

# CPC COOPERATIVE PATENT CLASSIFICATION

## E FIXED CONSTRUCTIONS

### BUILDING

#### E04 BUILDING

#### E04G SCAFFOLDING; FORMS; SHUTTERING; BUILDING IMPLEMENTS OR OTHER BUILDING AIDS, OR THEIR USE; HANDLING BUILDING MATERIALS ON THE SITE; REPAIRING, BREAKING-UP OR OTHER WORK ON EXISTING BUILDINGS

##### NOTE

In this subclass the word "scaffolding" includes other supports for like purposes

##### WARNINGS

- The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:  
E04G 23/03 covered by
- 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.

##### Workmen's or safety scaffolds

##### **1/00 Scaffolds primarily resting on the ground**

- 1/02 . composed essentially of members elongated in one dimension only, e.g. poles, lattice masts, with or without end portions of special form, connected together by any means
- 1/04 . . the members being exclusively poles, rods, beams, or other members of similar form and simple cross-section
- 1/06 . . . comprising members with rod-like or tubular portions fitting together end to end, with or without separate connecting pieces
- 1/08 . . . secured together by bolts or the like penetrating the members
- 1/10 . . . . Timber-work constructions
- 1/12 . . comprising members of special, e.g. composite, cross-section or with lugs or the like or lateral apertures for supporting or attaching other members
- 1/14 . Comprising essentially pre-assembled two-dimensional frame-like elements, e.g. of rods in L- or H-shape, with or without bracing ([E04G 1/15 takes precedence](#))
- 1/15 . essentially comprising special means for supporting or forming platforms ([E04G 1/20 takes precedence](#)); Platforms (boards or planks therefor [E04G 5/08](#) {, clips or connections for securing boards [E04G 7/28](#)})
- 1/151 . . {Platforms made of wood, with or without reinforcements ([E04G 1/152 takes precedence](#))}
- 1/152 . . {Platforms made of metal or with metal-supporting frame}
- 1/153 . . {Platforms made of plastics, with or without reinforcement ([E04G 1/152 takes precedence](#))}
- 1/154 . . {Non-detachably fixed and secured connections between platform and scaffold}
- 2001/155 . . {Platforms with an access hatch for getting through from one level to another}

- 2001/156 . . {Stackable platforms}
- 2001/157 . . {Extensible platforms, e.g. telescopic platforms}
- 2001/158 . . {Platforms supported by spigots which engage through holes in the platform}
- 1/17 . Comprising essentially pre-assembled three-dimensional elements, e.g. cubic elements
- 1/18 . adjustable in height {([lifting devices for movable platforms, e.g. on vehicles B66F 11/04](#))}
- 1/20 . . Scaffolds comprising upright members and provision for supporting cross-members or platforms at different positions therealong
- 1/22 . . Scaffolds having a platform on an extensible substructure, e.g. of telescopic type or with lazy-tongs mechanism
- 1/24 . comprising essentially special base constructions; comprising essentially special ground-engaging parts, e.g. inclined struts, wheels ([component parts E04G 5/00](#))
- 2001/242 . . {Scaffolds movable on wheels or tracks}
- 2001/244 . . . {mechanically operated}
- 2001/246 . . . . {human powered}
- 2001/248 . . {Inclined struts}
- 1/28 . designed to provide support only at a low height
- 1/30 . . Ladder scaffolds {([ladders having platforms E06C 1/39](#), platforms on, or for use on; ladders [E06C 7/16](#))}
- 2001/302 . . . {with ladders supporting the platform}
- 2001/305 . . . . {The ladders being vertical and perpendicular to the platform}
- 2001/307 . . . . {The ladders being self-supporting folding ladders}
- 1/32 . . Other free-standing supports, e.g. using trestles ([stands or trestles in general F16M 11/00](#) {, work benches [B25H 1/00](#)})
- 1/34 . Scaffold constructions able to be folded in prismatic or flat parts or able to be turned down

