

## E04B

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

### Definition statement

*This place covers:*

Building constructions, i.e. construction of edifices, their structural or non structural walls, their roof structures, their floor structures, suspended or false ceilings;

Insulation of buildings or other protection of buildings.

### References

#### Limiting references

*This place does not cover:*

Railway vehicles	<a href="#">B61</a>
Motor vehicles	<a href="#">B62D</a>
Ships or other waterborne vessels	<a href="#">B63</a>
Aircrafts; Cosmonautics	<a href="#">B64</a>
Bridges	<a href="#">E01D</a>
Foundations	<a href="#">E02D</a>
Structural elements for building construction	<a href="#">E04C</a>
Roof coverings	<a href="#">E04D</a>
Finishing work on buildings, e.g. lining, flooring	<a href="#">E04F</a>
Scaffolding; Shuttering	<a href="#">E04G</a>
Structures specially adapted for buildings for special purposes, general layout of buildings, e.g. modular co-ordination; Masts; Tents; Swimming pools	<a href="#">E04H</a>
Small buildings for limited occupation, e.g. kiosks, waiting shelters for bus stops	<a href="#">E04H 1/12</a>
Buildings or shelters adapted to withstand or provide protection against abnormal external influences, e.g. war-like action, earthquakes, hurricanes	<a href="#">E04H 9/00</a>
Border constructions of opening in walls, floors or ceilings	<a href="#">E06B 1/00</a>
Devices for fastening or securing general constructional elements or machine parts together	<a href="#">F16B</a>
Electromagnetic shielding	<a href="#">H05K 9/0001</a>

## E04B 1/00

**Constructions in general; Structures which are not restricted either to walls, e.g. partitions, or floors or ceilings or roofs (scaffolds, shutterings [E04G](#); structures specially adapted for buildings for special purposes, general layout of buildings, e.g. modular co-ordination, [E04H](#))**

### Definition statement

*This place covers:*

Building constructions in general, i.e. construction of edifices; Structures of buildings which are not restricted either to walls, or floors or ceilings or roofs.

Special structures and methods of construction of buildings, e.g. arched, movable, collapsible, box-like structures; Connections for building structures, e.g. connections of slab-shaped or elongated members; Insulation or other protection of buildings, e.g. against water-damage, heat, sound, fire.

### References

#### Limiting references

*This place does not cover:*

Partitions per se	<a href="#">E04B 2/00</a>
Floor structures per se	<a href="#">E04B 5/00</a>
Roof structures per se	<a href="#">E04B 7/00</a>
Suspended or false ceilings per se	<a href="#">E04B 9/00</a>
Foundations per se	<a href="#">E02D</a>
Roof coverings per se	<a href="#">E04D</a>
Scaffolds, shutterings	<a href="#">E04G</a>
Structures specially adapted for buildings for special purposes; General layout of buildings, e.g. modular co-ordination	<a href="#">E04H</a>

## E04B 1/0007

**{Base structures; Cellars}**

### Definition statement

*This place covers:*

Cellars, basements, also retrofitted under existing buildings;

Crawl spaces.

### Relationships with other classification places

This subgroup covers foundations with the emphasis on the connection to a superstructure, as opposed to [E02D](#) where the emphasis is on the connection to the ground;

### References

#### Limiting references

*This place does not cover:*

Foundations per se	<a href="#">E02D</a>
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Drainage and exterior waterproofing of foundation	<a href="#">E02D 31/00</a>
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### Special rules of classification

Exterior insulation of cellars is classified here.

## E04B 1/0023

{Building characterised by incorporated canalisations ([E04B 1/34869](#) takes precedence)}

### Definition statement

*This place covers:*

Building with passages for fluids integrally formed with structural elements of the building.

### References

#### Limiting references

*This place does not cover:*

Box-like or cell-like units for special technical purposes	<a href="#">E04B 1/34869</a>
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#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Building envelopes with canalisations for insulation purposes	<a href="#">E04B 1/74</a>
Special adaptation of floor structures for incorporating ducts	<a href="#">E04B 5/48</a>
Domestic plumbing installations for combinations of baths, showers, sinks, wash-basins, closets, urinals, or the like	<a href="#">E03C 1/01</a>
Slab-shaped or panel-shaped building elements for locating conduits	<a href="#">E04C 2/52</a>
Vertical ducts	<a href="#">E04F 17/00</a>
Canalisation per se	<a href="#">F16L</a>
Conduits for ventilation, heating systems or air-conditioning	<a href="#">F24F</a>

## E04B 1/0046

{Loggias}

### Definition statement

*This place covers:*

Loggias, wintergardens, enclosed balconies, verandas.

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Greenhouses	<a href="#">A01G 9/14</a>
Glass roofs	<a href="#">E04D 3/06</a>

Bay windows	<a href="#">E06B 1/363</a>
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## E04B 1/02

Structures consisting primarily of load-supporting, block-shaped, or slab-shaped elements ([E04B 1/32](#) - [E04B 1/36](#) take precedence)

### Definition statement

*This place covers:*

Structures consisting primarily of large load-supporting panels or large load-supporting panel-shaped blocks.

### References

#### Limiting references

*This place does not cover:*

Arched, vaulted or folded structures	<a href="#">E04B 1/32</a>
Extraordinary structures	<a href="#">E04B 1/34</a>
Structures characterised by moveable, separable or collapsible parts	<a href="#">E04B 1/343</a>
Structures covering a large free area	<a href="#">E04B 1/346</a>
Structures composed of e.g. box-like or cell-like units	<a href="#">E04B 1/348</a>
Extraordinary methods of construction	<a href="#">E04B 1/35</a>
Bearings or like supports allowing movement	<a href="#">E04B 1/36</a>
Masonry walls	<a href="#">E04B 2/02</a>

## E04B 1/12

the elements consisting of other material

### Definition statement

*This place covers:*

Structures with elements consisting of specified materials other than concrete, stone-like material, metal or wood.

## E04B 1/14

the elements being composed of two or more materials (of reinforced concrete [E04B 1/04](#))

### Definition statement

*This place covers:*

Structures with elements consisting of the combination of two or more specified structural materials.

## References

### Limiting references

*This place does not cover:*

Structures consisting primarily of reinforced concrete block-shaped or slab-shaped elements	<a href="#">E04B 1/04</a>
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## E04B 1/16

**Structures made from masses, e.g. of concrete, cast or similarly formed in situ with or without making use of additional elements, such as permanent forms, substructures to be coated with load-bearing material ([E04B 1/32](#) - [E04B 1/36](#) take precedence)**

## References

### Limiting references

*This place does not cover:*

Arched, vaulted or folded structures	<a href="#">E04B 1/32</a>
Extraordinary structures	<a href="#">E04B 1/34</a>
Structures characterised by moveable, separable or collapsible parts	<a href="#">E04B 1/343</a>
Structures covering a large free area	<a href="#">E04B 1/346</a>
Structures composed of e.g. box-like or cell-like units	<a href="#">E04B 1/348</a>
Extraordinary methods of construction	<a href="#">E04B 1/35</a>
Bearings or like supports allowing movement	<a href="#">E04B 1/36</a>

## E04B 1/161

**{with vertical and horizontal slabs, both being partially cast in situ}**

## References

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Stacked prefabricated cells, e.g. with concrete poured between the cells	<a href="#">E04B 1/34807</a>
Permanent inflatable forms for concrete	<a href="#">E04G 11/04</a>

## Special rules of classification

Use [E04B 2/84](#) - [E04B 2002/8694](#) for classifying additional information of details of lost formwork of cast in-situ walls.

**E04B 1/163**

{with vertical and horizontal slabs, only the vertical slabs being partially cast in situ ([E04B 2/86](#) takes precedence)}

**References****Limiting references**

*This place does not cover:*

Walls made by casting in-situ in permanent forms	<a href="#">E04B 2/86</a>
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**Special rules of classification**

Use [E04B 2/84](#) - [E04B 2002/8694](#) for classifying additional information of details of lost formwork of cast in-situ walls.

**E04B 1/165**

{with elongated load-supporting parts, cast in situ ([E04B 1/161](#), [E04B 1/163](#) and [E04B 1/164](#) take precedence)}

**References****Limiting references**

*This place does not cover:*

Structures made from masses with vertical and horizontal slabs, both being partially cast in situ	<a href="#">E04B 1/161</a>
Structures made from masses with vertical and horizontal slabs, only the vertical slabs being partially cast in situ	<a href="#">E04B 1/163</a>
Structures made from masses with vertical and horizontal slabs, only the horizontal slabs being partially cast in situ	<a href="#">E04B 1/164</a>

**E04B 1/166**

{with curved surfaces, at least partially cast in situ in order to make a continuous concrete shell structure ([E04B 1/169](#) takes precedence)}

**References****Limiting references**

*This place does not cover:*

Structures made from masses cast with inflatable flexible permanent forms	<a href="#">E04B 1/169</a>
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## E04B 1/18

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

### Definition statement

*This place covers:*

Structures comprising elongated load-supporting parts, e.g. columns, beams, girders, skeletons.

### References

#### Limiting references

*This place does not cover:*

Arched, vaulted or folded structures	<a href="#">E04B 1/32</a>
Extraordinary structures	<a href="#">E04B 1/34</a>
Structures characterised by moveable, separable or collapsible parts	<a href="#">E04B 1/343</a>
Structures covering a large free area	<a href="#">E04B 1/346</a>
Structures composed of e.g. box-like or cell-like units	<a href="#">E04B 1/348</a>
Extraordinary methods of construction	<a href="#">E04B 1/35</a>
Bearings or like supports allowing movement	<a href="#">E04B 1/36</a>
Elongated load-supporting parts as elements, columns, beams, girders, trusses, truss-like structures	<a href="#">E04C 3/00</a>

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Connection of bar-shaped building elements, i.e. of smaller cross-section	<a href="#">E04B 1/58</a>
Log cabins	<a href="#">E04B 2/701</a>

### Special rules of classification

Structures made from a horizontal or vertical juxtaposition of elongated elements other than wood are classified in [E04B 1/18](#).

Structures made from a juxtaposition of porticos or stacks of frames are only classified in [E04B 1/18](#), irrespective of the material of the elongated elements.

## E04B 1/19

### Three-dimensional framework structures

#### Definition statement

*This place covers:*

Space frames, i.e. truss-like lightweight structures constructed from interconnected struts in a geometric pattern spanning a large area, with either short struts connected at the nodes or continuous struts folded at the nodes, wherein the frames are not habitable or accessible upon construction.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Vaulted roof structures with folded or grid-like formations acting as shell structures	<a href="#">E04B 7/10</a>
Cosmonautic vehicles	<a href="#">B64G 1/00</a>
Trusses	<a href="#">E04C 3/02</a>
Truss-like towers or mats	<a href="#">E04H 12/00</a>

### Special rules of classification

Documents showing large parts of the space frame are classified here, even if they show details of component parts or their connections. Use [E04B 1/1903](#) - [E04B 2001/1996](#) for classifying additional information of the details of the component parts of the space frame, their connections and the type of space frame for the documents classified in [E04B 1/19](#).

## E04B 1/1903

{Connecting nodes specially adapted therefor}

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Node corner connector for furniture	<a href="#">A47B 47/0016</a>
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### Special rules of classification

Use [E04B 2001/1924](#) - [E04B 2001/1996](#) for classifying additional information of the details of the component parts of the space frame, their connections and the type of space frame for the documents classified in [E04B 1/1903](#)

## E04B 1/1906

{with central spherical, semispherical or polyhedral connecting element}

### Special rules of classification

Use [E04B 2001/1924](#) - [E04B 2001/1996](#) for classifying additional information of the details of the component parts of the space frame, their connections and the type of space frame for the documents classified in [E04B 1/1906](#)

## E04B 1/1909

{with central cylindrical connecting element}

### Special rules of classification

Use [E04B 2001/1924](#) - [E04B 2001/1996](#) for classifying additional information of the details of the component parts of the space frame, their connections and the type of space frame for the documents classified in [E04B 1/1909](#).



## E04B 1/1912

{with central cubical connecting element}

### Special rules of classification

Use [E04B 2001/1924](#) - [E04B 2001/1996](#) for classifying additional information of the details of the component parts of the space frame, their connections and the type of space frame for the documents classified in [E04B 1/1912](#).

## E04B 1/20

**the supporting parts consisting of concrete, e.g. reinforced concrete, or other stonelike material**

### Definition statement

*This place covers:*

Structures with posts and beams made from concrete.

### References

#### Limiting references

*This place does not cover:*

Space frames	<a href="#">E04B 1/19</a>
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### Special rules of classification

Documents showing large parts of the structure are classified here, even if they show details of connections.

## E04B 1/24

**the supporting parts consisting of metal**

### Definition statement

*This place covers:*

Structures with posts and beams made of metal

### References

#### Limiting references

*This place does not cover:*

Space frames	<a href="#">E04B 1/19</a>
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### Special rules of classification

Documents showing large parts of the structure are classified here, even if they show details of component parts and their connections. Use [E04B 1/2403](#) - [E04B 2001/2496](#) for classifying additional information of the details of the component parts and their connections of the structures classified in [E04B 1/24](#).

## E04B 1/2403

{Connection details of the elongated load-supporting parts}

### References

#### Limiting references

*This place does not cover:*

Connection of bar-shaped, i.e. of smaller cross-section, building elements	<a href="#">E04B 1/58</a>
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### Special rules of classification

Use [E04B 2001/2466](#) - [E04B 2001/2496](#) for classifying additional information of the documents classified in [E04B 1/2403](#).

## E04B 1/26

the supporting parts consisting of wood

### Definition statement

*This place covers:*

Structures with posts and beams made of wood.

### References

#### Limiting references

*This place does not cover:*

Space frames	<a href="#">E04B 1/19</a>
Log cabins	<a href="#">E04B 2/701</a>
Caps for the protection of the ends of wooden beams against humidity	<a href="#">E04B 5/12</a>

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Load-bearing walls with posts of wood	<a href="#">E04B 2/706</a>
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### Special rules of classification

Documents showing large parts of the structure are classified here, even if they show details of component parts and their connections; Use [E04B 1/2604](#) - [E04B 2001/2696](#) for classifying additional information of the documents classified in [E04B 1/26](#).

## E04B 1/2604

{Connections specially adapted therefor (shear dowels [E04B 1/486](#), [E04B 1/49](#))}

### References

#### Limiting references

*This place does not cover:*

Shear dowels for wood	<a href="#">E04B 1/486</a>
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Shear dowels for wood with self-penetrating parts	<a href="#">E04B 1/49</a>
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### Special rules of classification

Use [E04B 2001/2696](#) for classifying additional information of the documents classified in [E04B 1/2604](#).

## E04B 1/2608

{Connectors made from folded sheet metal ([E04B 1/2612](#) takes precedence)}

### References

#### Limiting references

*This place does not cover:*

Joist hangers	<a href="#">E04B 1/2612</a>
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## E04B 2001/2644

{Brackets, gussets or joining plates}

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Interlocking connectors, e.g. with hooks or dovetails, added to the elongated wooden members	<a href="#">E04B 2001/2628</a>
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## E04B 2001/2676

{Connector nodes}

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Connection node with interlocking of specially shaped wooden members, e.g. puzzle type connection	<a href="#">E04B 2001/262</a>
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## E04B 1/28

the supporting parts consisting of other material

### Definition statement

*This place covers:*

Structures with posts and beams made of specified material other than concrete, stone-like material, metal, wood.

## References

### Limiting references

*This place does not cover:*

Space frames	<a href="#">E04B 1/19</a>
Structures with posts and beams made of the combination of at least two different materials having a structural function	<a href="#">E04B 1/30</a>

## E04B 1/30

the supporting parts being composed of two or more materials; Composite steel and concrete constructions (of reinforced concrete [E04B 1/20](#))

### Definition statement

*This place covers:*

Structures with posts and beams made of at least two specified different materials having a structural function, e.g. a steel pipe filled with concrete

## References

### Limiting references

*This place does not cover:*

Space frames	<a href="#">E04B 1/19</a>
Structures made of elongated load supporting parts made of reinforced concrete	<a href="#">E04B 1/20</a>

## E04B 1/32

Arched structures; Vaulted structures; Folded structures ([E04B 1/345](#) takes precedence;} vaulted roofs [E04B 7/08](#))

### Definition statement

*This place covers:*

Arched structures; Vaulted structures; Arched or vaulted structures with a folded surface.

## References

### Limiting references

*This place does not cover:*

Structures deriving their rigidity from concertina folds	<a href="#">E04B 1/345</a>
Vaulted roof structures	<a href="#">E04B 7/08</a>

### Special rules of classification

Use [E04B 2001/3217](#) - [E04B 2001/3294](#) for classifying additional information of the component parts, their connections and the type of structures of the documents classified in [E04B 1/32](#) - [E04B 1/3211](#).

Do not use [E04B 2001/0061](#) to classify the documents of [E04B 1/32](#) - [E04B 1/3211](#).

Looping references between [E04B 1/32](#) and [E04B 7/08](#) have been identified. Until this inconsistency is resolved in IPC, the current classification practice in CPC is as follows: the reference to [E04B 7/08](#) is considered limiting.

