or without reinforcements in small channels in, or in grooves between, the elements
2/50 . . . . using elements having a general shape differing from that of a parallelepiped
2/52 . . . . the walls being characterised by fillings in some of the cavities forming load-bearing pillars or beams
2/54 . . . . the walls being characterised by fillings in all cavities in order to form a wall construction
2/56 . [Load-bearing] walls of framework or pillarwork; Walls incorporating load-bearing elongated members (E04B 2/74, E04B 2/88 take precedence; pillars E04C 3/30)
2/562 . [with fillings between the load-bearing elongated members]
2/005/65 . . . [with a brick veneer facing]
2/002/67 . . . [with posts or pillars made from a plurality of smaller prefabricated elements]
2/58 . . . . with elongated members of metal
2/60 . . . . characterised by special cross-section of the elongated members
2/62 . . . . the members being formed of two or more elements in side-by-side relationship
2/64 . . . . with elongated members of concrete
2/66 . . . . characterised by special cross-section of the elongated members
2/68 . . . . made by filling-up wall cavities (E04B 2/74, E04B 2/88, E04B 2/52 take precedence)2/70 . . . . with elongated members of wood
2/701 . . . [with integrated supporting and obturation function]
2/702 . . . . [with longitudinal horizontal elements (E04B 2/704, E04B 2/705 take precedence)]
2/703 . . . . [with longitudinal vertical elements]
2/704 . . . . [with longitudinal horizontal elements shorter than the length of a wall]
2/705 . . . . [with longitudinal horizontal elements placed between columns]
2/706 . . . . [with supporting function]
2/707 . . . . [obturation by means of panels]
2/708 . . . . [obturation by means of longitudinal elements with a convex external surface]
2/709 . . . . [obturation by means of longitudinal elements with a plane external surface]
2/721 . . . . [connections specially adapted therefor]
2/723 . . . . [constituted of gypsum elements]
2/002/725 . . . . [Corner or angle connection details]
2/002/726 . . . . [Clips for butt-joining plasterboards]
2/002/728 . . . . [Butt-joining plasterboards in the space between two studs]
2/74 . . . . Removable non-load-bearing partitions; Partitions with a free upper edge (framed panels E04C 2/38) {modular coordination}
2/7401 . . . [assembled using panels without a frame or supporting posts, with or without upper or lower edge locating rails]
2/7403 . . . [with special measures for sound or thermal insulation including fire protection]
2/7405 . . . [with free upper edge, e.g. for use as office space dividers]
2/7407 . . . [assembled using frames with infill panels or coverings only; made-up of panels and a support structure incorporating posts (E04B 2/78 and E04B 2/80 take precedence)]
2/7409 . . . [special measures for sound or thermal insulation, including fire protection]
2/7411 . . . . [Details for fire protection]
2/7412 . . . . [Posts or frame members specially adapted for reduced sound or heat transmission]
2/7414 . . . . [Posts or frame members with projections for holding sound or heat insulating fillings]
2/7416 . . . . [with free upper edge, e.g. for use as office space dividers]
2/002/7418 . . . [Accessories supported on the free upper edge, e.g. auxiliary panels, noise abatement devices]
2/002/742 . . . . [Details of panel top cap]
2/7422 . . . . [with separate framed panels without intermediary support posts]
2/7424 . . . . [Glazing details]
2/7425 . . . . [Details of connection of panels (E04B 2/7427 takes precedence)]
2/7427 . . . . [with adjustable angular connection of panels]
2/7429 . . . . [using flexible hinges]
2/7431 . . . . [using hinges having two parallel rotation axes]
2/7433 . . . . [with panels and support posts]
2/7435 . . . . [Glazing details]
2/7437 . . . . [with panels hooked onto posts (E04B 2/7438 takes precedence)]
2/7438 . . . . [with adjustable angular connection of panels to posts]
2/744 . . . . . [using angularly-spaced longitudinal grooves of the posts]
2/7442 . . . . . [hinged connections (E04B 2/7444 takes precedence)]
2/7444 . . . . . [panels hooked onto the rim or in a groove of circular posts]
2/002/7446 . . . . [Post-like profiles for connecting panels at an angle]
2/7448 . . . . [with separate framed panels without intermediary posts, extending from floor to ceiling]
2/745 . . . . . [Glazing details]
2/7451 . . . . . [with false tongue joints]
2/7453 . . . . . [with panels and support posts, extending from floor to ceiling]
2/7455 . . . . . [Glazing details]
2/7457 . . . . . [with wallboards attached to the outer faces of the posts, parallel to the partition (E04B 2/7459 takes precedence)]
2/7459 . . . . . [with telescoping posts to compensate for floor or ceiling irregularities]
2/002/7461 . . . . [Details of connection of sheet panels to frame or posts]
2/002/7462 . . . . . [using resilient connectors, e.g. clips]
E04B

