

## ECLA EUROPEAN CLASSIFICATION

### 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

[N: **WARNING**  
[C0505]

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

<a href="#">E04G3/02</a>	covered by	<a href="#">E04G3/00</a>
<a href="#">E04G3/04</a>	" "	<a href="#">E04G3/00</a>
<a href="#">E04G3/06</a>	" "	<a href="#">E04G3/00</a>
<a href="#">E04G3/08</a>	" "	<a href="#">E04G3/00</a>
<a href="#">E04G3/10</a>	" "	<a href="#">E04G3/00</a>
<a href="#">E04G3/12</a>	" "	<a href="#">E04G3/00</a>
<a href="#">E04G3/14</a>	" "	<a href="#">E04G3/00</a>
<a href="#">E04G3/16</a>	" "	<a href="#">E04G3/00</a>
<a href="#">E04G23/03</a>	" "	<a href="#">E04G23/02</a> <sup>E</sup>

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#### **Note**

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

**Guide heading:** Workmen`s or safety scaffolds

#### E04G1/00 Scaffolds primarily resting on the ground

[N: **WARNING**  
[N0505]

New subgroups [E04G1/17](#) and [E04G1/38](#), corresponding to IPC8, are not complete. Documents from main groups [E04G1/00](#) respectively [E04G1/00](#) and [E04G3/00](#) are in the process of being reorganised to theses new subgroups

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- E04G1/02 . 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
- E04G1/04 . . the members being exclusively poles, rods, beams, or other members of similar form and simple cross-section
- E04G1/06 . . . comprising members with rod-like or tubular portions fitting together end to end, with or without separate connecting pieces
- E04G1/08 . . . secured together by bolts or the like penetrating the members
- E04G1/10 . . . . Timber-work constructions
- E04G1/12 . . comprising members of special, e.g. composite, cross-section or with lugs or the like or lateral apertures for supporting or attaching other members
- E04G1/14 . Comprising essentially pre-assembled two-dimensional frame-like elements, e.g. of rods in L- or H--shape, with or without bracing ([E04G1/15 takes precedence](#)) [C0505]

- E04G1/15 . essentially comprising special means for supporting or forming platforms (E04G1/20 takes precedence); Platforms (boards or planks therefor E04G5/08, [N: clips or connections for securing boards E04G7/28]) [N1204]
- E04G1/15B . . [N: Platforms made of wood, with or without reinforcements ([E04G1/15C](#) takes precedence)] [N9410]
- E04G1/15C . . [N: Platforms made of metal or with metal-supporting frame] [N9410]
- E04G1/15D . . [N: Platforms made of plastics, with or without reinforcement ([E04G1/15C](#) takes precedence)] [N9410]
- E04G1/15E . . [N: Non-detachably fixed and secured connections between platform and scaffold] [N9410]
  
- E04G1/17 . Comprising essentially pre-assembled three-dimensional elements, e.g. cubic elements [N0505]
  
- E04G1/18 . adjustable in height [N: (lifting devices for movable platforms e.g. on vehicles B66F11/04)] [N1204]
- E04G1/20 . . Scaffolds comprising upright members and provision for supporting cross-members or platforms at different positions therealong
- E04G1/22 . . Scaffolds having a platform on an extensible substructure, e.g. of telescopic type or with lazy-tongs mechanism
  
- E04G1/24 . comprising essentially special base constructions; comprising essentially special ground-engaging parts, e.g. inclined struts, wheels ([component parts E04G5/00](#))
  
- E04G1/28 . designed to provide support only at a low height
- E04G1/30 . . Ladder scaffolds [N: (ladders having platforms E06C1/39, platforms on, or for use on; ladders E06C7/16)] [N1204]
- E04G1/32 . . Other free-standing supports, e.g. using trestles (stands or trestles in general F16M11/00, [N: work benches B25H1/00]) [N1204]
- E04G1/34 . Scaffold constructions able to be folded in prismatic or flat parts or able to be turned down
  
- E04G1/36 . Scaffolds for particular parts of buildings or buildings of particular shape, e.g. for stairs, cupolas, domes [N: (scaffolding usable on slipways and in dry docks B63C5/02)] [N1204]
- E04G1/36B . . [N: specially adapted for tanks, silos or similar vessels] [N1204]
- E04G1/36D . . [N: specially adapted for staircases or stairs] [N1204]
- E04G1/36F . . [N: specially adapted for elevator shafts] [N1204]
  
- E04G1/38 . Scaffolds partly supported by the building ([ladders attachable to the structures E06C1/34](#)) [N0505]
  
- E04G3/00 Scaffolds essentially supported by building constructions, e.g. adjustable in height (E04G1/00 takes precedence [N: and E04G21/32B takes precedence]) [N1204]**
  
- E04G3/18 . supported by cantilevers or other provisions mounted in openings in the building, e.g. window openings ([E04G3/28](#) takes precedence) [N0505]
  
- E04G3/20 . supported by walls ([E04G3/28](#) takes precedence; [wall-anchors for supporting scaffolds E04G5/04](#); [consoles E04G5/06](#)) [N0505]

