

## SECTION E — FIXED CONSTRUCTIONS

## E04 BUILDING

**E04C STRUCTURAL ELEMENTS; BUILDING MATERIALS** (for bridges E01D; specially designed for insulation or other protection E04B; elements used as building aids E04G; for mining E21; for tunnels E21D; structural elements with broader range of application than for building engineering F16, particularly F16S)

- 1/00 Building elements of block or other shape for the construction of parts of buildings** (of relatively thin form E04C 2/00; structural elongated elements designed for load-supporting E04C 3/00, e.g. columns or pillars E04C 3/30; manufacture or material of building bricks, stones, or the like B28, C03, C04; paving elements E01C; general building constructions E04B, e.g. walls E04B 2/00, floors E04B 5/00, roofs E04B 7/00, ceilings E04B 9/00; structural elements specially designed for built-in conduit shafts E04F; special elements for building ovens or furnaces F24B, F27D) [5]
- 1/39 • characterised by special adaptations, e.g. serving for locating conduits, for forming soffits, cornices, or shelves, for fixing wall-plates or door-frames, for claustra
- 1/40 • built-up from parts of different materials, e.g. composed of layers of different materials or stones with filling material or with insulating inserts
- 1/41 • • composed of insulating material and load-bearing concrete, stone or stone-like material [6]
- 1/42 • of glass or other transparent material
- 2/00 Building elements of relatively thin form for the construction of parts of buildings, e.g. sheet materials, slabs, or panels** (materials or manufacture, see the relevant places, e.g. B27N, B29, D21J; made in situ E04B; specially designed for insulation or other protection E04B 1/62; load-carrying floor structures E04B 5/02, E04B 5/16; roofs consisting of self-supporting slabs E04B 7/20; roof- or like covering elements E04D 3/00; for lining or finishing E04F 13/00)
- 2/02 • characterised by specified materials (translucent E04C 2/54)
- 2/04 • • of concrete or other stone-like material; of asbestos cement (E04C 2/26 takes precedence; material or manufacture B28, C04)
- 2/06 • • • reinforced
- 2/08 • • of metal, e.g. sheet metal (E04C 2/26 takes precedence)
- 2/10 • • of wood, fibres, chips, vegetable stems, or the like; of plastics; of foamed products (E04C 2/26 takes precedence)
- 2/12 • • • of solid wood
- 2/14 • • • • reinforced
- 2/16 • • • of fibres, chips, vegetable stems, or the like
- 2/18 • • • • with binding wires, reinforcing bars, or the like
- 2/20 • • • of plastics
- 2/22 • • • • reinforced
- 2/24 • • • laminated and composed of materials covered by two or more of groups E04C 2/12, E04C 2/16, E04C 2/20
- 2/26 • • composed of materials covered by two or more of groups E04C 2/04, E04C 2/08, E04C 2/10, or of materials covered by one of these groups with a material not specified in one of these groups
- 2/28 • • • combinations of materials fully covered by groups E04C 2/04 and E04C 2/08
- 2/284 • • • • at least one of the materials being insulating [6]
- 2/288 • • • • composed of insulating material and concrete, stone or stone-like material [6]
- 2/292 • • • • composed of insulating material and sheet metal [6]
- 2/296 • • • • composed of insulating material and non-metallic or unspecified sheet-material (E04C 2/288 takes precedence) [6]
- 2/30 • characterised by the shape or structure (translucent E04C 2/54)
- 2/32 • • formed of corrugated or otherwise indented sheet-like material; composed of such layers with or without layers of flat sheet-like material
- 2/34 • • composed of two or more spaced sheet-like parts (E04C 2/32 takes precedence; spacers for cavity walls E04B 2/44)
- 2/36 • • • spaced apart by transversely-placed strip material, e.g. honeycomb panels (honeycomb or other core members for layered products B32B)
- 2/38 • • with attached ribs, flanges, or the like, e.g. framed panels (concerned with attaching to other panels or elements to form a structure, see the places for the relevant structure, e.g. E04B 2/00)
- 2/40 • • composed of a number of smaller components rigidly or movably connected together, e.g. interlocking, hingedly connected
- 2/42 • • Gratings; Grid-like panels (reinforcing elements E04C 5/00; built-in gratings E04F 19/10; gratings in general F16S 3/00)
- 2/52 • • with special adaptations for auxiliary purposes, e.g. serving for locating conduits (E04C 2/54 takes precedence; block-shaped elements therefor E04C 1/39; floor structures incorporating ducts E04B 5/48)
- 2/54 • Slab-like translucent elements (floors for transmitting light E04B 5/46; translucent or open-work ceilings E04B 9/32, E04B 9/34; translucent roof coverings E04D 3/06, E04D 3/28)
- 3/00 Structural elongated elements designed for load-supporting** (as building aids E04G)
- 3/02 • Joists; Girders, trusses, or truss-like structures, e.g. prefabricated; Lintels; Transoms (E04C 3/38 takes precedence; for structures characterised by movable, separable, or collapsible parts E04B 1/343)

