

GLOSSARY

A

Abrasive blasting A method of roughening a concrete or steel surface by an abrasive medium, such as sand, under high air pressure.

Acid etching A method used to expose the aggregate on a concrete surface through the use of a dilute acid wash.

Acoustical materials See *sound-absorbing materials*.

ACQ See *alkaline copper quat*.

ADA Americans with Disabilities Act.

Adhered veneer A thin finish material, such as thin brick or tile, that is adhered directly to a backup wall with mortar or adhesive.

Adobe Sun-dried clay masonry units, generally molded on site.

Aggregate Granular materials, including gravel, sand, crushed stone, expanded shale, and slag, that serve as filler in a concrete mix.

Air retarder A microperforated plastic sheet that prevents the passage of outside air through a wall or roof assembly but allows water vapor to pass through.

Air seasoning A method of drying lumber in which lumber members are stacked to allow free circulation of air around them.

Alkaline copper quat (ACQ) A chemical used for wood preservation.

Alloy A chemical combination of two or more metals.

Anchored veneer A cladding system (usually exterior) in which masonry units are mechanically anchored to the backup wall.

Anisotropic material A material that has different properties in different directions (e.g., wood). See also *isotropic material*.

Annealed glass Flat glass obtained by heating and then gradually cooling it to relieve internal stresses that develop during the early stage of its manufacturing process. Annealed glass is the basic form of flat glass.

Arch A curved structural member that spans over a wall opening and carries loads in compression.

Arching action A structural action in which a vertical load on a wall or beam translates into two inclined loads; generally occurs in a deep beam or wall.

Architectural concrete Concrete that is obtained from a specially designed formwork to give a smooth, patterned, textured, or otherwise detailed surface finish on concrete.

Architectural precast concrete Nonstructural precast concrete, as in a concrete curtain wall.

Architectural sheet-metal roof A roof covering made of sheet metal (e.g., standing seam roof, batten seam roof), applied over a structural roof deck and underlayment.

Ashlar Stone dressed with square-cut edges and laid in a coursed or random pattern in a wall.

Asphalt A tacky black liquid derivative of the petroleum-distillation process, used in roofing and waterproofing applications.

Asphalt-saturated felt An organic paper felt that is saturated with asphalt, typically used as an underlayment in steep roofs (sometimes in walls).

Asphalt shingles A roofing unit composed of heavy organic paper or fiberglass felt saturated (or treated and coated) with asphalt and faced with mineral granules.

Asphalt-treated felt A fiberglass felt that is treated with asphalt, typically used in built-up roofs.

ASTM American Society for Testing and Materials.

Attactic polypropylene (APP) A polymer used to obtain an APP modified-bitumen roof membrane.

Auger A tool for drilling holes in wood or soil. Large mechanized augers drill holes in the ground for piers, piles, or caissons.

Axial A direction that is parallel to the length of a structural member. For a column, the axial direction is vertical; for a horizontal beam, the axial direction is horizontal.

B

Backer rod A compressible spherical foam rod used to control the depth of an elastomeric sealant, which allows the tooling of the sealant.

Backfill Soil used to fill the space between the foundation and the boundaries of an excavation. Generally, the soil excavated from foundation trenches and pits is used as backfill unless it is unsuitable.

Backup wall Load-bearing or non-load-bearing wall to which exterior cladding is adhered or anchored.

Balance point temperature Exterior temperature at which heat loss through the building envelope equals heat gain from interior activities such as cooking, lighting, and human occupancy.

Ballast (in roofing) Aggregate or concrete pavers used over a loose-laid, single-ply roof membrane to resist wind uplift and protect the membrane from degradation by solar radiation.

Balloon frame One of the two wood light frame construction systems in which the studs extend from the foundation to the roof, bypassing the intermediate floor(s). See also *platform frame*.

Ballooning Interior pressurization of a building due to high wind. It typically occurs in buildings that have large openings on only one exterior face, such as an aircraft hangar.

Baluster Vertical support of a staircase handrail.

Barrier wall An exterior wall that resists water leakage by providing an impervious barrier or by serving as a water reservoir.

Basement Below-ground portion of a building.

Basic wind speed Peak 3-s gust wind speed with a 50-year recurrence interval, used to determine wind loads on a building.

Batt Precut units of fiberglass insulation sized to fit between wall studs, ceiling joists, or rafters.

Batten A long, narrow strip of wood.

Batten bar A long metal or plastic bar used in a mechanically fastened single-ply roof membrane.

Bay In a building structure, regular, repeated space defined by four adjacent columns and beams (and/or girders) that span between them.

Beamless floor A reinforced-concrete slab supported directly on columns (without supporting beams).

Bearing pad A block of high-strength plastic, metal, or rubber placed under a beam or curtain wall to distribute the load on a larger area of the supporting member.

Bearing plate A steel plate welded to the base of a steel column to distribute the column load on a larger area of the footing. Also a steel plate welded to the ends of a steel joist or beam.

Bearing wall A wall that carries gravity loads from the floor(s) and/or roof.

Bed joint Horizontal mortar joint in a masonry wall. See also *head joint*.

Bending Deformation of a structural member caused by a force acting perpendicular to the member axis.

Bent glass Flat glass bent to shape by heating.

Bentonite clay A highly expansive clay typically used as slurry to fill the excavation for a concrete wall.

Billet A large rectangular bar of cast steel used to roll finished shapes, such as smaller bars and rods.

Bioclimatic glass curtain wall See *double-skin glass curtain wall*.

Bitumen A waterproofing compound (asphalt or coal tar) used for roofing and waterproofing.

Blast furnace A furnace used to melt iron ore.

Blocking Short pieces of lumber that fit between adjacent wood joists, rafters, or studs to provide lateral stability and additional nailing members.

Bloom Steel cast in a large rectangular section, which is then used to make wide-flange sections, angles, and channels by the hot-rolling process.

Board foot The amount of lumber contained in a 1-in.-thick board that measures 1 ft by 1 ft.

Board lumber Lumber that is less than 2 in. (nominal) thick.

Bolt A threaded steel rod with a fixed head at one end and closed with a nut at the other end.

Bond beam A continuous reinforced beam embedded in a masonry wall (generally at the floor and roof levels) formed either by bond beam masonry units or site-cast concrete.

