

**CPC****COOPERATIVE PATENT CLASSIFICATION****E04F**

**FINISHING WORK ON BUILDINGS, e.g. STAIRS, FLOORS** ( [windows](#), [doors](#) [E06B](#) )

**WARNING**

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

[E04F 11/09](#) covered by [E04F 11/02](#)  
[E04F 11/17](#) covered by [E04F 11/16](#)

**E04F 10/00**

**Sunshades**, { e.g. Florentine blinds or jalousies; Outside screens ( [E06B 9/26](#) takes precedence ) }; **Awnings** { or baldachins ( for caravans [B60P 3/343](#) ) }; ( trailer awnings [E04H 15/08](#); for tents [E04H 15/58](#) )

**E04F 10/005**

. { Rigidly-arranged sunshade roofs with coherent surfaces }

**E04F 10/02**

. of flexible canopy materials, e.g. canvas; { Baldachins }

**E04F 10/04**

.. with material fixed on sections of a collapsible frame { especially Florentine blinds }

**E04F 10/06**

.. comprising a roller-blind with means for holding the end away from a building

**E04F 10/0603**

... { with telescopic arms }

**E04F 10/0607**

... { with guiding-sections for supporting the movable end of the blind }

**E04F 10/0611**

... { with articulated arms supporting the movable end of the blind for deployment of the blind }

**E04F 10/0614**

.... { whereby the pivot axis of the articulation is parallel to the roller }

**E04F 10/0618**

.... { whereby the pivot axis of the articulation is perpendicular to the roller }

**E04F 10/0622**

..... { whereby the plane defined by three consecutive articulation points of an articulated arm is not parallel to the rotation axis of the roller, e.g. to create a saddle type roof construction or to prevent contact between the cloth and the arm sections }

**E04F 10/0625**

.... { whereby the roller is installed on the articulated arms }

**E04F 10/0629**

.... { whereby the arm is of the lazy tong type }

**E04F 10/0633**

... { Arrangements for fastening the flexible canopy material to the supporting structure ( fastening roller shutters to rollers [E06B 9/171](#) ) }

**E04F 10/0637**

... { with mechanisms for adjusting the inclination of the blind }

**E04F 10/064**

.... { whereby the mechanism changes the inclination of the blind during unrolling }

**E04F 10/0644**

... { with mechanisms for unrolling or balancing the blind }

**E04F 10/0648**

.... { acting on the roller tube }

**E04F 10/0651**

.... { acting on the arms }

**E04F 10/0655**

.... { acting on the movable end, e.g. front bar }

**E04F 10/0659**

.... { Control systems therefor }

**E04F 10/0662**

... { with arrangements for fastening the blind to the building }

**E04F 10/0666**

... { Accessories }

E04F 10/067	....	{ acting as intermediate support of the flexible canopy }
E04F 10/0674	....	{ acting as separate supporting bar }
E04F 10/0677	....	{ acting as centre bearing }
E04F 10/0681	....	{ Support posts for the movable end of the blind }
E04F 10/0685	...	{ Covers or housings for the rolled-up blind }
E04F 10/0688	....	{ with the housing taking up the articulated arms }
E04F 10/0692	...	{ Front bars }
E04F 10/0696	....	{ with means to attach an auxiliary screen }
E04F 10/08	.	of a plurality of similar rigid parts, e.g. slabs, lamellae { ( <a href="#">E04F 10/005</a> takes precedence ) }
E04F 10/10	..	collapsible { or extensible; metallic Florentine blinds; awnings with movable parts such as louvres; ( <a href="#">shutters E06B 9/04</a> ; <a href="#">louvre windows E06B 7/08</a> ) }
<b>E04F 11/00</b>		<b>Stairways, ramps, or like structures</b> ( mounting or marking-off stairways <a href="#">E04F 21/26</a> ; of temporary { use during building } construction <a href="#">E04G 27/00</a> ; means for facilitating access to swimming pools <a href="#">E04H 4/144</a> ; { means for facilitating access to swimming pools <a href="#">E04H 4/144</a> ; appliances for aiding patients or disabled persons to walk <a href="#">A61H 3/00</a> } ); <b>Balustrades; Handrails</b> ( ladders permanently attached to fixed structures <a href="#">E06C 9/00</a> )
E04F 11/002	.	{ Ramps }
E04F 2011/005	..	{ collapsible, e.g. folding, telescopic }
E04F 2011/007	..	{ characterised by the supporting structure }
E04F 11/02	.	Stairways; Layouts thereof
E04F 11/0201	..	{ Space-saving stairways, e.g. having half steps }
E04F 2011/0203	..	Miscellaneous features of stairways not otherwise provided for
E04F 2011/0205	...	Stairways characterised by the use of specific materials for the supporting structure of the treads
E04F 2011/0207	....	mainly of wood
E04F 2011/0209	....	mainly of metal
E04F 2011/021	....	mainly of stone or stone like materials, e.g. concrete; mainly of glass
E04F 2011/0212	.....	mainly of concrete
E04F 2011/0214	.....	cast in-situ
E04F 2011/0216	.....	mainly of glass
E04F 2011/0218	....	mainly of organic plastics with or without reinforcements or filling materials
E04F 11/022	..	characterised by the supporting structure
E04F 11/0223	...	{ Cantilevered stairways ( <a href="#">E04F 11/032</a> takes precedence ) }
E04F 11/0226	...	{ Stairways having treads supported by balusters }
E04F 11/025	...	Stairways having stringers { ( <a href="#">E04F 11/035</a> takes precedence ) }
E04F 11/0255	....	{ having adjustable gradient ( <a href="#">E04F 11/1041</a> takes precedence ) }
E04F 11/028	....	having a central stringer
E04F 11/032	...	Spiral stairways supported by a central column
E04F 11/035	...	Stairways consisting of a plurality of assembled modular parts without further support { ( <a href="#">E04F 11/032</a> takes precedence ) }