## E04C

- 3/04 • • of metal (E04C 3/29 takes precedence; as reinforcing elements E04C 5/06; manufacture B21)
- 3/06 • • • with substantially solid, i.e. unapertured, web (E04C 3/10, E04C 3/11 take precedence)
- 3/07 • • • • at least partly of bent or otherwise deformed strip- or sheet-like material
- 3/08 • • • with apertured web, e.g. with a web consisting of bar-like components; Honeycomb girders (E04C 3/10, E04C 3/11 take precedence)
- 3/09 • • • • at least partly of bent or otherwise deformed strip- or sheet-like material
- 3/10 • • • prestressed
- 3/11 • • • with non-parallel upper and lower edges, e.g. roof trusses (arched girders, portal frames E04C 3/38)
- 3/12 • • of wood, e.g. with reinforcements, with tensioning members (E04C 3/292 takes precedence)
- 3/14 • • • with substantially solid, i.e. unapertured, web (E04C 3/17, E04C 3/18 take precedence)
- 3/16 • • • with apertured web, e.g. trusses (E04C 3/17, E04C 3/18 take precedence)
- 3/17 • • • with non-parallel upper and lower edges, e.g. roof trusses
- 3/18 • • • with metal reinforcements or tensioning members
- 3/20 • • of concrete or other stone-like material, e.g. with reinforcements or tensioning members (reinforcing elements E04C 5/00)
- 3/22 • • • built-up by elements joined in line
- 3/26 • • • prestressed (E04C 3/22, E04C 3/29 take precedence; prestressing members E04C 5/08)
- 3/28 • • of other materials
- 3/29 • • built-up from parts of different materials
- 3/292 • • • the materials being wood and metal
- 3/293 • • • the materials being steel and concrete (concrete with internal reinforcements or tensioning members E04C 3/20)
- 3/294 • • • • of concrete combined with a girder-like structure extending laterally outside the element (light-weight girders used as reinforcement E04C 5/065; as part of a floor structure E04B 5/23)
- 3/30 • Columns; Pillars; Struts (not designed for end loading E04C 3/02; posts, masts, as independent structures E04H 12/00)
- 3/32 • • of metal (E04C 3/36 takes precedence)
- 3/34 • • of concrete or other stone-like material, with or without permanent form elements, with or without internal or external reinforcement, e.g. metal coverings (E04C 3/36 takes precedence)
- 3/36 • • of other materials
- 3/38 • Arched girders or portal frames (straight girders able to be bent E04C 3/02; inflatable tents or canopies, in general E04H 15/20)
- 3/40 • • of metal (E04C 3/46 takes precedence)
- 3/42 • • of wood, e.g. units for rafter roofs (E04C 3/46 takes precedence)
- 3/44 • • of concrete or other stone-like material, e.g. with reinforcements or tensioning members (E04C 3/46 takes precedence)
- 3/46 • • of other materials
- 5/00 Reinforcing elements, e.g. for concrete; Auxiliary elements therefor** (material composition C21, C22; arrangements of reinforcing elements, see the relevant classes)
- 5/01 • Reinforcing elements of metal, e.g. with non-structural coatings [5]
- 5/02 • • of low bending resistance, i.e. of essentially one- or two-dimensional extent
- 5/03 • • • with indentations, projections, ribs, or the like, for augmenting the adherence to the concrete
- 5/04 • • • Mats (bases for plaster E04F 13/04)
- 5/06 • • of high bending resistance, i.e. of essentially three-dimensional extent, e.g. lattice girders
- 5/065 • • • Light-weight girders, e.g. with precast parts (light-weight girders in general E04C 3/08, E04C 3/294)
- 5/07 • Reinforcing elements of material other than metal, e.g. of glass, of plastics, or not exclusively made of metal (metal elements with non-structural coatings E04C 5/01) [5]
- 5/08 • Members specially adapted to be used in prestressed constructions
- 5/10 • • Ducts
- 5/12 • Anchoring devices (tools or methods for tensioning E04G 21/12) [5]
- 5/16 • Auxiliary parts for reinforcements, e.g. connectors, spacers, stirrups (tools for connecting reinforcing elements E04G 21/12)
- 5/18 • • of metal or substantially of metal
- 5/20 • • of other material than metal or with only additional metal parts, e.g. concrete or plastics spacers with metal binding wires