2002/7464 . . . . [clasping a flange of a profile]
2002/7466 . . . . [using hooks]
2002/7468 . . . . [using magnets]
2002/747 . . . . [using hook and loop-type fasteners]
2002/7472 . . . . [using adhesives]
2002/7474 . . . . [using releasable connectors actuable with a key or a tool]
2002/7475 . . . . [Details of connections using screws or nails]
2002/7477 . . . . [Details of connection of flexible sheets to frame or posts]
2002/7481 . . . . [Locating rails with adjustable curvature]
2002/7483 . . . . [Details of furniture, e.g. tables or shelves, associated with the partitions]
2002/7485 . . . . [Load supports therefor placed between wall studs]
2002/7487 . . . . [Partitions with slotted profiles]
2002/7488 . . . . [Details of wiring]
2002/749 . . . . [Partitions with screw-type jacks]
2002/7492 . . . . [used in partitions extending from floor to ceiling]
2002/7494 . . . . [the jacks being located at the top or the side of the partition]
2002/7496 . . . . [using wedges to level or hold the partition in place]
2002/7498 . . . . [Partitions for clean rooms]
2/76 . . . . with framework or posts of metal ([details of connections, thresholds or skirtings E04B 2/82])
2/761 . . . . [L-connections]
2/762 . . . . [Cross connections]
2/763 . . . . [with one continuous profile, the perpendicular one passing continuously through the first one]
2/764 . . . . [with two interrupted profiles]
2/765 . . . . [with one continuous profile, the perpendicular one being interrupted]
2/766 . . . . [T-connections]
2/767 . . . . [Connections between wall studs and upper or lower locating rails]
2/768 . . . . [allowing vertical movement of upper rail with respect to the stud, e.g. by using slots in the rail or stud]
2/78 . . . . characterised by special cross-section of the frame-members [as far as important for securing wall panels to a framework with or without the help of cover-strips (separate connecting means, e.g. clip E04B 2/74; connections between uprights and cross-members E04B 2/76)]
2/7809 . . . . [of single or multiple tubular form]
2/7818 . . . . [of substantially rectangular form]
2/7827 . . . . [with all four sides of the profiles having substantially similar undercut grooves or connecting projections]
2/7836 . . . . [with only two sides of the profiles having substantially similar undercut grooves or connecting projections]
2/7845 . . . . [of curved cross-section, e.g. circular]
2/7854 . . . . [of open profile]
2/7863 . . . . [of substantially I - section with web perpendicular to plane of partition]
2/7872 . . . . [of substantially H - section with flanges perpendicular to plane of partition]
2/7881 . . . . [of substantially S - or Z - section; having a shape or cross-section adapted for gripping or overlapping panels by means of at least partially complementary shaped parallel elements]
2/789 . . . . [of substantially U- or C- section]
2/80 . . . . with framework or posts of wood
2/82 . . . . characterised by the manner in which edges are connected to the building; Means therefor; Special details of easily-removable partitions [as far as related to the connection with other parts of the building]
2/821 . . . . [Connections between two opposed surfaces (i.e. floor and ceiling) by means of a device offering a restraining force acting in the plane of the partition]
2/822 . . . . [Elastic connections, e.g. inflated joints]
2/824 . . . . [restrained elastically at one surface and inelastically at the opposing surface]
2/825 . . . . [the connection between the floor and the ceiling being achieved without any restraining forces acting in the plane of the partition]
2/827 . . . . [Partitions constituted of sliding panels]
2/828 . . . . [Connections between partitions and structural walls]
2/84 . . . . Walls made by casting, pouring, or tamping in situ (E04B 2/02, E04B 2/86 take precedence; forms therefor E04G 11/06; working of concrete or similar masses able to be cast or poured in situ E04G 21/02)
2/842 . . . . [by projecting or otherwise applying hardenable masses to the exterior of a form leaf]
2/845 . . . . [the form leaf comprising a wire netting, lattice or the like]
2/847 . . . . [the form leaf comprising an insulating foam panel]
2/86 . . . . made in permanent forms
2/8605 . . . . [without spacers]
2/8611 . . . . [with spacers being embedded in at least one form leaf]
2/8617 . . . . [with spacers being embedded in both form leaves]
2/8623 . . . . [with spacers and at least one form leaf being monolithic]
2/8629 . . . . [with both form leaves and spacers being monolithic]
2/8635 . . . . [with ties attached to the inner faces of the forms (E04B 2/8611 and E04B 2/8623 take precedence)]
2/8641 . . . . [using dovetail-type connections]
2/8647 . . . . [with ties going through the forms]
2/8652 . . . . [with ties located in the joints of the forms]
2/8658 . . . . [using wire netting, a lattice or the like as form leaves]
2/8664 . . . . [using flexible material as form leaves (E04B 2/8658 takes precedence)]
2002/867 . . . . [Corner details]
2002/8676 . . . . [Wall end details]
2002/8682 . . . . [Mixed technique using permanent and reusable forms]
2002/8688 . . . . [Scaffoldings or removable supports therefor]
2002/8694 . . . . [with hinged spacers allowing the formwork to be collapsed for transport]
2/88 . . . . Curtain walls ([fixing of glass panes E06B 3/54])