E04F 11/038	....	each modular part having a load-bearing balustrade part
E04F 11/04	..	Movable stairways, e.g. of loft ladders which may or may not be concealable or extensible ( <a href="#">ship ladders B63B</a> ; <a href="#">stairs for aircraft B64F</a> ; <a href="#">escalators or moving walkways B66B</a> )
E04F 11/06	...	collapsible, e.g. folding, telescopic
E04F 11/062	....	{ folding }
E04F 11/064	.....	{ with stringers overlapping when folded }
E04F 11/066	.....	{ folding like scissors or accordions }
E04F 11/068	....	{ telescopic }
E04F 11/09	..	Tread-and-riser units
E04F 11/104	..	Treads
E04F 11/1041	...	{ having means to adjust the height, the depth and/or the slope of the stair steps ( <a href="#">E04F 11/1042</a> to <a href="#">E04F 11/116</a> take precedence ) }
E04F 11/1042	...	{ with an upper layer of fibres or chips, e.g. bonded with synthetic resins }
E04F 11/1043	...	{ with an upper layer of organic plastics with or without reinforcements or filling materials }
E04F 11/1045	...	{ composed of several layers, e.g. sandwich panels ( <a href="#">layered products in general B32B</a> ; <a href="#">producing decorative panels or veneers B44C 5/04</a> ) }
E04F 2011/1046	...	Miscellaneous features of treads not otherwise provided for
E04F 2011/1047	....	with means for eliminating squeak
E04F 2011/1048	....	with lighting means
E04F 11/108	...	of wood { or with an upper layer of wood }
E04F 11/112	...	of metal { or with an upper layer of metal }
E04F 11/116	...	of stone, concrete or like material { or with an upper layer of stone or stone like material, e.g. ceramics, concrete; of glass or with an upper layer of glass }
E04F 11/16	...	Surfaces thereof; Protecting means for edges or corners thereof ( { loosely laid coverings, } <a href="#">floor fabrics, fastenings therefor A47G 27/00</a> )
E04F 11/163	....	{ Protecting means for edges or corners }
E04F 11/166	.....	{ with means for fixing a separate edging strip }
E04F 11/17	....	Surfaces { ( <a href="#">guard covers of stairs E04G 21/30</a> ) }
E04F 11/175	.....	{ Covering panels for tread restoration }
E04F 11/18	.	Balustrades; Handrails ( <a href="#">guard-rails on ships B63B</a> ; <a href="#">for bridges E01D 19/10</a> ; <a href="#">for roads E01F 13/00, E01F 15/00</a> ; <a href="#">fences E04H 17/00</a> ; { safety measures for persons during the construction of buildings <a href="#">E04G 21/32</a> } )
E04F 11/1802	..	{ Handrails mounted on walls, e.g. on the wall side of stairs }
E04F 11/1804	...	{ Details of anchoring to the wall }
E04F 2011/1806	...	Balcony guard with additional child safety means
E04F 11/1808	...	{ Handrail members; Connections between handrail members }
E04F 11/181	..	{ Balustrades }
E04F 11/1812	...	{ Details of anchoring to the wall or floor }
E04F 11/1814	....	{ Covers for the base portions of the balustrade posts }
E04F 11/1817	...	{ Connections therefor ( <a href="#">E04F 11/1812</a> and <a href="#">E04F 11/1836</a> take precedence ) }
E04F 2011/1819	....	{ between balustrade posts and horizontal or sloping balustrade members }
E04F 2011/1821	.....	{ between balustrade posts and handrails }

E04F 2011/1823	....	{ between balustrade filling members, e.g. balusters or panels, and horizontal or sloping balustrade members }
E04F 2011/1825	.....	{ between balustrade filling members, e.g. balusters or panels, and handrails }
E04F 2011/1827	.....	{ between balusters and handrails }
E04F 2011/1829	.....	{ between filling panels and handrails }
E04F 2011/1831	....	{ between balustrade filling members, e.g. panels, and balustrade posts }
E04F 11/1834	....	{ with adjustable angle, e.g. pivotal connections }
E04F 11/1836	...	{ Handrails of balustrades; Connections between handrail members }
E04F 11/1838	....	{ Laterally displaced handrail }
E04F 11/184	....	{ of variable curvature; flexible }
E04F 11/1842	...	{ Balusters; Grille-type elements }
E04F 11/1844	....	{ Grille-type elements }
E04F 11/1846	....	{ Balusters with means for fixing to the floor }
E04F 11/1848	....	{ Separate means for spacing balusters apart }
E04F 11/1851	...	{ Filling panels, e.g. concrete, sheet metal panels }
E04F 11/1853	....	{ Glass panels }
E04F 11/1855	....	{ Wire mesh panels }
E04F 11/1857	....	{ Flexible panels or nets }
E04F 11/1859	...	{ Wire cables or the like filling elements }
E04F 11/1861	...	{ with additional safety means for children, e.g. nets or fillings between balusters }
E04F 11/1863	..	{ Built-in aids for ascending or descending stairs ( lifts associated with stairs <a href="#">B66B 9/08</a> ) }
E04F 11/1865	..	{ Collapsible or portable balustrades }
E04F 2011/1868	..	Miscellaneous features of handrails not otherwise provided for
E04F 2011/187	...	lengthwise adjustable, e.g. telescopic
E04F 2011/1872	...	illuminated
E04F 2011/1874	...	Noise reduction
E04F 2011/1876	...	Movable elements, e.g. against sunlight
E04F 2011/1878	...	Heat exchanger
E04F 2011/188	...	with flower pots
E04F 2011/1882	...	with traction cable inside post or rail
E04F 2011/1885	..	Handrails or balusters characterized by the use of specific materials
E04F 2011/1887	...	mainly of wood
E04F 2011/1889	...	mainly of metal
E04F 2011/1891	...	mainly of stone or stone like materials, e.g. concrete; mainly of glass
E04F 2011/1893	....	mainly of concrete
E04F 2011/1895	....	mainly of glass
E04F 2011/1897	...	mainly of organic plastics with or without reinforcements or filling materials

**E04F 13/00**

**Coverings or linings, e.g. for walls or ceilings** ( flooring [E04F 15/00](#); decoration of surfaces, mosaic work [B44](#) , e.g. paper-hanging [B44C 7/00](#); made of webs, e.g. of fabrics or wallpaper, { as such, or their manufacturing } [D03D](#) , [D04G](#) , [D04H](#) , [D06N](#) , [D21H](#) ; construction of { false } ceilings [E04B 9/00](#); roofings or similar water-tight coverings

against precipitation [E04D](#) )

