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Glossary of Architectural Terms

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Glossary of Architectural Terms

Architrave

The lowest of the three parts of an architectural entablature. It sits directly on a column or pilaster. *Architrave* can also refer to ornamental moldings framing a door or window.

Bay

A repeating structural unit of a building, usually distinguished by its supporting columns or piers.

Bead and lozenge

A molding pattern used in classical architecture and composed of a linear arrangement of a lozenge-shaped element followed by two or more spherical beads. These moldings are generally found in Ionic or Corinthian entablatures.



Beam

A slender structural element, usually oriented horizontally, that carries loadings while bridging a gap between supports. There are several types: A simply supported beam bridges a single span. A continuous beam supports loads over multiple spans, has no joints at the supports, and can safely carry higher loads than an equivalent series of simply supported beams. A cantilever beam is supported only at one end, as in an overhang or balcony. Most cantilever beams are continuous extensions of a simply supported or continuous beam.

Bending moment

An internal rotational force that produces curvature in a structural member. In the case of a simply supported beam that is evenly loaded, the maximum bending moment will occur at midspan. For continuous beams, the maximum bending moment occurs at the interior columns.

Capital

The transitional block above a column or pier. In early American building, most capitals were based on the Greek capitals of the Doric, Ionic, or Corinthian orders.

Castellations

A notched parapet imitating the parapets of castles, where higher parapet walls alternate with open ports for firing.

Column shaft

The cylindrical body of a column usually supported by a decorative base and always topped by a decorative capital that serves as a transition to the architrave above.

Compression

An axial pushing force that tends to squeeze or shorten a structural member.

Concrete

Artificial stone composed of cement, water, and aggregates such as crushed stone and sand.

Cornice

The uppermost horizontal member of an entablature. See also dentiled cornice.

Course

A row of stone blocks. Coursed masonry is composed of rows of regularly shaped blocks.

Crenelations

See castellations.

Dead weight

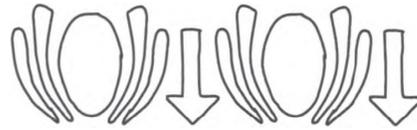
The self-weight of a structure.

Dentiled cornice

A cornice supported by a row of small blocks called dentils (from the Latin word for teeth).

Egg and dart

A molding pattern used in classical architecture composed of a linear arrangement of egg-shaped protrusions alternating with downward-pointing darts or elongated arrowhead shapes. These moldings are generally found in Ionic or Corinthian entablatures.

**Elliptical barrel vault**

The linear extrusion of an arch of an elliptical profile. An elliptical barrel vault looks like half a cylinder that has been flattened out at the crown.

Engaged column

A partial round column attached to, or engaged with, a wall surface. It is generally topped by an entablature or arch. *See also* pilaster.

Entablature

A decorative element of Greek architecture running horizontally below the eaves of the roof or below the springing of an arch. It is composed of three parts: the architrave, frieze, and cornice.

Flashing

Sheet metal that joins roofs and vertical elements such as walls or chimneys, preventing water from entering the gap in between. It was traditionally made of lead or copper, though most modern flashings are made of aluminum.

Flute

A vertical channel cut in a column or pilaster, usually semicircular when seen in section.

Fluted pilaster

A pilaster with vertical channels cut in the shaft.

Footing

The projecting base of a pier or wall that connects with and spreads loads over the subsoil.

Foundation wall

The wall that connects the footing underground with the structure above. Since it is both above and below grade, a foundation wall is built of materials that will not rot or be damaged by insects. Stone and brick are the most common materials.

Frame

A skeletal load-bearing structure.

Fret

A molding composed of ornamental networks of straight bars joining at right angles.

Gable

The triangular wall bounded by the sloping ends of a ridged roof.

Girder

A major beam supporting other joists or beams.

Guilloche

See running guilloche.

Interstitial

In between spaces, especially those between floors or walls.

Joist

A lightweight beam supporting floor boards. Joists are usually closely spaced at about 16–18 inches on center, with shorter intervals for floors with heavier loadings and wider intervals where lighter loads are expected.

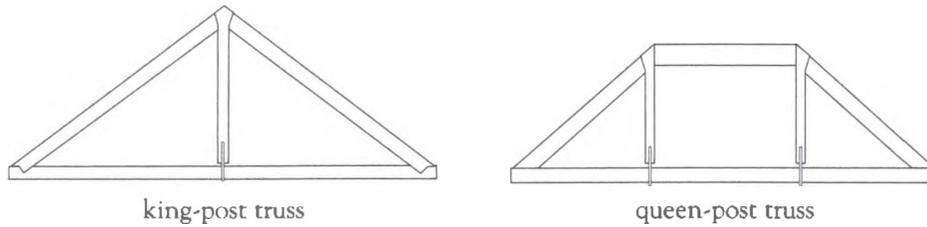
Joist hangers

U-shaped metal saddles that connect joists to beams without requiring notching. Notching can weaken the joist. Joist hangers are usually made of galvanized sheet metal and nailed into the girder and joist.