Bond breaker A material used to prevent the adhesion of an elastomeric sealant to a backup surface.

Bond pattern The pattern used to arrange masonry units in a wall.

Breathable material A material that allows water vapor to pass through but is resistant to the passage of (bulk) water. An air retarder (sheet or liquid-applied film) is required to be breathable.

Brick A small masonry unit, generally manufactured from clay. Concrete bricks are also available.

Brick ledge Depressed portion of a concrete foundation to support the first story of brick veneer.

Bridging Structural members, laid perpendicular to wood or steel framing members, to stabilize them against overturning and brace them against buckling.

Brittle material A material that deforms little before failure. It is generally stronger in compression than in tension.

Brown coat The second layer of base coat in portland cement plaster (stucco) applied on metal lath.

Buckling A type of failure that results in the sudden bending of a slender structural member subjected to excessive axial loading.

Building brick A type of clay brick recommended for interior applications, with less-stringent durability specifications than facing brick.

Building code A legal document that regulates the design and construction of buildings to ensure that the buildings meet minimum standards of health, safety, and welfare.

Building component A part of a building that performs a specific function, that is, a window, door, or wall assembly.

Building envelope All building components that separate the building's interior from the exterior environment.

Building expansion joint See *building separation joint*.

Building information modeling (BIM) A three-dimensional software tool for designing buildings in real time, which facilitates design and construction and also allows the extraction of conventional two-dimensional plans, elevations, and sections. The model contains information about the attributes of building materials and assemblies, and therefore can be used after construction for repairs, alterations, and maintenance over the building's entire life.

Building movement joint See *building separation joint*.

Building separation joint A continuous joint that extends through all floors and the roof of a building, dividing the building into smaller buildings that can move independently of each other, generally 1½ to 2 in. wide.

Built-up beam A beam made by combining two or more standard structural members.

Built-up roof (BUR) membrane A multi-ply roof membrane composed of alternating layers of felt and moppings of bitumen with a top cover of aggregate.

C

Caisson A large-diameter, deep reinforced-concrete foundation element made by drilling a hole into the ground and filling it with concrete; an enclosure that permits excavation work to be carried out underwater.

Calcium silicate masonry unit Sand-lime bricks or blocks cured in an autoclave to enhance the pozzolanic reaction between sand and lime.

Camber An upward curvature introduced in a beam to ensure that it will be flat under dead loads.

Cant strip A triangular strip of perlite board or pressure-treated wood to provide a smooth transition between a horizontal and a vertical surface on a roof, required with a built-up or modified-bitumen roof membrane.

Capital Upper part of a column, generally of a larger cross section than the column.

Carriage An inclined structural member (beam) that supports a stair.

Cast-in-place (CIP) concrete See *site-cast concrete*.

Cast iron An iron-carbon alloy formed by casting molten iron in a sand mold and milling to the final shape—relatively brittle and nonmalleable.

Caulk Soft, pliable material (such as polyisobutylene and acrylic) used to fill narrow, nonmovement joints between building components.

Ceiling The visible overhead interior surface of a room.

Cells Voids in concrete masonry units; voids in foamed insulation; microscopic voids in wood.

Centering Temporary formwork for constructing an arch, vault, or dome.

Ceramic material A material produced by firing clay in a high-temperature kiln, such as brick, tile, or porcelain.

Certified wood Wood obtained from sustainable forestry practices.

Chair A small support to raise steel reinforcing bars above the surface of the formwork or ground.

Charcoal The heating of wood in the absence of oxygen drives water and other volatile compounds (a process called pyrolysis) leaving a dry, porous, soft black substance referred to as charcoal because it resembles coal.

Chimney A hollow vertical structure lined with an internal flue to carry smoke and other effluents from wood or charcoal fires used for heating a building.

Chord Member of a truss; can be the top or bottom chord of a truss.

CIP concrete See *cast-in-place concrete*.

Cladding Exterior weather-resistant layer of a wall assembly.

Clad window Framing members of a wood window clad in aluminum, polyvinyl chloride, or fiberglass on the outside to increase wood's durability.

Clapboard A type of horizontal lap siding

CMU See *concrete masonry unit*.

Coal tar A tacky black liquid derivative of the coal-distillation process, used in roofing and waterproofing applications.

Coefficient of friction A measure of the resistance to sliding between the contact surfaces of two components.

Cohesive soil A soil, such as clay, whose particles tend to adhere (cohere) to each other in the presence of water.

Cold-formed metal framing See *light-gauge steel framing*.

Cold joint See *construction joint*.

Column An upright vertical structural member that supports a slab, beam, or truss.

Column cover Prefabricated exterior cladding element that covers a column for aesthetic purposes.

Column splice A method of connecting the lower part of a tall steel column with the upper part. Column splices are typically provided every two stories.

Combustible A material that will ignite in the presence of an open flame or high temperature.

Commissioning A process of adjusting the performance of individual components of the mechanical and electrical systems of a building to achieve energy efficiency.

Compaction A decrease in the amount of void space in a soil mass brought about by mechanical action (e.g., tamping) or a natural process, resulting in a densified soil mass.

Composite deck Corrugated-steel floor deck, which acts as formwork and primary reinforcement for a concrete slab.

Compression Stress created in a structural member as a result of bending or axial compressive force.

Compressive strength Measure of the ability of a material to resist compressive force.

Concave joint A type of mortar joint profile that is most weather resistant.

Concrete A composite material consisting of portland cement, coarse aggregate (crushed stone), fine aggregate (sand), and water.

Concrete admixture Material added to a concrete mix to influence its performance.

Concrete block See *concrete masonry unit*.

Concrete masonry unit Standardized masonry unit made of concrete and consisting of face shells and webs surrounding two or three voids, called cells.

Condensation resistance factor A measure of the potential for condensation to occur on a glazed assembly (window or glass curtain wall).

Conduction A mode of heat transfer in a solid.

Conduit A hollow metal or plastic tube used as protective cover for electric wires.

Construction documents Documents used by a contractor to construct a building, including drawings and specifications.

Construction drawings Drawings used by a contractor to construct a building.

Construction joint A nonmovement joint resulting when fresh concrete is placed against previously placed concrete.

Construction manager A manager hired by the owner to coordinate and supervise the work of multiple contractors. A project with a construction manager does not generally have a general contractor.