- E04F 13/002 . { made of webs, e.g. of fabrics, or wallpaper, used as coverings or linings ( of a number of similar elements carried by a common web [E04F 13/0862](#); paperhanging, tapestry work [B44C 7/00](#) ) }
- E04F 13/005 .. { Stretched foil- or web-like elements attached with edge gripping devices }
- E04F 13/007 . { Outer coverings for walls with ventilating means }
- E04F 13/02 . of plastic materials hardening after applying, e.g. plaster ( surface treatment in painting technique [B44D](#) ; inorganic or bituminous masses [C04B](#) ; organic plastics [C08L](#) ) { implements for applying plasticised materials [E04F 21/02](#) }
- E04F 13/04 .. Bases for plaster ( sub-ceilings with plaster-carrying means [E04B 9/06](#) )
- E04F 13/042 ... { Joint tapes }
- E04F 13/045 ... { Means for fastening plaster-bases to a supporting structure }
- E04F 13/047 ... { Plaster carrying meshes }
- E04F 13/06 ... Edge-protecting borders { ( borders for joints between plaster layers and window or door frames or like [E06B 1/62](#) ) }
- E04F 2013/061 .... { for arched or curved edges }
- E04F 2013/063 .... { for corners }
- E04F 2013/065 .... { for lower edges of outer insulation layers }
- E04F 2013/066 .... { for expansion joints between two plaster layers }
- E04F 13/068 .... { combined with mesh material or the like to allow plaster to bond therewith }
- E04F 13/07 . composed of covering or lining elements; Sub-structures therefor; Fastening means therefor
- E04F 13/072 .. composed of specially adapted, structured or shaped covering or lining elements
- E04F 13/073 ... for particular building parts, e.g. corners or columns
- E04F 13/0733 .... { for corners }
- E04F 13/0736 .... { for columns }
- E04F 13/074 ... for accommodating service installations or utility lines, e.g. heating conduits, electrical lines, lighting devices or service outlets { ( not used; accommodating heating conduits [F24D](#) ; accommodating electrical cables or lines [H02G 3/00](#); accommodating lighting devices [F21V 33/006](#) ) }
- E04F 13/075 ... for insulation or surface protection, e.g. against noise or impact { ( not used; for insulation, e.g. against noise [E04B1](#) ) }
- E04F 13/076 ... characterised by the joints between neighbouring elements, e.g. with joint fillings or with tongue and groove connections { ( not used, see [E04F 13/0889](#) ) }
- E04F 13/077 ... composed of several layers, e.g. sandwich panels ( [E04F 13/075](#) takes precedence ) { ( not used, see [E04F 13/0866](#) ) }
- E04F 13/078 ... Stretched foil- or web-like elements attached with edge gripping devices { ( not used, see [E04F 13/005](#) ) }
- E04F 13/08 .. composed of a plurality of similar covering or lining elements, ( [E04F 13/072](#) takes precedence; borders, skirtings [E04F 19/02](#); { of webs or fabrics [E04F 13/002](#); fixing strips [E04F 19/06](#); separate provisional spacers between adjacent tiles [E04F 21/0092](#); implements or means for setting tiles [E04F 21/18](#) } )

E04F 13/0801	...	{ Separate fastening elements ( <a href="#">E04F 13/088</a> , <a href="#">E04F 13/0885</a> take precedence ) }
E04F 13/0803	....	{ with load-supporting elongated furring elements between wall and covering elements }
E04F 13/0805	.....	{ with additional fastening elements between furring elements and the wall }
E04F 13/0807	.....	{ adjustable perpendicular to the wall }
E04F 13/0808	.....	{ adjustable in several directions one of which is perpendicular to the wall }
E04F 13/081	.....	{ with additional fastening elements between furring elements and covering elements }
E04F 13/0812	.....	{ fixed by means of spring action }
E04F 13/0814	.....	{ fixed by means of clamping action }
E04F 13/0816	.....	{ the additional fastening elements extending into the back side of the covering elements ( <a href="#">E04F 13/083</a> takes precedence ) }
E04F 13/0817	.....	{ extending completely through the covering elements }
E04F 13/0819	.....	{ inserted into grooves in the back side of the covering elements }
E04F 13/0821	.....	{ the additional fastening elements located in-between two adjacent covering elements }
E04F 13/0823	.....	{ piercing the side faces of the covering elements }
E04F 13/0825	.....	{ engaging side holes preformed into the covering elements }
E04F 13/0826	.....	{ engaging side grooves running along the whole length of the covering elements }
E04F 13/0828	.....	{ engaging the outer surface of the covering elements, e.g. at the corners }
E04F 13/083	.....	{ Hooking means on the back side of the covering elements }
E04F 13/0832	....	{ without load-supporting elongated furring elements between wall and covering elements }
E04F 13/0833	....	{ not adjustable ( <a href="#">E04F 13/0857</a> takes precedence; not used, see subgroups ) }
E04F 13/0835	.....	{ the fastening elements extending into the back side of the covering elements ( <a href="#">E04F 13/0851</a> takes precedence ) }
E04F 13/0837	.....	{ extending completely through the covering elements }
E04F 13/0839	.....	{ the fastening elements situated at the corners of the covering elements, not extending through the covering }
E04F 13/0841	.....	{ the fastening elements engaging the outer surface of the covering elements, not extending through the covering ( <a href="#">E04F 13/0839</a> and <a href="#">E04F 13/0846</a> take precedence ) }
E04F 13/0842	.....	{ specially adapted for thin sheet-like materials, e.g. sheet-metal or plastics }
E04F 13/0844	.....	{ with means piercing the side faces of the covering elements }
E04F 13/0846	.....	{ the fastening elements engaging holes or grooves in the side faces of the covering elements ( <a href="#">E04F 13/0835</a> and <a href="#">E04F 13/0839</a> take precedence ) }
E04F 13/0848	.....	{ specially adapted for thin sheet-like materials, e.g. sheet-metal or plastics }
E04F 13/085	.....	{ with means piercing the side faces of the covering elements }
E04F 13/0851	.....	{ Hooking means on the back side of the covering elements }



E04F 13/0853	.....	{ adjustable perpendicular to the wall }
E04F 13/0855	.....	{ adjustable in several directions, one of which is perpendicular to the wall }
E04F 13/0857	.....	{ Supporting consoles, e.g. adjustable only in a direction parallel to the wall ( <a href="#">E04F 13/0853</a> takes precedence ) }
E04F 13/0858	.....	{ fixed by means of spring action }
E04F 13/086	.....	{ fixed by means of clamping action }
E04F 13/0862	...	{ composed of a number of elements which are identical or not, e.g. carried by a common web, support plate or grid }
E04F 13/0864	...	{ composed of superposed elements which overlap each other and of which the flat outer surface includes an acute angle with the surface to cover }
E04F 13/0866	...	{ composed of several layers, e.g. sandwich panels or layered panels ( <a href="#">layered products as such in general B32B</a> ; producing decorative panels or veneers <a href="#">B44C 5/04</a> ; <a href="#">E04F 13/0864</a> , <a href="#">E04F 13/0875</a> take precedence ) }
E04F 13/0867	...	{ having acoustic absorption means on the visible surface }
E04F 13/0869	...	{ having conduits for fluids }
E04F 13/0871	...	{ having an ornamental or specially shaped visible surface ( <a href="#">E04F 13/0867</a> takes precedence ) }
E04F 13/0873	....	{ the visible surface imitating natural stone, brick work, tiled surface or the like ( <a href="#">E04F 13/105</a> , <a href="#">E04F 13/123</a> , <a href="#">E04F 13/147</a> , <a href="#">E04F 13/165</a> , <a href="#">E04F 13/185</a> take precedence ) }
E04F 13/0875	...	{ having a basic insulating layer and at least one covering layer }
E04F 13/0876	....	{ the covering layer comprising mutual alignment or interlocking means }
E04F 13/0878	....	{ the basic insulating layer comprising mutual alignment or interlocking means }
E04F 13/088	...	{ fixed directly to the wall by means of magnets, hook and loop-type or similar fasteners, not necessarily involving the side faces of the covering element }
E04F 13/0882	....	{ by hook and loop-type fasteners }
E04F 13/0883	....	{ by magnets }
E04F 13/0885	...	{ specially adapted for being adhesively fixed to the wall; Fastening means therefor; Fixing by means of plastics materials hardening after application }
E04F 13/0887	....	{ Adhesive means specially adapted therefor, e.g. adhesive foils or strips }
E04F 13/0889	...	{ characterised by the joints between neighbouring elements, e.g. with joint fillings or with tongue and groove connections }
E04F 13/0891	....	{ with joint fillings }
E04F 13/0892	....	{ with means for aligning the outer surfaces of the covering elements ( <a href="#">E04F 13/0894</a> takes precedence ) }
E04F 13/0894	....	{ with tongue and groove connections }
E04F 13/0896	....	{ with adhesive joining strips ( <a href="#">E04F 13/0894</a> , <a href="#">E04F 13/0898</a> take precedence ) }
E04F 13/0898	....	{ with sealing elements between coverings ( <a href="#">sealings of joints between building constructions in general E04B 1/68</a> ) }
E04F 13/09	...	of elements attached to a common web, support plate or grid { ( <a href="#">not used, see E04F 13/0862</a> ) }
E04F 13/10	...	of wood { or with an outer layer of wood ( <a href="#">E04F 13/0864</a> takes precedence ) }
E04F 13/105	....	{ with an outer layer imitating natural stone, brick work, tiled surface or the like }
E04F 13/12	...	of metal { or with an outer layer of metal or enameled metal ( <a href="#">E04F 13/0864</a>