- E04G3/22 . supported by roofs or ceilings ([E04G3/28 takes precedence](#)) [N0505]
- E04G3/24 . specially adapted for particular parts of buildings or for buildings of particular shape, e.g. chimney stacks or pylons (E04G3/28 takes precedence; [N: E04G1/36B, E04G3/30B take precedence; scaffolding usable on slipways and in dry docks B63C5/02]) [N1204]
- E04G3/24B . . [N: following the outside contour of a (E04G3/26 takes precedence)] [N1204]
- E04G3/24D . . [N: following the inside contour of a building] [N1204]
- E04G3/26 . . specially adapted for working on roofs [N: (devices or arrangements allowing walking on the roof or in the gutter E04D13/12)] [N1204]
- E04G3/26B . . . [N: with means to adapt it to a variable pitch of the roof] [N1204]
- E04G3/28 . Mobile scaffolds; Scaffolds with mobile platforms [N: (movable inspection or maintenance platforms for bridges E01D19/10C, lifting devices for movable platforms e.g. on vehicles B66F11/04)] [N1204]
- E04G3/30 . . suspended by flexible supporting elements, e.g. cables [N0505]
- E04G3/30B . . . [N: specially adapted for tanks, silos or similar vessels (E04G3/24 takes precedence)] [N1204]
- E04G3/32 . . . Hoisting devices; Safety devices [N0505]
- E04G3/32B . . . . [N: Safety devices for stabilising the mobile platform e.g. to avoid it swinging in the wind] [N1204]
- E04G3/34 . . characterised by supporting structures provided on the roofs [N0505]
  
- E04G5/00** **Component parts or accessories for scaffolds** ([connections E04G7/00](#)) [C0505]
- E04G5/00B . [N: Safety or protective measures against falling down relating to scaffoldings (E04G5/14 takes precedence)] [N1204]
- E04G5/00B2 . . [N: Protections or covers for scaffolding connections] [N1204]
- E04G5/00D . [N: Devices for storing material on the scaffold] [N1204]
- E04G5/00F . [N: Storage and transport racks for scaffolding components] [N1204]
- E04G5/00H . [N: Devices for cleaning or repairing scaffold tubes] [N1204]
- E04G5/00J . [N: Scaffold with cantilevered sections e.g. to accommodate overhangs or recesses in the facade] [N1204]
- E04G5/00L . [N: Devices and methods for erecting scaffolds, e.g. automatic scaffold erectors] [N1204]
- E04G5/02 . Scaffold feet, e.g. with arrangements for adjustment
- E04G5/02B . . [N: Foot load distribution plates] [N1204]
- E04G5/04 . Means for fastening, supporting, or bracing scaffolds on or against building constructions ([fastenings in general F16B](#))
- E04G5/04B . . [N: for fastening scaffolds on roof frameworks or on roofs] [N1204]
- E04G5/04B2 . . . [N: for fastening scaffolds on gutters] [N1204]
- E04G5/04D . . [N: for fastening scaffoldings on profiles, e.g. I or H profiles] [N1204]

- E04G5/04F . . [N: for fastening scaffoldings on walls] [N1204]
- E04G5/04F2 . . . [N: with hooks to be attached on the wall's crown] [N1204]
- E04G5/06 . Consoles; Brackets [N: (E04G3/00 takes precedence)] [N1204]
- E04G5/06B . . [N: specially adapted for attachment to scaffolds] [N1204]
- E04G5/06D . . [N: specially adapted for attachment to building walls] [N1204]
- E04G5/06F . . [N: specially adapted for attachment to building floors] [N1204]
- E04G5/06H . . [N: specially adapted for attachment to ladders (platforms on, or for use on, ladders E06C7/16)] [N1204]
- E04G5/06J . . [N: specially adapted for attachment to posts (E04G5/06B takes precedence)] [N1204]
- E04G5/08 . Scaffold boards or planks [N: (clips or connections for securing boards E04G7/28; scaffold boards comprising special means for supporting or forming platforms, platforms E04G1/15)] [N1204]
- E04G5/10 . Steps or ladders specially adapted for scaffolds [N: (E04G27/00 takes precedence)] [N1204]
- E04G5/12 . Canopies [N: (safety or protective measures preventing damage to building parts or finishing work during construction E04G21/24)] [N1204]
- E04G5/14 . Railings [N0505]
- E04G5/14B . . [N: with an access door or the like therefor] [N1204]
- E04G5/14D . . [N: extensible or telescopic] [N1204]
- E04G5/14F . . [N: specific for the lateral i.e. short side of a scaffold] [N1204]
- E04G5/14H . . [N: Toe boards therefor] [N1204]
- E04G5/14J . . [N: specially adapted for mounting prior to the mounting of the platform] [N1204]
- E04G5/16 . Struts or stiffening rods, e.g. diagonal rods [N0505]
- E04G5/16B . . [N: Lintel for scaffoldings] [N1204]
- E04G7/00** **Connections between parts of the scaffold (for building structures in general E04B1/38; connections in general F16B; [N: connection for tubes or rods in general F16B7/00]) [N1204]**
- E04G7/02 . with separate coupling elements
- E04G7/04 . . Flexible elements, with or without brackets, e.g. ropes, cables, chains (in general F16G, [N: means for fastening cables or ropes to one another or to other objects F16G11/00]) [N1204]
- E04G7/06 . . Stiff scaffolding clamps for connecting scaffold members of common shape
- E04G7/08 . . . Clamps for parallelly-arranged members
- E04G7/10 . . . . Self-tightening clamps, e.g. stirrups
- E04G7/12 . . . . Clamps or clips for crossing members ([E04G7/22](#) takes precedence)
- E04G7/14 . . . . for clamping the members independently
- E04G7/16 . . . . . of which the clamping parts for the different members are rotatable with respect to one another
- E04G7/18 . . . . for clamping the members against one another or against a separate