Control joint A sawed or tooled joint on the top surface of a concrete slab-on-ground; a continuous vertical joint in a concrete masonry wall.

Convection A mode of heat transfer in liquids and gases.

Conveying equipment Mechanical equipment that is used to move people or products vertically and/or horizontally through a building.

Coping A protective cap or cover used on the exposed top of a wall, typically sloped to shed water.

Core holes Holes in an extruded brick to provide uniform drying and firing.

Corrosion An electrochemical process that causes deterioration of metal surfaces exposed to air, water, or excessive humidity.

Counterflashing A removable sheet-metal flashing that laps over membrane flashing to prevent water from penetrating between the membrane and the wall.

Course A single horizontal layer of units in a masonry wall.

Coursed rubble Irregularly shaped and sized stone laid with periodically aligned bed joints.

Crane A type of construction equipment used to hoist and place heavy building components or materials during construction.

Crawl space Air space between an elevated ground floor and the ground.

Creep Permanent deformation of a component under sustained loads, generally of concern in concrete and wood.

CRF See *condensation resistance factor*.

Cricket A pyramidal formation on a roof to divert water to drains or on an easily drained area of the roof.

CSI Construction Specification Institute.

CSMU See *calcium silicate masonry unit*.

Curtain wall Exterior wall cladding system suspended from or supported by the structural frame of the building.

D

Dampproofing A material applied to the exterior of a wall to resist the intrusion of capillary water.

Dead load Loads created by the weight of building components.

Decibel (dB) A measure of the loudness of sound.

Deep foundation A foundation element that extends deep below the ground to reach bedrock or higher-bearing-capacity soil.

Deformation Change in the size or shape of a structural member as a result of an applied load.

Dew point The temperature at which the relative humidity of an air mass reaches 100% and the water vapor in air converts to (liquid) water, that is, condenses.

Diagonal brace A linear, diagonal stiffening element against lateral loads.

Die A tool with an orifice (hole) through which a soft, heated metal or plastic or a column of wet clay is pushed to give a long, continuous element.

Dimension lumber Lumber that ranges from 2 in. to 4 in. (nominal dimensions) thick.

Dimension stone Stone that has been fabricated to specific dimensions, texture, and finish for use in buildings.

Dimmable glass A glass that changes from a transparent to a translucent or opaque condition when exposed to sun (photochromic glass) or electrical current (electrochromic glass).

Dome A curved roof structure over a round or rectangular space.

Double-skin glass curtain wall A glass curtain wall assembly composed of two layers of glazing separated by 1 to 5 ft of air space, also called a double-skin facade or bioclimatic glass curtain wall.

Double-strength (DS) glass Flat glass that is $\frac{1}{8}$ in. thick.

Double tee A precast concrete floor or roof element to span long distances.

Dowel A steel or wood pin used with an adhesive to connect adjacent pieces of wood; a steel reinforcing bar that projects from a foundation to form a splice with reinforcing bars in a concrete column or wall above the foundation.

Drainage wall A cavity wall with an air space between the exterior cladding and the inner backup wall, allowing water to drain out through weep holes.

Drilled pier A reinforced-concrete column constructed by drilling a round hole (of required diameter) in the soil, reinforcing it, and filling the hole with concrete. Drilled piers are used as foundation elements where near-surface soil is unsuitable for building foundations.

Drip edge Perimeter or edge flashing with an angled lip to keep water away from a vertical surface below.

Drop panels A widening of the underside of a concrete slab at a column location.

Dry glazing Use of preformed compression gaskets to seal the glass against the metal frame of a window or metal-glass curtain wall.

Drywall See *gypsum board*.

Ductile material A material that produces large deformations under load before failure.

Dynamic joint A joint that allows a predetermined amount of unrestrained movement between components.

E

Eave The low end of a sloped roof.

Edge block A resilient material used to prevent the vertical edge of glass from touching the frame of a window or curtain wall.

Efflorescence A white deposit of water-soluble salts on an exterior masonry or concrete wall caused by the wetting of the wall.

Egress window A window in a habitable room of a dwelling that opens to a minimum size for use as a fire escape.

EIFS See *exterior insulation and finish system*.

Elasticity The ability of a deformed material to return to its original shape and size after the removal of a load, such as rubber.

Elastomeric A material that exhibits elastic (rubberlike) properties.

Elastomeric sealant A synthetic semiliquid material used to seal the joints between adjacent building components, which becomes an elastic material after curing.

Elevated slab An above-ground floor or roof slab, supported on columns and/or beams and forming an integral part of a structural frame.

Embodied energy Total amount of energy required to extract raw materials and manufacture a building material.

Emissivity A property of the surface of a material that governs its potential to emit radiation; the value lies between 0 and 1.0.

End-bearing pile A deep foundation element within the ground that transfers load to bedrock, in contrast to a friction pile that transfers load to the surrounding soil. See also *friction pile*.

Engineered fill Soil and/or aggregate with specified proportions and properties compacted into place so that the resulting product has predictable physical characteristics.

Engineered wood products Manufactured wood products rated for structural applications, such as plywood, oriented strandboard, or laminated veneer lumber; see also *manufactured wood products* and *industrial wood products*.

Epoxy A polymer-based adhesive.

Ethylene propylene diene monomer (EPDM) A stretchable polymeric membrane used as a single-ply roof membrane.

Expanded polystyrene Open-cell foamed plastic insulating material formed into rigid boards.

Expansion anchor An anchor that allows expansion and contraction while connecting the vertical framing members of a glass curtain wall to the building structure.

Expansion joint A narrow space between two building components that allows their unrestrained expansion and contraction.

Exposed aggregate A type of concrete finish with coarse aggregate exposed at the surface.

Exposed ceiling A ceiling where all structural components and mechanical and electrical services are left exposed to the area below.

Exposure The exposed portion of lapped roofing felt or shingles.

Exterior insulation and finish system A stuccolike exterior finish that includes a layer of foam insulation, fiberglass reinforcing mesh, and one or two coats of a polymer-based finish; also called synthetic stucco.

Extruded brick Wet clay extruded through a die and cut to size before drying and firing. See also *molded brick*.

Extruded polystyrene Closed-cell foamed plastic insulating material formed as rigid boards by an extrusion process.

Extrusion See *die*.