## **E04B 1/3205**

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

### **Definition statement**

*This place covers:*

Structures in the shape of a portion of a cylinder, with a smooth or faceted surface.

## **E04B 1/3211**

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

### **Definition statement**

*This place covers:*

Structures in the shape of a portion of a sphere, with a smooth or faceted surface.

## **E04B 1/34**

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

### **References**

#### **Limiting references**

*This place does not cover:*

Structures covering a large free area	<a href="#">E04B 1/342</a>
Structures characterised by movable, separable or collapsible parts	<a href="#">E04B 1/343</a>
Structures composed of box-like or cell-like units	<a href="#">E04B 1/348</a>
Floor structures of extraordinary design; Features relating to the elastic stability of floors	<a href="#">E04B 5/43</a>
Buildings for special purposes, e.g. withstanding earthquakes	<a href="#">E04H</a>

### **Special rules of classification**

Exterior staircases retrofitted to buildings are classified in [E04B 1/34](#).

## E04B 1/3412

{mainly supported by a central column or footing ([E04B 1/3416](#) takes precedence)}

### References

#### Limiting references

*This place does not cover:*

Structures comprising mainly a central support and a cantilevered roof	<a href="#">E04B 1/3416</a>
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## E04B 1/3416

{Structures comprising mainly a central support column and a cantilevered roof}

### Definition statement

*This place covers:*

Mushroom-type structures or elongated structures having a "T" or "Y" vertical cross-section.

## E04B 1/342

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

### References

#### Limiting references

*This place does not cover:*

Roof trusses	<a href="#">E04C 3/00</a>
Non-structural features for specified purposes	<a href="#">E04H</a>

## E04B 1/343

Structures characterised by movable, separable, or collapsible parts, e.g. for transport (movable roof parts [E04B 7/16](#); floatable buildings [B63B](#); small prefabricated buildings, transportable as a whole, [E04H 1/12](#); small garages [E04H 6/02](#); tents or canopies, in general [E04H 15/00](#))

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Movable roof parts	<a href="#">E04B 7/16</a>
Floatable buildings	<a href="#">B63B</a>
Containers	<a href="#">B65G</a>
Small prefabricated buildings, transportable as a whole	<a href="#">E04H 1/12</a>

Small garages	<a href="#">E04H 6/02</a>
Tents or canopies, in general	<a href="#">E04H 15/00</a>

### Special rules of classification

References [E04B 7/16](#), [B63B](#), [B65G](#), [E04H 1/12](#), [E04H 6/02](#) and [E04H 15/00](#) are non-limiting in subgroup [E04B 1/343](#). CPC will be corrected once this inconsistency is resolved in IPC.

Looping references between [E04B 1/343](#) and [E04H 6/02](#) have been identified. Until this inconsistency is resolved in IPC, the current classification practice in CPC is as follows: both references are considered informative.

## E04B 1/34305

**{telescopic}**

### Definition statement

*This place covers:*

Structure with room-sized telescopic section extendable horizontally from a side of the structure or vertically from the top or bottom of the structure.

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Telescopic wheeled arched structures	<a href="#">E04B 1/3455</a>
Telescopic roofs	<a href="#">E04B 7/166</a>
Caravans or campers with telescopic sections	<a href="#">B60P 3/34</a>
Swimming pools with movable roof sections	<a href="#">E04H 3/165</a>

### Special rules of classification

Structures with more than one telescopic section extendable each from different surfaces of the structure, or with telescopic sections comprising two or more nested sub-sections are classified here.

## E04B 1/3431

**{with only one level of nesting}**

### Definition statement

*This place covers:*

Structure with a single telescopic section extendable horizontally from a side of the structure or vertically from the top or bottom of the structure.

## E04B 1/34315

**{characterised by separable parts}**

### Special rules of classification

Structures formed of a combination of structural elongated elements and structural panels are classified here.

**E04B 1/34321****{mainly constituted by panels}****Special rules of classification**

Use [E04B 1/61](#) - [E04B 2001/6195](#) for classifying additional information of the details of the connections of the panels.

**E04B 1/34326****{mainly constituted by longitudinal elements}****Special rules of classification**

Use [E04B 1/58](#) - [E04B 2001/5893](#) for classifying additional information of the details of the connections of the longitudinal elements.

**E04B 1/34336**

**{Structures movable as a whole, e.g. mobile home structures (vehicles comprising living accommodation for people, e.g. caravans, camping or like vehicles [B60P 3/32](#))}**

**Definition statement**

*This place covers:*

Mobile home structures.

**References****Limiting references**

*This place does not cover:*

Vehicle aspects of mobile homes	<a href="#">B60P 3/32</a>
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**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Structures composed of a number of box-like units	<a href="#">E04B 1/348</a>
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**E04B 1/34347****{Anchoring means therefor}****References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Ground anchors	<a href="#">E02D 5/80</a>
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**E04B 1/34363****{with provisions to raise or lower the whole structure}****Definition statement***This place covers:*

Structures with means for raising and lowering them above ground level;

Structures with means for retracting them into the ground and returning them to ground level.

**References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Telescopic structures	<a href="#">E04B 1/34305</a>
Buildings raisable in case of floods	<a href="#">E04H 9/145</a>

**E04B 1/344****with hinged parts****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Collapsible caravans	<a href="#">B60P 3/34</a>
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**Special rules of classification**Use [E04B 1/34336](#) for classifying additional information of documents showing mobile homes.Do not use [E04B 1/34321](#) to classify the documents of [E04B 1/344](#).**E04B 1/3441****{with articulated bar-shaped elements}****Special rules of classification**

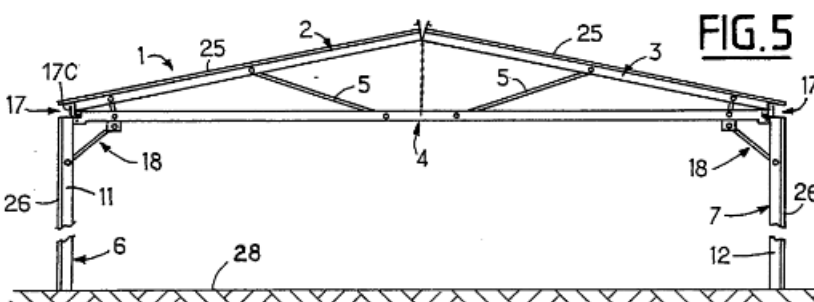
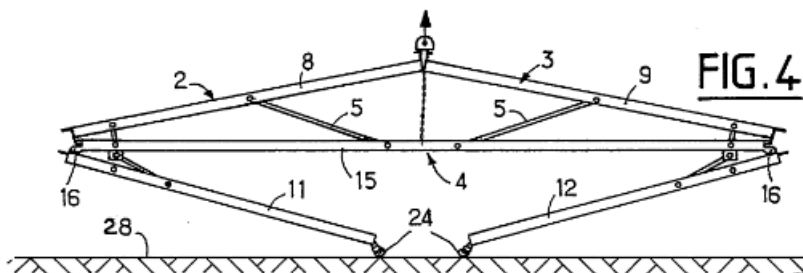
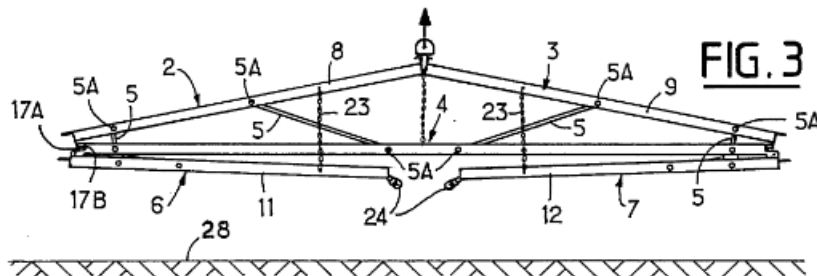
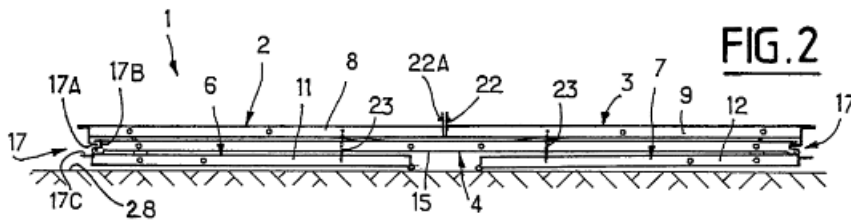
Collapsible articulated space frames are classified here.

**E04B 1/3445****{foldable in a flat stack of parallel panels}****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Collapsible large containers	<a href="#">B65D 88/52</a>
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**E04B 1/3447****{Portal- or saddle-shaped structures}****Definition statement***This place covers:*

Illustrative example of the subject matter classified in this subgroup:

**E04B 1/3448****{with rotating shell-forming segments}****Definition statement***This place covers:*

Structures with rotating shell-forming segments, e.g. armadillo plates type structure.

Illustrative example of the subject matter classified in this subgroup:

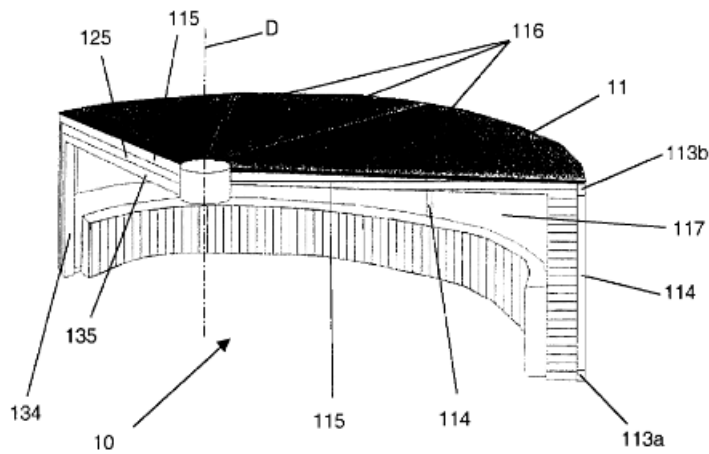


figure 1

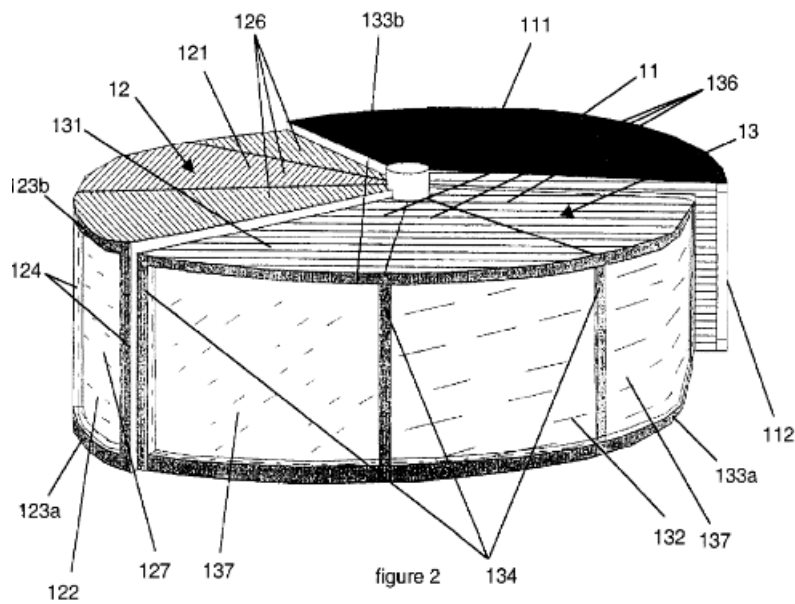


figure 2

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Roof structures with movable sections	<a href="#">E04B 7/16</a>
Swimming pools with movable roof sections	<a href="#">E04H 3/165</a>

## E04B 1/3455

{Wheeled arch-type structures}

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Roofs with movables sections	<a href="#">E04B 7/16</a>
Greenhouses with sliding roofs	<a href="#">A01G 9/16</a>
Weather protection for road works	<a href="#">E01C 23/03</a>
Weather protection for building works	<a href="#">E04G 21/28</a>
Swimming pools with movable roof sections	<a href="#">E04H 3/165</a>

### Special rules of classification

Half-arches wheeled at one extremity against a building wall and at the other end on the ground are also classified here.

## E04B 1/346

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

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Carousels for milking stations	<a href="#">A01K 1/126</a>
Turntable for vehicles	<a href="#">B60S 13/02</a>

### Special rules of classification

Do not use [E04B 2001/0061](#) to classify the documents of [E04B 1/346](#).

## E04B 1/348

Structures composed of units comprising at least considerable parts of two sides of a room, e.g. box-like or cell-like units closed or in skeleton form

### Definition statement

*This place covers:*

Structures composed of units comprising at least considerable parts of two sides of a room, e.g. box-like or cell-like units closed or in skeleton form, i.e. only the edges of the boxes or cells are materialized (only frame, no infill panels)

### Special rules of classification

In [E04B 1/348](#) - [E04B 1/34861](#) use [E04B 2001/34876](#) - [E04B 2001/34892](#) for classifying additional information of documents showing sloping or barrel roof, or means allowing access to the structures.

**E04B 1/34807****{Elements integrated in a skeleton}****Definition statement***This place covers:*

Box-like units resting on shelves or beams of a supporting structure;  
Stacked cells with concrete poured between the cells.

**E04B 1/34823****{the supporting structure consisting of concrete}****Definition statement***This place covers:*

Structures with the main vertical structural parts consisting of concrete.

**E04B 1/3483****{the supporting structure consisting of metal}****Definition statement***This place covers:*

Structures with the main vertical structural parts consisting of metal.

**E04B 1/34838****{the supporting structure consisting of wood}****Definition statement***This place covers:*

Structures with the main vertical structural parts consisting of wood.

**E04B 1/34846****{the supporting structure consisting of other specified material, e.g. of plastics}****Definition statement***This place covers:*

Structures with the main vertical structural parts consisting of specified material other than concrete, metal, wood.

**E04B 1/34853****{the supporting structure being composed of two or more materials}****Definition statement***This place covers:*

Structures with the main vertical structural parts consisting of the combination of two or more specified structural materials.

**E04B 1/34869****{Elements for special technical purposes, e.g. with a sanitary equipment}****Definition statement***This place covers:*

Structures composed of units comprising at least considerable parts of two sides of a room where the units are pre-fitted for special technical purposes, e.g. with pre-fitted piping, plumbing, sanitary equipment or electrical wiring.

**References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Structures composed of a number of box-like units	<a href="#">E04B 1/348</a>
Combination of baths, douches, sinks, wash-basins, closets or urinals	<a href="#">A47K 4/00</a>
Plumbing installations for baths, douches, or the like	<a href="#">E03C 1/01</a>
Panels serving for locating conduits	<a href="#">E04C 2/521</a>
Ducts for receiving installation lines	<a href="#">E04F 17/08</a>

**Special rules of classification**Use [E04B 2001/34876](#) - [E04B 2001/34892](#) for classifying additional information of documents of [E04B 1/34869](#) showing sloping or barrel roof, or means allowing access to the structures.**E04B 1/35****Extraordinary methods of construction, e.g. lift-slab, jack-block ([E04B 1/34](#) takes precedence; falsework, shuttering for shaping walls, floors, ceilings or roofs in situ [E04G 11/04](#); conveying or assembling of building materials [E04G 21/00](#); working measures on existing buildings [E04G 23/00](#))****References****Limiting references***This place does not cover:*

Extraordinary structures	<a href="#">E04B 1/34</a>
Falsework, shuttering for shaping walls, floors, ceilings or roofs in situ	<a href="#">E04G 11/04</a>
Conveying or assembling of building materials	<a href="#">E04G 21/00</a>
Working measures on existing buildings	<a href="#">E04G 23/00</a>

## Special rules of classification

Use [E04B 2001/3561](#) - [E04B 2001/3594](#) for classifying additional information of the documents of [E04B 1/35](#) - [E04B 1/3555](#).

## E04B 1/3505

{characterised by the in situ moulding of large parts of a structure ([E04B 1/3511](#), [E04B 1/3516](#), [E04B 1/3522](#), [E04B 1/3533](#), [E04B 1/3544](#), [E04B 1/355](#) take precedence)}

## References

### Limiting references

*This place does not cover:*

Lift-slab; Extraordinary methods of construction characterised by a purely vertical lifting of floors or roofs or parts thereof	<a href="#">E04B 1/3511</a>
Extraordinary methods of construction characterised by erecting a vertical structure and then adding the floors from top to bottom	<a href="#">E04B 1/3516</a>
Extraordinary methods of construction characterised by raising a structure and then adding structural elements under it	<a href="#">E04B 1/3522</a>
Extraordinary methods of construction characterised by the raising of hingedly-connected building elements, e.g. arches, portal frames	<a href="#">E04B 1/3533</a>
Extraordinary methods of construction characterised by the use of a central column to lift and temporarily or permanently support structural elements	<a href="#">E04B 1/3544</a>
Extraordinary methods of construction characterised by the tilting-up of whole buildings or sections thereof, e.g. walls, portal frames	<a href="#">E04B 1/355</a>

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Structures made from masses cast in-situ	<a href="#">E04B 1/16</a>
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## E04B 1/3522

{characterised by raising a structure and then adding structural elements under it ([E04B 1/3511](#), [E04B 1/3516](#), [E04B 1/3533](#) take precedence)}

## Definition statement

*This place covers:*

Structure raisable using temporary supports, e.g. scaffolding or lifting machines, or permanent supports.

