

GLOSSARY
BUILDING CONSTRUCTION
Related to the Fire Service
Part One

- Anchor** A metal device used to hold down the ends of trusses or heavy timber members at the walls.
- Axial Load** A load bearing on the axis of a structural element in such a way that the stress imposed by the load is carried by center of mass of the structural element. Structural elements are capable of carrying the maximum load only when that load is applied axially.
- Beam** A structural member subjected to loads perpendicular in its length.
- Bearing Wall** A wall which supports all, or a portion, of a superimposed load such as a floor or roof.
- Brick Veneer** A single thickness of brick wall facing placed over frame construction or masonry other than brick.
- Chord** Main members of trusses as distinguished from diagonals.
- Column** A structural member which transmits compressive force along a straight path in the direction of the member.
- Compression** A crushing force which tends to push the mass of material together.
- Dead Load** Weight of the building and any equipment permanently attached or built in.
- Drywall** A system of interior wall finish using sheets of gypsum or button board and taped joints.
- Duct** A channel, usually for ventilating, heating or air conditioning.
- Eccentric Load** A load bearing in line with a structural element from one end to the other, but which does not pass through the center of mass of the element axially. The resultant stress causes the structural element to bend along its length (leading to lateral or buckling instability). A load which can be carried safely if axially loaded may cause catastrophic failure of the structural element if it shifts to an eccentric load.
- Fascia** A flat vertical board located at the outer face of a cornice or eave. A decorative feature built on the front and occasionally sides of a structure to hide unsightly roof features and increase the architectural appeal of the building. See also

Cornice.

- Footing** That part of the building which rests on the bearing soil and is wider than the foundation wall.
- Header** A brick laid at right angles to the length of the wall in masonry construction. In wood frame construction, the beam spanning over a door or window opening.
- Hip** The junction of two sloping roof surfaces forming an exterior angle.
- Impact Load** A.K.A. shock load: A load delivered in short time which may cause structural collapse.
- Joist** A horizontal beam used to support a floor or ceiling.
- Lamination** Several layers of lumber making up a laminated beam.
- Lateral Load** A force applied to the side of a structural member.
- Lath** Narrow, rough strips of wood, or wire mesh, used to support plaster or stucco.
- Live Load** Any load other than a dead load.
- Monolithic** Consisting of one piece of stone or stone like material such as concrete. In monolithic frames, the frame is strong enough to withstand the loss of one structural element without causing failure of the entire structure. The resultant load is transferred to the other structural elements around the one that failed.
- Neutral Plane** That area of a beam which carries neither compressive nor tensile loads, but simply serves to keep the top and bottom parts of the beam, where these loads are localized, separated by the same distance over the length of the beam.
- Non-bearing Wall** A wall which bears no load other than that of its own weight.
- Pier** A supporting section of wall between two openings. Also a short masonry column.
- Plate** (Frame construction) The top or bottom horizontal structural member of a frame wall or partition e.g., top or sole plate.
- Treating** The process of impregnating wood with mineral salts under heat and pressure, which reduce susceptibility to absorption of moisture, thereby reducing the risk of wet-rotting of the wood. Pressure treated lumber is required in making the sole

plate (sill) of wood framed structures. The mineral salts used in pressure treating are suspected human carcinogens, hence S. C. B. A. should be worn to avoid inhaling the products of combustion from pressure treated lumber which is burning.

- Rafter** A beam that supports a roof.
- Shear** A force tending to cause molecules of a material to slide past one another where they are in contact in the same plane.
- Sheathing** The covering applied to the framing of a building to which siding or roofing is applied. May be space sheathed, in which boards are not laid edge to edge, or solid sheathed in which they are. Older styles of sheathing used 1 X 4 or 1 X 6 boards, either straight or diagonal sheathed. In newer construction, the boards have been replaced by plywood or oriented strand board.
- Sill** Frame construction: The bottom rough structural member which rests on the foundation. Synonymous with Sole Plate. See "Plate" also.
- Soffit** The underside of the fascia of a building; also, false spaces above cabinets, etc.
- Static Load** A load applied slowly which remains constant.
- Stucco** A material made of cement, sand and plaster and applied as siding.
- Stud** Vertical structural uprights which make up the walls and partitions in a frame building.
- Surface Area
-to-Mass Ratio** The relationship between the surface area and the mass of structural members.
- Tension** A stress in a structural member which tends to stretch a structural member or pull it apart.
- Torsional
Load** A load imposed on a structural element in such a manner that it causes the structural element to twist or spiral in response to the load.
- Veneered
Wall** A wythe of decorative stone or masonry attached to the bearing wall but not carrying any load but its own weight.
- Void** An empty space occurring between members or elements of a structure.

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