1/36	• Scaffolds for particular parts of buildings or buildings of particular shape, e.g. for stairs, cupolas, domes <a href="#">{(scaffolding usable on slipways and in dry docks B63C 5/02)}</a>	5/006	• <a href="#">{Scaffold with cantilevered sections, e.g. to accommodate overhangs or recesses in the facade}</a>
1/362	• • <a href="#">{specially adapted for tanks, silos or similar vessels}</a>	5/007	• <a href="#">{Devices and methods for erecting scaffolds, e.g. automatic scaffold erectors}</a>
1/365	• • <a href="#">{specially adapted for staircases or stairs}</a>	2005/008	• <a href="#">{Hoisting devices specially adapted as part of a scaffold system}</a>
1/367	• • <a href="#">{specially adapted for elevator shafts}</a>	5/02	• Scaffold feet, e.g. with arrangements for adjustment
1/38	• Scaffolds partly supported by the building <a href="#">(ladders attachable to the structures E06C 1/34)</a>	5/025	• • <a href="#">{Foot load distribution plates}</a>
<b>3/00</b>	<b>Scaffolds essentially supported by building constructions, e.g. adjustable in height <a href="#">(E04G 1/00 takes precedence {and E04G 21/3204 takes precedence})</a></b>	5/04	• Means for fastening, supporting, or bracing scaffolds on or against building constructions <a href="#">(fastenings in general F16B)</a>
3/18	• supported by cantilevers or other provisions mounted in openings in the building, e.g. window openings <a href="#">(E04G 3/28 takes precedence)</a>	5/041	• • <a href="#">{for fastening scaffolds on roof frameworks or on roofs}</a>
3/20	• supported by walls <a href="#">(E04G 3/28 takes precedence; wall-anchors for supporting scaffolds E04G 5/04; consoles E04G 5/06)</a>	5/043	• • • <a href="#">{for fastening scaffolds on gutters}</a>
3/22	• supported by roofs or ceilings <a href="#">(E04G 3/28 takes precedence)</a>	5/045	• • <a href="#">{for fastening scaffoldings on profiles, e.g. I or H profiles}</a>
3/24	• specially adapted for particular parts of buildings or for buildings of particular shape, e.g. chimney stacks or pylons <a href="#">(E04G 3/28 takes precedence; {E04G 1/362, E04G 3/305 take precedence; scaffolding usable on slipways and in dry docks B63C 5/02})</a>	5/046	• • <a href="#">{for fastening scaffoldings on walls}</a>
3/243	• • <a href="#">{following the outside contour of a <a href="#">(E04G 3/26 takes precedence)</a>}</a>	5/048	• • • <a href="#">{with hooks to be attached on the wall's crown}</a>
3/246	• • <a href="#">{following the inside contour of a building}</a>	5/06	• Consoles; Brackets <a href="#">{(E04G 3/00 takes precedence)}</a>
3/26	• • specially adapted for working on roofs <a href="#">{(devices or arrangements allowing walking on the roof or in the gutter E04D 13/12)}</a>	5/061	• • <a href="#">{specially adapted for attachment to scaffolds}</a>
3/265	• • • <a href="#">{with means to adapt it to a variable pitch of the roof}</a>	5/062	• • <a href="#">{specially adapted for attachment to building walls}</a>
3/28	• Mobile scaffolds; Scaffolds with mobile platforms <a href="#">{(movable inspection or maintenance platforms for bridges E01D 19/106, lifting devices for movable platforms, e.g. on vehicles B66F 11/04)}</a>	5/064	• • <a href="#">{specially adapted for attachment to building floors}</a>
2003/283	• • <a href="#">{mobile horizontally}</a>	5/065	• • <a href="#">{specially adapted for attachment to ladders (platforms on, or for use on, ladders E06C 7/16)}</a>
2003/286	• • <a href="#">{mobile vertically}</a>	5/067	• • <a href="#">{specially adapted for attachment to posts <a href="#">(E04G 5/061 takes precedence)</a>}</a>
3/30	• • suspended by flexible supporting elements, e.g. cables	2005/068	• • <a href="#">{Connections of consoles at an angle}</a>
3/305	• • • <a href="#">{specially adapted for tanks, silos or similar vessels <a href="#">(E04G 3/24 takes precedence)</a>}</a>	5/08	• Scaffold boards or planks <a href="#">{(clips or connections for securing boards E04G 7/28; scaffolds comprising special means for supporting or forming platforms, platforms E04G 1/15)}</a>
3/32	• • • Hoisting devices; Safety devices	5/10	• Steps or ladders specially adapted for scaffolds <a href="#">{(E04G 27/00 takes precedence)}</a>
3/325	• • • • <a href="#">{Safety devices for stabilising the mobile platform, e.g. to avoid it swinging in the wind}</a>	5/12	• Canopies <a href="#">{(safety or protective measures preventing damage to building parts or finishing work during construction E04G 21/24)}</a>
3/34	• • characterised by supporting structures provided on the roofs	2005/125	• • <a href="#">{Roof for scaffolds, e.g. extending to the adjacent building}</a>
<b>5/00</b>	<b>Component parts or accessories for scaffolds <a href="#">(connections E04G 7/00)</a></b>	5/14	• Railings
5/001	• <a href="#">{Safety or protective measures against falling down relating to scaffoldings <a href="#">(E04G 5/14 takes precedence)</a>}</a>	5/141	• • <a href="#">{with an access door or the like therefor}</a>
5/002	• • <a href="#">{Protections or covers for scaffolding connections}</a>	5/142	• • <a href="#">{extensible or telescopic}</a>
5/003	• <a href="#">{Devices for storing material on the scaffold}</a>	5/144	• • <a href="#">{specific for the lateral, i.e. short side of a scaffold}</a>
5/004	• <a href="#">{Storage and transport racks for scaffolding components}</a>	5/145	• • <a href="#">{Toe boards therefor}</a>
5/005	• <a href="#">{Devices for cleaning or repairing scaffold tubes}</a>	5/147	• • <a href="#">{specially adapted for mounting prior to the mounting of the platform}</a>
		2005/148	• • <a href="#">{latticed or netted}</a>
		5/16	• Struts or stiffening rods, e.g. diagonal rods
		5/165	• • <a href="#">{Lintel for scaffoldings}</a>
		<b>7/00</b>	<b>Connections between parts of the scaffold <a href="#">(for building structures in general E04B 1/38; connections in general F16B {; connection for tubes or rods in general F16B 7/00})</a></b>
		2007/005	• <a href="#">{Adaptors to adapt the connection means of one manufacturer's scaffold system to the one of another manufacturer}</a>
		7/02	• with separate coupling elements
		7/04	• • Flexible elements, with or without brackets, e.g. ropes, cables, chains <a href="#">(in general F16G {, means for fastening cables or ropes to one another or to other objects F16G 11/00})</a>