- cushioning piece between them
- E04G7/20 . . . for ends of members only, e.g. for connecting members in end-to-end relation
  - E04G7/22 . . . for scaffold members in end-to-side relation
  - E04G7/24 . . . Couplings involving arrangements covered by more than one of the subgroups [E04G7/08](#), [E04G7/12](#), [E04G7/20](#), [E04G7/22](#)
  - E04G7/26 . . for use with specially-shaped scaffold members
  - E04G7/28 . . Clips or connections for securing boards (brackets E04G5/06; [N: scaffolds comprising special means for supporting or forming platforms, platforms E04G1/15; scaffold boards or planks E04G5/08]) [\[N1204\]](#)
  
  - E04G7/30 . Scaffolding bars or members with non-detachably fixed coupling elements
  - E04G7/30B . . [\[N: for connecting bars or members which are parallel or in end-to-end relation\]](#)
  - E04G7/30C . . [\[N: for connecting crossing or intersecting bars or members\]](#)
  - E04G7/30C2 . . . [\[N: the added coupling elements are only fixed at one of the bars or members to connect\]](#)
  - E04G7/30C2B . . . . [\[N: with tying means for connecting the bars or members\]](#)
  - E04G7/30C2C . . . . [\[N: without tying means for connecting the bars or members\]](#)
  - E04G7/30C3 . . . [\[N: the added coupling elements are fixed at several bars or members to connect\]](#)
  - E04G7/30C3B . . . . [\[N: with tying means for connecting the bars or members\]](#)
  - E04G7/30C3C . . . . [\[N: without tying means for connecting the bars or members\]](#)
  - E04G7/32 . . with coupling elements using wedges [\[N0505\]](#)
  - E04G7/34 . . with coupling elements using positive engagement, e.g. hooks or pins [\[N0505\]](#)

**Guide heading:** [Falsework, forms, or shutterings for shaping of building parts in situ \(scaffolding in general E04G1/00; moulds for making units for prefabricated buildings or prefabricated stair units B28B7/22; forms or shutterings of the construction E04B, E04C\)](#)

- E04G9/00** **Forming or shuttering elements for general use [N: (for prefabrication of concrete elements in a plant B28B7/00)] [\[N1204\]](#)**
- E04G9/02 . Forming boards or similar elements ([E04G9/08](#), [E04G9/10](#) take precedence)
  - E04G9/02B . . [\[N: the form surface being of cardboard\] \[\\[N1204\\]\]\(#\)](#)
  - E04G9/04 . . the form surface being of wood
  - E04G9/05 . . the form surface being of plastics
  - E04G9/06 . . the form surface being of metal
  - E04G9/06B . . . [\[N: the form surface being of wire mesh\] \[\\[N1204\\]\]\(#\)](#)
  
  - E04G9/08 . Forming boards or similar elements, which are collapsible, foldable, or able to be rolled up
  - E04G9/08B . . [\[N: which are foldable\] \[\\[N1204\\]\]\(#\)](#)
  - E04G9/08D . . [\[N: which are specially adapted to be degradable in time e.g. by moisture or water\] \[\\[N1204\\]\]\(#\)](#)
  
  - E04G9/10 . with additional peculiarities such as surface shaping, insulating or heating, permeability to water or air

- E04G11/00**      **Forms, shutterings, or falsework for making walls, floors, ceilings, or roofs [N: (for prefabrication of concrete elements in a plant B28B7/00)] [N1204]**
- E04G11/02      . for rooms as a whole [N: by which walls and floors are cast simultaneously], whole storeys, or whole buildings
- E04G11/04      . 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 B60C29/00; [N: (structures made from masses cast in situ with permanent forms E04B1/16)] [N1204]
- E04G11/04B      . . [N: Inflatable forms] [N1204]
- E04G11/06      . for walls, e.g. curved [N: end panels for wall shutterings; filler elements for wall shutterings; shutterings for vertical ducts] (E04G11/04 takes precedence)
- E04G11/06B      . . [N: Forms for curved walls (E04G11/20 takes precedence)] [N9701]
- E04G11/06B2      . . . [N: with mechanical means to modify the curvature] [N9701]
- E04G11/08      . . Forms, which are completely dismantled after setting of the concrete and re-built for next pouring ([N: E04G11/06B takes precedence]; connecting or supporting means for forms E04G17/00; [N: walls made by casting, pouring, in situ made in permanent forms E04B2/84]) [N1204]
- E04G11/08B      . . . [N: Retractable forms for the inside face of at least three walls (for rooms as a whole E04G11/02)] [N9701]
- E04G11/08C      . . . [N: End form panels for walls (for floors E04G11/36A)] [N9701]
- E04G11/08D      . . . [N: Fill-in form panels in the plane of two adjacent forms] [N9701]
- E04G11/10      . . . of elements without beams [N: which are mounted during erection of the shuttering to brace or couple the elements] (E04G11/18 takes precedence)
- E04G11/12      . . . of elements and beams [N: which are mounted during erection of the shuttering to brace or couple the elements] (E04G11/18 takes precedence)
- E04G11/14      . . . . with beams arranged in alignment with and between the elements [N: and form also the shuttering face]
- E04G11/16      . . . . with beams placed within the wall
- E04G11/18      . . . for double walls
- E04G11/20      . . Movable forms; Movable forms for moulding cylindrical, conical or hyperbolic structures; Templates serving as forms for positioning blocks or the like (E04G11/04 takes precedence)
- E04G11/22      . . . Sliding forms raised continuously or step-by-step and being in contact with the poured concrete during raising [N: and which are not anchored in the hardened concrete]; Arrangements of lifting means therefor
- E04G11/24      . . . . Construction of lifting jacks or climbing rods for sliding forms (climbing-type hoisting units in general B66F)
- E04G11/26      . . . the sheathing of which consists of ribbons, endless aprons or the like, guided by driven rollers [N: E04G11/34 takes precedence]
- E04G11/28      . . . Climbing forms, i.e. forms which are not in contact with the poured concrete during lifting from layer to layer [N: and which are anchored in the hardened concrete]
- E04G11/30      . . . . which are lifted from layer to layer by turning, tilting, or similar moving upwards about a horizontal axis
- E04G11/32      . . . Tiltable forms or tilting tables for making walls as a whole or in parts in situ
- E04G11/34      . . . Horizontally-travelling moulds for making walls block-wise or section-wise