F

Face shell Longitudinal walls of a concrete masonry unit.

Facing brick Brick used in an exposed exterior masonry wall, controlled for dimensional variations, warpage, and durability.

Factor of safety A safety margin added to structural calculations to account for our imprecise knowledge of material strength, loads, and theories pertaining to structural analysis and design, defined as the actual strength of a component divided by the strength required to carry the load.

Ferrous metal A metal that contains mainly iron.

Ferrule A threaded cylindrical sleeve that accepts a bolt, typically embedded in a precast-concrete member.

Fiberboard A product made from wood fibers (softwood or hardwood). In terms of increasing density, particle board, medium-density fiberboard (MDF) and high-density fiberboard (hardboard) are three types of fiberboard commonly used.

Fiberglass Mineral fiber spun from glass.

Fibrous insulation An insulating material that has a high R-value due to the air contained between the fibers.

Fill Soil or aggregate that fills the area under the foundations or between the exterior of a foundation and the boundaries of an excavation. See also *engineered fill and backfill*.

Filter fabric A porous filter fabric for filtering out silt, sand, or debris in a protected membrane roof, French drain, or foundation drain.

Finger joint A method of joining short lengths of lumber using interlocking “fingers” at the end of each piece and gluing the members together.

Finish coat The last layer of material that provides the final color and texture on a surface, such as the portland cement-based layer on stucco or the polymer-based layer on the exterior insulation and finish system.

Fire-rated glazing A glazing system that will resist a standard fire for the measured duration.

Fire rating The ability of a building assembly to endure fire, measured in hours or minutes of time and determined from standardized full-scale tests.

Fire-resistance rating See *fire rating*.

Fire-retardant lumber Wood that is pressure treated with chemicals to increase its fire resistance.

Fire-stopping A noncombustible material used to seal the space around a penetration or joint in a fire-rated wall, floor, or roof.

Fixed window A window unit where the glass is permanently fixed into the frame.

Flame finish A type of finish on a stone surface (generally granite) using a torch on wetted stone to break the surface, creating a rough, slip-resistant finish; also called thermal finish.

Flame spread index (FSI) A measure of the rate at which flames spread on the surface of an interior finish.

Flange Top and bottom components of an I-section or C-section steel beam.

Flashing A flexible metal or plastic used at roof terminations, edges, or penetrations to increase the strength and water resistance of the roof; a flexible metal or plastic sheet used as a drainage channel at the base of a cavity wall.

Flat glass Planar glass sheet (window glass), as opposed to glass block or other glass products.

Flat plate A reinforced-concrete slab of uniform thickness supported directly on columns.

Flat-sawn lumber See *plain-sawn lumber*.

Flat slab A reinforced-concrete slab, like flat plate, but the slab is thickened at the columns.

Flex anchor An L-shaped steel pin that connects to the GFRP skin with a bonding pad and is welded to the supporting light-gauge steel frame.

Float glass Flat glass manufactured using the float glass process.

Floating The process of smoothing a freshly placed concrete surface after it has been struck (leveled). See also *striking*.

Floating floor A floor assembly consisting of a resilient underlayment to isolate the finished floor from the subfloor; can also be a double floor with an intervening air space.

Fluid-applied roof membrane A combination of sprayed polyurethane foam insulation topped by a fluid that cures to a membrane.

Flush joint Troweled masonry mortar joint, where the mortar is finished flush with the masonry face.

Flux A material added to the primary material to lower the primary material’s melting-point temperature, saving energy.

Fly ash A waste product obtained from the combustion of coal in a thermal power plant (a pozzolanic material), used as a concrete admixture.

Flying form A large, prefabricated formwork for concrete floors, which can be lifted (flown) into position by a crane and reused multiple times.

Foamed concrete See *insulating concrete*.

Foamed plastic Plastic insulating material that contains small volumes of air or another gas.

Footing The bottom portion of a foundation resting directly on the supporting soil with an area larger than that of the supported wall or column.

Form ties Specially shaped steel wires that are used to connect and separate opposing panels of formwork for a concrete wall.

Formwork Temporary support system for fresh concrete to give it the desired shape (form) until it cures to hardness.

Frame structure Building structure that is composed of columns and beams, called a skeleton frame in the case of a steel frame structure.

Framing plan Architectural plan that delineates the organization and dimensions of columns, beams, and load-bearing walls (if any).

Freeze-thaw A cycle of freezing and thawing of water within water-absorptive materials, such as soil, masonry walls, or concrete.

Friction pile A load-bearing pile that carries load by friction developed between the surface area of the pile and the soil. See also *end-bearing pile*.

Fritted glass Glass made semiopaque or opaque by the application of patterns of tiny dots or lines of ceramic material on one surface of flat glass.

Frog A small depression in a molded brick.

Frost line The depth of soil below which groundwater will not freeze.

Furring Narrow wood or formed sheet-metal sections applied to a wall or ceiling, used for supporting and attaching a finish material on the wall.

G

Gable Triangular portion of an exterior wall between the eave and the ridge in a gable roof.

Gable roof A roof with two sloping planes that meet at a point at the top, called a ridge.

Gable vent Passive exhaust ventilation unit located high on the gable end, used to exhaust attic air.

Galvanic corrosion Corrosion that occurs when two dissimilar metals are in direct contact with each other.

Galvanizing Method of coating steel with zinc to provide a corrosion-resistant (sacrificial) coating.

Gasket A shaped piece of resilient material that provides a weatherproof seal between the glass and the frame in a window or metal-glass curtain wall. See also *dry glazing*.

General contractor A contractor who has the final responsibility for the construction of the project including site safety, supervision, and coordination of the work of all subcontractors.

Geodesic dome A hemispheric dome formed by short, criss-cross linear members that run along great circles of the sphere, creating triangles or polygons on the surface of the dome.

Geotechnical report A document prepared by a geotechnical (soils) engineer that identifies and describes the properties of soil and the underlying geology of the building site.

GFRP Glass fiber–reinforced concrete.

GFRP Glass fiber–reinforced plastic.

Girder A large beam (also called a primary beam) that carries the loads from secondary beams or joists to columns in a frame structure.

Glass block See *glass masonry unit*.

Glass fiber–reinforced concrete Glass fibers reinforce a mix of portland cement, sand, and water that is sprayed on formwork

to form a panel that is integrated with a light-gauge steel frame and used in curtain wall assemblies.