- 7/06 . . Stiff scaffolding clamps for connecting scaffold members of common shape
- 7/08 . . . Clamps for parallelly-arranged members
- 7/10 . . . . Self-tightening clamps, e.g. stirrups
- 7/12 . . . Clamps or clips for crossing members  
([E04G 7/22](#) takes precedence)
- 7/14 . . . . for clamping the members independently
- 7/16 . . . . . of which the clamping parts for the different members are rotatable with respect to one another
- 7/18 . . . . for clamping the members against one another or against a separate cushioning piece between them
- 7/20 . . . for ends of members only, e.g. for connecting members in end-to-end relation
- 7/22 . . . for scaffold members in end-to-side relation
- 7/24 . . . Couplings involving arrangements covered by more than one of the subgroups [E04G 7/08](#), [E04G 7/12](#), [E04G 7/20](#), [E04G 7/22](#)
- 7/26 . . for use with specially-shaped scaffold members
- 7/28 . . Clips or connections for securing boards ([brackets E04G 5/06](#) {; scaffolds comprising special means for supporting or forming platforms, platforms [E04G 1/15](#); scaffold boards or planks [E04G 5/08](#)})
- 2007/285 . . . {specially adapted for toe boards}
- 7/30 . Scaffolding bars or members with non-detachably fixed coupling elements
- 7/301 . . {for connecting bars or members which are parallel or in end-to-end relation}
- 7/302 . . {for connecting crossing or intersecting bars or members}
- 7/303 . . . {the added coupling elements are only fixed at one of the bars or members to connect}
- 7/304 . . . . {with tying means for connecting the bars or members}
- 7/305 . . . . {without tying means for connecting the bars or members}
- 7/306 . . . {the added coupling elements are fixed at several bars or members to connect}
- 7/307 . . . . {with tying means for connecting the bars or members}
- 7/308 . . . . {without tying means for connecting the bars or members}
- 7/32 . . with coupling elements using wedges
- 7/34 . . with coupling elements using positive engagement, e.g. hooks or pins
- Falsework, forms, or shutterings for shaping of building parts in situ** (scaffolding in general [E04G 1/00](#); moulds for making units for prefabricated buildings or prefabricated stair units [B28B 7/22](#); forms or shutterings of the construction [E04B](#), [E04C](#))
- 9/00 Forming or shuttering elements for general use** {(for prefabrication of concrete elements in a plant [B28B 7/00](#))}
- 9/02 . Forming boards or similar elements ([E04G 9/08](#), [E04G 9/10](#) take precedence)
- 9/021 . . {the form surface being of cardboard}
- 2009/023 . . {with edge protection}
- 2009/025 . . . {by a flange of the board's frame}
- 2009/026 . . . {specific for corners}
- 2009/028 . . {with reinforcing ribs on the underside}
- 9/04 . . the form surface being of wood
- 9/05 . . the form surface being of plastics
- 9/06 . . the form surface being of metal
- 9/065 . . . {the form surface being of wire mesh}
- 9/08 . Forming boards or similar elements, which are collapsible, foldable, or able to be rolled up
- 9/083 . . {which are foldable}
- 9/086 . . {which are specially adapted to be degradable in time, e.g. by moisture or water}
- 9/10 . with additional peculiarities such as surface shaping, insulating or heating, permeability to water or air
- 11/00 Forms, shutterings, or falsework for making walls, floors, ceilings, or roofs** {(for prefabrication of concrete elements in a plant [B28B 7/00](#))}
- 11/02 . for rooms as a whole {by which walls and floors are cast simultaneously}, whole storeys, or whole buildings
- 11/04 . for structures of spherical, spheroid or similar shape, or for cupola structures of circular or polygonal horizontal or vertical section; Inflatable forms (connection of valves to inflatable elastic bodies [B60C 29/00](#) {; structures made from masses cast [in situ](#) with permanent forms [E04B 1/16](#)})
- 11/045 . . {Inflatable forms}
- 11/06 . for walls, e.g. curved {end panels for wall shutterings; filler elements for wall shutterings; shutterings for vertical ducts} ([E04G 11/04](#) takes precedence)
- 11/062 . . {Forms for curved walls ([E04G 11/20](#) takes precedence)}
- 11/065 . . . {with mechanical means to modify the curvature}
- 2011/067 . . {Integrated forms comprising shuttering skin, bracing or strutting arrangements, workplatforms and railings}
- 11/08 . . Forms, which are completely dismantled after setting of the concrete and re-built for next pouring ({[E04G 11/062](#) takes precedence}; connecting or supporting means for forms [E04G 17/00](#); {walls made by casting, pouring, [in situ](#) made in permanent forms [E04B 2/84](#)})
- 11/082 . . . {Retractable forms for the inside face of at least three walls (for rooms as a whole [E04G 11/02](#))}
- 11/085 . . . {End form panels for walls (for floors [E04G 11/365](#))}
- 11/087 . . . {Fill-in form panels in the plane of two adjacent forms}
- 11/10 . . . of elements without beams {which are mounted during erection of the shuttering to brace or couple the elements} ([E04G 11/18](#) takes precedence)
- 11/12 . . . of elements and beams {which are mounted during erection of the shuttering to brace or couple the elements} ([E04G 11/18](#) takes precedence)
- 11/14 . . . . with beams arranged in alignment with and between the elements {and form also the shuttering face}
- 11/16 . . . . with beams placed within the wall
- 11/18 . . . for double walls
- 11/20 . . Movable forms; Movable forms for moulding cylindrical, conical or hyperbolic structures; Templates serving as forms for positioning blocks or the like ([E04G 11/04](#) takes precedence)