## References

### Limiting references

*This place does not cover:*

Lift-slab; Extraordinary methods of construction characterised by a purely vertical lifting of floors or roofs or parts thereof	<a href="#">E04B 1/3511</a>
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Limiting references

Extraordinary methods of construction characterised by erecting a vertical structure and then adding the floors from top to bottom	<a href="#">E04B 1/3516</a>
Extraordinary methods of construction characterised by the raising of hingedly-connected building elements, e.g. arches, portal frames	<a href="#">E04B 1/3533</a>

**E04B 1/3527****{the structure being a roof}****Definition statement***This place covers:*

Method of construction whereby the walls are added under the raised roof, e.g. in order to enable work in dry conditions

**References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Enlarging an existing structure	<a href="#">E04G 23/0266</a>
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**E04B 1/3533****{characterised by the raising of hingedly-connected building elements, e.g. arches, portal frames ([E04B 1/355](#) takes precedence)}****References****Limiting references***This place does not cover:*

Extraordinary methods of construction characterised by the tilting-up of whole buildings or sections thereof, e.g. walls, portal frames	<a href="#">E04B 1/355</a>
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**Informative references***Attention is drawn to the following places, which may be of interest for search:*

Structures with hinged parts	<a href="#">E04B 1/344</a>
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## E04B 1/3544

{characterised by the use of a central column to lift and temporarily or permanently support structural elements ([E04B 1/3516](#) and [E04B 1/355](#) take precedence)}

### References

#### Limiting references

*This place does not cover:*

Extraordinary methods of construction characterised by erecting a vertical structure and then adding the floors from top to bottom	<a href="#">E04B 1/3516</a>
Extraordinary methods of construction characterised by the tilting-up of whole buildings or sections thereof, e.g. walls, portal frames	<a href="#">E04B 1/355</a>

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Small buildings mainly supported by a central column or footing	<a href="#">E04B 1/3412</a>
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## E04B 1/36

**Bearings or like supports allowing movement (for bridges [E01D 19/04](#); buildings with-standing earthquakes [E04H 9/02](#))**

### Definition statement

*This place covers:*

Bearings allowing movement of the supported structure due to exterior influences, but also allowing movement for the purpose of adjusting horizontal or angular position of the supported structure.

### References

#### Limiting references

*This place does not cover:*

Bearings for bridges	<a href="#">E01D 19/04</a>
Buildings withstanding earthquakes	<a href="#">E04H 9/02</a>

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Rubber bearings	<a href="#">F16F 1/36</a> , <a href="#">F16F 3/08</a>
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## E04B 1/38

### Connections for building structures in general

#### Special rules of classification

Documents should only exceptionally be classified in [E04B 1/38](#), connections for general applications should be classified in subclass [F16B](#).

## E04B 1/388

{Separate connecting elements (Connecting devices specially adapted for embedding in concrete [E04B 1/41](#); Dowels, i.e. members adapted to penetrate the surfaces of two parts and to take the shear stresses [E04B 1/48](#))}

#### References

##### Limiting references

*This place does not cover:*

Connecting devices specially adapted for embedding in concrete	<a href="#">E04B 1/41</a>
Dowels, i.e. members adapted to penetrate the surfaces of two parts and to take the shear stresses	<a href="#">E04B 1/48</a>

##### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Connecting or other auxiliary members for forms, falsework structures or shutterings	<a href="#">E04G 17/00</a>
Releasable clips or clamps, hooks, wedges, wall-dowels, nails, bolts, rivets, screws, wood-screws	<a href="#">F16B</a>

## E04B 1/41

Connecting devices specially adapted for embedding in concrete or masonry ({joist hangers [E04B 1/2612](#); shear dowels [E04B 1/483](#);} spacers {other than masonry wall ties} for cavity walls [E04B 2/30](#), [E04B 2/44](#); connectors for reinforcing elements [E04C 5/16](#); fastening frames to the border of openings [E06B 1/56](#))

#### References

##### Limiting references

*This place does not cover:*

Joist hangers	<a href="#">E04B 1/2612</a>
Shear dowels for concrete parts	<a href="#">E04B 1/483</a>
Spacers other than masonry wall ties for cavity walls	<a href="#">E04B 2/30</a> , <a href="#">E04B 2/44</a>
Connectors for reinforcing elements	<a href="#">E04C 5/16</a>
Fastening frames to the border of openings	<a href="#">E06B 1/56</a>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Supporting devices for connector reinforcing rods for concrete walls	<a href="#">E04G 21/125</a>
Spacers between rows of masonry blocks	<a href="#">E04G 21/1841</a> , <a href="#">E04B 2002/0282</a>

**Special rules of classification**

Use [E04B 2001/4192](#) for classifying additional information of connecting devices which are attached to the concrete reinforcement members for the documents classified in [E04B 1/41](#) - [E04B 1/4178](#).

**E04B 1/4114**

{Elements with sockets ([E04B 1/4107](#) takes precedence)}

**References****Limiting references**

This place does not cover:

Longitudinal elements having an open profile, with the opening parallel to the concrete or masonry surface, i.e. anchoring rails	<a href="#">E04B 1/4107</a>
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**E04B 1/4142**

{with transverse hook- or loop-receiving parts ([E04B 1/415](#) takes precedence)}

**References****Limiting references**

This place does not cover:

Elements with captive and extendable anchoring parts, e.g. spring-loaded bolts, hanging rings	<a href="#">E04B 1/415</a>
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**E04B 1/4171**

{Nailable or non-threaded screwable elements (dowels [F16B 13/00](#))}

**References****Limiting references**

This place does not cover:

Dowels for holding a fastener	<a href="#">F16B 13/00</a>
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**E04B 1/4178**

{Masonry wall ties (with insulation-layer locating devices [E04B 1/7616](#); replacing or adding wall ties [E04G 23/0222](#))}

**Definition statement**

*This place covers:*

Separate tie rods embedded in the horizontal or vertical masonry joints, for tying a masonry wall to a non-masonry support, e.g. a concrete wall or posts, or for making a T-junction between two masonry walls.

**References****Limiting references**

*This place does not cover:*

Masonry wall ties with insulation-layer locating devices	<a href="#">E04B 1/7616</a>
Replacing or adding wall ties	<a href="#">E04G 23/0222</a>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Masonry blocs with integrated spacers or masonry walls with spacers not located in the masonry joints	<a href="#">E04B 2/02</a>
Walls of framework or pillar-work with a brick veneer facing	<a href="#">E04B 2002/565</a>

**Special rules of classification**

Use [E04B 2001/4192](#) for classifying additional information of connecting devices which are attached to the concrete reinforcement members.

Use [E04B 1/7616](#) for classifying additional information of connecting devices which are combined with insulation-layer locating devices.

**E04B 1/4185**

{for cavity walls with both wall leaves made of masonry (spacers for permanent forms [E04B 2/86](#))}

**Definition statement**

*This place covers:*

Separate tie rods embedded in horizontal or vertical masonry joints, for tying two parallel masonry walls together.

**References****Limiting references**

*This place does not cover:*

Spacers for permanent forms	<a href="#">E04B 2/86</a>
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### Special rules of classification

Use [E04B 1/7616](#) for classifying additional information of connecting devices which are combined with insulation-layer locating devices.

### E04B 1/486

{Shear dowels for wood ([E04B 1/49](#) takes precedence)}

#### References

##### Limiting references

*This place does not cover:*

Shear dowels with self-penetrating parts	<a href="#">E04B 1/49</a>
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### E04B 1/49

with self-penetrating parts, e.g. claw dowels

#### References

##### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Nail plates	<a href="#">F16B 15/0023</a>
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### E04B 1/541

{Joints substantially without separate connecting elements, e.g. jointing by inter-engagement}

#### References

##### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Welded, glued or the like joints, in general	<a href="#">F16B</a>
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### E04B 1/58

of bar-shaped building elements {(framework connections [E04B 1/21](#), [E04B 1/2403](#), [E04B 1/2604](#))}

#### Relationships with other classification places

Joints with emphasis on the bar-shaped element, as opposed to [F16B 7/00](#) where the emphasis is on the connector.

## References

### Limiting references

*This place does not cover:*

Connections of large longitudinal structural elements	<a href="#">E04B 1/21</a> , <a href="#">E04B 1/2403</a> , <a href="#">E04B 1/2604</a>
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### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Structures comprising elongated load-supporting parts, e.g. columns, girders, skeletons	<a href="#">E04B 1/18</a>
Connections of rods	<a href="#">F16B 7/00</a>

## Special rules of classification

Use [E04B 2001/5862](#) - [E04B 2001/5893](#) for classifying additional information of the documents classified in [E04B 1/58](#) - [E04B 1/5818](#).

## E04B 1/5825

**{with a closed cross-section}**

## Special rules of classification

Use [E04B 2001/5862](#) - [E04B 2001/5893](#) and [E04B 2001/5856](#) for classifying additional information of the documents of [E04B 1/5825](#) - [E04B 1/585](#).

## E04B 1/61

**of slab-shaped building elements with each other**

## Relationships with other classification places

Joints with emphasis on the slab-shaped element, as opposed to [F16B 7/00](#) where the emphasis is on the connector.

## References

### Limiting references

*This place does not cover:*

Connections for structural concrete panels	<a href="#">E04B 1/043</a>
Connections of sheet metal panels	<a href="#">F16B 5/00</a>
Connections for furniture	<a href="#">F16B 12/00</a>

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Joining sheets or plates	<a href="#">F16B 5/00</a>
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## Special rules of classification

Use [E04B 2001/6195](#) as additional information to classify slabs connected at an angle for documents classified in [E04B 1/61](#) - [E04B 1/6187](#) and [E04B 2001/6191](#).

## E04B 1/6183

{with rotatable locking means co-operating with a recess}

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Locks for sliding doors with bolt pivoting about an axis perpendicular to the wings	<a href="#">E05B 65/0817</a>
Rotating connectors	<a href="#">F16B 5/0092</a> , <a href="#">F16B 12/2009</a>

## E04B 1/62

**Insulation or other protection; Elements or use of specified material therefor (chemical compositions [C01](#) - [C11](#); implements for applying insulation or sealings [E04F 21/00](#); buildings to withstand, or to provide protection against, external undesired influences [E04H 9/00](#); sealing pipes in walls or partitions [F16L 5/02](#); shielding against dangerous radiation [G21F](#))**

### Definition statement

*This place covers:*

Insulation or other protection for buildings in general; Elements or use of specified material for insulation of buildings or other protection of buildings.

### References

#### Limiting references

*This place does not cover:*

Insulation of partition walls	<a href="#">E04B 2/00</a>
Insulation of floor structures	<a href="#">E04B 5/00</a>
Insulation of roofs	<a href="#">E04B 7/00</a> , <a href="#">E04D 13/16</a>
Insulation of suspended ceilings	<a href="#">E04B 9/00</a>
Chemical compositions	<a href="#">C01</a> - <a href="#">C11</a>
Insulation of floorings, e.g. floating floors	<a href="#">E04F 15/18</a>
Implements for applying insulation or sealings	<a href="#">E04F 21/00</a>
Buildings to withstand or to provide protection against external undesired influences	<a href="#">E04H 9/00</a>
Sealing pipes in walls or partitions	<a href="#">F16L 5/02</a>
Shielding against dangerous radiation	<a href="#">G21F</a>

**E04B 1/64**

for making damp-proof; Protection against corrosion (sealings [E04B 1/66](#))

**References****Limiting references**

*This place does not cover:*

Sealings	<a href="#">E04B 1/66</a>
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**E04B 1/642**

{Protecting metallic construction elements against corrosion (for concrete reinforcing elements made of steel [E04C 5/01](#); anodic or cathodic protection [C23F 13/00](#))}

**References****Limiting references**

*This place does not cover:*

Anodic or cathodic protection	<a href="#">C23F 13/00</a>
Protection of concrete reinforcing elements made of steel	<a href="#">E04C 5/01</a>

**E04B 1/644**

{Damp-proof courses (in combination with lintels [E04C 3/02](#))}

**Definition statement**

*This place covers:*

Damp-proof courses installed during construction of the structure, also retro-fitted e.g. by driving plates in masonry joints.

**References****Limiting references**

*This place does not cover:*

Damp-proof courses in combination with lintels	<a href="#">E04C 3/02</a>
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**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Sealing membranes, sealing coatings	<a href="#">E04B 1/66</a>
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**E04B 1/646**

{obtained by removal and replacement of a horizontal layer of an existing wall}

**Definition statement**

*This place covers:*

Damp-proof courses made of a plate, sheet, or hardening composition, e.g. mortar.

**E04B 1/648**

{obtained by injection or infiltration of water-proofing agents into an existing wall}

**Special rules of classification**

Documents with details of the composition and manufacture of water-proofing agents should be additionally classified in the relevant classes for these compositions, e.g. [C08L](#) for bituminous compositions

**E04B 1/66**

Sealings ({damp-proof courses [E04B 1/644](#); fire-proof sealings [E04B 1/948](#);} additions of anti-leak properties to plaster [C04B](#); bituminous sealing masses [C08L 95/00](#); sealings for hydraulic engineering work in general [E02B 3/16](#); against ground humidity or ground water [E02D 31/02](#); coverings against rain or other precipitations of the atmosphere [E04D](#))

**Definition statement**

*This place covers:*

Sealing membranes or coatings for buildings in general.

**References****Limiting references**

*This place does not cover:*

Damp-proof courses	<a href="#">E04B 1/644</a>
Fire-proof sealings	<a href="#">E04B 1/948</a>
Additions of anti-leak properties to plaster	<a href="#">C04B</a>
Bituminous sealing masses	<a href="#">C08L 95/00</a>
Sealings for hydraulic engineering work in general	<a href="#">E02B 3/16</a>
Sealings against ground humidity or ground water	<a href="#">E02D 31/02</a>
Roof coverings against rain or other precipitations of the atmosphere	<a href="#">E04D</a>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Manufacture of sealing foils	<a href="#">B29C</a> , <a href="#">B29D</a> , <a href="#">B32B</a> , <a href="#">C08J</a> , <a href="#">D06N</a>
Composition of material	<a href="#">C08G</a> , <a href="#">C09D</a>

Sealing in water management	<a href="#">E02B 3/00</a>
Repairs, e.g. by sealing impregnation	<a href="#">E04G 23/02</a>
Water-proofing of tunnels	<a href="#">E21D 11/38</a>
Sealing where pipes, cables pass through walls or partitions	<a href="#">F16L 5/02</a>

### Special rules of classification

Documents with details of the composition or manufacture of sealing agents should be additionally classified in the relevant classes for these compositions.

### E04B 1/68

of joints, e.g. expansion joints (packing for joints in roads or airfields [E01C 11/02](#); expansion joints for bridges [E01D 19/06](#); sealing joints between foundation piles [E02D 5/14](#); joints in foundation structures [E02D 29/16](#); devices for sealing the spaces or joints between roof-covering elements [E04D 1/36](#); sealing joints between roof-covering elements [E04D 3/38](#); {construction of joints for flooring or floor layers composed of a number of similar elements [E04F 15/02005](#)}; construction of joints for flooring or floor layers made of masses in situ [E04F 15/14](#))

### References

#### Limiting references

*This place does not cover:*

Machines for inserting or removing sealing strips	<a href="#">B23P 19/047</a>
Tools for inserting or removing sealing strips	<a href="#">B25B 27/0092</a>
Packing for joints in roads or airfields	<a href="#">E01C 11/02</a>
Expansion joints for bridges	<a href="#">E01D 19/06</a>
Sealing joints between foundation piles	<a href="#">E02D 5/14</a>
Joints in foundation structures	<a href="#">E02D 29/16</a>
Devices for sealing the spaces or joints between roof-covering elements	<a href="#">E04D 1/36</a>
Sealing joints between roof-covering elements	<a href="#">E04D 3/38</a>
Construction of joints for flooring or floor layers composed of a number of similar elements	<a href="#">E04F 15/02005</a>
Construction of joints for flooring or floor layers made of masses in situ	<a href="#">E04F 15/14</a>
Repairing sealings of joints	<a href="#">E04G 23/02</a>

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Sealing of joints in water management	<a href="#">E02B 3/16</a>
Sealing in mechanical engineering	<a href="#">F16J 15/00</a>

### Special rules of classification

Use [E04B 2001/6818](#) for documents classified in [E04B 1/68](#) - [E04B 1/6816](#) for classifying additional information of joints comprising swellable parts.

## E04B 1/6801

{Fillings therefor}

### Definition statement

*This place covers:*

Joints using a putty-like filler, with or without backing strip.