Glass fiber–reinforced plastic A plastic material reinforced with fiberglass, molded to the desired shape.

Glass masonry unit A hollow glass unit used in non-load-bearing wall applications to provide a translucent wall.

Glazing An assembly of flat glass and its supporting frame.

Glazing compound A semisolid compound mastic, which cures to hardness, used to bed small panes of glass in a window frame; not commonly used in contemporary buildings.

Glue laminated Lengths of dimension lumber, glued and laminated together to create a structural member of a large cross section.

Glulam See *glue laminated*.

GMU Glass masonry unit.

Gradation Distribution by size of soil particles within a soil mass; also applies to aggregates in a concrete mix.

Grade beam A reinforced-concrete beam constructed at ground level.

Graded lumber Lumber with a grade stamp.

Grade stamp Stamp affixed by a grading (inspection) agency on lumber or a wood panel that describes its in-service performance.

Grading Mechanically moving soil on a site to predetermined ground elevations.

Grain structure Pattern and density of fibers that compose wood.

Granite Strongest and densest of stones; it takes good polish and weathers more slowly than other stones; obtained from igneous rock.

Gravity load Building load caused by gravity and acting in the vertical direction; also called vertical load.

Green roof A landscaped roof.

Grille A grating or screen that protects an opening while allowing the passage of air.

Grout A high-slump (semiliquid) mortar that flows well enough to be placed or pumped between the voids in a masonry wall; a mortarlike, high-strength cementitious material for filling the space between the steel base plate of a steel column and the concrete footing; a cementitious material used to fill joints between ceramic or quarry floor tiles or panels after they have been laid.

Growth ring A nearly circular ring of wood fibers; a tree adds approximately one ring per year.

Guard rail A horizontal rail and associated supports to prevent people from falling from a stair or balcony.

Gunite See *shotcrete*.

Gusset plate A plate that connects two structural steel members, commonly used in a large steel truss.

Gypsum board A building panel faced on two sides by paper (or vinyl) with a gypsum core. Typically used on fire-rated interior walls. It is also called drywall, wallboard, or gypsum wallboard.

H

Handrail Diagonal rail at hand level adjacent to a stairway to provide support for people using the stairs, as distinguished from a guard rail.

Hardboard A product made from wood fibers and a resin binder under heat and pressure. It is denser than medium-density fiberboard (MDF). See also *fiberboard*.

Hardwood Wood obtained from trees that are deciduous and have broad leaves. See also *softwood*.

Head Top of a window or door.

Header The short face of a brick when laid in a horizontal position in a course of bricks, historically used to tie together two wythes of a thick brick wall; a beam (lintel) above a door or window opening in a wood frame or light-gauge steel construction.

Head joint Vertical mortar joint in a masonry wall. See also *bed joint*.

Headroom Minimum code-required clearance between a floor and an overhead projection or ceiling.

Heartwood The central portion of a tree trunk that no longer conducts nutrients, generally darker than sapwood. See also *sapwood*.

Heat-absorbing glass See *tinted glass*.

Heat-soaked glass A type of tempered glass obtained from a process that reduces (or eliminates) the possibility of spontaneous breakage of tempered glass during its service life. See also *tempered glass*.

Heat-strengthened glass A glass obtained by heating annealed (basic) glass to a high temperature and then suddenly cooling it; approximately twice as strong as annealed glass. See also *annealed glass* and *tempered glass*.

Heavy timber Sawn lumber with both cross-sectional dimensions greater than 5 in. (nominal).

Heavy-timber construction A construction type in which the floors, roofs, and structural frame are composed of heavy sections of wood without added fire protection.

Hip The edge of a hip roof where adjacent slopes meet; shown as a diagonal line in the plan of the roof.

Hip roof A roof formed by four sloping planes that intersect to form a pyramidal or elongated pyramidal shape.

Hollow-core door Wood or metal veneer placed on both sides of a frame to build a door that is partially or almost entirely hollow within.

Hollow structural section (HSS) Square or rectangular tubular steel section used as columns or beams in a steel-frame structure or as components of a steel truss.

Honed finish A type of smooth finish on stone or metal created by using abrasives.

Horizontal diaphragm A structural engineering term that refers to the floors and roof in a building when they function as part of the lateral load–resisting system.

Hydrated lime Calcium hydroxide, produced by combining quicklime and water to produce a relatively benign lime, used in powder form in masonry mortar. See also *slaked lime*.

Hydration Chemical reaction between portland cement and water that causes the mix to become hard.

Hydraulic cement A cement (glue) that, after setting, does not react chemically with or dissolve in water, such as portland cement.

I

IBC International Building Code.

Ice dam protection membrane A self-adhering waterproof membrane that prevents water from backing up under roof shingles when an ice dam forms at the eave.

IGU Insulating glass unit.

IMG Intumescent multilaminar glass

Impact insulation class (IIC) Measure of the ability of an assembly to resist the transmission of structure-borne sounds.

Impact sound Structure-borne sound produced by an impact on a building component.

Impact wrench A tool for tightening bolts and nuts through rapidly repeated torque impulses produced by electric or pneumatic power.

Industrial wood products Manufactured wood products used for nonstructural applications, including particle board, medium-density fiberboard (MDF), and high-density fiberboard (HDF). See also *manufactured wood products* and *engineered wood products*.

Infrared radiation Long-wave radiation emitted by objects at low temperature.

Infrastructure Basic organizational systems that provide services to a building, including roads, power, water, and electricity.

Initial rate of absorption (IRA) A measure of the ability of clay bricks to absorb water, used to determine if bricks need to be wetted before being laid.

Inside glazed Glazing system in which the glass is set into the frame from the inside of a building. See also *outside glazed*.

Insulated metal panels Metal panels consisting of polyurethane foam sandwiched between and bonded to two metal sheets, used in curtain wall applications.

Insulating concrete Lightweight concrete consisting of portland cement, water, and expanded aggregate (perlite or vermiculite), primarily used as low-slope roof insulation. A type of insulating concrete (called foamed concrete) does not contain aggregate but does contain air particles. A fire-resistant insulation material for roofs and floors.

Insulating glass unit A sealed assembly of two layers of glass separated by an air- or gas-filled chamber. The assembly has a higher R-value than a single sheet of glass.

