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Basic elements of buildings.

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Abstract: According to their purpose, all structural elements are divided into load-bearing (foundations, supports, walls, ceilings) and enclosing (internal walls, coverings, floors, partitions, doors), and some of them perform both functions. All loads occurring in the building are carried by load-bearing elements, and enclosing elements separate the building's premises from each other and from the external space.

Key words: Element, load-bearing, enclosing, foundation.

Foundations are the underground parts of a building that absorb the entire load from the building and external forces (wind, snow, etc.), transmitting and distributing pressure on the ground.

Walls are vertical structures that perform an enclosing and sometimes a load-bearing function, therefore they are divided into load-bearing, self-supporting and non-load-bearing (hinged).

Load-bearing walls transfer the load from the floors and roof along with their own weight to the foundation, self-supporting walls transfer only their own weight and are enclosing structures, non-load-bearing walls do not rest on the foundation, but on columns or floors and are only enclosing structures. Individual supports (columns, racks, pillars) are vertical load-bearing elements that absorb the load from floors or other structural elements of buildings (curtain walls) and transfer this load, along with their own weight, to the foundation.

Floors - horizontal fences that divide the internal space into floors - are load-bearing because they take the payload and transfer it to the walls and supports.

The above-ground floors are separated by interfloor ceilings; the basement from the first floor is above the basement, the upper floor from the attic is attic. In the absence of an attic, the upper floor is called a combined roof.

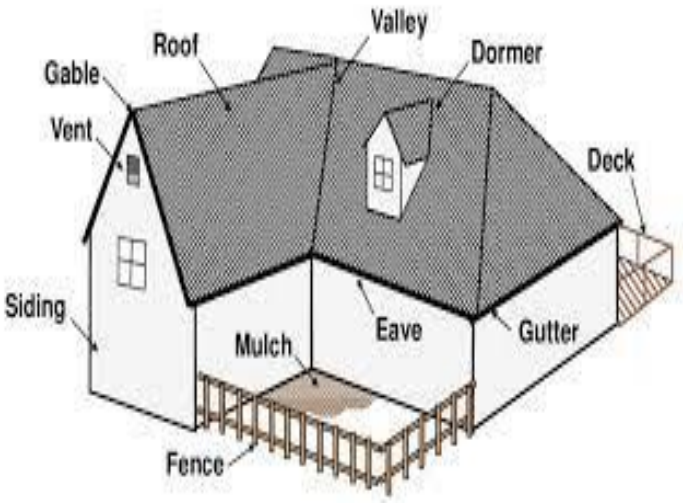
The roof is a structural element that protects the building from atmospheric precipitation. It consists of a

waterproof shell (roof) and supporting structures that support it.

A staircase is a structural element for communication between floors. Internal stairs are enclosed with fireproof walls, resulting in the formation of a room called a staircase.

Partitions are vertical enclosing structures that separate rooms. The partitions rest on the ceiling, and the internal walls rest on the foundation.

The doors are filled with a door block, the windows with a window block. The main load-bearing elements of the building, including foundations, walls, individual supports and ceilings, which receive and transmit all loads, are included in joint work, making up a single spatial structural system - the load-bearing frame of the building.



Each building consists of elements that can be divided into three groups according to size:

1) **space-planning elements** - large parts into which all buildings can be divided (basement, floor, stairwell, attic, etc.);

2) **structural elements** - parts of a building that have a specific purpose and determine the structure of the building (foundation, walls, individual supports, ceilings, stairs, partitions, floors, roofs, windows, doors, etc.);

3) **small elements** - building products (bricks, steps, stringers, slabs, beams, etc.), from which structural elements are assembled.

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