E04G11/26 takes precedence)

- E04G11/36 . for floors, ceilings, or roofs of plane or curved surfaces [N: end formpanels for floor shutterings (floors with lost forms E04B5/32)] [N1204]
- E04G11/36A . . [N: Stop-end shutterings (end panels for walls E04G11/08C)] [N1204]
- E04G11/38 . . for plane ceilings of concrete
- E04G11/40 . . for coffered or ribbed ceilings
- E04G11/42 . . . with beams of metal or prefabricated concrete [N: which are not, or of which only the upper part is embedded]
- E04G11/44 . . . with supporting beams for the shuttering used simultaneously as permanent reinforcement of the ribs
- E04G11/46 . . . 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 [N: (for separately encased beams E04G13/04)] [C9605]
- E04G11/48 . . Supporting structures for shutterings or frames for floors or roofs (struts E04G25/00)
- E04G11/48B . . . [N: Supporting heads (E04G11/48D takes precedence)]
- E04G11/48D . . . [N: Dropheads supporting the concrete after removal of the shuttering; Connecting means on beams specially adapted for dropheads]
- E04G11/50 . . . Girders, beams, or the like as supporting members for forms (girders intended to form part of the construction E04C3/02; members, e.g. consoles, for attachment to the wall E04G17/16)
- E04G11/52 . . . . of several units arranged one after another
- E04G11/54 . . . . of extensible type, with or without adjustable supporting shoes, fish-plates, or the like
- E04G11/56 . . . . . of telescopic type
  
- E04G13/00** **Falsework, forms, or shutterings for particular parts of buildings, e.g. stairs, steps, cornices, balconies [N: foundations, sills (E04G11/36A takes precedence; flat foundations e.g. with lost forms E02D27/01; removable forms or shutterings for road-building purposes E01C19/50)] [N1204]**
  
- E04G13/02 . for columns or like pillars; Special tying or clamping means therefor [N: (columns, pillars of concrete with permanent forms E04C3/34)] [N1204]
- E04G13/02B . . [N: for circular columns] [N9604]
- E04G13/02C . . [N: with means for modifying the sectional dimensions (E04G13/02B takes precedence)] [N9604]
- E04G13/02C2 . . . [N: with stiff clamping means bracing the back-side of the form without penetrating the forming surface] [N9604]
- E04G13/02C2B . . . . [N: the forming surface-element being the same for different sections of the column] [N9604]
- E04G13/02D . . [N: for columns' capital] [N1204]
  
- E04G13/04 . for lintels, beams, or transoms to be encased separately; Special tying or clamping means therefor ([N: hat-like or trough-like elements encasing a rib and its adjacent ceiling section E04G11/46; members, e.g. consoles, for attachment to the wall E04G17/16]) [C9605]
  
- E04G13/06 . for stairs, steps, cornices, balconies, or other parts corbelled out of the wall [N: (moulds for making prefabricated stair units B28B7/22B; stairways with permanent forms E04F11/02)] [N1204]

- E04G13/06B . . [N: for stairs or steps] [N1204]
- E04G13/06D . . [N: for chimney crowns] [N1204]
- E04G13/06F . . [N: for overhangs] [N1204]
- E04G13/06H . . [N: for window or door sills] [N1204]
  
- E04G15/00**      **Forms or shutterings for making openings, cavities, slits, or channels (forming part of shuttering for walls E04G11/06, [N: e.g. double walls E04G11/18; prefabricated elements with elements wholly or partly embedded therein B28B23/00; core or mandrels for the prefabrication of concrete elements B28B7/28]) [N1204]**
  
- E04G15/02 . for windows, doors, or the like
  
- E04G15/04 . Cores for anchor holes or the like [N: around anchors embedded in the concrete (means in or on the building element for connecting to handling apparatus E04G21/14B)] [N1204]
  