Insulation See *thermal insulation* and *sound insulation*.

Integrated project delivery (IPD) A project delivery method in which all people connected with the design and construction of the building, including the owner and fabricators of assemblies, collaborate as a team in a no-blame contractual agreement as if they all belonged to the same organization. The profits are generally shared at the completion of the project by team members on a predetermined basis.

Interior finish class Rating of interior finish materials as Class A, B, or C based on the flame-spread index (FSI) and the smoke-developed index (SDI).

Intumescent paint A paint that swells when exposed to heat, creating an insulating layer that protects steel from short-term exposure to fire.

Inverted roof See *protected membrane roof*.

Inverted T-beam A precast concrete beam with flanges at the bottom, generally used to support double-tee concrete floors.

Isolation joint A joint in a concrete slab-on-ground that penetrates the entire thickness of the slab, used to separate the slab from the structure (walls and columns).

Isotropic material A material that has the same properties in all directions, such as steel. See also *anisotropic material*.

J

Jack rafter A shorter rafter (than a common rafter) that joins to a hip or valley rafter.

Jack stud A stud of a shorter length attached to a longer king stud to support a header in the opening of a wood light frame wall.

Jamb Side of a window, door opening, or frame.

Joint compound Soft material used together with tape to finish a joint or cover nail dents in a gypsum wallboard assembly.

Joint cover Cover for an expansion or seismic joint in buildings to provide a continuous protective surface.

Joint reinforcement Continuous horizontal steel wire reinforcement laid in mortar joints of concrete masonry to control shrinkage cracks.

Joint sealants See *elastomeric sealants*.

Joist floor An elevated reinforced concrete slab with integral narrow ribs (like wood floor joists), also called a one-way joist floor or ribbed floor.

Joists Slender, closely spaced, parallel beams in a wood light (or light-gauge steel) frame floor.

Junction box Rectangular or circular metal or plastic box used to protect connections between electrical wires.

K

Kerf Slit cut into a surface, used to form a capillary break (drip edge) at the bottom edge of an exterior surface; a slit cut into building stone (used as wall cladding) to serve as a receptacle for a mechanical attachment system.

Key See *shear key*.

Keyway A gap between two adjacent precast-concrete floor units, typically reinforced and filled with portland cement grout.

Kiln A furnace used to dry materials such as green lumber; a furnace for drying and firing bricks; a furnace for making quicklime.

Kilopascal (kPa) A measure of load (force) in the SI system of units.

Knot An approximately circular formation of wood fibers formed where a limb branches from a tree trunk. A knot generally lowers the strength of wood.

Kraft paper Asphalt-treated paper that serves as a vapor retarder, commonly used as lamination on fiberglass insulation.

L

Laminated glass Two pieces of glass laminated under heat and pressure to a plastic interlayer to form a fused unit.

Laminated veneer lumber (LVL) Dried wood veneers laminated in layers, all oriented in the same direction, to form a large structural member.

Landing A horizontal platform between two flights of stairs.

Landing frame A structural frame that forms a landing in a prefabricated steel stair.

Lap splice A connection between two steel or wood members, where the ends of each member are overlapped and connected so that the two members function as one continuous member.

Lateral load Load that acts predominantly in the horizontal direction, such as wind or earthquake load or soil pressure on a basement wall.

Lath Expanded sheet metal attached to a backup wall and used as a mechanical key to bond and reinforce portland cement plaster (stucco).

LEED Leadership in Energy and Environmental Design.

Light-gauge steel framing A framing system that mimics wood light frame construction, but the elements are made of cold-formed, galvanized sheet steel.

Light-gauge stud Generally a C-shaped member made of light-gauge steel.

Light-transmitting plastic Transparent or opaque polycarbonate or acrylic sheet used as glazing in some limited situations.

Lime See *hydrated lime* and *quicklime*.

Limestone A sedimentary rock composed primarily of calcium carbonate and used as exterior and interior wall cladding.

Linoleum A resilient sheet or tile flooring made from linseed oil, organic resins, and fillers bonded to a fibrous backing.

Lintel A beam that spans over a door or window opening.

Lite A pane or sheet of glass.

Live load A type of gravity load that changes in magnitude and placement over time due to factors such as human occupancy or storage of roof repair or maintenance materials, subdivided into floor live load and roof live load. See also *dead load*.

Load-bearing-wall A wall that supports superimposed gravity loads, such as from floors and the roof. See also *non-load-bearing wall*.

Longitudinal bars Steel reinforcing bars placed in the long direction of a reinforced-concrete beam or column.

Louvers Fixed or operable, closely spaced, angled slats attached to a frame to direct the passage of air or light.

Low-emissivity (low-E) coating A surface coating that reflects most of the long-wave radiation.

Low-emissivity glass A glass treated with a low-E coating, called low-E glass.

Low-emissivity (low-E) material A material that is an efficient reflector (poor absorber) of long-wave radiation (heat), generally obtained through a low-E lamination (such as aluminum foil) or a low-E coating.

Low-slope roof A roof with a slope less than 3:12.

Lumber Solid wood products derived directly from logs by sawing and planing only, with no additional machining.

LVL See *laminated veneer lumber*.

M

Machine grading A method of grading lumber using a machine, also called machine stress-rated lumber (MSR), in contrast with the more commonly used method of visual grading.

Machine stress-rated (MSR) lumber See *machine grading*.

Malleability A property of metals that indicates their ability to be formed to shape by hammering, bending, forging, pressing, rolling, and so on.

Manufactured wood products Any of a variety of wood products made by bonding smaller pieces of wood veneers, fibers, strands, wafers, or particles to produce a composite wood material. See also *engineered wood products* and *industrial wood products*.

Marble A metamorphic rock geologically formed from limestone under high pressure and heat.

Masonry Materials such as brick, stone, concrete masonry units (concrete blocks), and glass masonry units that are stacked and adhered using mortar.

Masonry cement A preblended mix of portland cement, lime, and/or pulverized limestone (typically manufacturer specific) used in masonry mortar in place of portland cement and lime.

Masonry grout A high-slump concrete used to fill the voids in a masonry wall.

Masonry unit Single brick, concrete (or glass) block, or stone used in masonry construction.

MasterFormat The standard organizational format for construction specifications (note the absence of space between *r* and *F* in “MasterFormat”).