CPC - 2019.05
Floors; Floor construction with regard to insulation; Connections specially adapted therefor (elements for floors, e.g. bricks, stones, filling bodies, girders, E04C: flooring as finishing work, insulation of flooring, sectional false floors, e.g. for computers girders, E04C (elements for floors, e.g. bricks, stones, filling bodies, insulation; Connections specially adapted therefor)

5/00 Floors; Floor construction with regard to insulation; Connections specially adapted therefor (elements for floors, e.g. bricks, stones, filling bodies, girders, E04C: flooring as finishing work, insulation of flooring, sectional false floors, e.g. for computers girders, E04C (elements for floors, e.g. bricks, stones, filling bodies, insulation; Connections specially adapted therefor)

5/00 Floors; Floor construction with regard to insulation; Connections specially adapted therefor (elements for floors, e.g. bricks, stones, filling bodies, girders, E04C: flooring as finishing work, insulation of flooring, sectional false floors, e.g. for computers girders, E04C (elements for floors, e.g. bricks, stones, filling bodies, insulation; Connections specially adapted therefor)

5/02 Load-carrying floor structures formed substantially of prefabricated units (E04B 5/43 - E04B 5/48 take precedence)

5/04 with beams or slabs of plastic

5/04 with beams (or slabs) of concrete or other stone-like material, e.g. asbestos cement (E04B 5/08, E04B 5/14 take precedence)

5/06 [with beams] placed against one another [optionally with pointing-mortar]

5/08 assembled of block-shaped elements, e.g. hollow stones (E04B 5/14 takes precedence; floors composed of reinforced brickwork E04B 5/44)

5/10 [with metal beams or girders, e.g. with steel lattice girders (E04B 5/14 takes precedence)]

5/12 [with wooden beams (E04B 5/14 takes precedence) [also means for supporting beams; (shores or struts E04G 25/00)]

5/14 [with beams or girders laid in two directions]

5/16 Load-carrying floor structures wholly or partly cast or similarly formed in situ (E04B 5/43 - E04B 5/48 take precedence; floors merely characterised by the prefabricated elements E04C)

5/17 Floor structures partly formed in situ

2005/173 [with permanent forms for the floor edges]

2005/176 [with peripheral anchors or supports]

5/18 with stiffening ribs or other beam-like formations wholly cast between filling members

5/19 the filling members acting as self-supporting permanent forms (E04B 5/21 takes precedence)

5/21 Cross-ribbed floors

5/23 with stiffening ribs or other beam-like formations wholly or partly prefabricated (with all load-carrying parts substantially consisting of prefabricated units E04B 5/02 [beams built-up by elements joined in line E04C 3/22])

2005/232 [with special provisions for connecting wooden stiffening ribs or other wooden beam-like formations to the concrete slab]

7/00 Roofs; Roof construction with regard to insulation (structures for roofs as well as for floors E04B 5/00; ceilings E04B 9/00; greenhouses A01G 9/14; large containers having floating covers B65D 88/34; roof trusses, truss-like structures, joists E04C 3/02; roof covering E04D)