- E04G15/06 . for cavities or channels in walls of floors, e.g. for making chimneys
- E04G15/06B . . [N: Non-reusable forms (positioning means without forming function E04G21/18C2; electric distribution boxes H02G3/08)] [N1204]
- E04G15/06C . . [N: Re-usable forms] [N9701]
- E04G15/06C2 . . . [N: with mechanical means to modify the section ([E04G15/06C6](#) takes precedence)] [N9701]
- E04G15/06C4 . . . [N: with fluid means to modify the section ([E04G15/06C6](#) takes precedence)] [N9701]
- E04G15/06C6 . . . [N: for channels open towards the surface] [N9701]
  
- E04G17/00**      **Connecting or other auxiliary members for forms, falsework structure, or shutterings**
  
- E04G17/00B . [N: Corner fastening or connecting means for forming or stiffening elements (forms for rooms as a whole [E04G11/02](#); forms for vertical ducts [E04G11/06](#); forms for columns [E04G13/02](#))]
  
- E04G17/00D . [N: Workplatforms, railings; Arrangements for pouring concrete, attached to the form]
  
- E04G17/00F . [N: Strips for creating a chamfered edge] [N1204]
  
- E04G17/00H . [N: Strips for covering joints between form sections e.g. to avoid burring or spilling of laitance] [N1204]
  
- E04G17/00J . [N: Plugs to close openings in forms' surface] [N1204]
  
- E04G17/02 . Connecting or fastening means for non-metallic forming or stiffening elements [N: ([E04G17/00B](#) takes precedence)]
  
- E04G17/04 . Connecting or fastening means for metallic forming or stiffening elements, [N: e.g. for connecting metallic elements to non-metallic elements ([E04G17/00B](#) takes precedence)]
  
- E04G17/04B . . [N: being tensioned by threaded elements ([E04G17/04D](#) takes precedence)]
- E04G17/04C . . [N: being tensioned by wedge-shaped elements ([E04G17/04D](#) takes precedence)]

- E04G17/04D . . [N: simultaneously tying two facing forms]
- E04G17/06 . Tying means; Spacers; [N: Devices for extracting or inserting wall ties (E04G17/04D takes precedence; permanent forms for walls e.g. with ties E04B2/86)] [N1204]
- E04G17/06E . . [N: Spacers placed on the bottom of the mould] [C9701]
- E04G17/06G . . [N: Devices for extracting or inserting wall ties or parts thereof] [N9701]
- E04G17/06H . . [N: Plug means for tie-holes] [N9701]
- E04G17/065 . . Tying means, the tensional elements of which are threaded to enable their fastening or tensioning [N0505]
- E04G17/065B . . . [N: One-piece elements] [N0505]
- E04G17/065B2 . . . . [N: fully recoverable] [N0505]
- E04G17/065B4 . . . . [N: remaining completely or partially embedded in the cast material] [N0505]
- E04G17/065D . . . . [N: the element consisting of several parts] [N0505]
- E04G17/065D2 . . . . [N: fully recoverable] [N0505]
- E04G17/065D4 . . . . [N: remaining completely or partially embedded in the cast material] [N0505]
- E04G17/07 . . Tying means, the tensional elements of which are fastened or tensioned by means of wedge-shaped members [N0505]
- E04G17/07B . . . [N: One-piece elements] [N0505]
- E04G17/07B2 . . . . [N: fully recoverable] [N0505]
- E04G17/07B4 . . . . [N: remaining completely or partially embedded in the cast material] [N0505]
- E04G17/07D . . . [N: the element consisting of several parts] [N0505]
- E04G17/07D2 . . . . [N: fully recoverable] [N0505]
- E04G17/07D4 . . . . [N: remaining completely or partially embedded in the cast material] [N0505]
- E04G17/075 . . Tying means, the tensional elements of which are fastened or tensioned by other means [N0505]
- E04G17/075B . . . [N: One-piece elements] [N0505]
- E04G17/075B2 . . . . [N: fully recoverable] [N0505]
- E04G17/075B4 . . . . [N: remaining completely or partially embedded in the cast material] [N0505]
- E04G17/075D . . . [N: the element consisting of several parts] [N0505]
- E04G17/075D2 . . . . [N: fully recoverable] [N0505]
- E04G17/075D4 . . . . [N: remaining completely or partially embedded in the cast material] [N0505]
- E04G17/12 . . with arms engaging the forms
- E04G17/14 . Bracing or strutting arrangements for form-walls; Devices for aligning forms ([E04G25/00](#) takes precedence; [N: connecting and aligning [E04G17/04](#)])
- E04G17/16 . 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
- E04G17/18 . Devices for suspending or anchoring form elements to girders placed in ceilings, e.g. hangers
- E04G19/00** **Auxiliary treatment of forms, e.g. dismantling; Cleaning devices (lubricating compositions [C10M](#))**
- E04G19/00A . [N: Arrangements for stabilising the forms or for moving the forms from one place to another (lifting of articles in general B66C1/00)] [N1204]

- E04G19/00B . [N: Cleaning devices]
  
- E04G21/00** **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](#))
  
- E04G21/00B . [N: Mortar boards] [\[N1204\]](#)
  