## E04B 1/6803

{Joint covers ([E04B 1/6815](#) takes precedence)}

### References

#### Limiting references

*This place does not cover:*

Expansion elements specially adapted for wall or ceiling parts	<a href="#">E04B 1/6815</a>
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## E04B 1/6806

{Waterstops ([E04B 1/6807](#) takes precedence)}

### Definition statement

*This place covers:*

Sealing strips embedded in two successively poured concrete structures.

### References

#### Limiting references

*This place does not cover:*

Expansion elements for parts cast in situ	<a href="#">E04B 1/6807</a>
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## E04B 1/6807

{Expansion elements for parts cast in situ}

### Definition statement

*This place covers:*

Waterstops with a central deformable section, e.g. hollow or folded.

**E04B 1/6813**

{Compressable seals of hollow form ([E04B 1/6816](#) takes precedence)}

**References****Limiting references**

*This place does not cover:*

Porous tubular seals for injecting sealing material	<a href="#">E04B 1/6816</a>
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**E04B 1/6815**

{Expansion elements specially adapted for wall or ceiling parts}

**References****Limiting references**

*This place does not cover:*

Finishing strips for the junction of a wall and a ceiling	<a href="#">E04F 19/0436</a>
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**E04B 1/6816**

{Porous tubular seals for injecting sealing material (filling of cracks in existing buildings [E04G 23/02](#))}

**References****Limiting references**

*This place does not cover:*

Filling of cracks in existing buildings	<a href="#">E04G 23/02</a>
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**E04B 1/70**

Drying or keeping dry, e.g. by air vents ({using damp-proof courses [E04B 1/644](#); using sealings, e.g. sealing masses or foils, [E04B 1/66](#)}; during erection [E04G 21/28](#))

**References****Limiting references**

*This place does not cover:*

Drying or keeping dry using damp-proof courses	<a href="#">E04B 1/644</a>
Drying or keeping dry using sealings, e.g. sealing masses or foils	<a href="#">E04B 1/66</a>
Caps for the protection of the ends of wooden beams against humidity	<a href="#">E04B 5/12</a>
Drying or keeping dry during erection	<a href="#">E04G 21/28</a>
Repairing sealings	<a href="#">E04G 23/02</a>

**E04B 1/7007**

{by using electricity, e.g. electro-osmosis (electrochemical desalination or re-alkalisation of reinforced concrete [C04B 41/00](#))}

**Definition statement**

*This place covers:*

Drying or keeping dry by the use of electricity, e.g. electro-osmosis, electrical heating of a wall or a room, electrical ventilation.

**References****Limiting references**

*This place does not cover:*

Electrochemical desalination or re-alkalisation of reinforced concrete	<a href="#">C04B 41/00</a>
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**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Removing salts from walls	<a href="#">E04G 23/00</a>
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**E04B 1/7015**

{by heating the ambient air}

**Definition statement**

*This place covers:*

Drying by heating the ambient air, e.g. using a burner.

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Cellars	<a href="#">E04B 1/0007</a>
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**E04B 1/7023**

{by collecting water in basements}

**References****Limiting references**

*This place does not cover:*

Drainage around foundations	<a href="#">E02D 31/02</a>
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**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Cellars	<a href="#">E04B 1/007</a>
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**E04B 1/7069**

{by ventilating (means for ventilating in floors [E04B 5/48](#), in ceilings [E04B 9/02](#), in building blocks [E04C 1/392](#), in building panels [E04C 2/521](#), in roofs [E04D 13/16](#); ventilating wall coverings [E04F 13/007](#))}

**References****Limiting references**

This place does not cover:

Means for ventilating in floors	<a href="#">E04B 5/48</a>
Means for ventilating in ceilings	<a href="#">E04B 9/02</a>
Means for ventilating in building blocks	<a href="#">E04C 1/392</a>
Means for ventilating in building panels	<a href="#">E04C 2/521</a>
Means for ventilating in roofs	<a href="#">E04D 13/16</a>
Ventilating wall coverings	<a href="#">E04F 13/007</a>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Electrical ventilation for drying rooms	<a href="#">E04B 1/7007</a>
Air-ducts or air channels	<a href="#">E04F 17/04</a>

**E04B 1/7076**

{Air vents for walls}

**Definition statement**

This place covers:

Connections of the interior of the building or the interior of the wall with the exterior of the building; Air vents for crawl spaces.

**References****Limiting references**

This place does not cover:

Pest control by keeping dry	<a href="#">E04B 1/70</a>
Impregnation of wood or like materials	<a href="#">B27K</a>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Arrangements for catching or killing insects	<a href="#">A01M 1/24</a>
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**Special rules of classification**

Documents with air vents for walls in combination with other aspects of ventilation are classified in [E04B 1/7069](#).

Pest control , [E04B 1/72](#).

**E04B 1/74**

Heat, sound or noise insulation, absorption, or reflection (forms of, or arrangements in, rooms for influencing or directing sound [E04B 1/99](#)); Other building methods affording favourable thermal or acoustical conditions, e.g. accumulating of heat within walls (fire protection [E04B 1/94](#); elements chiefly adapted for structural purposes [E04C 1/00](#) - [E04C 3/00](#); chiefly adapted for surface coverings [E04F 13/00](#); as underlayers for floor coverings [E04F 15/18](#); closures for wall or like openings [E06B](#))

**References****Limiting references**

This place does not cover:

Fire protection	<a href="#">E04B 1/94</a>
Forms of, or arrangements in, rooms for influencing or directing sound	<a href="#">E04B 1/99</a>
Elements chiefly adapted for structural purposes	<a href="#">E04C 1/00</a> , <a href="#">E04C 2/00</a> , <a href="#">E04C 3/00</a>
Elements; chiefly adapted for surface covering	<a href="#">E04F 13/00</a>
Elements chiefly adapted as underlayers for floor coverings	<a href="#">E04F 15/18</a>
Closures for wall or like openings	<a href="#">E06B</a>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Thermal insulation in general	<a href="#">F16L 59/00</a>
Use of solar heat	<a href="#">F24S 20/00</a> , <a href="#">F24S 21/00</a>
Heat storage using latent heat	<a href="#">F28D 20/02</a>
Noise damping in general	<a href="#">G10K 11/00</a>

**Special rules of classification**

Heat insulation of the whole building envelope and active heat insulation, e.g. walls with ventilation conduits for insulation purpose, are classified in [E04B 1/74](#).

**E04B 1/76**

specifically with respect to heat only (heat insulation in general [F16L 59/00](#))

**References****Limiting references**

*This place does not cover:*

Insulating elements of car bodies	<a href="#">B60R 13/08</a>
Heat insulation in general	<a href="#">F16L 59/00</a>

**Special rules of classification**

Use [E04B 2001/741](#) - [E04B 2001/7695](#) for classifying additional information of the documents classified in [E04B 1/76](#) - [E04B 1/806](#) and [E04B 1/88](#), [E04B 1/90](#)

**E04B 1/7604**

{fillings for cavity walls}

**References****Limiting references**

*This place does not cover:*

Implements or machines for applying insulating material	<a href="#">E04F 21/06</a>
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**E04B 1/7616**

{with insulation-layer locating devices combined with wall ties}

**Special rules of classification**

Also classify in [E04B 1/4178](#) or [E04B 1/4185](#) when combined with masonry wall ties.

**E04B 1/762**

{Exterior insulation of exterior walls}

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Bases for plaster	<a href="#">E04F 13/04</a>
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**E04B 1/7633****{Dowels with enlarged insulation retaining head}****References*****Informative references****Attention is drawn to the following places, which may be of interest for search:*

Fastening of an exterior insulation on a roof using screws or nails	<a href="#">E04D 3/3601</a>
---------------------------------------------------------------------	-----------------------------

**E04B 1/7637****{Anchoring of separate elements through the lining to the wall}****References*****Limiting references****This place does not cover:*

Hinges or other suspension devices for doors, windows or wings	<a href="#">E05D</a>
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**E04B 1/7654****{comprising an insulating layer, disposed between two longitudinal supporting elements, e.g. to insulate ceilings}****References*****Informative references****Attention is drawn to the following places, which may be of interest for search:*

Insulating material disposed between the purlins or rafters of a roof	<a href="#">E04D 13/1625</a>
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**E04B 1/7662****{comprising fiber blankets or batts}****References*****Limiting references****This place does not cover:*

Manufacturing of inorganic fiber blankets or batts	<a href="#">D04H 1/4209</a> , <a href="#">D04H 3/002</a> , <a href="#">D04H 5/12</a>
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**Special rules of classification**

Documents concerning fiber blankets or batts mentioning heat and sound insulation but without giving characteristics specific to sound insulation are classified in [E04B 1/7662](#) - [E04B 1/767](#).

**E04B 1/78**

Heat insulating elements {([E04B 1/7662](#) takes precedence)}

**References****Limiting references**

*This place does not cover:*

Heat insulating fiber blankets or batts	<a href="#">E04B 1/7662</a>
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**E04B 1/80**

slab-shaped

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Naillable or screwable inserts for foam panels	<a href="#">E04B 2001/386</a>
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**E04B 1/803**

{with vacuum spaces included in the slab}

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Thermal insulation in general, using vacuum	<a href="#">F16L 59/06</a>
Cold rooms, refrigerators using vacuum insulation	<a href="#">F25D 2201/14</a>

**E04B 1/82**

specifically with respect to sound only ({of floors or ceilings [E04B 9/001](#);}  
noise damping in ducts or channels [E04F 17/00](#); noise damping in general  
[G10K 11/16](#))

**Definition statement**

*This place covers:*

Sound insulation for building constructions in general or for building structures which are not restricted either to walls or floors or ceilings or roofs.

**References****Limiting references**

*This place does not cover:*

Sound insulation of suspended or false ceilings	<a href="#">E04B 9/001</a>
Noise damping in ducts or channels	<a href="#">E04F 17/00</a>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Partition walls with special measures for sound insulation	<a href="#">E04B 2/7403</a> , <a href="#">E04B 2/7409</a>
Insulating elements of car bodies	<a href="#">B60R 13/08</a>
Sound insulation of flooring	<a href="#">E04F 15/20</a>
Sound damping devices for pipes	<a href="#">F16L 55/033</a>
Noise damping in general	<a href="#">G10K 11/16</a>

**Special rules of classification**

Use [E04B 2001/741](#) - [E04B 2001/748](#) and [E04B 2001/8245](#) - [E04B 2001/8495](#) for classifying additional information of the documents classified in [E04B 1/82](#) - [E04B 1/90](#).

Reference [G10K 11/16](#) is non-limiting in subgroup [E04B 1/82](#). CPC will be corrected once this inconsistency is resolved in IPC.

**E04B 1/8209**

{sound absorbing devices ([E04B 1/8218](#), [E04B 1/8227](#) take precedence)}

**Definition statement**

*This place covers:*

Passive noise absorption body located in a room for absorbing the noise generated in the room.

**References****Limiting references**

*This place does not cover:*

Soundproof enclosures	<a href="#">E04B 1/8218</a>
Screens; Arrangements of sound-absorbing elements, e.g. baffles	<a href="#">E04B 1/8227</a>
Ceiling with acoustic baffles	<a href="#">E04B 9/34</a>

**E04B 1/8218**

{soundproof enclosures}

**Definition statement**

*This place covers:*

Enclosures keeping the noise out or in.

**E04B 1/8227**

{screens ([E04B 2/74](#) takes precedence; for road or railway traffic [E01F](#));  
Arrangements of sound-absorbing elements, e.g. baffles}

**References****Limiting references**

*This place does not cover:*

Partition walls	<a href="#">E04B 2/72</a> , <a href="#">E04B 2/74</a>
Ceiling with acoustic baffles	<a href="#">E04B 9/34</a>
Screens for road or railway traffic	<a href="#">E01F</a>

**E04B 1/84****Sound-absorbing elements****Definition statement**

*This place covers:*

Structural elements, specifically for sound absorption.

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Structural building elements in general	<a href="#">E04C</a>
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**E04B 1/8404**

{block-shaped}

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Block-shaped building elements in general	<a href="#">E04C 1/00</a>
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**E04B 1/8409**

{sheet-shaped}

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Sheet-shaped building elements in general	<a href="#">E04C 2/00</a>
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**E04B 1/86****slab-shaped****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Panel or slab-shaped building elements in general	<a href="#">E04C 2/00</a>
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**E04B 1/88****Insulating elements for both heat and sound****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Structural building elements in general	<a href="#">E04C</a>
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**Special rules of classification**

Documents concerning fiber blankets or batts mentioning heat and sound insulation but without giving characteristics specific to sound insulation are classified in [E04B 1/7662](#) - [E04B 1/767](#)

**E04B 1/90****slab-shaped****References****Informative references***Attention is drawn to the following places, which may be of interest for search:*

Panel or slab-shaped building elements in general	<a href="#">E04C 2/00</a>
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**E04B 1/92**

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

**Definition statement***This place covers:*

Protection against other undesired influences or dangers for buildings in general, e.g. fire or vibrations and shocks originating from inside the building or due to wind or traffic, e.g. using mass damping systems.

## References

### Limiting references

*This place does not cover:*

Protection of foundations against entry of noxious gases, e.g. radon	<a href="#">E02D 31/008</a>
Buildings providing protection against external dangers, e.g. earthquake- or hurricane-proof buildings	<a href="#">E04H 9/00</a>
Shielding against dangerous radiation	<a href="#">G21F</a>
Screening of rooms against electric or magnetic fields	<a href="#">H05K 9/0001</a>

### Special rules of classification

Use [E04B 2001/925](#) for classifying additional information of the documents classified in [E04B 1/92](#).

## E04B 1/94

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

## References

### Limiting references

*This place does not cover:*

Fire protection of partitions	<a href="#">E04B 2/7403</a> , <a href="#">E04B 2/7409</a>
Supporting constructions for ceilings having the capability of expansion in case of fire	<a href="#">E04B 9/08</a>
Fire-fighting	<a href="#">A62C</a>
Fire prevention or containment	<a href="#">A62C 2/00</a>
Permanently installed fire-fighting equipment	<a href="#">A62C 35/00</a>
Impregnation of wood or similar materials	<a href="#">B27K</a>
Fireproof paints	<a href="#">C09D 5/18</a>
Fireproofing materials	<a href="#">C09K 21/00</a>
Flame-resistant papers	<a href="#">D21H 5/0002</a>
Coverings or linings, e.g. for walls or ceilings, in general	<a href="#">E04F 13/00</a>
Fireproof doors	<a href="#">E06B 5/16</a>
Firebreaks for passages of pipes, cables or protective tubing through walls or partitions	<a href="#">F16L 5/04</a>
Firebreak devices for pipes or the like passing through walls	<a href="#">F16L 5/04</a>

Protection of pipes by means of non-inflammable material	<a href="#">F16L 57/04</a>
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### Special rules of classification

Documents with details of the composition of fireproofing compounds should also be classified in the relevant classes for these compositions;

Use [E04B 2001/949](#) for classifying additional information of the documents classified in [E04B 1/94](#) - [E04B 1/945](#) .

## E04B 1/941

{Building elements specially adapted therefor}

### Special rules of classification

Fusible suspension supports are classified in [E04B 1/941](#).

## E04B 1/942

{slab-shaped}

### Special rules of classification

Documents with details of the composition should be classified also in [E04B 1/94](#) and should receive classes for the compositions per se;

Details of fire-proof sealing of the connection of panels should additionally be classified in [E04B 1/948](#).

## E04B 1/944

{covered with fire-proofing material}

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Beam coverings	<a href="#">E04B 9/005</a>
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## E04B 1/947

{by closing openings in walls or the like in the case of fire (fire-proof doors [E06B 5/16](#))}

### References

#### Limiting references

This place does not cover:

Fire-proof doors	<a href="#">E06B 5/16</a>
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**E04B 1/948**

{Fire-proof sealings or joints (for doors or windows [E06B 5/164](#))}

**References****Limiting references**

*This place does not cover:*

Fire-proof sealings or joints for doors or windows	<a href="#">E06B 5/164</a>
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**E04B 1/98**

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

**Definition statement**

*This place covers:*

Protection of buildings against vibrations or shocks originating from inside the building, e.g. an explosion within the building, or are caused by the wind or nearby construction works or traffic.

**References****Limiting references**

*This place does not cover:*

Protection against incendiary damage only	<a href="#">E04B 1/94</a>
Protection against vibrations or shocks on foundations	<a href="#">E02D 31/08</a>
Finishing work for protection against vibration, shocks, or mechanical damage	<a href="#">E04F</a>
Buildings withstanding earth-quake or the like, shelters, arrangements of splintercatching walls	<a href="#">E04H 9/00</a>
Buildings against air-raids or other war-like actions	<a href="#">E04H 9/04</a>
Buildings adapted to withstand tornadoes	<a href="#">E04H 9/14</a>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Pressure relieve panels in case of over-pressure	<a href="#">E06B 5/12</a> , <a href="#">B65D 90/325</a> , <a href="#">H02B 13/025</a> , <a href="#">E05B 65/102</a>
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## E04B 1/99

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

### Definition statement

*This place covers:*

Arrangements for adjusting the acoustics of e.g. a concert hall

### References

#### Limiting references

*This place does not cover:*

Insulation specifically with respect to sound only	<a href="#">E04B 1/82</a>
Acoustics in general	<a href="#">G10K 11/00</a>
Electric signal processing for producing a reverberation or echo sound	<a href="#">G10K 15/08</a>

## E04B 2/00

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

### Definition statement

*This place covers:*

Load-bearing and non-load-bearing walls for buildings, wall construction with regard to insulation, and connections specially adapted to walls for buildings.