7/02 with plane sloping surfaces, e.g. saddle roofs ([canopies E04F 10/00;] E04B 7/12 takes precedence)

7/022 (consisting of a plurality of parallel similar trusses or portal frames)
9/005  .  [composed of imitation beams or beam coverings]
9/006  .  [with means for hanging lighting fixtures or other appliances to the framework of the ceiling]
9/008  .  [with means for connecting partition walls or panels to the ceilings]
9/01  .  having means for ventilation or vapour discharge
9/023  .  [comprising drainage gutters for condensed water or grease]
9/026  .  [the supporting ceiling grid acting as air diffusers]
2009/026  .  [ supporting ceiling grid acting as air diffusers]
9/07  .  comprising slabs, [panels,] sheets or the like
9/0407  .  [being stiff and curved]
9/0414  .  [being foldable, curvable or rollable]
9/0421  .  [comprising ducts]
9/0428  .  [having a closed frame around the periphery]
9/0435  .  [having connection means at the edges]
9/0442  .  [having a honeycomb core]
9/045  .  [being laminated]
9/0457  .  [having closed internal cavities]
9/0464  .  [having irregularities on the faces, e.g. holes, grooves]
9/0471  .  [having a trapezoidal cross section]
9/0478  .  [of the tray type]
9/0485  .  [containing a filling element]
2009/0492  .  [with fabrics tensioned on frames]
9/06  .  characterised by constructional features of the supporting construction [, e.g. cross section or material of framework members]
9/061  .  [supporting construction for curved ceilings]
2009/062  .  [Caps covering visible surfaces of the supporting construction]
9/064  .  [comprising extruded supporting beams]
9/065  .  [comprising supporting beams having a folded cross-section]
9/067  .  [with inverted T-shaped cross-section]
9/068  .  .  .  .  [with double web]
9/08  .  [having the capability of expansion [, e.g. in case of fire]
9/10  .  Connections between parallel members of the supporting construction [9/0068 9/008 takes precedence]
9/12  .  Connections between non-parallel members of the supporting construction [9/0068 9/008 takes precedence]
9/122  .  [one member passing through the other member, both members laying at least partly in the same plane]
9/125  .  .  .  .  [both members being continuous members]
9/127  .  .  .  .  [one member being discontinuous and abutting against the other member]
9/14  .  all the members being discontinuous and laying at least partly in the same plane
9/16  .  the members lying in different planes
9/18  .  Means for suspending the supporting construction
9/183  .  [having a lower side adapted to be connected to a channel of the supporting construction]
2009/186  .  [with arrangements for damping vibration]
9/20  .  adjustable
9/205  .  .  .  .  [by means of a resilient clip]
9/22  .  Connection of slabs, [panels,] sheets or the like to the supporting construction
9/225  .  [with the slabs, panels, sheets or the like hanging at a distance below the supporting construction]
with the slabs, sheets or the like positioned on [the upperside of], or held against [the underside of the] horizontal flanges of the supporting construction {or accessory means connected thereto}

[with separate retaining elements]

{comprising sealing means between the supporting construction and the slabs, panels, sheets or the like}

(by means of screws, bolts or clamping strips held against the underside of the supporting construction) *(E04B 9/26 takes precedence)*

(by means of sliding or pivoting locking elements, held against the underside of the supporting construction)

(by means of permanent magnetic force held against the underside of the supporting construction)

(by means of snap action of elastically deformable elements [held against the underside of the supporting construction])

with the slabs, sheets or the like having grooves engaging with horizontal flanges of the supporting construction or accessory means connected thereto

characterised by edge details of the ceiling; e.g. securing to an adjacent wall

{for flexible tensioned membranes}

{Tensioning hand tools therefor}

Translucent ceilings, i.e. permitting both the transmission and diffusion of light (E04B 9/30 and E04B 9/34 take precedence; details of lighting devices, of general application F21V; screens F21V 11/00)

[Grid-like or] open-work ceilings, e.g. lattice type [boxlike modules, acoustic baffles] *(E04B 9/30 takes precedence, grids for lighting devices F21V)*

{consisting of non-parallel slats, e.g. grids}

consisting of parallel slats

{the principal plane of the slats being horizontal}

{the principal plane of the slats being vertical}

Material constitution of slabs, sheets or the like

- of ceramics, concrete or other stone-like material
- of plastics, fibrous material or wood
- of metal