- E04G21/02 . Conveying or working-up concrete or similar masses able to be heaped or cast (in connection with finishing work [E04E](#); construction and surfacing of floorings made of similar material to roads or pavements [E01C](#); in connection with barrages [E02B7/00](#); in connection with foundations [E02D15/00](#); composition of concrete [C04B](#); working concrete in general, e.g. mixing machines [B28C](#))
  
- E04G21/02B . . [N: Buckets specially adapted for use with concrete]
- E04G21/04 . . Devices for both conveying and distributing (concrete pumps [F04](#))
- E04G21/04B . . . [N: with conveyor belts (truck mixer with conveyor belts [B28C5/42A3C3](#)) [\[N1204\]](#)
- E04G21/04D . . . [N: with distribution hose] [\[N1204\]](#)
- E04G21/04D2 . . . . [N: on a static support e.g. crane] [\[N1204\]](#)
- E04G21/04D4 . . . . [N: on a mobile support e.g. truck] [\[N1204\]](#)
- E04G21/04D6 . . . . [N: with booms] [\[N1204\]](#)
- E04G21/04D6B . . . . . [N: with boom vibration damper mechanisms] [\[N1204\]](#)
- E04G21/04D6D . . . . . [N: with boom control mechanisms, e.g. to automate concrete distribution] [\[N1204\]](#)
- E04G21/04D8 . . . . . [N: Details of connection of the hose to the formwork, e.g. inlets] [\[N1204\]](#)
- E04G21/04F . . . . [N: Concrete chutes] [\[N1204\]](#)
- E04G21/06 . . Solidifying concrete, e.g. by application of vacuum before hardening (devices for solidifying also soil [E02D3/02](#); for road building [E01C19/00](#); [N: for producing shaped articles [B28B1/00](#)]) [\[N1204\]](#)
- E04G21/06B . . . [N: by applying vacuum or vacuum combined with vibration]
- E04G21/06C . . . ... [E04G21/08](#) take... [\[N1204\]](#)
- E04G21/06C2 . . . . [N: making use of vibrating or jolting tools acting upon the shuttering]
- E04G21/06C3 . . . . [N: making use of vibrating or jolting tools acting upon the surface of the concrete, whether or not provided with parts penetrating the concrete]
- E04G21/06C4 . . . . [N: making use of vibrating or jolting tools acting upon the reinforcement]
- E04G21/08 . . . Internal vibrators, [N: e.g. needle vibrators (combined with vacuum [E04G21/06B](#))]
- E04G21/10 . . Devices for levelling, e.g. templates or boards (smoothing tools [E04F21/16](#), [E04F21/24](#))
  
- E04G21/12 . Mounting of reinforcing inserts; Prestressing (shell tubes for prestressing members [E04C5/10](#); anchoring means [E04C5/12](#); connections of reinforcing elements and spacers [E04C5/16](#))
  
- E04G21/12B . . [N: Construction of stressing jacks]
- E04G21/12C . . [N: Machines for joining reinforcing bars]
- E04G21/12C2 . . . [N: Wire twisting tools (bundling articles by twisting e.g. wire [B65B13/28](#); bundling rods, sticks, or like elongated objects with e.g. wire [B65B27/10](#); tying devices for hops, vines or trees with e.g. wire [A01G17/08](#))] [\[N1204\]](#)

E04G21/12D	. .	[N: Reinforcement continuity box] [N1204]
E04G21/12D2	. . .	[N: for cable loops] [N1204]
E04G21/14	. .	Conveying or assembling building elements (roofing <a href="#">E04D</a> ; finishing work <a href="#">E04F</a> )
E04G21/14B	. .	[N: Means in or on the elements for connecting same to handling apparatus ( <a href="#">E04B1/38</a> takes precedence)]
E04G21/14B2	. . .	[N: specific for hollow plates] [N1204]
E04G21/14B4	. . .	[N: specific for prefabricated masonry wall elements] [N1204]
E04G21/16	. .	Tools or apparatus (devices for erecting fences <a href="#">E04H17/26</a> )
E04G21/16B	. . .	[N: Handling units comprising at least considerable parts of two sides of a room or like enclosed space]
E04G21/16C	. . .	[N: Handles to carry construction blocks (load carriers (B65G7/12)) [N1204]
E04G21/16D	. . .	[N: Jacks specially adapted for working-up building elements (jacks in general B66F3/00)] [N1204]
E04G21/16F	. . .	[N: specially adapted for working-up chimneys] [N1204]
E04G21/16H	. . .	[N: specially adapted for in-situ prefabricated building elements to be tilted up in position] [N1204]
E04G21/16J	. . .	[N: Landings, receiving platforms] [N1204]
E04G21/16L	. . .	[N: specially adapted for working-up plates, panels or slab shaped building elements] [N1204]
E04G21/16L2	. . . .	[N: used for tilting, e.g. from horizontal to vertical position or vice versa] [N1204]
E04G21/16M	. . .	[N: specially adapted for working-up reinforcement mats] [N1204]
E04G21/18	. . .	Adjusting tools; Templates; [N: (workshop marking tools <a href="#">B25H</a> ; for coverings or linings <a href="#">E04F21/18</a> )]
E04G21/18B	. . . .	[N: Holders for bricklayers` lines, bricklayers` bars; Sloping braces (cord-line chalkers <a href="#">B44D3/38</a> )]
E04G21/18B2	. . . . .	[N: Adjustable positioning means between line-holder bars and construction]
E04G21/18B4	. . . . .	[N: Line-holders without supporting bars]
E04G21/18B6	. . . . .	[N: Line-holders for setting-out builders` work, e.g. foundations]
E04G21/18C	. . . . .	[N: Means for positioning building parts or elements (strutting means for wall parts <a href="#">E04G21/26</a> )]
E04G21/18C2	. . . . .	[N: for anchoring elements or elements to be incorporated in the structure]
E04G21/18C4	. . . . .	[N: Templates for window or door openings e.g. in a masonry wall (E04G15/02 takes precedence)] [N1204]
E04G21/18C4B	. . . . . .	[N: for making arches] [N1204]
E04G21/18C6	. . . . .	[N: for making curved walls (E04G11/06 takes precedence)] [N1204]
E04G21/18C8	. . . . .	[N: Spacers, e.g. to have a constant spacing between courses of masonry] [N1204]
E04G21/18D	. . . . .	[N: Cut-marking templates for rafters; Templates used for assembling building frameworks]
E04G21/20	. . .	for applying mortar
E04G21/20B	. . . .	[N: Trowels] [N1204]
E04G21/20D	. . . .	[N: Hoses specially adapted therefor] [N1204]
E04G21/20F	. . . .	[N: Prepared mortar strips, pouches or the like to be applied between