11/22	. . . Sliding forms raised continuously or step-by-step and being in contact with the poured concrete during raising {and which are not anchored in the hardened concrete}; Arrangements of lifting means therefor	13/02	. for columns or like pillars; Special tying or clamping means therefor {(columns, pillars of concrete with permanent forms <a href="#">E04C 3/34</a> )}
11/24	. . . . Construction of lifting jacks or climbing rods for sliding forms (climbing-type hoisting units in general <a href="#">B66F</a> )	13/021	. . {for circular columns}
11/26	. . . the sheathing of which consists of ribbons, endless aprons or the like, guided by driven rollers {(E04G 11/34 takes precedence)}	13/023	. . {with means for modifying the sectional dimensions ( <a href="#">E04G 13/021</a> takes precedence)}
11/28	. . . Climbing forms, i.e. forms which are not in contact with the poured concrete during lifting from layer to layer {and which are anchored in the hardened concrete}	13/025	. . . {with stiff clamping means bracing the back-side of the form without penetrating the forming surface}
11/30	. . . . which are lifted from layer to layer by turning, tilting, or similar moving upwards about a horizontal axis	13/026	. . . . {the forming surface-element being the same for different sections of the column}
11/32	. . . Tilttable forms or tilting tables for making walls as a whole or in parts <i>in situ</i>	13/028	. . {for columns' capital}
11/34	. . . Horizontally-travelling moulds for making walls blockwise or section-wise ( <a href="#">E04G 11/26</a> takes precedence)	13/04	. for lintels, beams, or transoms to be encased separately; Special tying or clamping means therefor ({hat-like or trough-like elements encasing a rib and its adjacent ceiling section <a href="#">E04G 11/46</a> ; } members, e.g. consoles, for attachment to the wall <a href="#">E04G 17/16</a> )
11/36	. for floors, ceilings, or roofs of plane or curved surfaces {end formpanels for floor shutterings (floors with lost forms <a href="#">E04B 5/32</a> )}	13/06	. for stairs, steps, cornices, balconies, or other parts corbelled out of the wall {(moulds for making prefabricated stair units <a href="#">B28B 7/225</a> ; stairways with permanent forms <a href="#">E04F 11/02</a> )}
11/365	. . {Stop-end shutterings (end panels for walls <a href="#">E04G 11/085</a> )}	13/062	. . {for stairs or steps}
11/38	. . for plane ceilings of concrete	13/064	. . {for chimney crowns}
11/40	. . for coffered or ribbed ceilings	13/066	. . {for overhangs}
11/42	. . . with beams of metal or prefabricated concrete {which are not, or of which only the upper part is embedded}	13/068	. . {for window or door sills}
11/44	. . . with supporting beams for the shuttering used simultaneously as permanent reinforcement of the ribs	<b>15/00</b>	<b>Forms or shutterings for making openings, cavities, slits, or channels (forming part of shuttering for walls <a href="#">E04G 11/06</a> {, e.g. double walls <a href="#">E04G 11/18</a>; prefabricated elements with elements wholly or partly embedded therein <a href="#">B28B 23/00</a>; core or mandrels for the prefabrication of concrete elements <a href="#">B28B 7/28</a>)}</b>
11/46	. . . of hat-like or trough-like shape encasing a rib or the section between two ribs or encasing one rib and its adjacent flat floor or ceiling section {(for separately encased beams <a href="#">E04G 13/04</a> )}	15/02	. for windows, doors, or the like
11/48	. . Supporting structures for shutterings or frames for floors or roofs (struts <a href="#">E04G 25/00</a> )	15/04	. Cores for anchor holes or the like {around anchors embedded in the concrete (means in or on the building element for connecting to handling apparatus <a href="#">E04G 21/142</a> )}
11/483	. . . {Supporting heads ( <a href="#">E04G 11/486</a> takes precedence)}	15/06	. for cavities or channels in walls of floors, e.g. for making chimneys
11/486	. . . {Dropheads supporting the concrete after removal of the shuttering; Connecting means on beams specially adapted for dropheads}	15/061	. . {Non-reusable forms (positioning means without forming function <a href="#">E04G 21/185</a> ; electric distribution boxes <a href="#">H02G 3/08</a> )}
11/50	. . . Girders, beams, or the like as supporting members for forms (girders intended to form part of the construction <a href="#">E04C 3/02</a> ; members, e.g. consoles, for attachment to the wall <a href="#">E04G 17/16</a> )	15/063	. . {Re-usable forms}
2011/505	. . . . {with nailable or screwable inserts}	15/065	. . . {with mechanical means to modify the section ( <a href="#">E04G 15/068</a> takes precedence)}
11/52	. . . . of several units arranged one after another	15/066	. . . {with fluid means to modify the section ( <a href="#">E04G 15/068</a> takes precedence)}
11/54	. . . . of extensible type, with or without adjustable supporting shoes, fishplates, or the like	15/068	. . . {for channels open towards the surface}
11/56	. . . . . of telescopic type	<b>17/00</b>	<b>Connecting or other auxiliary members for forms, falsework structures, or shutterings</b>
<b>13/00</b>	<b>Falsework, forms, or shutterings for particular parts of buildings, e.g. stairs, steps, cornices, balconies {foundations, sills (<a href="#">E04G 11/365</a> takes precedence; flat foundations, e.g. with lost forms <a href="#">E02D 27/01</a>; removable forms or shutterings for road-building purposes <a href="#">E01C 19/50</a>)}</b>	17/001	. {Corner fastening or connecting means for forming or stiffening elements (forms for rooms as a whole <a href="#">E04G 11/02</a> ; forms for vertical ducts <a href="#">E04G 11/06</a> ; forms for columns <a href="#">E04G 13/02</a> )}
		17/002	. {Workplatforms, railings; Arrangements for pouring concrete, attached to the form}
		17/004	. {Strips for creating a chamfered edge}
		17/005	. {Strips for covering joints between form sections, e.g. to avoid burring or spilling of laitance}
		17/007	. {Plugs to close openings in forms' surface}
		2017/008	. {Pin and hole connection type}