- takes precedence ) }
- E04F 13/123 . . . . { with an outer layer imitating natural stone, brick work, tiled surface or the like }
- E04F 13/126 . . . . { with an outer layer of wire mesh, wire grid or the like, e.g. gabions }
- E04F 13/14 . . . stone or stone-like materials, e.g. ceramics { concrete, }; of glass { or with an outer layer of stone or stone-like materials or glass ( [E04F 13/0864](#) takes precedence; producing shaped elements from concrete, ceramic compositions or other stone-like materials [B28B](#) ; prefabricated panels in general [E04C 2/00](#) ) }
- E04F 13/141 . . . . { with an outer layer of concrete ( [E04F 13/147](#) takes precedence ) }
- E04F 13/142 . . . . { with an outer layer of ceramics or clays }
- E04F 13/144 . . . . { with an outer layer of marble or other natural stone }
- E04F 13/145 . . . . { with an outer layer of glass }
- E04F 13/147 . . . . { with an outer layer imitating natural stone, brick work or the like }
- E04F 13/148 . . . . { with an outer layer of asbestos cement or the like }
- E04F 13/15 . . . . characterised by the use of glass elements { , i.e. wherein an outer layer is not of glass ( [E04F 13/145](#) takes precedence ) }
- E04F 13/16 . . . of fibres or chips, e.g. bonded with synthetic resins { , or with an outer layer of fibres or chips ( [E04F 13/0864](#) takes precedence ) }
- E04F 13/165 . . . . { with an outer layer imitating natural stone, brick work, tiled surface or the like }
- E04F 13/18 . . . of organic plastics with or without reinforcements or filling materials ( of plastic-bound fibres or chips [E04F 13/16](#) ) { or with an outer layer of organic plastics with or without reinforcements or filling materials; plastic tiles ( [E04F 13/0864](#) takes precedence ) }
- E04F 13/185 . . . . { with an outer layer imitating natural stone, brick work, tiled surface or the like }
- E04F 13/21 . . . Fastening means specially adapted for covering or lining elements { ( not used, see [E04F 13/0801](#) ) }
- E04F 13/22 . . . Anchors, support angles or consoles { ( not used, see [E04F 13/0801](#) ) }
- E04F 13/23 . . . . adjustable { ( not used, see [E04F 13/0801](#) ) }
- E04F 13/24 . . . Hidden fastening means on the rear of the covering or lining elements ( [E04F 13/30](#) takes precedence ) { ( not used, see [E04F 13/0801](#) ) }
- E04F 13/25 . . . . adjustable { ( not used, see [E04F 13/0801](#) ) }
- E04F 13/26 . . . Edge engaging fastening means, e.g. clamps, clips or border profiles { ( not used, see [E04F 13/0801](#) ) }
- E04F 13/28 . . . . adjustable { ( not used, see [E04F 13/0801](#) ) }
- E04F 13/30 . . . Magnetic fastening means { ( not used, see [E04F 13/0883](#) ) }
- E04F 15/00** **Flooring** ( stair treads [E04F 11/104](#); coverings not specially adapted for floors [E04F 13/00](#); borders, skirtings [E04F 19/02](#); { implements for laying flooring [E04F 21/20](#); } gratings for cleaning soles of footwear [A47L 23/24](#); { built-in gratings [E04F 19/10](#); removing floor coverings [E04G 23/00](#); carpets [A47G 27/00](#); } of similar materials to roads [E01C](#) ; basic or rough floors { , structural floors } [E04B 5/00](#) )
- E04F 15/02 . . . Flooring or floor layers composed of a number of similar elements ( of webs [E04F 15/16](#) )
- E04F 15/02005 . . . { Construction of joints, e.g. dividing strips ( [E04F 15/024](#), [E04F 15/04](#), [E04F 15/06](#), [E04F 15/10](#) and [E04F 15/14](#) take precedence; Separate provisional



		spacers <a href="#">E04F 21/0092</a> ) }
E04F 15/02011	...	{ with joint fillings integrated in the flooring elements }
E04F 15/02016	...	{ with sealing elements between flooring elements ( sealings of joints between building constructions in general <a href="#">E04B 1/68</a> ) }
E04F 15/02022	...	{ with means for aligning the outer surfaces of the flooring elements ( <a href="#">E04F 15/02038</a> takes precedence ) }
E04F 15/02027	...	{ Means for spacing the flooring from an adjoining wall }
E04F 15/02033	...	{ Joints with beveled or recessed upper edges }
E04F 15/02038	..	{ characterised by tongue and groove connections between neighbouring flooring elements }
E04F 15/02044	..	{ Separate elements for fastening to an underlayer ( <a href="#">E04F 15/02133</a> , <a href="#">E04F 15/0215</a> take precedence ) }
E04F 2015/0205	...	with load-supporting elongated furring elements between the flooring elements and the underlayer
E04F 2015/02055	....	with additional supporting elements between furring elements and underlayer
E04F 2015/02061	.....	adjustable perpendicular to the underlayer
E04F 2015/02066	....	with additional fastening elements between furring elements and flooring elements
E04F 2015/02072	.....	the additional fastening elements extending into the back side of the flooring elements ( <a href="#">E04F 2015/021</a> takes precedence )
E04F 2015/02077	.....	the additional fastening elements located in-between two adjacent flooring elements
E04F 2015/02083	.....	Piercing the side faces of the flooring elements
E04F 2015/02088	.....	Engaging side holes preformed into the flooring elements
E04F 2015/02094	.....	Engaging side grooves running along the whole length of the flooring elements
E04F 2015/021	.....	fixed by means of hooking means on the back side of the flooring elements
E04F 2015/02105	...	without load-supporting elongated furring elements between the flooring elements and the underlayer
E04F 2015/02111	....	not adjustable
E04F 2015/02116	.....	with fastening elements extending into the back side of the flooring elements
E04F 2015/02122	.....	with fastening elements engaging holes or grooves in the side faces of the flooring elements ( <a href="#">E04F 2015/02116</a> takes precedence )
E04F 2015/02127	....	adjustable perpendicular to the underlayer ( <a href="#">E04F 15/02464</a> takes precedence )
E04F 15/02133	..	{ fixed directly to an underlayer by means of magnets, hook and loop-type or similar fasteners, not necessarily involving the side faces of the flooring elements }
E04F 15/02138	...	{ by hook and loop-type fasteners }
E04F 15/02144	...	{ by magnets }
E04F 15/0215	..	{ specially adapted for being adhesively fixed to an underlayer; Fastening means therefor; Fixing by means of plastics materials hardening after application }
E04F 15/02155	...	{ Adhesive means specially adapted therefor, e.g. adhesive foils or strips }
E04F 15/02161	..	{ Floor elements with grooved main surface }
E04F 15/02166	...	{ wherein the grooves are filled with inserts }