Mat foundation A type of concrete foundation where one large, combined footing is used for several columns and load-bearing walls, often for the entire building. A concrete slab-on-

ground used as a foundation for light frame buildings is the simplest type of mat foundation.

MDF An acronym for medium-density fiberboard. It is made from wood fibers and resin binder under heat and pressure. It is denser than plywood and is commonly used for cabinets and other furniture. See also *fiberboard*.

Means of egress The route by which one exits a building in the case of a fire.

Metal A highly refined (generally solid) material that is typically hard, malleable, ductile, and capable of carrying an electrical current. Steel, copper, and aluminum are commonly used metals in building construction.

Metal panel roof A roof covering composed of thin sheets of metal, laid over rigid insulation and mechanically attached to the roof structure.

Mil A unit of thickness typically used to express the thickness of sheet plastic or sheet metal. 1 mil = 1/1,000 in.

Mission tile A clay or concrete tile with a half-barrel profile.

Model code Building code developed and updated regularly by an independent agency and adopted and adapted for use by federal, state, or local jurisdictions. The International Building Code, International Residential Code, and International Plumbing Code are examples of model codes.

Modified bitumen A type of polymer-modified bitumen (generally asphalt) used in making modified-bitumen roof membranes.

Modular brick The most commonly used size of extruded brick (4 in. × 2 $\frac{2}{3}$ in. × 8 in. nominal dimensions).

Modulus of elasticity A property of a material that measures its stiffness against deformation under loads.

Moisture movement Expansion or contraction of a material that occurs as a result of a changing moisture content.

Moisture retarder A membrane that retards (prevents) liquid water from passing through.

Molded brick A brick formed by pressing small clumps of wet clay into molds. See also *extruded brick*.

Moment connection A connection between a beam and its support (e.g., a wall or column) that transfers the bending of the beam to the support, or vice versa.

Mortar A mixture of portland cement, lime, sand, and water used to bond masonry units; cementitious mixture used to adhere tiles to a subfloor.

Mortar-capturing device A synthetic mesh located just above the flashing in the air space in a brick veneer wall used to prevent mortar from clogging the weep holes.

Mortar cement A preblended (typically manufacturer-specific) mix of portland cement, lime, and admixtures.

Mortar joint The layer of mortar placed between masonry units, generally about $\frac{3}{8}$ in. thick.

Movement joint Same as *dynamic joint*.

Mud sill See *sill plate*.

Mullion A vertical member in a metal-glass curtain wall; a vertical member between two adjacent windows or doors.

N

Nail Metal fastener made from a wire with a pointed tip (bottom) and a (generally flat) head.

Nailing flange Continuous flat metal or plastic extrusion from a window frame used to nail the unit to the exterior of a wall opening in a wood frame building.

Nail plate A metal plate with several sharp, flat, naillike projections.

Neoprene A synthetic rubber primarily used in glazing gaskets.

NFRC rating Window-performance rating system developed by the National Fenestration Rating Council (NFRC).

Noise-reduction coefficient (NRC) A measure of the ability of a material to absorb sound; the value lies between 0 and 1.0.

Noncombustible A material that will not ignite when subjected to an open flame or high temperature. See also *combustible*.

Non-load-bearing wall A wall that does not support floor or roof loads.

Nonmovement joint Same as *static joint*. See also *dynamic joint* or *movement joint*.

Nosing The leading edge of a tread of a stair.

Nylon A versatile polymer whose fibers are used in carpet and fabrics; also produced in sheets or molded into fittings used in mechanical devices.

O

Occupancy load Floor live load based on its occupancy.

One-way joist floor See *joist floor*.

One-way slab An elevated reinforced concrete slab where most of the load on the slab is carried to the supporting beams in one direction; a four-sided, supported rectangular slab whose length is greater than or equal to twice its width.

Open-web steel joist A standardized, prefabricated steel parallel chord truss used to span between beams, larger joists, or trusses.

Operable window A window unit that opens to allow the passage of air, sound, and so on. See also *fixed window*.

Organic soil A soil containing decayed plant material.

Oriented strandboard A wood-based panel made by gluing several layers of wood strands under heat and pressure so that the adjacent layers are oriented in opposite directions.

OSB See *oriented strandboard*.

Outside glazed Glazing system in which the glass is set into the frame from the outside of a building.

Oxidation Chemical weathering process by which the source material combines with atmospheric oxygen, generally leading to the material's degradation, such as oxidation of iron or steel, called corrosion, or rusting.

P

Pan Glass-reinforced plastic pans used as an economical formwork for one-way concrete joist floors.

Pane A sheet of glass.

Panel A sheet of plywood, oriented strandboard, particle board, and so on; a prefabricated building component whose surface dimensions are much greater than its thickness, such as a curtain wall panel.

Panel door A wood door constructed by inserting solid wood panels or glass panes in horizontal and vertical frame members (rails and stiles, respectively).

Panelized stone cladding Multiple stone slabs attached edge to edge to a prefabricated steel-frame work, which is then attached to the exterior of a steel- or concrete-frame building.

Panel points Points on a truss where members of a truss connect.

Parallel-strand lumber Manufactured wood product composed of narrow strands of veneered lumber glued together, all oriented in the same direction to form a member of large cross section.

Parapet Portion of an exterior wall that extends above the roof line.

Parging A thin, rough (unfinished) coat of portland cement plaster on a masonry wall. The purpose of parging is to increase the water resistance of the wall and to provide a smoother wall surface. Parging is not intended to be finished plaster.

Partition wall A non-load-bearing interior wall that separates spaces but does not carry floor or roof loads.

Patching compound A liquid or semisolid compound that can be troweled on to correct surface irregularities.

Paving bricks Bricks used for paving, graded for abrasion resistance and freeze-thaw damage.

Permanent formwork Material used as formwork (typically, metal deck) and retained as a permanent part of a reinforced-concrete floor slab.

Permeability Property of a material (e.g., soil) or assembly that allows water or water vapor to pass through.

Permeance A measure of the rate at which water vapor flows through a material or assembly.

Pier A relatively short column or a deep vertical foundation element (typically of cast-in-place concrete). A pier is not the same as a drilled pier (see *drilled pier*).

Pilaster A column formed by thickening an area of a masonry or concrete wall.