- 17/02 . . Connecting or fastening means for non-metallic forming or stiffening elements {[\(E04G 17/001 takes precedence\)](#)}
- 17/04 . . Connecting or fastening means for metallic forming or stiffening elements {, e.g. for connecting metallic elements to non-metallic elements [\(E04G 17/001 takes precedence\)](#)}
- 17/042 . . {being tensioned by threaded elements [\(E04G 17/047 takes precedence\)](#)}
- 17/045 . . {being tensioned by wedge-shaped elements [\(E04G 17/047 takes precedence\)](#)}
- 17/047 . . {simultaneously tying two facing forms}
- 17/06 . . Tying means; Spacers {; Devices for extracting or inserting wall ties [\(E04G 17/047 takes precedence; permanent forms for walls, e.g. with ties E04B 2/86\)](#)}
- 2017/0601 . . {Tying means, the tensional element of which is threaded to ensure its fastening or tensioning}
- 2017/0603 . . . . {one-piece element}
- 2017/0605 . . . . {fully recoverable}
- 2017/0607 . . . . {remaining completely or partially embedded in the cast material}
- 2017/0609 . . . . {the element consisting of several parts}
- 2017/0611 . . . . {fully recoverable}
- 2017/0612 . . . . {remaining completely or partially embedded in the cast material}
- 2017/0614 . . {Tying means, the tensional element of which is fastened or tensioned by means of wedge-shaped members}
- 2017/0616 . . . . {one-piece element}
- 2017/0618 . . . . {fully recoverable}
- 2017/062 . . . . {remaining completely or partially embedded in the cast material}
- 2017/0622 . . . . {the element consisting of several parts}
- 2017/0624 . . . . {fully recoverable}
- 2017/0625 . . . . {remaining completely or partially embedded in the cast material}
- 2017/0627 . . {Tying means, the tensional element of which is fastened or tensioned by other means}
- 2017/0629 . . . . {one-piece element}
- 2017/0631 . . . . {fully recoverable}
- 2017/0633 . . . . {remaining completely or partially embedded in the cast material}
- 2017/0635 . . . . {the element consisting of several parts}
- 2017/0637 . . . . {fully recoverable}
- 2017/0638 . . . . {remaining completely or partially embedded in the cast material}
- 17/064 . . {Spacers placed on the bottom of the mould}
- 17/0642 . . {Devices for extracting or inserting wall ties or parts thereof}
- 17/0644 . . {Plug means for tie-holes}
- 2017/0646 . . {made of a flat strip, e.g. of metal}
- 2017/0648 . . . . {The strip being twisted}
- 17/065 . . Tying means, the tensional elements of which are threaded to enable their fastening or tensioning
- 17/0651 . . . . {One-piece elements}
- 17/0652 . . . . {fully recoverable}
- 17/0654 . . . . {remaining completely or partially embedded in the cast material}
- 17/0655 . . . . {the element consisting of several parts}
- 17/0657 . . . . {fully recoverable}
- 17/0658 . . . . {remaining completely or partially embedded in the cast material}
- 17/07 . . . . Tying means, the tensional elements of which are fastened or tensioned by means of wedge-shaped members
- 17/0707 . . . . {One-piece elements}
- 17/0714 . . . . {fully recoverable}
- 17/0721 . . . . {remaining completely or partially embedded in the cast material}
- 17/0728 . . . . {the element consisting of several parts}
- 17/0735 . . . . {fully recoverable}
- 17/0742 . . . . {remaining completely or partially embedded in the cast material}
- 17/075 . . . . Tying means, the tensional elements of which are fastened or tensioned by other means
- 17/0751 . . . . {One-piece elements}
- 17/0752 . . . . {fully recoverable}
- 17/0754 . . . . {remaining completely or partially embedded in the cast material}
- 17/0755 . . . . {the element consisting of several parts}
- 17/0757 . . . . {fully recoverable}
- 17/0758 . . . . {remaining completely or partially embedded in the cast material}
- 17/12 . . . . with arms engaging the forms
- 17/14 . . Bracing or strutting arrangements for formwalls; Devices for aligning forms [\(E04G 25/00 takes precedence; {connecting and aligning E04G 17/04}\)](#)}
- 17/16 . . Members, e.g. consoles, for attachment to the wall to support girders, beams, or the like carrying forms or moulds for floors, lintels, or transoms
- 17/18 . . Devices for suspending or anchoring form elements to girders placed in ceilings, e.g. hangers
- 19/00 Auxiliary treatment of forms, e.g. dismantling; Cleaning devices (lubricating compositions C10M)**
- 19/003 . . {Arrangements for stabilising the forms or for moving the forms from one place to another [\(lifting of articles in general B66C 1/00\)](#)}
- 19/006 . . {Cleaning devices}
- 21/00 Preparing, conveying, or working-up building materials or building elements in situ; Other devices or measures for constructional work (conveying in general B65G; lifting devices B66; working stone-like materials B28D; measuring instruments G01)**
- 21/005 . . {Mortar boards}
- 21/02 . . Conveying or working-up concrete or similar masses able to be heaped or cast [\(in connection with finishing work E04F; construction and surfacing of floorings made of similar material to roads or pavements E01C; in connection with barrages E02B 7/00; in connection with foundations E02D 15/00; composition of concrete C04B; working concrete in general, e.g. mixing machines B28C\)](#)
- 21/025 . . . . {Buckets specially adapted for use with concrete}
- 21/04 . . . . Devices for both conveying and distributing [\(concrete pumps F04\)](#)
- 21/0409 . . . . {with conveyor belts (truck mixer with conveyor belts [B28C 5/4255](#))}
- 21/0418 . . . . {with distribution hose}
- 21/0427 . . . . {on a static support, e.g. crane}
- 21/0436 . . . . {on a mobile support, e.g. truck}
- 21/0445 . . . . {with booms}
- 21/0454 . . . . . {with boom vibration damper mechanisms}