- masonry courses] [N1204]
- E04G21/20H . . . . [N: Mortar sledges] [N1204]
- E04G21/20H2 . . . . . [N: with closable mortar opening] [N1204]
- E04G21/20J . . . . . [N: Devices to apply thin-bed mortar joints] [N1204]
- E04G21/20L . . . . . [N: Static templates for applying a predefined layer of mortar] [N1204]
- E04G21/22 . . . for setting building elements with mortar, e.g. bricklaying machines
- E04G21/24 . Safety or protective measures preventing damage to building parts or finishing work during construction (as auxiliary structures for scaffolds E04G, [N: E04G5/12]) [N1204]
- E04G21/24B . . [N: for temporarily closing door or window openings] [N1204]
- E04G21/24D . . [N: for temporarily covering the whole worksite, e.g. building, trench] [N1204]
- E04G21/24F . . [N: for creating a temporary partition in a closed room] [N1204]
- E04G21/24H . . [N: for temporarily protecting wall crowns] [N1204]
- E04G21/24J . . [N: specially adapted for curing concrete in situ, e.g. by covering it with protective sheets] [N1204]
- E04G21/24L . . [N: specific for protecting windows or doors leaves] [N1204]
- E04G21/26 . . Strutting means for wall parts; Supports or the like, e.g. for holding in position prefabricated walls ([E04G25/00](#) takes precedence; on existing buildings [E04G23/04](#))
- E04G21/28 . . against unfavourable weather influence
- E04G21/30 . . against mechanical damage or dirt, e.g. guard covers of stairs
- E04G21/32 . Safety or protective measures for persons during the construction of buildings (relating to scaffolds E04G5/00; climbing tools, e.g. climbing irons for masts A63B27/00; ropes or belts for life saving A62B1/16, A62B35/00) [N1204]
- E04G21/32B . . [N: against falling down]
- E04G21/32B1 . . . [N: Temporary tunnels specially adapted against falling objects] [N1204]
- E04G21/32B2 . . . [N: Means for working on roofs (on flat roofs [E04G21/32B6](#))]
- E04G21/32B4 . . . [N: Means supported by the building wall, e.g. security consoles ([E04G5/06](#) takes precedence)]
- E04G21/32B6 . . . [N: Means supported by building floors or flat roofs, e.g. safety railings]
- E04G21/32B6A . . . . [N: Folding railings for flat roof edge, e.g. to hide the railings from view when not in use] [N1204]
- E04G21/32B6B . . . . [N: without permanent provision in the floor or roof]
- E04G21/32B6B2 . . . . . [N: using counterweights] [N1204]
- E04G21/32B6B4 . . . . . [N: using clamps] [N1204]
- E04G21/32B8 . . . [N: Storey high safety barrier hung from the facade and sliding up from level to level as work progresses] [N1204]
- E04G21/32B10 . . . [N: Protections, e.g. cover, caps, against impaling on starter reinforcement bars] [N1204]
- E04G21/32F . . [N: Safety-nets; Safety mattresses; Arrangements on buildings for connecting safety-lines (jumping-sheets, jumping-mattresses A62B1/22)] [N1204]
- E04G21/32F2 . . . [N: Safety nets] [N1204]
- E04G21/32F4 . . . [N: Safety mattresses] [N1204]
- E04G21/32F6 . . . [N: Arrangements on buildings for connecting safety-lines (fastening devices for devices for lowering persons from buildings A62B1/04)] [N1204]

- E04G21/32F6B . . . . [N: fastened to the roof covering or insulation] [N1204]
- E04G21/32F6B2 . . . . . [N: fastened to standing seams of the roof covering] [N1204]
- E04G21/32F6D . . . . . [N: with measures for dampening the fall] [N1204]
- E04G21/32F8 . . . . [N: Guide tracks for safety lines (arrangements for bypassing safety track supports without life line disconnection A62B35/04D) [N1204]

**E04G23/00**

**Working measures on existing buildings,** ([N: domestic cleaning of walls or floors [A47L11/00](#); grinding floors or walls [B24B7/18](#); removing of wall coverings [B44C7/00](#); removing of paint from surfaces [B44D3/16](#); electrochemical desalination or re-alkalisation [C04B41/00](#); on foundations [E02D35/00](#), [E02D37/00](#); in connection with insulations [E04B](#); subsequent or finishing work [E04F](#)) [C0109]

**Note**

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 used in constructing new buildings, are classified in the appropriate construction groups.