### References

#### Limiting references

*This place does not cover:*

Building panels	<a href="#">E04C 2/00</a>
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#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Connections for building structures in general	<a href="#">E04B 1/38</a>
Insulation for buildings in general	<a href="#">E04B 1/62</a>
Heat, sound or noise insulation, absorption, or reflection	<a href="#">E04B 1/74</a>
Retaining walls	<a href="#">E02D 29/02</a>

## Special rules of classification

Load-bearing walls made from panels, e.g. pre-fabricated walls, are classified in [E04B 1/02](#) - [E04B 1/14](#).

Load-bearing or non-load-bearing walls built-up from layers of building elements, e.g. brick or block walls, are classified in [E04B 2/02](#) - [E04B 2/54](#).

Load-bearing walls having a framework or a pillarwork, and walls incorporating load-bearing elongated members, are classified in [E04B 2/56](#) - [E04B 2/709](#).

Non-load-bearing walls made of panels or posts and panels are classified in [E04B 2/72](#) - [E04B 2/828](#).

Load-bearing or non-load-bearing walls made by casting, pouring or tamping in situ are classified in [E04B 2/84](#) - [E04B 2/8664](#).

References [E04B 1/38](#) and [E04B 1/62](#) are non-limiting in main group [E04B 2/00](#). CPC will be corrected once this inconsistency is resolved in IPC.

## E04B 2/02

### built-up from layers of building elements

#### Definition statement

*This place covers:*

Walls for buildings built-up from layers of building elements, e.g. brick or block walls, as well as building elements of block or brick shape for the construction of parts of buildings. The walls can be bearing walls or non-bearing walls, e.g. partition walls, and the building elements accordingly.

#### References

##### Limiting references

*This place does not cover:*

Toys building blocks	<a href="#">A63H 33/04</a> - <a href="#">A63H 33/14</a>
Positioning wedges	<a href="#">E04G 21/1841</a>

##### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Masonry wall ties, i.e. anchors	<a href="#">E04B 1/4178</a>
Details of connections of block or brick shaped building elements	<a href="#">E04B 2002/0202</a>
Details of connections	<a href="#">E04B 2002/0202</a>
Special features of block or brick shaped building elements	<a href="#">E04B 2002/0256</a>
Retaining walls	<a href="#">E02D 29/02</a>

## Special rules of classification

Building elements of block or brick shape, for the construction of parts of buildings, are classified in [E04B 2/02](#) - [E04B 2/54](#), even if they do not explicitly form part of a wall.

Building elements of block or brick shape, for the construction of parts of buildings, and characterised by special adaptations, e.g. serving for locating conduits, for forming soffits, cornices or shelves, for fixing wall-plates or door-frames, for claustra, are classified in [E04C 1/39](#) - [E04C 1/397](#).

Building elements of block or brick shape, for the construction of parts of buildings, and being built-up from parts of different materials are classified in [E04C 1/40](#) - [E04C 1/41](#).

Building elements of glass or other transparent material, for the construction of parts of buildings, are classified in [E04C 1/42](#).

All aspects of the block or brick shaped building elements, e.g. special features, and details of connections among themselves, should be classified in [E04B 2/02](#) - [E04B 2002/0297](#).

### **Glossary of terms**

*In this place, the following terms or expressions are used with the meaning indicated:*

Block shape	block shape is not restricted to parallelepiped shape
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## **E04B 2/04**

### **Walls having neither cavities between, nor in, the solid elements**

#### **Definition statement**

*This place covers:*

Walls having neither cavities between, nor in, the solid building elements, as well as solid brick or block shape building elements having no cavities in them.

## **E04B 2/10**

### **by filling material with or without reinforcements in small channels in, or in grooves between, the elements**

#### **Definition statement**

*This place covers:*

Walls built-up from layers of solid building elements of brick or block shape, and having no cavities in the elements, wherein the joints, e.g. small channels or grooves between the building elements and/or between the successive layers are filled with material, with or without additional reinforcements in the joints, small channels or grooves.

### **References**

#### **Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Separate spacers between building elements	<a href="#">E04B 2002/0282</a>
Reinforcing elements of low bending resistance	<a href="#">E04C 5/02</a>
Light-weight girders	<a href="#">E04C 5/065</a>
Reinforcing elements of material other than metal	<a href="#">E04C 5/07</a>

## E04B 2/14

**Walls having cavities in, but not between, the elements, i.e. each cavity being enclosed by at least four sides forming part of one single element**

### Definition statement

*This place covers:*

Walls built-up from layers of building elements of brick or block shape having cavities in, but not between, the building elements, as well as brick or block shape building elements having cavities in them.

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Building elements of brick or block shape with holes filled with insulating material	<a href="#">E04B 2002/0289</a>
Building elements of block shape, serving for ventilating, heating, cooling, and for locating conduits	<a href="#">E04C 1/392</a> , <a href="#">E04C 1/397</a>

## E04B 2/20

**by filling material with or without reinforcements in small channels in, or in grooves between, the elements**

### Definition statement

*This place covers:*

Walls built-up from layers of building elements of brick or block shape, and having cavities in the elements, wherein the joints, e.g. small channels or grooves between the building elements and/or between the successive layers are filled with material, with or without additional reinforcements in the joints, small channels or grooves.

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Separate spacers between building elements	<a href="#">E04B 2002/0282</a>
Reinforcing elements of low bending resistance	<a href="#">E04C 5/02</a>
Light-weight girders	<a href="#">E04C 5/065</a>
Reinforcing elements of material other than metal	<a href="#">E04C 5/07</a>

**E04B 2/24**

the walls being characterised by fillings in some of the cavities forming load-bearing pillars or beams

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Load-bearing walls of framework or pillarwork	<a href="#">E04B 2/56</a> - <a href="#">E04B 2/709</a>
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**E04B 2/26**

the walls being characterised by fillings in all cavities in order to form a wall construction

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Walls made by casting, pouring, or tamping in situ, e.g. in permanent forms, but not by filling cavities in brick or block elements exclusively	<a href="#">E04B 2/84</a>
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**E04B 2/28**

**Walls having cavities between, but not in, the elements; Walls of elements each consisting of two or more parts kept in distance by means of spacers, all parts being solid**

**Definition statement**

*This place covers:*

Walls made from layers of building elements of brick or block shape, the walls having cavities between, but not in, the elements, e.g. walls made of solid building elements having special profiles on their small side faces in order to create a cavity when connected with the adjacent elements;

Walls made from layers of building elements of brick or block shape, each consisting of two or more parts kept in distance, in a direction perpendicular to the wall, by means of spacers, all parts of the elements being solid.

**E04B 2/30**

using elements having specially designed means for stabilising the position;  
Spacers for cavity walls {(masonry wall ties [E04B 1/4178](#))}

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Masonry wall ties, i.e. anchors	<a href="#">E04B 1/4178</a>
Details of connections	<a href="#">E04B 2002/0202</a>

## Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Spacers for cavity walls	spacers between solid parts of brick or block shaped elements for building cavity walls, e.g. spacers integrated in a block consisting of two parallel solid slab shaped parts kept at a distance by the spacer
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## E04B 2/34

**by filling material with or without reinforcements in small channels in, or in grooves between, the elements**

### Definition statement

*This place covers:*

Walls made from layers of building elements of brick or block shape, the walls having cavities between, but not in, the elements, wherein the joints, e.g. small channels or grooves between the building elements and/or between the successive layers are filled with material, with or without additional reinforcements in the joints, small channels or grooves.

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Separate spacers between building elements	<a href="#">E04B 2002/0282</a>
Reinforcing elements of low bending resistance	<a href="#">E04C 5/02</a>
Light-weight girders	<a href="#">E04C 5/065</a>
Reinforcing elements of material other than metal	<a href="#">E04C 5/07</a>

## E04B 2/38

**the walls being characterised by fillings in some of the cavities forming load-bearing pillars or beams**

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Load-bearing walls of framework or pillarwork	<a href="#">E04B 2/56</a> - <a href="#">E04B 2/709</a>
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## E04B 2/40

**the walls being characterised by fillings in all cavities in order to form a wall construction**

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Walls made by casting, pouring, or tamping in situ, e.g. in permanent forms, but not by filling cavities in brick or block elements exclusively	<a href="#">E04B 2/84</a>
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## E04B 2/42

**Walls having cavities between, as well as in, the elements; Walls of elements each consisting of two or more parts, kept in distance by means of spacers, at least one of the parts having cavities**

### Definition statement

*This place covers:*

Walls made from layers of building elements of brick or block shape, the walls having cavities between, as well as in the elements, e.g. walls made of building elements having cavities and having special profiles on their small side faces in order to create a cavity when connected with the adjacent elements;

Walls made from layers of building elements of brick or block shape, each consisting of two or more parts kept in distance, in a direction perpendicular to the wall, by means of spacers, at least one of the parts of the elements having cavities.

## E04B 2/44

**using elements having specially-designed means for stabilising the position; Spacers for cavity walls {(masonry wall ties [E04B 1/4178](#))}**

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Masonry wall ties, i.e. anchors	<a href="#">E04B 1/4178</a>
Details of connections	<a href="#">E04B 2002/0202</a>

### Glossary of terms

*In this place, the following terms or expressions are used with the meaning indicated:*

Spacers for cavity walls	spacers between parts of brick or block shaped elements for building cavity walls, at least one of the parts having cavities, e.g. spacers integrated in a block consisting of two parallel, non-massive, slab shaped parts kept at a distance by the spacer
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**E04B 2/48**

**by filling material with or without reinforcements in small channels in, or in grooves between, the elements**

**Definition statement**

*This place covers:*

Walls made from layers of building elements of brick or block shape, the walls having cavities between, as well as in the elements, wherein the joints, e.g. small channels or grooves between the building elements and/or between the successive layers are filled with material, with or without additional reinforcements in the joints, small channels or grooves.

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Separate spacers between building elements	<a href="#">E04B 2002/0282</a>
Reinforcing elements of low bending resistance	<a href="#">E04C 5/02</a>
Light-weight girders	<a href="#">E04C 5/065</a>
Reinforcing elements of material other than metal	<a href="#">E04C 5/07</a>

**E04B 2/52**

**the walls being characterised by fillings in some of the cavities forming load-bearing pillars or beams**

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Load-bearing walls of framework or pillarwork	<a href="#">E04B 2/56 - E04B 2/709</a>
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**E04B 2/54**

**the walls being characterised by fillings in all cavities in order to form a wall construction**

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Walls made by casting, pouring, or tamping in situ, e.g. in permanent forms, but not by filling cavities in brick or block elements exclusively	<a href="#">E04B 2/84</a>
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**E04B 2/56**

{Load-bearing} walls of framework or pillarwork; Walls incorporating load-bearing elongated members ([E04B 2/74](#), [E04B 2/88](#) take precedence; pillars [E04C 3/30](#))

**References****Limiting references**

*This place does not cover:*

Removable non-load-bearing partitions; Partitions with a free upper edge	<a href="#">E04B 2/74</a>
Curtain walls	<a href="#">E04B 2/88</a>
Pillars	<a href="#">E04C 3/30</a>

**E04B 2/562**

{with fillings between the load-bearing elongated members}

**Definition statement**

*This place covers:*

Nogging of half-timbered walls.

**E04B 2/62**

the members being formed of two or more elements in side-by-side relationship

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Framework with metallic elongated load-supporting parts formed of a number of parallel profiles	<a href="#">E04B 2001/2472</a>
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**E04B 2/68**

made by filling-up wall cavities ([E04B 2/24](#), [E04B 2/38](#), [E04B 2/52](#) take precedence)

**References****Limiting references**

*This place does not cover:*

Walls having cavities in, but not between, the elements, the walls being characterised by fillings in some of the cavities forming load-bearing pillars or beams	<a href="#">E04B 2/24</a>
Walls having cavities between, but not in, the elements, the walls being characterised by fillings in some of the cavities forming load-bearing pillars or beams	<a href="#">E04B 2/38</a>

Walls having cavities between, as well as in, the elements, the walls being characterised by fillings in some of the cavities forming load-bearing pillars or beams	<a href="#">E04B 2/52</a>
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## E04B 2/701

{with integrated supporting and obturation function}

### Definition statement

*This place covers:*

Walls made from horizontally laid logs or beams, e.g. log cabins.

## E04B 2/702

{with longitudinal horizontal elements ([E04B 2/704](#), [E04B 2/705](#) take precedence)}

### References

#### Limiting references

*This place does not cover:*

Walls incorporating load-bearing elongated members of wood, with longitudinal horizontal elements shorter than the length of a wall	<a href="#">E04B 2/704</a>
Walls incorporating load-bearing elongated members of wood, with longitudinal horizontal elements placed between columns	<a href="#">E04B 2/705</a>

## E04B 2/706

{with supporting function}

### Definition statement

*This place covers:*

Walls comprising structural wooden studs or posts with non structural closure elements en-between, e.g. structural stud walls and shear bracing therefor.

### References

#### Limiting references

*This place does not cover:*

Half-timbering	<a href="#">E04B 2/562</a>
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## E04B 2/72

{Non-load-bearing} walls of elements of relatively thin form {with respect to the thickness of the wall} ([E04B 2/56](#), [E04B 2/74](#), [E04B 2/88](#) take precedence; with joint fillings acting as framework or pillars [E04B 2/68](#); elements [E04C 2/00](#))

### Definition statement

*This place covers:*

Non-load-bearing thin walls without studs or posts, with profiled or folded panels or trays.

### References

#### Limiting references

*This place does not cover:*

Load-bearing] walls of framework or pillarwork; Walls incorporating load-bearing elongated members	<a href="#">E04B 2/56</a>
Non-load-bearing walls of elements of relatively thin form with joint fillings acting as framework or pillars	<a href="#">E04B 2/68</a>
Removable non-load-bearing partitions; Partitions with a free upper edge	<a href="#">E04B 2/74</a>
Non-structural stud walls	<a href="#">E04B 2/7453</a>
Curtain walls	<a href="#">E04B 2/88</a>
Building elements of relatively thin form for the construction of parts of buildings, e.g. sheet materials, slabs, or panels	<a href="#">E04C 2/00</a>

### Special rules of classification

Use [E04B 2002/725](#) - [E04B 2002/728](#) as additional information for the documents of [E04B 2/72](#).

## E04B 2/723

{constituted of gypsum elements}

### Definition statement

*This place covers:*

Non-load-bearing thin walls with folded plasterboard or gypsum or plaster projected onto a lattice.

### Special rules of classification

Use [E04B 2/845](#) as additional information for the documents of [E04B 2/723](#).

## E04B 2/74

Removable non-load-bearing partitions; Partitions with a free upper edge (framed panels [E04C 2/38](#))

### Definition statement

*This place covers:*

E.g., modular coordination.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Screens, e.g. for an auscultation room	<a href="#">A47G 5/00</a>
Framed panels	<a href="#">E04C 2/38</a>
Electric wiring	<a href="#">H01R</a>

### Special rules of classification

Documents with tables, shelving and similar items associated with a partition wall should be additionally classified in furniture groups, e.g. in [A47B](#) for tables or desks.

Reference [E04C 2/38](#) is non-limiting in subgroup [E04B 2/74](#). CPC will be corrected once this inconsistency is resolved in IPC.

## E04B 2/7407

**{assembled using frames with infill panels or coverings only; made-up of panels and a support structure incorporating posts ([E04B 2/78](#) and [E04B 2/80](#) take precedence)}**

## References

### Limiting references

This place does not cover:

Removable non-load-bearing partitions or partitions with a free upper edge with framework or posts of metal characterised by special cross-section of the frame-members	<a href="#">E04B 2/78</a>
Removable non-load-bearing partitions or partitions with a free upper edge with framework or posts of wood	<a href="#">E04B 2/80</a>

### Special rules of classification

Use [E04B 2/7409](#) - [E04B 2002/7498](#) as additional information for the documents of [E04B 2/7407](#) - [E04B 2/7459](#).

## E04B 2/7425

**{Details of connection of panels ([E04B 2/7427](#) takes precedence)}**

## References

### Limiting references

This place does not cover:

Partitions with a free upper edge with separate framed panels without intermediary support posts and with adjustable angular connection of panels	<a href="#">E04B 2/7427</a>
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**E04B 2/7435****{Glazing details}****Special rules of classification**Use [E04B 2/7437](#) - [E04B 2/7444](#) as additional information for the documents of [E04B 2/7435](#).**E04B 2/7437****{with panels hooked onto posts ([E04B 2/7438](#) takes precedence)}****Definition statement***This place covers:*

Non-load-bearing partition with free upper edge and panels hooked onto posts, e.g. with additional securing elements to prevent its unhooking.