21/0463	. . . . . {with boom control mechanisms, e.g. to automate concrete distribution}	21/165	. . . {specially adapted for <u>in situ</u> prefabricated building elements to be tilted up in position}
21/0472	. . . . . {Details of connection of the hose to the formwork, e.g. inlets}	21/166	. . . {Landings, receiving platforms}
21/0481	. . . . . {Concrete chutes}	21/167	. . . {specially adapted for working-up plates, panels or slab shaped building elements}
2021/049	. . . . . {concrete mixing nozzles specially adapted for conveying devices}	21/168	. . . . . {used for tilting, e.g. from horizontal to vertical position or <u>vice versa</u> }
21/06	. . Solidifying concrete, e.g. by application of vacuum before hardening (devices for solidifying also soil <a href="#">E02D 3/02</a> ; for road building <a href="#">E01C 19/00</a> ; {for producing shaped articles <a href="#">B28B 1/00</a> })	21/169	. . . {specially adapted for working-up reinforcement mats}
21/061	. . . {by applying vacuum or vacuum combined with vibration}	21/18	. . . Adjusting tools; Templates ({ <u>workshop marking tools B25H</u> ; for coverings or linings <a href="#">E04F 21/18</a> })
21/063	. . . . . <a href="#">E04G 21/08</a> take...	21/1808	. . . . . {Holders for bricklayers' lines, bricklayers' bars; Sloping braces ( <u>cord-line chalkers B44D 3/38</u> )}
21/065	. . . . . {making use of vibrating or jolting tools acting upon the shuttering}	21/1816	. . . . . {Adjustable positioning means between line-holder bars and construction}
21/066	. . . . . {making use of vibrating or jolting tools acting upon the surface of the concrete, whether or not provided with parts penetrating the concrete}	21/1825	. . . . . {Line-holders without supporting bars}
21/068	. . . . . {making use of vibrating or jolting tools acting upon the reinforcement}	21/1833	. . . . . {Line-holders for setting-out builders' work, e.g. foundations}
21/08	. . . Internal vibrators {, e.g. needle vibrators (combined with vacuum <a href="#">E04G 21/061</a> )}	21/1841	. . . . . {Means for positioning building parts or elements ( <u>strutting means for wall parts E04G 21/26</u> )}
21/10	. . Devices for levelling, e.g. templates or boards (smoothing tools <a href="#">E04F 21/16</a> , <a href="#">E04F 21/24</a> )	21/185	. . . . . {for anchoring elements or elements to be incorporated in the structure}
21/12	. Mounting of reinforcing inserts; Prestressing (shell tubes for prestressing members <a href="#">E04C 5/10</a> ; anchoring means <a href="#">E04C 5/12</a> ; connections of reinforcing elements and spacers <a href="#">E04C 5/16</a> )	21/1858	. . . . . {Templates for window or door openings, e.g. in a masonry wall ( <a href="#">E04G 15/02</a> takes precedence)}
21/121	. . {Construction of stressing jacks}	21/1866	. . . . . {for making arches}
21/122	. . {Machines for joining reinforcing bars}	21/1875	. . . . . {for making curved walls ( <a href="#">E04G 11/06</a> takes precedence)}
21/123	. . . {Wire twisting tools (bundling articles by twisting, e.g. wire <a href="#">B65B 13/28</a> ; bundling rods, sticks, or like elongated objects with, e.g. wire <a href="#">B65B 27/10</a> ; tying devices for hops, vines or trees with, e.g. wire <a href="#">A01G 17/08</a> )}	21/1883	. . . . . {Spacers, e.g. to have a constant spacing between courses of masonry}
21/125	. . {Reinforcement continuity box}	21/1891	. . . . . {Cut-marking templates for rafters; Templates used for assembling building frameworks}
21/126	. . . {for cable loops}	21/20	. . . for applying mortar
2021/127	. . {Circular prestressing of, e.g. columns, tanks, domes}	21/201	. . . . . {Trowels}
2021/128	. . {Prestressing each strand of a cable one by one to the same tension}	21/202	. . . . . {Hoses specially adapted therefor}
21/14	. Conveying or assembling building elements ( <u>roofing E04D</u> ; <u>finishing work E04F</u> )	21/203	. . . . . {Prepared mortar strips, pouches or the like to be applied between masonry courses}
21/142	. . {Means in or on the elements for connecting same to handling apparatus ( <a href="#">E04B 1/38</a> takes precedence)}	21/204	. . . . . {Mortar sledges}
21/145	. . . {specific for hollow plates}	21/205	. . . . . {with closable mortar opening}
21/147	. . . {specific for prefabricated masonry wall elements}	21/206	. . . . . {Devices to apply thin-bed mortar joints}
21/16	. . Tools or apparatus (devices for erecting fences <a href="#">E04H 17/26</a> )	21/207	. . . . . {Static templates for applying a predefined layer of mortar}
21/161	. . . {Handling units comprising at least considerable parts of two sides of a room or like enclosed space}	2021/208	. . . . . {on a vertical joint}
21/162	. . . {Handles to carry construction blocks (load carriers <a href="#">B65G 7/12</a> )}	21/22	. . . for setting building elements with mortar, e.g. bricklaying machines
21/163	. . . {Jacks specially adapted for working-up building elements (jacks in general <a href="#">B66F 3/00</a> )}	21/24	. Safety or protective measures preventing damage to building parts or finishing work during construction (as auxiliary structures for scaffolds <a href="#">E04G</a> , <a href="#">E04G 5/12</a> )
21/164	. . . {specially adapted for working-up chimneys}	21/241	. . {for temporarily closing door or window openings}
		21/242	. . {for temporarily covering the whole worksite, e.g. building, trench}
		21/243	. . {for creating a temporary partition in a closed room}
		21/245	. . {for temporarily protecting wall crowns}
		21/246	. . {specially adapted for curing concrete <u>in situ</u> , e.g. by covering it with protective sheets}
		21/247	. . {specific for protecting windows or doors leaves}
		2021/248	. . {Tarpaulins specially adapted therefor}