- E04F 15/02172 .. { Floor elements with an anti-skid main surface, other than with grooves }
- E04F 15/02177 .. { Floor elements for use at a specific location ( not used, see subgroups ) }
- E04F 15/02183 ... { for outdoor use, e.g. in decks, patios, terraces, verandas or the like }
- E04F 15/02188 ... { for use in wet rooms }
- E04F 15/02194 .. { Flooring consisting of a number of elements carried by a non-rollable common support plate or grid ( [E04F 15/022](#) takes precedence ) }
- E04F 15/022 .. Flooring consisting of parquetry tiles on a non-rollable sub-layer of other material, e.g. board, concrete, cork
- E04F 15/024 .. Sectional false floors, e.g. computer floors { ( height-adjustable supports for terrace roof coverings [E04D 11/00](#); underfloor heating using water [F24D 3/142](#), using air [F24D 5/10](#); installation of cables, lines or protective tubing in floors [H02G 3/28](#) ) }
- E04F 15/02405 ... { Floor panels }
- E04F 15/02411 .... { with integrated feet ( [E04F 15/02417](#) takes precedence ) }
- E04F 15/02417 .... { made of box-like elements }
- E04F 15/02423 ..... { filled with core material }
- E04F 15/02429 ..... { the core material hardening after application }
- E04F 15/02435 .... { Sealing joints }
- E04F 15/02441 ..... { Sealing strips integrated with the floor panels }
- E04F 15/02447 ... { Supporting structures }
- E04F 15/02452 .... { Details of junctions between the supporting structures and the panels or a panel-supporting framework }
- E04F 15/02458 .... { Framework supporting the panels }
- E04F 15/02464 .... { Height adjustable elements for supporting the panels or a panel-supporting framework }
- E04F 15/0247 ..... { Screw jacks }
- E04F 15/02476 ..... { height-adjustable from the upper side of the floor }
- E04F 15/02482 ..... { with a variable angle between panel and support }
- E04F 15/02488 ..... { filled with material hardening after application }
- E04F 15/02494 .... { with a plurality of base plates or like, each base plate having a plurality of pedestals upstanding therefrom to receive the floor panels }
- E04F 15/04 .. only of wood { or with a top layer of wood }, e.g. with wooden { or metal } connecting members ( [rollable parquet \[E04F 15/16\]\(#\)](#) )
- E04F 15/041 ... { with a top layer of wood in combination with a lower layer of other material }
- E04F 15/042 .... { the lower layer being of fibrous or chipped material, e.g. bonded with synthetic resins }
- E04F 15/043 .... { the lower layer being of organic plastic with or without reinforcements or filling materials }
- E04F 15/045 ... { Layered panels only of wood }
- E04F 15/046 .... { Plywood panels }
- E04F 15/047 ... { with a butcher-block like top surface }
- E04F 15/048 ... { with a top surface of assembled elongated wooden strip type }
- E04F 15/06 .. of metal, whether or not in combination with other material ( [gratings as building elements \[E04C 2/42\]\(#\)](#); { of elements with a metal upper layer; [E04F 15/02405](#) takes precedence; metal treads [E04F 11/112](#) } )
- E04F 15/08 .. only of stone or stone-like material, e.g. { ceramics }, concrete; of glass { or with a

- top layer of stone or stone-like material, e.g. ceramics, concrete or glass  
( [E04F 15/02005](#) takes precedence ) }
- E04F 15/082 ... { with a top layer of stone or stone-like material, e.g. ceramics, concrete or glass in combination with a lower layer of other material }
- E04F 15/085 .... { The lower layer being of fibrous or chipped material, e.g. bonded with synthetic resins }
- E04F 15/087 .... { The lower layer being of organic plastic with or without reinforcements or filling materials }
- E04F 15/10 .. of other materials, e.g. fibrous or chipped materials, organic plastics, magnesite { tiles }, hardboard { , or with a top layer of other materials }
- E04F 15/102 ... { of fibrous or chipped materials, e.g. bonded with synthetic resins }
- E04F 15/105 ... { of organic plastics with or without reinforcements or filling materials }
- E04F 15/107 ... { composed of several layers, e.g. sandwich panels ( [layered products in general B32B](#) ; producing decorative panels or veneers [B44C 5/04](#) ) }
- E04F 15/12 . Flooring or floor layers made of masses in situ, e.g. seamless magnesite floors, terrazzo { [gypsum floors](#) } ( [inorganic or bituminous masses C04B](#) ; [organic plastic masses C08L](#) )
- E04F 15/123 .. { Lost formworks for producing hollow floor screed layers, e.g. for receiving installations, ducts, cables ( [structural floors E04B 5/00](#); filling elements for building-up floors [E04B 5/26](#); installation of cables, lines or protective tubing in floors [H02G 3/28](#) ) }
- E04F 15/126 .. { Terrazzo floors }
- E04F 15/14 .. Construction of joints, e.g. dividing strips ( { [E04F 15/02005](#) takes precedence; } [sealing joints not restricted to flooring E04B 1/68](#), { construction of joints in roads or airfields [E01C 11/02](#) } )
- E04F 15/142 ... { Dividing strips or boundary strips }
- E04F 15/145 .... { adjustable in height }
- E04F 15/147 .... { interconnected to form a grid-like structure }
- E04F 15/16 . Flooring, e.g. parquet on flexible web, laid as flexible webs; Webs specially adapted for use as flooring; { [Parquet on flexible web](#) } ( [resiliently-mounted floors, e.g. sprung floors, E04F 15/22](#); [linoleum D06N](#) ; { [carpets A47G 27/00](#) } )
- E04F 15/163 .. { Webs specially adapted for use as finishing layers }
- E04F 15/166 .. { Flooring consisting of a number of elements carried by a common flexible web, e.g. rollable parquet }
- E04F 15/18 . Separately-laid insulating layers; Other additional insulating measures; Floating floors ( [insulating of buildings in general E04B 1/62](#) )
- E04F 15/181 .. { Insulating layers integrally formed with the flooring or the flooring elements }
- E04F 15/182 .. { Underlayers coated with adhesive or mortar to receive the flooring }
- E04F 15/183 ... { for areas prone to frost damage, e.g. for balconies or terraces }
- E04F 15/185 .. { Underlayers in the form of studded or ribbed plates }
- E04F 15/186 .. { Underlayers covered with a mesh or the like }
- E04F 15/187 .. { Underlayers specially adapted to be laid with overlapping edges }
- E04F 15/188 .. { Edge insulation strips, e.g. for floor screed layers ( [boundary strips in layers made of masses in situ E04F 15/142](#) ) }
- E04F 15/20 .. for sound insulation
- E04F 15/203 ... { Separately-laid layers for sound insulation }