**References****Limiting references***This place does not cover:*

Partitions with a free upper edge with panels with support posts and with adjustable angular connection of panels to posts	<a href="#">E04B 2/7438</a>
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**E04B 2/7442****{hinged connections ([E04B 2/7444](#) takes precedence)}****References****Limiting references***This place does not cover:*

Partitions with a free upper edge with panels with support posts and with panels hooked onto the rim or in a groove of circular posts	<a href="#">E04B 2/7444</a>
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**E04B 2/745****{Glazing details}****Special rules of classification**Use [E04B 2/7451](#) as additional information for the documents of [E04B 2/745](#).**E04B 2/7455****{Glazing details}****Special rules of classification**Use [E04B 2/7457](#) - [E04B 2/7459](#) as additional information for the documents of [E04B 2/7455](#).

**E04B 2/7457**

{with wallboards attached to the outer faces of the posts, parallel to the partition ([E04B 2/7459](#) takes precedence)}

**References****Limiting references**

*This place does not cover:*

Removable non-load-bearing partitions with panels and support posts, extending from floor to ceiling, the posts being telescoping to compensate for floor or ceiling irregularities	<a href="#">E04B 2/7459</a>
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**E04B 2/76**

with framework or posts of metal {(details of connections, thresholds or skirtings [E04B 2/82](#))}

**Definition statement**

*This place covers:*

Connections of horizontal and vertical metallic frame members.

**References****Limiting references**

*This place does not cover:*

Details of connections, thresholds or skirtings	<a href="#">E04B 2/82</a>
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**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Mitre joints for windows, doors	<a href="#">E06B 3/96</a>
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**E04B 2/82**

characterised by the manner in which edges are connected to the building;  
Means therefor; Special details of easily-removable partitions {as far as related to the connection with other parts of the building}

**References****Limiting references**

*This place does not cover:*

Means for connecting partition walls or panels to the ceilings	<a href="#">E04B 9/008</a>
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**E04B 2/825**

{the connection between the floor and the ceiling being achieved without any restraining forces acting in the plane of the partition}

**References****Limiting references**

*This place does not cover:*

Removable non-load-bearing partitions with panels and support posts, extending from floor to ceiling, the posts being telescoping to compensate for floor or ceiling irregularities	<a href="#">E04B 2/7459</a>
Connections between wall studs and upper or lower locating rails allowing vertical movement of upper rail with respect to the stud, e.g. by using slots in the rail or stud	<a href="#">E04B 2/768</a>

**E04B 2/827**

{Partitions constituted of sliding panels}

**Definition statement**

*This place covers:*

Non-load-bearing partitions constituted of sliding panels, where the sliding occurs in a direction parallel or perpendicular to the plane of the partition

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Suspension arrangements for sliding wings of doors	<a href="#">E05D 15/06</a>
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**E04B 2/84**

Walls made by casting, pouring, or tamping in situ ([E04B 2/02](#), [E04B 2/56](#) take precedence; forms therefor [E04G 11/06](#); working of concrete or similar masses able to be cast or poured in situ [E04G 21/02](#))

**References****Limiting references**

*This place does not cover:*

Walls built-up from layers of building elements	<a href="#">E04B 2/02</a>
Load-bearing walls of framework or pillarwork ; Walls incorporating load-bearing elongated members	<a href="#">E04B 2/56</a>
Reusable forms for walls made by casting, pouring, or tamping in situ	<a href="#">E04G 11/06</a>
Working of concrete or similar masses able to be cast or poured in situ	<a href="#">E04G 21/02</a>

### Special rules of classification

Documents where the filling does not contain a hardenable binder, e.g. rammed earth or loose rocks, are classified in [E04B 2/84](#).

## E04B 2/86

### made in permanent forms

### Special rules of classification

Use [E04B 2002/867](#) - [E04B 2002/8694](#) as additional information for the documents of [E04B 2/86](#) - [E04B 2/8652](#).

### Glossary of terms

*In this place, the following terms or expressions are used with the meaning indicated:*

A "tie" holds the two opposite leaves of the form together.

A "spacer" keeps the two opposite leaves at a predetermined distance from each other.

A single element can but must not have both functions: i.e. a tie can be a spacer or not, a spacer can be a tie or not.

## E04B 2/8635

{with ties attached to the inner faces of the forms ([E04B 2/8611](#) and [E04B 2/8623](#) take precedence)}

### References

#### Limiting references

*This place does not cover:*

Walls made by casting, pouring, or tamping in situ in permanent forms with spacers being embedded in at least one form leaf	<a href="#">E04B 2/8611</a>
Walls made by casting, pouring, or tamping in situ in permanent forms with spacers and at least one form leaf being monolithic	<a href="#">E04B 2/8623</a>

## E04B 2/8641

{using dovetail-type connections}

### Definition statement

*This place covers:*

Connections with dovetail or "T"-shaped grooves in the inner face of the form or the spacer

## E04B 2/8647

{with ties going through the forms}

### Definition statement

*This place covers:*

Ties going through the form, e.g. nails or screws going through the forms into the spacers.



**E04B 2/88**

Curtain walls {(fixing of glass panes [E06B 3/54](#))}

**References****Limiting references**

*This place does not cover:*

Fixing of glass panes	<a href="#">E06B 3/54</a>
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**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Measures for draining-off condensed water or water leaking in windows	<a href="#">E06B 7/14</a>
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**Special rules of classification**

Curtain walls in combination with ventilation , heating, drainage, shading, adjustable supports are classified in [E04B 2/88](#);

Drainage details should additionally be classified in [E06B 7/14](#).

**E04B 2/885**

{comprising a supporting structure for flush mounted glazing panels}

**References****Limiting references**

*This place does not cover:*

Connectors for fixing the flush mounted glazing to the supporting structure	<a href="#">E06B 3/54</a>
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**E04B 2/90**

comprising panels directly attached to the structure {([E04B 2/885](#) takes precedence)}

**Definition statement**

*This place covers:*

Panels directly attached to the structure, the panel comprising a frame or not

**References****Limiting references**

*This place does not cover:*

Curtain walls comprising a supporting structure for flush mounted glazing panels	<a href="#">E04B 2/885</a>
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**E04B 2/94****Concrete panels ([E04B 2/92](#) takes precedence)****References****Limiting references***This place does not cover:*

Curtain walls with sandwich-type panels	<a href="#">E04B 2/92</a>
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**E04B 2/96****comprising panels attached to the structure through mullions or transoms  
{([E04B 2/885](#) takes precedence)}****Definition statement***This place covers:*

Panels attached with panel clamping bars to the mullions or the transoms.

**References****Limiting references***This place does not cover:*

Curtain walls comprising a supporting structure for flush mounted glazing panels	<a href="#">E04B 2/885</a>
Glass roofs	<a href="#">E04D 3/06</a>
Flush mounted glazing, the panels being attached without clamping bars to mullions or transoms	<a href="#">E06B 3/54</a>

**E04B 2/965****{Connections of mullions and transoms}****Special rules of classification**

Documents with details of connections of mullions to mullions, with details of connections of mullions or transoms to the supporting structure, or with details of the infill panels are classified in [E04B 2/96](#), even if they show details of the connections of mullions and transoms.

Documents with details of angles or corners of the curtain walls are classified in [E04B 2/962](#), even if they show details of the connections of mullions and transoms.

**E04B 2/967****{Details of the cross-section of the mullions or transoms ([E04B 2/965](#) takes precedence)}****Special rules of classification**

Are classified in [E04B 2/967](#) documents which show only details of the cross-section of the mullions or transoms.

Documents with details of connections of mullions to mullions, of connections mullions or transoms, or with details of the infill panels, or with details of angles or corners of the curtain walls are classified in [E04B 2/96](#), [E04B 2/962](#) or [E04B 2/965](#), even if they show details of the cross-section of the mullions or transoms.

## **E04B 5/00**

**Floors; Floor construction with regard to insulation; Connections specially adapted therefor (elements for floors, e.g. bricks, stones, filling bodies, girders, [E04C](#); flooring as finishing work, insulation of flooring, sectional false floors, e.g. for computers [E04F 15/00](#))**

### **Definition statement**

*This place covers:*

Structural floors for buildings; Building floors construction in general and with regard to insulation; Connections specially adapted to floors.

### **References**

#### **Limiting references**

*This place does not cover:*

Producing slab shaped elements of concrete in moulds	<a href="#">B28B</a>
Decks for ships	<a href="#">B63B 3/48</a>
Flat foundations, floors resting on the ground	<a href="#">E02D 27/00</a>
Girders for floors	<a href="#">E04C 3/00</a>
Flooring as finishing work, insulation of flooring, sectional false floors, e.g. for computers	<a href="#">E04F 15/00</a>
Decks, e.g. garden decks	<a href="#">E04F 15/00</a>
Disposable shutterings, forms for floors	<a href="#">E04G</a>

#### **Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Connections for building structures in general	<a href="#">E04B 1/38</a>
Building insulation in general; Heat and sound insulation for buildings	<a href="#">E04B 1/62</a> , <a href="#">E04B 1/74</a>
Buildings for parking cars	<a href="#">E04H 6/00</a>

## **E04B 5/02**

**Load-carrying floor structures formed substantially of prefabricated units ([E04B 5/43](#) - [E04B 5/48](#) take precedence)**

### **References**

#### **Limiting references**

*This place does not cover:*

Decks, e.g. garden decks	<a href="#">E04F 15/00</a>
Sectional false floors	<a href="#">E04F 15/024</a>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Floor structures of extraordinary design	<a href="#">E04B 5/43</a>
Special adaptation of floors for transmission of light	<a href="#">E04B 5/46</a>
Special adaptation of floors for incorporating ducts	<a href="#">E04B 5/48</a>

**E04B 5/026**

{with beams or slabs of plastic}

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Beams of plastics	<a href="#">E04C 3/28</a>
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**E04B 5/04**

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

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Load carrying floor structures formed substantially of prefabricated units, and assembled of block shaped elements	<a href="#">E04B 5/08</a>
Load carrying floor structures formed substantially of prefabricated units, with beams or girders laid in two directions	<a href="#">E04B 5/14</a>

**Special rules of classification**

Load-carrying floor structures consisting of prefabricated slabs of concrete or other stone like material are classified in [E04B 5/04](#), except floor structures consisting of hollow core slabs which are classified in [E04B 5/043](#).

**E04B 5/043**

{having elongated hollow cores}

**Definition statement**

*This place covers:*

Load-carrying floor structures consisting of elongated hollow cores slabs, e.g. placed against one another.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Load-carrying floor structures partly cast in situ with prefabricated or partly prefabricated beams and one or more hollow cores between the beams	<a href="#">E04B 5/265</a>
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## Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Hollow core slab	Hollow core slab is a precast slab of prestressed concrete, having tubular voids extending the full length of the slab
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## E04B 5/046

{with beams placed with distance from another}

### Definition statement

This place covers:

Load-carrying floor structures formed of prefabricated beams placed with distance from one another, the space between the beams being filled or covered by prefabricated elements and eventually completed by non-structural layers of concrete or mortar..

## References

### Limiting references

This place does not cover:

Load carrying floor structures formed substantially of prefabricated units, and assembled of block shaped elements	<a href="#">E04B 5/08</a>
Load-carrying floor structures partly cast in situ with prefabricated stiffening ribs	<a href="#">E04B 5/23</a> - <a href="#">E04B 5/29</a>

## E04B 5/06

{with beams} placed against one another {optionally with pointing-mortar}

## References

### Limiting references

This place does not cover:

Load-carrying floor structures consisting of elongated slabs placed against one another	<a href="#">E04B 5/04</a>
Load-carrying floor structures consisting of elongated hollow cores slabs placed against one another	<a href="#">E04B 5/043</a>

**E04B 5/08**

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

**Definition statement**

*This place covers:*

Load carrying floor structures assembled of prefabricated block-shaped elements, e.g. joined together by mortar, tensioning or connecting elements.

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Load carrying floor structures formed substantially of prefabricated units, with beams or girders laid in two directions	<a href="#">E04B 5/14</a>
Floors composed of reinforced brickwork	<a href="#">E04B 5/44</a>

**E04B 5/10**

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

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Load carrying floor structures formed substantially of prefabricated units, with beams or girders laid in two directions	<a href="#">E04B 5/14</a>
Metal beams or girders	<a href="#">E04C 3/04</a>
Light-weight girders as reinforcing elements	<a href="#">E04C 5/065</a>

**E04B 5/12**

with wooden beams ([E04B 5/14](#) takes precedence)

**Definition statement**

*This place covers:*

Also means for supporting beams.

**References****Limiting references**

*This place does not cover:*

Load-carrying floor structures formed substantially of prefabricated units with beams or girders laid in two directions	<a href="#">E04B 5/14</a>
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**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Wooden joists hangers	<a href="#">E04B 1/2612</a>
Wooden beams	<a href="#">E04C 3/12</a>
Shores or struts	<a href="#">E04G 25/00</a>

**E04B 5/16**

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

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Floor structures of extraordinary design	<a href="#">E04B 5/43</a>
Floors composed of stones, mortar and reinforcing elements	<a href="#">E04B 5/44</a>
Special adaptation of floors for transmission of light	<a href="#">E04B 5/46</a>
Special adaptation of floors for incorporating ducts	<a href="#">E04B 5/48</a>
Forms or shutterings for making floors	<a href="#">E04G 11/00</a>

**E04B 5/17**

**Floor structures partly formed in situ**

**Definition statement**

*This place covers:*

Floor structures partly formed in situ, i.e. in which at least some parts of the structure are prefabricated, e.g. precast girders or prefabricated filling members between the beams.

**References****Limiting references**

*This place does not cover:*

Floor structures cast in situ with hollow cylindrical or spherical filling elements	<a href="#">E04B 5/32</a>
Floor structures cast in situ with form units as part of the floor; with slab shaped form units acting as reinforcement	<a href="#">E04B 5/36</a> , <a href="#">E04B 5/38</a>

## E04B 5/18

**with stiffening ribs or other beam-like formations wholly cast between filling members**

### Definition statement

*This place covers:*

Floor structures partly formed in situ, with prefabricated filling members and with stiffening ribs wholly cast between or in the prefabricated filling members; Prefabricated filling elements suitable for casting stiffening ribs between or in them.

## E04B 5/19

**the filling members acting as self-supporting permanent forms ([E04B 5/21](#) takes precedence)**

### Definition statement

*This place covers:*

Floor structures partly formed in situ, with prefabricated self-supporting filling members and with stiffening ribs wholly cast between or in the prefabricated self-supporting filling members, e.g. elongated self-supporting filling members resting on the walls.

## References

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Load-carrying floor structures consisting of slabs	<a href="#">E04B 5/04</a>
Load-carrying floor structures consisting of hollow cores slabs	<a href="#">E04B 5/043</a>
Floor structures partly formed in situ, with prefabricated filling members and with stiffening ribs wholly cast between or in the prefabricated filling members, and extending in two different directions	<a href="#">E04B 5/21</a>
Load-carrying floor structures partly cast in situ with prefabricated or partly prefabricated beams and one or more hollow cores between the beams	<a href="#">E04B 5/265</a>

## E04B 5/21

**Cross-ribbed floors**

### Definition statement

*This place covers:*

Floor structures partly formed in situ, with prefabricated filling members and with stiffening ribs wholly cast between or in the prefabricated filling members, and extending in two different and intersecting directions. Prefabricated filling elements suitable for casting cross-ribbed floors.



## E04B 5/23

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

### Definition statement

*This place covers:*

Floor structures partly formed in situ, with prefabricated or partly prefabricated beam-like formations, e.g. prefabricated beams of concrete, metal or wood.

### References

#### Limiting references

*This place does not cover:*

With all load-carrying parts substantially consisting of prefabricated units	<a href="#">E04B 5/02</a>
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#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Provisions for connecting wooden stiffening ribs to the concrete slab	<a href="#">E04B 2005/232</a>
Beams built-up by elements joined in line	<a href="#">E04C 3/22</a>

## E04B 5/26

with filling members between the beams ([E04B 5/28](#) takes precedence)

### Definition statement

*This place covers:*

Floor structures partly formed in situ, with prefabricated or partly prefabricated beam-like formations and with prefabricated filling members between the beams;

Prefabricated elements for use as filling elements between prefabricated or partly prefabricated beams.

## E04B 5/261

### {Monolithic filling members}

### Definition statement

*This place covers:*

Floor structures partly formed in situ, with prefabricated or partly prefabricated beam-like formations and with prefabricated monolithic filling members between the beams;

Prefabricated monolithic elements for use as filling elements between prefabricated or partly prefabricated beams.

## Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Monolithic	In one piece
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## E04B 5/263

{with a flat lower surface ([E04B 5/265](#) takes precedence)}

### References

#### Limiting references

This place does not cover:

Load-carrying floor structures partly cast in situ with prefabricated or partly prefabricated beams and one or more hollow cores between the beams	<a href="#">E04B 5/265</a>
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## E04B 5/265

{with one or more hollow cores}

### Definition statement

This place covers:

Load-carrying floor structures partly cast in situ with prefabricated or partly prefabricated beams and one or more hollow cores between the beams

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Load-carrying floor structures consisting of hollow cores slabs only	<a href="#">E04B 5/043</a>
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## E04B 5/28

### Cross-ribbed floors

#### Definition statement

This place covers:

Floor structures partly formed in situ, with prefabricated or partly prefabricated beam-like formations and with prefabricated filling members between the beams;

Prefabricated elements for use as filling elements between prefabricated or partly prefabricated beams in a cross-ribbed floor.