21/26	. . Strutting means for wall parts; Supports or the like, e.g. for holding in position prefabricated walls ( <a href="#">E04G 25/00</a> takes precedence; on existing buildings <a href="#">E04G 23/04</a> )		used in constructing new buildings, are classified in the appropriate construction groups.
21/28	. . against unfavourable weather influence	23/002	. {Arrangements for cleaning building facades}
21/30	. . against mechanical damage or dirt, e.g. guard covers of stairs	23/004	. . {with arrangements for collecting waste water or cleaning products}
21/32	. Safety or protective measures for persons during the construction of buildings ( <a href="#">relating to scaffolds E04G 5/00</a> ; climbing tools, e.g. climbing irons for masts <a href="#">A63B 27/00</a> ; ropes or belts for life saving <a href="#">A62B 1/16</a> , <a href="#">A62B 35/00</a> )	23/006	. {Arrangements for removing of previously fixed floor coverings}
21/3204	. . {against falling down}	23/008	. {Working measures on existing vertical ducts, e.g. chimneys, garbage chutes}
21/3209	. . . {Temporary tunnels specially adapted against falling objects}	23/02	. Repairing, e.g. filling cracks; Restoring; Altering; Enlarging {( <a href="#">compositions of filling material C04B</a> ; <a href="#">strengthening, widening, repairing of bridges E01D 22/00</a> ; <a href="#">drying damp layers by temporary mechanical ventilation E04B 1/7092</a> )}
21/3214	. . . {Means for working on roofs ( <a href="#">on flat roofs E04G 21/3223</a> )}	23/0203	. . {Arrangements for filling cracks or cavities in building constructions}
21/3219	. . . {Means supported by the building wall, e.g. security consoles ( <a href="#">E04G 5/06</a> takes precedence)}	23/0207	. . . {in hollow structures, e.g. cavity walls}
21/3223	. . . {Means supported by building floors or flat roofs, e.g. safety railings}	23/0211	. . . {using injection}
21/3228	. . . . {Folding railings for flat roof edge, e.g. to hide the railings from view when not in use}	23/0214	. . . {using covering strips}
21/3233	. . . . {without permanent provision in the floor or roof}	23/0218	. . {Increasing or restoring the load-bearing capacity of building construction elements ( <a href="#">E04G 23/0203</a> and <a href="#">E04G 23/0266</a> take precedence)}
21/3238	. . . . . {using counterweights}	23/0222	. . . . {Replacing or adding wall ties}
21/3242	. . . . . {using clamps}	23/0225	. . . . {of circular building elements, e.g. by circular bracing}
21/3247	. . . . {Storey high safety barrier hung from the facade and sliding up from level to level as work progresses}	23/0229	. . . . {of foundations or foundation walls}
21/3252	. . . . {Protections, e.g. cover, caps, against impaling on starter reinforcement bars}	23/0233	. . . . {of vaulted or arched building elements}
2021/3257	. . . . {specific for floors made of prefabricated hollow plates}	23/0237	. . . . {of storey floors}
21/3261	. . {Safety-nets; Safety mattresses; Arrangements on buildings for connecting safety-lines ( <a href="#">jumping-sheets, jumping-mattresses A62B 1/22</a> )}	23/024	. . . . {of basement floors}
21/3266	. . . . {Safety nets}	23/0244	. . . . {of beams at places of holes, e.g. drilled in them}
21/3271	. . . . {Safety mattresses}	2023/0248	. . . . {of elements made of wood}
21/3276	. . . . {Arrangements on buildings for connecting safety-lines ( <a href="#">fastening devices for devices for lowering persons from buildings A62B 1/04</a> )}	2023/0251	. . . . {by using fiber reinforced plastic elements}
21/328	. . . . . {fastened to the roof covering or insulation}	2023/0255	. . . . . {whereby the fiber reinforced plastic elements are stressed}
21/3285	. . . . . {fastened to standing seams of the roof covering}	2023/0259	. . . . . {Devices specifically adapted to stress the fiber reinforced plastic elements}
21/329	. . . . . {with measures for dampening the fall}	2023/0262	. . . . . {Devices specifically adapted for anchoring the fiber reinforced plastic elements, e.g. to avoid peeling off}
21/3295	. . . . {Guide tracks for safety lines ( <a href="#">arrangements for bypassing safety track supports without life line disconnection A62B 35/0087</a> )}	23/0266	. . . {Enlarging}
<b>23/00</b>	<b>Working measures on existing buildings,</b> ( <a href="#">domestic cleaning of walls or floors A47L 11/00</a> ; grinding floors or walls <a href="#">B24B 7/18</a> ; removing of wall coverings <a href="#">B44C 7/00</a> ; removing of paint from surfaces <a href="#">B44D 3/16</a> ; electrochemical desalination or re-alkalisation <a href="#">C04B 41/00</a> ); on foundations <a href="#">E02D 35/00</a> , <a href="#">E02D 37/00</a> ; in connection with insulations <a href="#">E04B</a> ; subsequent or finishing work <a href="#">E04F</a> )	23/027	. . . . {Loft conversion by truss modification}
	<b>NOTE</b>	23/0274	. . . {Temporary shoring of wall opening}
	In addition to the subject matter referred out in this group, subject matter relating to working measures on existing buildings which are analogous to those	23/0277	. . . {Repairing or restoring window or door frames ( <a href="#">door frames E06B 1/00</a> , <a href="#">window frames E06B 3/00</a> )}
		23/0281	. . . {Repairing or restoring roofing or roof covering ( <a href="#">roof covering E04D 3/00</a> )}
		23/0285	. . . {Repairing or restoring flooring ( <a href="#">flooring E04F 15/00</a> )}
		23/0288	. . . {Repairing or restoring floor slabs ( <a href="#">floors E04B 5/00</a> )}
		23/0292	. . . {Repairing or restoring balconies ( <a href="#">balcony structures E04B 1/003</a> )}
		23/0296	. . . {Repairing or restoring facades ( <a href="#">covering or linings, e.g. for walls E04F 13/00</a> )}
		23/04	. Propping of endangered or damaged buildings or building parts, e.g. with respect to air-raid action ( <a href="#">struts E04G 25/00</a> )
		23/06	. Separating, lifting, removing of buildings; Making a new sub-structure
		23/065	. . . {Lifting of buildings ( <a href="#">E04G 21/163</a> takes precedence)}