- E04F 15/206 . . . { Layered panels for sound insulation }
- E04F 15/22 . Resiliently-mounted floors, e.g. sprung floors ( laid as webs [E04F 15/16](#) )
- E04F 15/225 . . { Shock absorber members therefor }
  
- E04F 17/00** **Vertical ducts; Channels, e.g. for drainage** ( pipes in general [F16L](#) ; pipe-line systems [F17D](#) ; { drainage devices in floors [E03F 5/04](#); roof drainage [E04D 13/04](#) } )
  
- E04F 17/005 . { Lift shafts }
  
- E04F 17/02 . for carrying away waste gases, e.g. flue gases ( free-standing chimneys [E04H 12/28](#); connections between fireplace and chimney, chimney fittings, covers for cleaning holes of chimneys [F23J](#) ; chimney tops [F23L](#) ); Building elements specially designed therefor, e.g. shaped bricks or sets thereof { ( coke-ovens [C10B](#) ; working measures on existing vertical ducts [E04G 23/02](#); apparatus for inserting new lining elements in existing ducts [E04G 21/16](#); metallic chimneys, linings, joints and spacers therefor [F23J 11/00](#), [F23J 13/00](#) ) }
- E04F 17/023 . . { made of masonry, concrete or other stone-like material; Insulating measures and joints therefor }
- E04F 17/026 . . { Exterior cladding, e.g. of chimney parts extending above the roof; Rain covers for chimney tops without draught-inducing aspects ( inducing draught in chimneys [F23L 17/00](#) ) }
  
- E04F 17/04 . Air-ducts or air channels { ( heating in general [F24](#) ; ventilating rooms in general [F24F](#) ) }
  
- E04F 17/06 . Light shafts, e.g. for cellars
  
- E04F 17/08 . for receiving utility lines, e.g. cables, pipes ( covers giving access to the ducts or channels, covers of inspection holes [E04F 19/08](#) )
  
- E04F 17/10 . Arrangements in buildings for the disposal of refuse ( refuse bins, gathering or removal of refuse [B65F](#) )
- E04F 17/12 . . Chutes
- E04F 17/123 . . . { Cleaning or disinfecting thereof }
- E04F 17/126 . . . . { with water flushing }
  
- E04F 19/00** **Other details of constructional parts for finishing work on buildings** ( ladders, e.g. climbing irons, [E06C 9/04](#) )
  
- E04F 19/005 . { Chimney mantel pieces }
  
- E04F 19/02 . Borders; Finishing strips, e.g. beadings; Light coves ( for protecting edges of plaster [E04F 13/06](#) )
- E04F 19/022 . . { for use at vertical intersections of walls ( [E04F 19/028](#) takes precedence ) }
- E04F 19/024 . . . { for outside use, e.g. imitating brickwork }
- E04F 19/026 . . { specially adapted for cushioning impacts }
- E04F 19/028 . . . { used at protruding corners }
- E04F 19/04 . . for use between floor or ceiling and wall, e.g. skirtings
- E04F 2019/0404 . . . characterised by the material

E04F 2019/0409	....	of wood
E04F 2019/0413	....	of metal
E04F 2019/0418	....	of stone or stone like material, e.g. ceramics, concrete; of glass
E04F 2019/0422	....	of organic plastics with or without reinforcements or filling materials
E04F 2019/0427	.....	with a integrally formed hinge
E04F 2019/0431	....	of two or more materials
E04F 19/0436	...	{ between ceiling and wall }
E04F 2019/044	...	with conduits
E04F 2019/0445	....	Ventilating plinths
E04F 19/045	...	{ Hygienic or watertight plinths }
E04F 2019/0454	...	with decorative effects
E04F 19/0459	...	{ characterised by the fixing method ( not used, see subgroups ) }
E04F 19/0463	....	{ Plinths fixed by snap-action in a direction perpendicular to the wall }
E04F 19/0468	....	{ Plinths fixed by hooking in a direction parallel to the wall }
E04F 19/0472	....	{ Plinths fixed by means of magnets, hook and loop-type or similar fasteners }
E04F 19/0477	....	{ Plinths fixed by means of adhesive }
E04F 19/0481	...	{ Skirtings or crown mouldings with a separate cladding strip }
E04F 19/0486	...	{ Corner filling pieces }
E04F 19/049	...	{ Plinths specially adapted for joining wall coverings to floor surfaces }
E04F 19/0495	...	{ Plinths fixed around wall openings or around corners of walls }
E04F 19/06	..	specially designed for securing panels { or masking the edges of wall- or floor-covering elements ( <a href="#">E04F 19/022</a> , <a href="#">E04F 19/026</a> and <a href="#">E04F 19/04</a> take precedence ) }
E04F 19/061	...	{ used to finish off an edge or corner of a wall or floor covering area ( in connection with floor fabrics <a href="#">A47G 27/045</a> ; sealings between walls and baths <a href="#">A47K 3/008</a> ) }
E04F 19/062	...	{ used between similar elements ( separate provisional spacers <a href="#">E04F 21/0092</a> ) }
E04F 19/063	....	{ for simultaneously securing panels having different thicknesses }
E04F 19/064	....	{ in corners }
E04F 19/065	...	{ Finishing profiles with a T-shaped cross-section or the like }
E04F 19/066	....	{ fixed onto a base profile by means of a separate connector }
E04F 19/067	....	{ with means preventing a tipping movement }
E04F 19/068	....	{ with means allowing a tipping movement }
E04F 19/08	.	Built-in cupboards; Masks of niches; Covers of holes enabling access to installations ( { inspection openings in bathtub aprons <a href="#">A47K 3/1615</a> ; covers for electrical distribution boxes <a href="#">H02G 3/14</a> ; movable ceiling parts <a href="#">E04B 9/003</a> ; removable wall partitions <a href="#">E04B 2/74</a> ; } clean-out doors of chimneys <a href="#">F23J</a> )
E04F 19/083	..	{ Covers with fixing means providing for snap locking }
E04F 19/086	..	{ Covers with magnetic fixing means }
E04F 19/10	.	Built-in gratings, e.g. foot-scrapers