**E04B 5/29**

the prefabricated parts of the beams consisting wholly of metal ([E04B 5/28](#) takes precedence)

**References****Limiting references**

*This place does not cover:*

Beams, as independent entities, consisting of steel and concrete	<a href="#">E04C 3/293</a>
Beams, as independent entities, consisting of concrete combined with a girder-like steel structure extending laterally outside the element	<a href="#">E04C 3/294</a>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Metal beams or girders	<a href="#">E04C 3/04</a>
Light-weight metal girders used as reinforcement, e.g. with a precast concrete part	<a href="#">E04C 3/065</a>

**E04B 5/32**

Floor structures wholly cast in situ with or without form units or reinforcements

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Means preventing cold bridging at the junction of external walls with a floor	<a href="#">E04B 2001/7679</a>
Floor structures having permanent form for the floor edges	<a href="#">E04B 2005/322</a>
Floor structures having peripheral anchors or supports	<a href="#">E04B 2005/324</a>
Forms or shutterings for making floors	<a href="#">E04G 11/00</a>

**Special rules of classification**

Floor structures cast in situ with hollow cylindrical or spherical filling elements are classified in [E04B 5/32](#).

Floor structures cast in situ with a metal form-slab are classified in [E04B 5/40](#).

## E04B 5/36

### with form units as part of the floor

#### Definition statement

*This place covers:*

Floor structures wholly cast in situ with form units as part of the floor, the form units being either made in one piece or made of different elements, e.g. non-self-supporting form units.

#### References

##### Limiting references

*This place does not cover:*

Sectional false floors	<a href="#">E04F 15/024</a>
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#### Special rules of classification

Non-self-supporting floor form units, either made of one element or of a series of elements, are classified in [E04B 5/36](#), except in case of metal form-slabs.

#### Glossary of terms

*In this place, the following terms or expressions are used with the meaning indicated:*

Floor form unit	A form, either made of one element or of a series of elements, that allows the floor to be cast over it, in situ, without the need of additional forms.
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## E04B 5/38

### with slab-shaped form units acting simultaneously as reinforcement; Form slabs with reinforcements extending laterally outside the element {(beams placed against one another and acting as permanent forms [E04B 5/23](#))}

#### Definition statement

*This place covers:*

Floor structures wholly cast in situ with slab-shaped substantially self-supporting form units acting simultaneously as reinforcement;

Form slabs with reinforcements of metal or other material extending laterally outside the form slab, and that are suitable to be embedded in the concrete of the floor slab to be cast in-situ, e.g. "Predalles" concrete slabs or semi-finished reinforced concrete slabs.

## E04B 5/40

### with metal form-slabs

#### Definition statement

*This place covers:*

Floor structures wholly cast in situ with metal form-slabs, e.g. with corrugated or non-corrugated metal form-slabs.

## E04B 5/43

Floor structures of extraordinary design; Features relating to the elastic stability; Floor structures specially designed for resting on columns only, e.g. mushroom floors ({anchoring devices for balconies with means for preventing cold bridging [E04B 1/0038](#)}; extraordinary constructions in general [E04B 1/34](#))

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Anchoring devices for balconies with means for preventing cold bridging	<a href="#">E04B 1/0038</a>
Extraordinary constructions in general	<a href="#">E04B 1/34</a>
Shear reinforcements, e.g. shear heads for floor slabs	<a href="#">E04C 5/0645</a>
Buildings adapted to withstand abnormal external influences, e.g. earthquakes	<a href="#">E04H 9/00</a>

## E04B 5/44

Floors composed of stones, mortar, and reinforcing elements (with inserts of glass [E04B 5/46](#))

### Definition statement

*This place covers:*

Floors composed of stones, e.g. hollow bricks, mortar and reinforcing elements.

### References

#### Limiting references

*This place does not cover:*

Special adaptation of floors for transmission of light, e.g. by inserts of glass	<a href="#">E04B 5/46</a>
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#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Load carrying floor structures assembled of prefabricated block-shaped elements	<a href="#">E04B 5/08</a>
Beams built-up by elements joined in line	<a href="#">E04C 3/22</a>

### Special rules of classification

Floor structures assembled of relatively large prefabricated block-shaped elements and relatively little mortar or concrete are classified in [E04B 5/08](#).

## E04B 5/46

Special adaptation of floors for transmission of light, e.g. by inserts of glass (of ceilings [E04B 9/32](#), block-shaped elements [E04C 1/42](#); slab- or sheet-shaped elements [E04C 2/54](#); for roof covering [E04D 3/06](#))

### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Translucent ceilings	<a href="#">E04B 9/32</a>
Block-shaped building elements of glass or transparent material	<a href="#">E04C 1/42</a>
Slab-like translucent building elements	<a href="#">E04C 2/54</a>
Roof coverings of glass or other translucent materials	<a href="#">E04D 3/06</a> , <a href="#">E04D 3/28</a>

## E04B 5/48

Special adaptations of floors for incorporating ducts, e.g. for heating or ventilating (in block-shaped elements [E04C 1/39](#); in slab- or sheet-shaped elements [E04C 2/52](#))

### Definition statement

*This place covers:*

Special adaptations of floors for incorporating ducts, e.g. for heating or ventilating, in the structural body of the floor.

### References

#### Limiting references

*This place does not cover:*

Sectional false floors	<a href="#">E04F 15/024</a>
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#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Building elements of block shape serving for locating conduits	<a href="#">E04C 1/39</a>
Building elements of slab shape serving for locating conduits	<a href="#">E04C 2/52</a>
Hot-water central heating systems	<a href="#">F24D 3/00</a>
Ventilation with air supply through perforated floors	<a href="#">F24F 7/10</a>
Installation of electric cables in floors	<a href="#">H02G 3/283</a>

## E04B 7/00

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

### Definition statement

*This place covers:*

Roofs, i.e. roof structures; Roof construction with regard to insulation, e.g. self-supporting insulated roof-slabs.

### References

#### Limiting references

*This place does not cover:*

Structures for roofs, in particular for flat roofs, as well as for floors	<a href="#">E04B 5/00</a>
Ceilings, i.e. suspended ceilings	<a href="#">E04B 9/00</a>
Greenhouses	<a href="#">A01G 9/14</a>
Large containers having floating covers	<a href="#">B65D 88/34</a>
Roof trusses per se, truss-like structures	<a href="#">E04C 3/02</a>
Roof coverings	<a href="#">E04D</a>

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Three-dimensional frameworks	<a href="#">E04B 1/19</a>
Arched structures; Vaulted structures; Folded structures	<a href="#">E04B 1/32</a>
Extraordinary structures; Structures covering a large free area; Structures characterised by movable, separable or collapsible parts; Structures composed of box-like or cell-like units	<a href="#">E04B 1/34</a> , <a href="#">E04B 1/342</a> , <a href="#">E04B 1/343</a> , <a href="#">E04B 1/348</a>
Arched girders or portal frames	<a href="#">E04C 3/38</a>
Sunshades; Awnings	<a href="#">E04F 10/00</a>
Tents or canopies, in general	<a href="#">E04F 15/00</a>
Buildings or structures for particular purposes, e.g. bus shelters, swimming pools; coverings thereof	<a href="#">E04H</a>

## E04B 7/02

with plane sloping surfaces, e.g. saddle roofs ([E04B 7/12](#) takes precedence)

### References

#### Limiting references

*This place does not cover:*

Roofs formed in bays, e.g. saw-tooth roofs	<a href="#">E04B 7/12</a>
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**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Sunshades, e.g. made of flexible canopy materials	<a href="#">E04F 10/00</a>
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**E04B 7/022**

{consisting of a plurality of parallel similar trusses or portal frames}

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Roof trusses per se, truss-like structures	<a href="#">E04C 3/02</a>
Arched girders or portal frames	<a href="#">E04C 3/38</a>

**E04B 7/024**

{the trusses or frames supporting load-bearing purlins, e.g. braced purlins (battens, supports for battens [E04D 12/00](#))}

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Roof battens; supports for roof battens	<a href="#">E04D 12/004</a>
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**Synonyms and Keywords**

In patent documents, the following words/expressions are often used as synonyms:

- "Purlins" and "Battens"

**E04B 7/026**

{consisting of prefabricated modules, e.g. box-like or cell-like units ([E04B 7/24](#) takes precedence)}

**Definition statement**

This place covers:

Roof consisting of prefabricated modules, e.g. box-like or cell-like units, the prefabricated modules arriving in situ ready to be put in place as they are.

**References****Limiting references**

This place does not cover:

Roofs consisting of self-supporting slabs, the slabs being collapsible or retractable, e.g. for transport	<a href="#">E04B 7/24</a>
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**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Structures composed of box-like or cell-like units	<a href="#">E04B 1/348</a>
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**E04B 7/028**

{consisting of structures of pyramidal or conical shape}

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Small buildings erected in the open air, e.g. waiting shelters, kiosks, beach cabins, public WC's	<a href="#">E04H 1/1205</a>
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**E04B 7/04**

supported by horizontal beams or the equivalent resting on the walls  
([E04B 7/06](#) takes precedence)

**Definition statement**

*This place covers:*

Details of connections between the roof structure and the supporting walls, for roofs in which the roof structure is supported by the walls, e.g. roof trusses supported by horizontal beams resting on the walls.

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Constructions of roof intersections or hipped ends	<a href="#">E04B 7/06</a>
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**E04B 7/045**

{with connectors made of sheet metal for connecting the roof structure to the supporting wall (connectors made of sheet metal for wooden elongated load-supporting elements in general [E04B 1/2608](#))}

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Connectors made of sheet metal for wooden elongated load supporting elements in general	<a href="#">E04B 1/2608</a>
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## E04B 7/06

### Constructions of roof intersections or hipped ends

#### References

##### *Informative references*

Attention is drawn to the following places, which may be of interest for search:

Greenhouses	<a href="#">A01G 9/14</a>
Mutual connections of metal glazing bars	<a href="#">E04D 2003/0868</a>

#### Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Hipped end	The ridge end or node defined by the junction of three or more triangular sloping faces in a hip roof
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## E04B 7/063

### {Hipped ends}

#### References

##### *Informative references*

Attention is drawn to the following places, which may be of interest for search:

Mutual connections of metal glazing bars on the ridge of the roof	<a href="#">E04D 2003/0875</a>
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## E04B 7/08

Vaulted roofs ([E04B 7/14](#) takes precedence; vaulted structures in general [E04B 1/32](#); inflatable tents or canopies, in general [E04H 15/20](#); inflatable forms for shaping in situ [E04G 11/04](#))

#### Definition statement

This place covers:

Vaulted roofs, i.e. roofs having a general curved shape, in one or more directions, e.g. an arched shape, an hyperbolic-parabolic shape, a dome shape, a curved and folded shape.

#### References

##### *Limiting references*

This place does not cover:

Suspended roofs	<a href="#">E04B 7/14</a>
Inflatable tents or canopies, in general	<a href="#">E04H 15/20</a>

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Vaulted structures in general	<a href="#">E04B 1/32</a>
Extraordinary structures; Structures covering a large free area	<a href="#">E04B 1/34</a> , <a href="#">E04B 1/342</a>
Saw-tooth roofs	<a href="#">E04B 7/12</a>
Inflatable forms for shaping in situ	<a href="#">E04G 11/04</a>

**Special rules of classification**

Barrel vaulted roofs are classified in [E04C 3/08](#). Folded barrel vaulted roofs are classified in [E04B 7/107](#).

**E04B 7/10**

**Shell structures, e.g. of hyperbolic-parabolic shape; Grid-like formations acting as shell structures; Folded structures {(buildings [E04B 1/32](#))}**

**Definition statement**

*This place covers:*

Curved roof structures made by shell structures, e.g. roof structures of hyperbolic-parabolic shape made of a thin-shell concrete membrane, or by a plurality of thin-shell units connected together;

Curved roof structures made by grid-like formations acting as shell structures, i.e. thin and substantially self-supporting, that is without the need of intermediate supports;

Curved roof structures made by a folded structure, e.g. globally curved roof structures made by concertina-like folded metal sheets.

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Three-dimensional frameworks	<a href="#">E04B 1/19</a>
Arched buildings structures; Vaulted buildings structures; Folded buildings structures	<a href="#">E04B 1/32</a>
Saw-tooth roofs	<a href="#">E04B 7/12</a>

**E04B 7/102**

**{Shell structures}**

**Definition statement**

*This place covers:*

Curved roof structures made by shell structures, e.g. roof structures of hyperbolic-parabolic shape made of a thin-shell concrete membrane, or by a plurality of thin-shell units connected together.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Arched structures comprised entirely of a single panel	<a href="#">E04B 2001/3258</a>
Arched structures comprised of a number of panels connected together	<a href="#">E04B 2001/327</a>
Bending sheet metal	<a href="#">B21D 5/00</a>
Inflatable forms for shaping in situ	<a href="#">E04G 11/04</a>

## E04B 7/105

### {Grid-like structures}

#### Definition statement

*This place covers:*

Curved roof structures made by grid-like formations acting as shell structures, i.e. thin and substantially self-supporting, that is without the need of intermediate supports.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Arched structures having a grid frame	<a href="#">E04B 2001/3235</a>
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## E04B 7/107

### {Folded structures}

#### Definition statement

*This place covers:*

Curved roof structures made by a folded structure, e.g. globally curved roof structures made by concertina-like folded metal sheets.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Arched structures with faceted surfaces	<a href="#">E04B 2001/3294</a>
Structures deriving their rigidity from concertina folds	<a href="#">E04B 1/345</a>
Saw-tooth roofs	<a href="#">E04B 7/12</a>
Corrugating sheet metal	<a href="#">B21D 13/00</a>

**E04B 7/12**

formed in bays, e.g. sawtooth roofs ([E04B 7/10](#) takes precedence)

**Definition statement**

*This place covers:*

Roofs formed in bays, e.g. massive saw-tooth roofs for factory buildings.

**References****Limiting references**

*This place does not cover:*

Curved roof structures made by a folded structure, e.g. globally curved roof structures made by concertina-like folded metal sheets	<a href="#">E04B 7/107</a>
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**E04B 7/14**

Suspended roofs (suspended tents or canopies in general [E04H 15/04](#))

**Definition statement**

*This place covers:*

Suspended roofs, i.e. permanent roofs suspended from a structure, e.g. a roof for a stadium consisting of a membrane suspended by cables, or a roof for a building consisting of a membrane being anchored along its borders on the walls of the building.

**References****Limiting references**

*This place does not cover:*

Suspended tents or canopies in general	<a href="#">E04H 15/04</a>
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**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Extraordinary structures; Structures covering a large free area	<a href="#">E04B 1/34</a> , <a href="#">E04B 1/342</a>
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**E04B 7/16**

Roof structures with movable roof parts (buildings for special purposes [E04H](#))

**References****Limiting references**

*This place does not cover:*

Skylights or domes having movable parts	<a href="#">E04D 13/035</a>
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**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Structures characterised by movable, separable or collapsible parts	<a href="#">E04B 1/343</a>
Buildings for special purposes	<a href="#">E04H</a>

**E04B 7/163**

{characterised by a pivoting movement of the movable roof parts ([E04B 7/166](#) takes precedence)}

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Roof structures with movable parts characterised by a translation movement	<a href="#">E04B 7/166</a>
Skylights having movable parts pivoting about a fixed axis	<a href="#">E04D 13/0351</a>

**E04B 7/166**

{characterised by a translation movement of the movable roof part, with or without additional movements}

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Roof structures with movable parts characterised by a pivoting movement	<a href="#">E04B 7/163</a>
Skylights having movable parts moving in their own plane	<a href="#">E04D 13/0358</a>

**E04B 7/18**

Special structures in or on roofs, e.g. dormer windows (in connection with roof coverings [E04D 13/00](#), especially domes [E04D 13/03](#))

**References****Limiting references**

This place does not cover:

Special structures on roofs, in connection with roof coverings	<a href="#">E04D 13/00</a>
Skylights and domes	<a href="#">E04D 13/03</a>
Chimneys	<a href="#">E04F 17/00</a>

## Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Dormer window	Roof window set in a structure that is protruding from the surface of a sloping roof; the window itself is substantially vertical
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## E04B 7/20

### Roofs consisting of self-supporting slabs, e.g. able to be loaded

#### Definition statement

*This place covers:*

Roofs consisting of self-supporting slabs, e.g. a saddle roof in which each plane sloping surface is made by a series of adjacent self-supporting slabs resting only on the walls of the building and on the ridge beam of the roof.

#### References

##### Limiting references

*This place does not cover:*

Waterproof roofing slabs comprising two or more layers, e.g. for insulation	<a href="#">E04D 3/35</a>
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##### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Building panels in general	<a href="#">E04C 2/00</a>
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#### Special rules of classification

Self-supporting multi-layered roof slabs also used as roof coverings are classified both in [E04B 7/20](#) - [E04B 7/24](#), and in [E04D 3/35](#) or its sub-groups.