- 23/08 . . Wrecking of buildings (of fences [E04H 17/26](#); {Demolition agents based on cementitious or like materials [C04B 41/0009](#)})
- 23/081 . . {using hydrodemolition}
- 23/082 . . {using shears, breakers, jaws and the like (metal-cutting or concrete-crushing implements mounted on backhoes [E02F 3/965](#))}
- 23/083 . . {using vaporising wire technique (particular applications of blasting techniques [F42D 3/00](#))}
- 23/084 . . {using breaker balls or the like}
- 2023/085 . . {crowbars specially adapted for wrecking wooden buildings}
- 2023/086 . . {of tanks, reservoirs or the like}
- 2023/087 . . {of chimneys, smoke stacks or the like}
- 2023/088 . . {of window or door frames}
  
- 25/00** **Shores or struts** (specially designed for use in mines [E21D 15/00](#) {; [E04G 21/26](#), [E04G 23/04](#) take precedence}); **Chocks**
- 2025/003 . . {Supports therefor, e.g. tripods}
- 2025/006 . . {Heads therefor, e.g. pivotable}
- 25/02 . . non-telescopic
- 25/04 . . telescopic {(locking of telescopic systems in general [F16B 7/10](#))}
- 2025/042 . . {with devices to avoid accidental disengagement of the telescopic elements, e.g. during transport}
- 2025/045 . . {which telescoping action effected by a lever}
- 2025/047 . . {which telescoping action effected by a piston}
- 25/06 . . with parts held together by positive means
- 25/061 . . . {by pins}
- 25/063 . . . . {with safety devices to avoid the accidental loss or unlocking of the pin, e.g. chains attaching the pin to the prop}
- 25/065 . . . {by a threaded nut}
- 25/066 . . . {by a wedge}
- 25/068 . . . {by a cam}
- 25/08 . . with parts held relatively to each other by friction or gripping
  
- 27/00** **Temporary arrangements for giving access from one level to another for men or vehicles, e.g. steps, ramps** (for scaffolds [E04G 5/10](#); gangways [B63](#); lifts [B66](#))