**E04F 21/00**

**Implements for finishing work on buildings** ( for working or treating building elements of stone or stone-like material [B28D](#) ; designed specifically for special details provided for

in the other groups of this subclass, see the relevant groups for the details { working measures on existing buildings [E04G 23/00](#); measuring angles or linear dimensions in general [G01B](#) , [G01C](#) ; measuring inclination, e.g. by clinometers or levels [G01C9](#); reference lines, planes or sectors, generated by active optical means [G01C 15/004](#) } )

- E04F 21/0007 . { for mounting doors, windows or frames; their fitting ( [door-lifters](#)[B66F 15/00](#) ) }
- E04F 21/0015 .. { for mounting frames }
- E04F 21/0023 .. { for mounting door leaves, window sashes or the like }
- E04F 21/003 . { for marking doors, windows or frames ( [templates for marking the position of hinges](#) [E05D 11/0009](#); [templates for marking the position of doorlocks](#) [E05B 17/06](#) ) }
- E04F 21/0038 . { for fitting sealing strips or like }
- E04F 21/0046 . { for reshaping butt joints between adjacent panels, e.g. drywall panels ( [E04F 21/165](#) takes precedence ) }
- E04F 21/0053 . { for installing edge-protecting borders }
- E04F 21/0061 .. { with crimping means }
- E04F 21/0069 . { for cutting or mounting plinths }
- E04F 21/0076 . { for marking and cutting tiles }
- E04F 21/0084 . { Implements for removing filling material from joints }
- E04F 21/0092 . { [Separate provisional spacers used between adjacent floor or wall tiles](#) ( [E04F 13/0889](#), [E04F 15/02005](#) takes precedence ) }
- E04F 21/02 . for applying plasticised masses to surfaces, e.g. plastering walls ( { [wall covering made of hardening materials](#) [E04F 13/02](#) }; specially for flooring [E04F 21/20](#); [implements for painting or decorating](#) [B44](#) ; applying liquids or other fluent materials to surfaces, in general [B05](#) )
- E04F 21/023 .. { for applying adhesive, e.g. glue or mortar, on the covering elements, in particular tiles }
- E04F 21/026 .. { for applying adhesive or joint compound to joint tapes, in particular drywall tapes ( [joint tapes](#) [E04F 13/042](#); [drywall taper tools](#) [E04F 21/1657](#) ) }
- E04F 21/04 .. Patterns or templates; Jointing rulers { ( [profile trowels](#) [E04F 21/16](#) ) }
- E04F 21/05 ... Supports for jointing rulers
- E04F 21/06 .. Implements for applying plaster, insulating material, or the like { ( [finishing](#) [E04F 21/16](#) ) }
- E04F 21/08 ... Mechanical implements ( [E04F 21/14](#) takes precedence; spraying in general [B05B](#) ; sand-blasting [B24C](#) )
- E04F 21/085 .... { for filling building cavity walls with insulating materials }
- E04F 21/10 .... centrifugally acting
- E04F 21/12 .... acting by gas pressure, e.g. steam pressure
- E04F 21/14 ... in shafts, e.g. chimneys
- E04F 21/16 .. Implements for after-treatment of plaster or the like { [before it has hardened or dried](#) }, e.g. smoothing-tools, profile trowels { ( [E04F 21/04](#), [E04F 21/165](#) take



- precedence ) }
- E04F 21/161 ... { Trowels }
- E04F 21/162 .... { with a blade having a notched or toothed edge }
- E04F 21/163 .... { with exchangeable blades }
- E04F 21/165 . for finishing joints, e.g. implements for raking or filling joints, jointers ( bricklayers' tools [E04G 21/16](#); repairing, e.g. filling cracks, [E04G 23/02](#); { wallpaper scrapers or the like [B44C 7/02](#); implements for cleaning joints [A47L 13/10](#) } )
- E04F 21/1652 .. { for smoothing and shaping joint compound to a desired contour }
- E04F 21/1655 .. { for finishing corner joints }
- E04F 21/1657 .. { for applying tape to joints, e.g. drywall taper tools }
- E04F 21/18 . for setting wall or ceiling slabs or plates ( tools for mosaic work [B44C](#) )
- E04F 21/1805 .. { Ceiling panel lifting devices }
- E04F 21/1811 ... { with hand-driven crank systems, e.g. rope, cable or chain winding or rack-and-pinion mechanisms ( [E04F 21/1816](#) ,[E04F 21/1822](#) and [E04F 21/1827](#) take precedence ) }
- E04F 21/1816 ... { fluid pressure-operated ( [E04F 21/1822](#) and [E04F 21/1827](#) take precedence ) }
- E04F 21/1822 ... { with pivotally mounted arms }
- E04F 21/1827 ... { Lazy-tongs mechanisms }
- E04F 21/1833 ... { spring-force actuated }
- E04F 21/1838 .. { for setting a plurality of similar elements ( [E04F 21/1805](#) and [E04F 21/1894](#) take precedence; separate provisional spacers [E04F 21/0092](#) ) }
- E04F 21/1844 ... { by applying them one by one }
- E04F 21/185 .... { Temporary edge support brackets }
- E04F 21/1855 .... { of elongated elements, e.g. sidings }
- E04F 21/1861 .... { for setting insulating panels }
- E04F 21/1866 .... { using magnets, hook and loop-type fastener or similar means }
- E04F 21/1872 .... { using suction-cups }
- E04F 21/1877 ... { Leveling devices }
- E04F 21/1883 ... { by simultaneously applying several elements, e.g. templates }
- E04F 21/1888 .... { using suction-cups }
- E04F 21/1894 .. { Lever-type lifters gripping the bottom edge of wall panels ( door lifters [B66F 15/00](#) ) }
- E04F 21/20 . for laying flooring ( made of similar material to roads or pavements [E01C](#) ; { arrangements for removing of previously fixed floor covering [E04G 23/00](#) } )
- E04F 21/22 .. of single elements, e.g. flooring cramps; { flexible webs ( cutting tiles [B28D 1/225](#) ) }
- E04F 21/24 .. of masses made in situ, e.g. smoothing tools { ( [E04F 21/04](#) takes precedence; finishing of concrete roads or pavings [E01C 19/40](#); devices for levelling concrete floors [E04G 21/10](#); devices for solidifying concrete floors by vibrating [E04G 21/066](#) ) }
- E04F 21/241 ... { Elongated smoothing blades or plates, e.g. screed apparatus }
- E04F 21/242 .... { with vibrating means, e.g. vibrating screeds }
- E04F 21/244 .... { with means to adjust the working angle of the leveling blade or plate }

- E04F 21/245 . . . { Rotary power trowels, i.e. helicopter trowels }
- E04F 21/247 . . . . { used by an operator sitting on the trowel, i.e. ride-on power trowels }
- E04F 21/248 . . . . { used by an operator walking behind the trowel, i.e. walk-behind power trowels }

E04F 21/26 . for mounting staircases, e.g. tools for marking steps

E04F 21/28 . for glazing ( glass cutters [C03B 33/10](#) )