## E04B 7/205

{the slabs having non-structural supports for roofing materials (for slabs having insulating properties [E04B 7/225](#))}

#### References

##### Limiting references

*This place does not cover:*

Self-supporting insulating slabs for roofs, the slabs having non-structural supports for roofing materials	<a href="#">E04B 7/225</a>
Roof battens	<a href="#">E04D 12/004</a>

## Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Non-structural supports for roofing materials	Supports like battens, purlins
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## E04B 7/22

the slabs having insulating properties, e.g. laminated with layers of insulating material

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Layered products	<a href="#">B32B</a>
Sandwich panels	<a href="#">E04C 2/288</a> , <a href="#">E04C 2/292</a> , <a href="#">E04C 2/296</a> , <a href="#">E04C 2/365</a>
Waterproof roofing slabs comprising two or more layers, at least one of the layers being composed of insulating material	<a href="#">E04D 3/351</a>
Insulating devices or arrangements insofar as the roof covering is concerned	<a href="#">E04D 13/16</a>

## E04B 7/225

{the slabs having non-structural supports for roofing materials}

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Roof battens	<a href="#">E04D 12/004</a>
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## Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

Non-structural supports for roofing materials	Supports like battens, purlins
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## E04B 7/24

the slabs being collapsible {or retractable}, e.g. for transport

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Structures characterised by movable, separable or collapsible parts; with hinged parts	<a href="#">E04B 1/343</a> , <a href="#">E04B 1/344</a>
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## E04B 9/00

**Ceilings; Construction of ceilings, e.g. false ceilings; Ceiling construction with regard to insulation (ceilings used as forms for making floors [E04B 5/00](#); coverings or linings for ceilings [E04F 13/00](#))**

### Definition statement

*This place covers:*

- Ceilings, i.e. suspended ceilings and false ceilings;
- Construction of suspended and false ceilings;
- Suspended and false ceiling construction with regard to insulation.

### References

#### Limiting references

*This place does not cover:*

Ceilings used as forms for making floors	<a href="#">E04B 5/00</a>
Coverings or linings for ceilings, directly attached to the lower face of the floor slab	<a href="#">E04F 13/00</a>
Plastering, finishing work	<a href="#">E04F 21/00</a>

### Special rules of classification

This subclass comprises only suspended ceilings and false ceilings. Ceiling consisting of ceiling panels, coverings or linings attached directly to the lower face of the floor slab are only classified in [E04F 13/00](#).

Ceiling consisting of ceiling panels, coverings or linings indirectly attached to the lower face of the floor slab in a way similar to wall covering panels, e.g. with only one lath in-between wall and panel, are also only classified in [E04F 13/00](#).

## E04B 9/001

**{characterised by provisions for heat or sound insulation}**

### Definition statement

*This place covers:*

Suspended ceilings or false ceilings having provisions for heat or sound insulation.

### References

#### Limiting references

*This place does not cover:*

Sound absorbing open-work ceilings; Ceilings with acoustic baffles, e.g. sound absorbing panels vertically suspended from the ceiling	<a href="#">E04B 9/34</a>
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#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Heat, sound or noise insulation in buildings; with respect to heat only; with respect to sound only	<a href="#">E04B 1/74</a> ; <a href="#">E04B 1/76</a> ; <a href="#">E04B 1/82</a>
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Slab shaped heat absorbing elements for buildings	<a href="#">E04B 1/80</a>
Slab shaped sound absorbing elements for buildings	<a href="#">E04B 1/86</a>
Suspended ceilings having slabs, panels	<a href="#">E04B 9/04</a>
Means for suspending the supporting construction of the suspended ceilings from the floor slab, with arrangements for damping vibration	<a href="#">E04B 2009/186</a>
Methods or devices for protecting against or damping noise	<a href="#">G10K 11/00</a>

### Special rules of classification

Suspended or false ceilings having insulating slabs or panels with non-specified insulating properties are classified in [E04B 9/04](#), not in [E04B 9/001](#).

### E04B 9/003

{with movable parts, e.g. pivoting panels, access doors}

### References

#### Limiting references

*This place does not cover:*

Access doors mechanically connected to loft ladders	<a href="#">E04F 11/04</a>
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#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Hinges	<a href="#">E05D</a>
Doors	<a href="#">E06B</a>
Recessed bases for lighting devices, e.g. in ceilings	<a href="#">F21V 21/04</a>

### E04B 9/005

{composed of imitation beams or beam coverings}

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Caps covering surfaces of the supporting construction	<a href="#">E04B 2009/062</a>
Coverings or linings of wood	<a href="#">E04F 13/10</a>

**E04B 9/006**

**{with means for hanging lighting fixtures or other appliances to the framework of the ceiling}**

**Definition statement**

*This place covers:*

Suspended or false ceilings with means for hanging lighting fixtures or other appliances to the framework of the suspended or false ceiling, e.g. to the T-bars of a suspended ceiling.

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Means for suspending the supporting construction of the suspended ceilings from the floor slab; adjustable	<a href="#">E04B 9/18</a> , <a href="#">E04B 9/20</a>
Supports for pipes	<a href="#">F16L 3/00</a>
Supporting, suspending or attaching arrangements for lighting devices	<a href="#">F21V 21/00</a>
Suspension of electric conduit channels	<a href="#">H02G 3/263</a>

**Special rules of classification**

Hanging means directly attached to the lower face of the floor slab are not classified here.

Translucent ceilings, i.e. permitting both the transmission and diffusion of light are classified in [E04B 9/32](#).

**E04B 9/008**

**{with means for connecting partition walls or panels to the ceilings}**

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Partition walls; removable partition walls	<a href="#">E04B 2/72</a> , <a href="#">E04B 2/74</a>
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**E04B 9/02**

**having means for ventilation or vapour discharge**

**Definition statement**

*This place covers:*

Suspended or false ceilings having means for ventilation or vapour discharge.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Suspended or false ceilings having means for ventilation or vapour discharge, the supporting ceiling grid acting as air diffuser	<a href="#">E04B 2009/026</a>
Ventilation, air conditioning systems; Air-humidification systems	<a href="#">F24F</a> , <a href="#">F24F 6/00</a>
Clean-rooms	<a href="#">F24F 3/167</a>

### Special rules of classification

Classify in [E04B 9/02](#) only if the ceiling components themselves, e.g. the ceiling panels or the framework of the ceiling, have something special in relation to ventilation or vapour discharge.

A general ceiling having only openings for ventilation ducts and no other specific ventilation feature, should not be classified in [E04B 9/02](#). Conversely, a clean room ceiling having openings for ventilation ducts, the rest of the ceiling being air-tight, should be classified in [E04B 9/02](#), the air-tightness of the ceiling being a specific feature of the ceiling linked to the ventilation of the clean room.

## E04B 9/04

### comprising slabs, {panels,} sheets or the like

#### Definition statement

*This place covers:*

Suspended or false ceilings comprising slabs, sheets or the like, e.g. suspended ceiling comprising inverted tee-bars and panels.

## References

### Limiting references

*This place does not cover:*

Open-work ceilings, e.g. grids	<a href="#">E04B 9/34</a> - <a href="#">E04B 9/36</a>
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### Informative references

Attention is drawn to the following places, which may be of interest for search:

Slab shaped heat absorbing elements for buildings	<a href="#">E04B 1/80</a>
Slab shaped sound absorbing elements for buildings	<a href="#">E04B 1/86</a>
Building slabs, sheets or panels per se	<a href="#">E04C 2/00</a>
Coverings or linings for walls or ceilings	<a href="#">E04F 13/00</a>
Ceiling panels lifting devices	<a href="#">E04F 21/1805</a>

### Special rules of classification

Classify a suspended or false ceiling comprising slabs, sheets or the like in [E04B 9/04](#) only if the slabs, sheet or the like have some special technical feature, e.g. a special composition, a special geometry, special borders.

**E04B 9/0421****{comprising ducts}****References****Limiting references***This place does not cover:*

Ceiling heating, cooling and ventilating systems in general	<a href="#">F24D</a> , <a href="#">F24F</a>
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**E04B 9/0457****{having closed internal cavities}****References****Limiting references***This place does not cover:*

Ceiling panels having a honeycomb core structure	<a href="#">E04B 9/0442</a>
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**E04B 9/0478****{of the tray type}****Definition statement***This place covers:*

Ceiling panels consisting of a tray made of a single element, and having 1 to 4 upstanding borders on their sides.

**References****Limiting references***This place does not cover:*

Ceiling panels having a frame	<a href="#">E04B 9/0428</a>
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**E04B 9/06****characterised by constructional features of the supporting construction {, e.g. cross section or material of framework members}****Definition statement***This place covers:*

Suspended or false ceilings characterised by constructional features of the supporting construction, e.g. by the cross section or the material of T-bar members.

## References

### Limiting references

*This place does not cover:*

Constructional features of the means for suspending the supporting construction	<a href="#">E04B 9/18</a> , <a href="#">E04B 9/20</a>
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### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Cross-sectional aspects of metal beams, girders or joists	<a href="#">E04C 2003/0404</a>
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## E04B 9/064

**{comprising extruded supporting beams}**

## References

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Extrusion of metal	<a href="#">B21C 23/00</a>
Extrusion of plastics	<a href="#">B29C 48/00</a>

## E04B 9/065

**{comprising supporting beams having a folded cross-section}**

## References

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Bending of sheet metal	<a href="#">B21D 5/00</a>
Metal beams made of bent sheet material	<a href="#">E04C 3/07</a> , <a href="#">E04C 3/09</a>

## E04B 9/08

**having the capability of expansion {, e.g. in case of fire}**

## Definition statement

*This place covers:*

Suspended or false ceilings comprising a supporting construction having the capability of expansion.

## E04B 9/10

### Connections between parallel members of the supporting construction ([E04B 9/08](#) takes precedence)

#### Definition statement

*This place covers:*

Connections between parallel members of the supporting construction, e.g. connections side to side of T-bars or connections tip to tip with an additional joining element

#### References

##### Limiting references

*This place does not cover:*

Suspended or false ceilings comprising a supporting construction having the capability of expansion.	<a href="#">E04B 9/08</a>
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## E04B 9/12

### Connections between non-parallel members of the supporting construction ([E04B 9/08](#) takes precedence)

#### References

##### Limiting references

*This place does not cover:*

Suspended or false ceilings comprising a supporting construction having the capability of expansion.	<a href="#">E04B 9/08</a>
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##### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Connection details of elongated metal supporting parts	<a href="#">E04B 1/2403</a>
Grid-like ceilings	<a href="#">E04B 9/345</a>
Racks for cabinets	<a href="#">A47B 47/00</a>

#### Special rules of classification

Grid-like ceilings that are suitable for supporting panels can also be classified in [E04B 9/12](#) or its subgroups.

## E04B 9/18

### Means for suspending the supporting construction

#### Definition statement

*This place covers:*

Means for suspending the supporting construction of the suspended ceiling from the lower face of the floor slab.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Suspended or false ceilings with means for hanging lighting fixtures or other appliances to the framework of the suspended or false ceiling,	<a href="#">E04B 9/006</a>
Separate fastening elements for wall covering elements	<a href="#">E04F 13/0801</a>
Supports for pipes	<a href="#">F16L 3/00</a>
Supporting, suspending or attaching arrangements for lighting devices	<a href="#">F21V 21/00</a>
Suspension of electric conduit channels	<a href="#">H02G 3/263</a>

## E04B 9/20

### adjustable

### Definition statement

*This place covers:*

Adjustable means for suspending the supporting construction of the suspended ceiling from the lower face of the floor slab, particularly means adjustable in length.

## E04B 9/22

### Connection of slabs, {panels,} sheets or the like to the supporting construction

### Definition statement

*This place covers:*

Connections of substantially horizontal slabs, sheets or the like to the supporting construction of a suspended or false ceiling.

## References

### Limiting references

*This place does not cover:*

Open-work ceilings, e.g. grids	<a href="#">E04B 9/34</a>
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## E04B 9/24

with the slabs, {panels,} sheets or the like positioned on {the upperside of}, or held against {the underside of the} horizontal flanges of the supporting construction {or accessory means connected thereto}

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Suspended ceilings comprising a supporting grid consisting of inverted T-shaped sections	<a href="#">E04B 9/067</a> , <a href="#">E04B 9/068</a>
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**E04B 9/241**

{with the slabs, panels, sheets or the like positioned on the upperside of the horizontal flanges of the supporting construction}

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Suspended ceilings comprising a supporting grid consisting of inverted T-shaped sections	<a href="#">E04B 9/067</a> , <a href="#">E04B 9/068</a>
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**E04B 9/245**

{by means of screws, bolts or clamping strips held against the underside of the supporting construction ([E04B 9/26](#) takes precedence)}

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Connections of slabs to the supporting construction of a suspended ceiling by means of snap action of elastically deformable elements held against the underside of the supporting construction	<a href="#">E04B 9/26</a>
Fastening devices in general	<a href="#">F16B</a>

**E04B 9/247**

{by means of sliding or pivoting locking elements, held against the underside of the supporting construction}

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Fastening devices in general	<a href="#">F16B</a>
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**E04B 9/248**

{by means of permanent magnetic force held against the underside of the supporting construction}

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Coverings fixed to walls by means of magnets	<a href="#">E04F 13/088</a>
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**E04B 9/26**

by means of snap action of elastically deformable elements {held against the underside of the supporting construction}

**Definition statement**

*This place covers:*

Connections of substantially horizontal slabs, sheets or the like to the supporting construction of a suspended or false ceiling by means of snap action of elastically deformable elements held against the underside of the supporting construction.

**E04B 9/28**

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

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Suspended ceilings comprising a supporting grid consisting of inverted T-shaped sections	<a href="#">E04B 9/067</a> , <a href="#">E04B 9/068</a>
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**E04B 9/30**

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

**References****Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Connections between non-parallel members of the supporting construction, one member being discontinuous and abutting against the other member	<a href="#">E04B 9/127</a>
Finishing strips between ceiling and wall	<a href="#">E04F 19/0436</a>

**E04B 9/303**

{for flexible tensioned membranes}

**Definition statement**

*This place covers:*

Suspended or false ceilings comprising a flexible tensioned membrane secured to the supporting construction and/or to the adjacent walls.

## References

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Ceiling slabs comprising fabrics tensioned on frames	<a href="#">E04B 2009/0492</a>
Tapestry work	<a href="#">B44C 7/022</a>
Coverings made of fabrics	<a href="#">E04F 13/002</a>
Boards having display surface tensioning means	<a href="#">G09F 15/0025</a>

## E04B 9/32

Translucent ceilings, i.e. permitting both the transmission and diffusion of light ({[E04B 9/303](#) and} [E04B 9/34](#) takes precedence; lighting [F21](#))

## References

### Limiting references

This place does not cover:

Suspended or false ceilings comprising a flexible tensioned membrane secured to the supporting construction and/or to the adjacent walls	<a href="#">E04B 9/303</a>
Grid-like or open-work ceilings, e.g. lattice type ceilings	<a href="#">E04B 9/34</a>
Lighting	<a href="#">F21</a>

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Translucent floors	<a href="#">E04B 5/46</a>
Translucent roofs	<a href="#">E04D 3/06</a> , <a href="#">E04D 3/28</a>

## Special rules of classification

Suspended or false ceilings with means for hanging lighting fixtures or other appliances to the framework of the suspended or false ceiling, e.g. to the T-bars of a suspended ceiling, are classified in [E04B 9/006](#).

## E04B 9/34

{Grid-like or} open-work ceilings, e.g. lattice type {box-like modules, acoustic baffles} ([E04B 9/30](#) takes precedence)

## References

### Limiting references

This place does not cover:

Details of ceiling edges	<a href="#">E04B 9/30</a>
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**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Sound or noise insulation in buildings	<a href="#">E04B 1/74</a> , <a href="#">E04B 1/82</a>
Slab shaped sound absorbing elements for buildings	<a href="#">E04B 1/86</a>
Grids for lighting devices	<a href="#">F21V</a>
Methods or devices for protecting against or damping noise	<a href="#">G10K 11/00</a>

**Special rules of classification**

Ceilings comprising suspended box-like modules are classified in [E04B 9/34](#).

Ceilings comprising suspended vertical panels used as acoustic baffles are classified in [E04B 9/34](#).

**E04B 9/345**

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

**References****Informative references**

Attention is drawn to the following places, which may be of interest for search:

Connections between non parallel members of the supporting construction of a suspended ceiling	<a href="#">E04B 9/12</a>
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**Special rules of classification**

Grid-like ceilings are classified in [E04B 9/345](#).

**Glossary of terms**

In this place, the following terms or expressions are used with the meaning indicated:

Slat	A long, thin, flat piece of lumber, metal or plastic.
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**E04B 9/36**

**consisting of parallel slats**

**Special rules of classification**

Open-work ceilings consisting of slats having horizontal principal plane and slats having vertical principal plane are classified in [E04B 9/36](#).