King-post vs. queen-post truss

A king-post truss is a common roof truss consisting of a triangulated arrangement of struts and ties with two diagonal struts connected at the head and joined at the toe by a horizontal tie. The vertical tie in the center is called the king post. These trusses often have additional

diagonals inserted to help support loads on the upper chord. In contrast, a queen-post truss is a common roof truss with two vertical ties called queenposts. The queen-post truss can be viewed as a king-post truss with an added bay in the center.



Knee brace

An angled brace between a column and beam. A knee brace can shorten the clear span of a beam, and/or it can stiffen the connection and prevent the beam from rotating.

Metopes

The portion of a Doric entablature that sits between the triglyphs. Metopes can be plain or ornamented.

Molding plane

A hand tool used to cut decorative moldings. A complicated molding might require the use of several molding planes to create the curves, fillets, and projections that make up the molding.

Mortise

A pocket cut into a beam to accept a tenon.

Mullion

Within a window, a thin upright division that holds the glass panes in place.

Mutule

A projecting and supporting block under a Doric cornice.

Nave

The main portion or central aisle of a church.

Overburden

The soil whose dead weight prevents uplift of the soil immediately adjacent to a loaded footing.

Palladian window

A tripartite window with an arched top in the center and smaller rectangular sections to each side. In the nineteenth century it was sometimes called a Venetian window.

Pediment

The triangular gable end bounded by a horizontal and two raking cornices.

Pier

A structural member mainly supporting vertical loads. Similar to a column in function, it denotes a more massive or heavy element often composed of masonry.

Pilaster

A flattened, engaged column that is attached to a wall. It is generally topped by an entablature or arch. *See also* fluted pilaster.

Plain band

An undecorated length on a molding.

Plaster

A mixture of lime, sand, and water for coating walls and ceilings. Plaster was traditionally applied in multiple coats, which were hard when dry, with underlayers roughened or “scratched” to provide a key for subsequent layers. A binder, such as horsehair, was often added for additional strength. The finish coat usually contained no sand and was applied in a thin layer, sometimes referred to as a putty coat.

Pressure bulb

The pattern of decreasing stresses as force is applied at a point in a body and it spreads out through the medium.

Pressure grout

A slurry of Portland cement and sand that is pumped through a hose and sprayed on a surface.

Purlin

A beam that supports the roof and is oriented parallel to the slope of the roof.

Quoin

Ornamental blocks located at the corner of a building.

Rafter

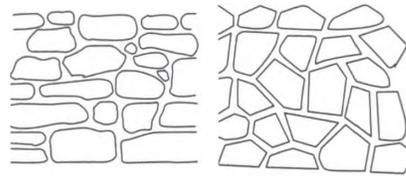
An inclined beam that supports the roof and is oriented perpendicular to the slope of the roof. Principal rafters are larger in cross section and usually coincide with structural bays. Secondary rafters are smaller and are usually located between the supports of structural bays.

Reed

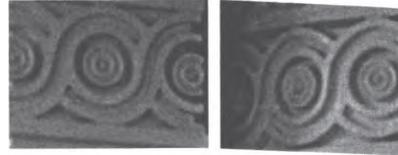
A projecting molding, usually semicircular in section, used in place of fluting.

Rubblework

Masonry of irregular-shaped stones of differing sizes that may be roughly squared.

**Running guilloche**

A molding composed of intertwining circles. Used in classical architecture.

**Sash**

A frame that holds the glass panes of a window. A sash window is opened by sliding sashes vertically behind one another.

Scantling

The depth and breadth of framing timbers.

Shear

Sliding forces within or between two elements.

Shimmed

Leveled or spaced by thin wedges, or shims.

Shouldered tenon

A tenon with a deeper section cut to enter the mortise, allowing for a greater portion of the member to be supported by the mortised member. See fig. 4-5, attic floor, where the mortise is cut so that a small ledge supports the entire depth of the joist.

Sidelight

Window panes placed to the side of doors.

Spiral frets

Frets formed into squared, spiral patterns.

Springing

The point at which an arch is supported.

Stiffness

A measure of a structure's resistance to deformation.

Strength

The level of stress that causes a material to fail.

Stress

A measure of the local intensity of internal forces within a structure, expressed in units of force/area.

Stucco

A plaster applied to walls, usually with an aggregate added to give a texture to the wall.

Template

A pattern used to establish profiles. Templates can be small-scale for use in drawing, or large-scale for use in creating full-size architectural elements.

Tenon

On a wooden member, a projection cut to fit into a mortise, thereby forming a joint.

Tension

An axial stretching force tending to elongate a structural member.

Tie beam

A main horizontal member of a truss designed to act in tension to prevent the ends of the truss from spreading. In a roof truss, the tie beam prevents the loads carried by the rafters from pushing the walls outward.

Triglyphs

Ornaments having two vertical grooves separating three raised elements and placed on the architrave of a Doric entablature.

Truss

A triangle-shaped assembly of tension and compression members that bridges a gap too large, or carries a load too heavy, for a single beam. *See also* king-post vs. queen-post truss.

Vestibule

An entry or foyer.

Vitruvian scroll

A classical ornament consisting of a series of stylized waves, sometimes called a running dog. Normally the scrolls face the same direction, but the illustration shows a variant used in the Kirtland Temple with opposed scrolls.