E04F 21/30 . . Putty squeezers or guns { not used, see [B05C 17/002](#) }

E04F 21/32 . . Putty knives; Putty removers

## **E04F 2201/00 Joining sheets or plates or panels**

- E04F 2201/01 . Joining sheets, plates or panels with edges in abutting relationship
- E04F 2201/0107 . . by moving the sheets, plates or panels substantially in their own plane, perpendicular to the abutting edges
- E04F 2201/0115 . . . with snap action of the edge connectors
- E04F 2201/0123 . . by moving the sheets, plates or panels parallel to the abutting edges
- E04F 2201/013 . . . with snap action of the edge connectors
- E04F 2201/0138 . . by moving the sheets, plates or panels perpendicular to the main plane
- E04F 2201/0146 . . . with snap action of the edge connectors
- E04F 2201/0153 . . by rotating the sheets, plates or panels around an axis which is parallel to the abutting edges, possibly combined with a sliding movement
- E04F 2201/0161 . . . with snap action of the edge connectors
- E04F 2201/0169 . . by rotating the sheets, plates or panels around an axis which is perpendicular to the abutting edges and parallel to the main plane, possibly combined with a sliding movement
- E04F 2201/0176 . . . with snap action of the edge connectors
- E04F 2201/0184 . . by rotating the sheets, plates or panels around an axis which is perpendicular to the abutting edges and perpendicular to the main plane, possibly combined with a sliding movement
- E04F 2201/0192 . . . with snap action of the edge connectors
- E04F 2201/02 . Non-undercut connections, e.g. tongue and groove connections
- E04F 2201/021 . . with separate protrusions
- E04F 2201/022 . . . with tongue or grooves alternating longitudinally along the edge
- E04F 2201/023 . . with a continuous tongue or groove
- E04F 2201/025 . . with tongue and grooves alternating transversally in the direction of the thickness of the panel, e.g. multiple tongue and grooves oriented parallel to each other
- E04F 2201/026 . . with rabbets, e.g. being stepped
- E04F 2201/027 . . connected by tongues and grooves, the centerline of the connection being inclined to the top surface
- E04F 2201/028 . . connected by tongues and grooves with triangular shape
- E04F 2201/03 . Undercut connections, e.g. using undercut tongues or grooves
- E04F 2201/035 . . Dovetail connections

- E04F 2201/04 . Other details of tongues or grooves
- E04F 2201/041 .. Tongues or grooves with slits or cuts for expansion or flexibility
- E04F 2201/042 .. with grooves positioned on the rear-side of the panel
- E04F 2201/043 .. with tongues and grooves being formed by projecting or recessed parts of the panel layers
- E04F 2201/044 .. with tongues or grooves comprising elements which are not manufactured in one piece with the sheets, plates or panels but which are permanently fixedly connected to the sheets, plates or panels, e.g. at the factory ( [for separate tongues E04F 2201/0523](#) )
- E04F 2201/045 ... wherein the elements are made of wood
- E04F 2201/046 ... wherein the elements are made of metal
- E04F 2201/047 ... wherein the elements are made of stone or stone like material, e.g. ceramics, concrete; of glass
- E04F 2201/048 ... wherein the elements are made of fibres or chips, e.g. bonded with synthetic resins
- E04F 2201/049 ... wherein the elements are made of organic plastics with or without reinforcements or filling materials
- E04F 2201/05 . Separate connectors or inserts, e.g. pegs, pins, keys or strips
- E04F 2201/0505 .. Pegs or pins
- E04F 2201/0511 .. Strips or bars, e.g. nailing strips
- E04F 2201/0517 .. U- or C-shaped brackets and clamps
- E04F 2201/0523 .. Separate tongues; Interlocking keys, e.g. joining mouldings of circular, square or rectangular shape
- E04F 2201/0529 ... the interlocking key acting as a dovetail-type key
- E04F 2201/0535 ... adapted for snap locking
- E04F 2201/0541 ... adapted to be moved along the joint edge
- E04F 2201/0547 ... adapted to be moved perpendicular to the joint edge
- E04F 2201/0552 ... adapted to be rotated around an axis parallel to the joint edge
- E04F 2201/0558 ... adapted to be rotated around an axis perpendicular to the joint edge
- E04F 2201/0564 ... depending on the use of specific materials
- E04F 2201/057 .... of wood
- E04F 2201/0576 .... of metal
- E04F 2201/0582 .... of fibres or chips, e.g. bonded with synthetic resins
- E04F 2201/0588 .... of organic plastics with or without reinforcements or filling materials
- E04F 2201/0594 .. Hinge-like connectors
- E04F 2201/06 . Magnets
- E04F 2201/07 . with connections using a special adhesive material
- E04F 2201/08 . hook and loop-type fastener or similar fixing means
- E04F 2201/09 . Puzzle-type connections for interlocking male and female panel edge-parts
- E04F 2201/091 .. with the edge-parts forming part of the panel body
- E04F 2201/093 .. with the edge-parts being separate elements not being part of the panel body

- E04F 2201/095 . . with both connection parts, i.e. male and female connection parts alternating on one edge
- E04F 2201/096 . . with only one type of connection parts, i.e. with male or female on one edge
- E04F 2201/098 . . wherein the interlocking male and female edge-parts have a dovetail, mushroom or similar shape
  
- E04F 2203/00      Specially structured or shaped covering, lining or flooring elements not otherwise provided for**
  
- E04F 2203/02 . . having particular shapes, other than square or rectangular, e.g. triangular, hexagonal, circular, irregular
- E04F 2203/023 . . . having triangular shapes
- E04F 2203/026 . . . having hexagonal shapes
  
- E04F 2203/04 . . comprising a plurality of internal elongated cavities arranged in substantially parallel rows
  
- E04F 2203/06 . . comprising two layers fixedly secured to one another, in offset relationship in order to form a rebate
- E04F 2203/065 . . . in offset relationship longitudinally as well as transversely
  
- E04F 2203/08 . . with a plurality of grooves or slits in the back side, to increase the flexibility or bendability of the elements
  
- E04F 2290/00      Specially adapted covering, lining or flooring elements not otherwise provided for**
  
- E04F 2290/02 . . for accommodating service installations or utility lines, e.g. heating conduits, electrical lines, lighting devices or service outlets
- E04F 2290/023 . . . for heating
- E04F 2290/026 . . . for lighting
  
- E04F 2290/04 . . for insulation or surface protection, e.g. against noise, impact or fire
- E04F 2290/041 . . . against noise
- E04F 2290/042 . . . . with a facing or top layer for sound insulation
- E04F 2290/043 . . . . with a bottom layer for sound insulation
- E04F 2290/044 . . . against impact
- E04F 2290/045 . . . against fire
- E04F 2290/046 . . . . with a facing or top layer for fire insulation
- E04F 2290/047 . . . . with a bottom layer for fire insulation
- E04F 2290/048 . . . against static electricity