- E04G23/00B . . [N: Arrangements for cleaning building facades] [N0109]
- E04G23/00B2 . . . [N: with arrangements for collecting waste water or cleaning products] [N1204]
- E04G23/00D . . [N: Arrangements for removing of previously fixed floor coverings] [N0109]
- E04G23/00F . . [N: Working measures on existing vertical ducts e.g. chimneys, garbage chutes] [N1204]
- E04G23/02 . . Repairing, e.g. filling cracks; Restoring; Altering; Enlarging [N: (compositions of filling material [C04B](#); strengthening, widening, repairing of bridges [E01D22/00](#); drying damp layers by temporary mechanical ventilation [E04B1/70V3](#))]
- E04G23/02B . . . [N: Arrangements for filling cracks or cavities in building constructions]
- E04G23/02B2 . . . . [N: in hollow structures e.g. cavity walls] [N1204]
- E04G23/02B4 . . . . [N: using injection] [N1204]
- E04G23/02B6 . . . . [N: using covering strips] [N1204]
- E04G23/02C . . . [N: Increasing or restoring the load-bearing capacity of building construction elements ([E04G23/02B](#) and [E04G23/02E](#) take precedence)]
- E04G23/02C2 . . . . [N: Replacing or adding wall ties]
- E04G23/02C4 . . . . [N: of circular building elements e.g. by circular bracing] [N1204]
- E04G23/02C6 . . . . [N: of foundations or foundation walls] [N1204]
- E04G23/02C8 . . . . [N: of vaulted or arched building elements] [N1204]
- E04G23/02C10 . . . . [N: of storey floors] [N1204]
- E04G23/02C12 . . . . [N: of basement floors] [N1204]
- E04G23/02C14 . . . . [N: of beams at places of holes, e.g. drilled in them] [N1204]
- E04G23/02E . . . [N: Enlarging]
- E04G23/02E2 . . . . [N: Loft conversion by truss modification] [N1204]
- E04G23/02F . . . [N: Temporary shoring of wall opening] [N1204]
- E04G23/02G . . . [N: Repairing or restoring window or door frames (door frames [E06B1/00](#)), window frames [E06B3/00](#))] [N1204]
- E04G23/02H . . . [N: Repairing or restoring roofing or roof covering (roof covering [E04D3/00](#))] [N1204]

- E04G23/02J . . [N: Repairing or restoring flooring (flooring E04F15/00)] [N1204]
- E04G23/02K . . [N: Repairing or restoring floor slabs (floors E04B5/00)] [N1204]
- E04G23/02L . . [N: Repairing or restoring balconies (balcony structures E04B1/00D)] [N1204]
- E04G23/02M . . [N: Repairing or restoring facades (covering or linings e.g. for walls E04F13/00)] [N1204]
  
- E04G23/04 . Propping of endangered or damaged buildings or building parts, e.g. with respect to air-raid action (struts [E04G25/00](#))
  
- E04G23/06 . Separating, lifting, removing of buildings; Making a new sub-structure
- E04G23/06B . . [N: Lifting of buildings (E04G21/16D takes precedence)] [N1204]
  
- E04G23/08 . Wrecking of buildings (of fences [E04H17/26](#); [N: Demolition agents based on cementitious or like materials [C04B41/00B](#)])
  
- E04G23/08B . . [N: using hydrodemolition] [N1204]
- E04G23/08D . . [N: using shears, breakers, jaws and the like (metal-cutting or concrete-crushing implements mounted on backhoes E02F3/96D4)] [N1204]
- E04G23/08F . . [N: using vaporising wire technique (particular applications of blasting techniques F42D3/00)] [N1204]
- E04G23/08H . . [N: using breaker balls or the like] [N1204]
  
- E04G25/00** **Shores or struts (specially designed for use in mines E21D15/00 [N: ; E04G21/26, E04G23/04 take precedence]); Chocks [N1204]**
  
- E04G25/02 . non-telescopic
  
- E04G25/04 . telescopic [N: (locking of telescopic systems in general [F16B7/10](#))]
- E04G25/06 . . with parts held together by positive means
- E04G25/06B . . . [N: by pins] [N1204]
- E04G25/06B2 . . . . [N: with safety devices to avoid the accidental loss or unlocking of the pin, e.g. chains attaching the pin to the prop] [N1204]
- E04G25/06D . . . [N: by a threaded nut] [N1204]
- E04G25/06F . . . [N: by a wedge] [N1204]
- E04G25/06H . . . [N: by a cam] [N1204]
- E04G25/08 . . with parts held relatively to each other by friction or gripping
  
- E04G27/00** **Temporary arrangements for giving access from one level to another for men or vehicles, e.g. steps, ramps (for scaffolds [E04G1/26](#); gangways [B63](#); lifts [B66](#))**