Pile Driven or drilled long, slender foundation element.

Pile cap A concrete cap that transfers foundation loads to multiple piles beneath.

Placing concrete The operation of pouring fresh concrete from a concrete mixer into the formwork.

Plain concrete Concrete without steel reinforcement.

Plain masonry A masonry wall without (vertical) steel reinforcement.

Plain-sawn lumber Lumber produced by sawing a log in one or two directions only. The grain pattern varies from nearly parallel to the wide face to perpendicular.

Planing Operation that uses high-speed knives to smooth the surface of rough-sawn lumber.

Plaster Pastelike cementitious material that, when applied to the surface of a wall or ceiling, cures to a hard surface.

Plasterboard Specific type of gypsum board used as a substrate for plaster.

Plastic A synthetic material composed of polymers that can be molded or shaped when soft; it cures into a rigid or semielastic form and does not return to its original shape after being deformed.

Plate girder A heavy steel beam fabricated from steel plates.

Platform frame One of the two types of wood light frame constructions, the other being a balloon frame. In a platform frame, the studs are one floor high and extend between adjacent floors or from the floor or roof. See also *balloon frame*.

Plywood A panel made from multiple thin layers of wood veneer adhered with glue under heat and pressure so that the grain direction of a veneer is perpendicular to that of the adjacent veneer.

Pointing Raking an existing (generally defective) masonry mortar joint to sufficient depth and then finishing it with new mortar.

Point-supported curtain wall Mullionless glass curtain wall with glass panes supported at its corners by a metal connector and glass panes sealed at vertical and horizontal joints with a sealant. See also *spider connector*.

Polished finish A type of stone finish, attained by buffing to give a reflective sheen.

Polyethylene A polymer, typically used in sheets as a vapor retarder.

Polyisocyanurate Closed-cell foamed plastic insulating material, sandwiched between two facing layers, available as rigid (flat or tapered) boards, typically used as roof insulation.

Polypropylene Synthetic fiber, commonly used in carpets and fabrics.

Polyvinyl chloride (PVC) A versatile thermoplastic polymer, used in single-ply roof membranes, rigid plastic pipes, and so on.

Porosity The property of a material that allows liquid or air to pass through.

Portland cement A noncombustible hydraulic cement produced by burning limestone and clay. See also *hydraulic cement*.

Portland cement plaster Multilayered application of a cementitious mix of portland cement, lime, sand, and water to a thickness ranging from $\frac{5}{8}$ in. to 1 in., commonly used on exterior walls.

Posttensioning Subjecting a concrete or masonry member to compressive stresses by tensioning high-strength steel strands (wires) after the concrete has developed sufficient strength.

Pour To cast or place concrete; an increment of concrete placement carried out without a long interruption.

Pour stop An L-shaped steel member welded to a steel spandrel or edge beam to stop fresh concrete from flowing beyond the edge of a floor or roof.

Pozzolanic reaction Reaction between lime and amorphous silica (such as in fly ash, silica fume, etc.) that converts the mixture into a hydraulic cement. See also *hydraulic cement*.

Precast concrete Concrete members typically cast in a precasting plant and transported to the construction site for erection. Precasting can also be done at the construction site, such as with concrete tilt-up walls.

Precast, prestressed concrete A precast-concrete member that has been subjected to compressive stresses by tensioning high-strength steel wires before casting concrete for the member.

Preformed tape An elastomeric material (available in rolls) that provides a seal between the glass and the supporting frame in a window or metal-glass curtain wall.

Pressure-equalized wall A drainage wall where the air space between the exterior cladding and the backup wall is at the same pressure as the outside air so that water penetration through the wall is minimized.

Pressure-treated wood Wood into which preservatives have been pressure injected to retard termite infestation and fungal decay. Using a different preservative, the pressure treatment can also be used for increasing the fire resistance of wood.

Prestressed concrete See *precast, prestressed concrete*.

Pretensioning Same as prestressing. See also *posttensioning*.

Primary reinforcement Steel reinforcement in a one-way concrete slab oriented in the direction that carries most of the loads; see also *one-way slab*.

Primer A liquid that improves the adhesion of a sealant or paint to the substrate.

Probability of breakage The probability that a pane of glass will break unpredictably, measured as the number of broken panes (out of 1,000) when the panes are subjected to a given load.

Protected membrane roof (PMR) A roof membrane directly attached to the roof deck and covered with rigid insulation held in place by ballast.

PSL See *parallel-strand lumber*.

Punched window A window surrounded by opaque portions of the wall.

Punch list A list of outstanding problems that must be corrected before the architect certifies that the building is complete.

Putty See *glazing compound*.

Pylon A heavy vertical support member, commonly used in suspension bridges.

Q

Quarry An excavation from which stone is obtained.

Quarry tile A clay floor tile, generally unglazed.

Quarter-sawn lumber Lumber produced by cutting the log radially into four quarters and then sawing it along radial lines.

Quicklime Lime obtained by heating limestone. Chemically, it is calcium oxide, which is a fairly caustic substance and is, therefore, not used in construction. When quicklime is mixed with water, it becomes calcium hydroxide, also called hydrated lime. Hydrated lime is used in building construction.

R

Racking Angular deformation of a structure under lateral loads, such as the deformation caused by a horizontal force on a book rack.

Radiant barrier Layer of material that slows the transmission of heat due to its low emissivity. Aluminum foil is a commonly used radiant barrier.

Radiation Emission of electromagnetic waves by an object. All objects emit radiation at all times.

Rain screen wall Same as *pressure-equalized wall*.

Rake Sloping edge of a gable roof.

Raked joint Tooled, inset masonry mortar joint that creates a strong shadow line.

Random rubble Irregularly shaped and sized stone laid in a random pattern in a wall.

Rebar An abbreviation for reinforcing bar (a deformed steel bar used as concrete reinforcement).

Reciprocating saw Fixed or handheld saw that uses a linear blade, which moves horizontally and/or vertically at the same time.

Reflective glass A glass that reflects incoming visible radiation due to a very thin metal oxide coating on one surface.

Reglet A slot in a concrete or masonry wall in which a flashing or roof membrane is inserted and held in place by inserting a compressible material in the slot.

Reinforced concrete Concrete with integral steel reinforcing bars.

Reinforced masonry A masonry wall with vertical reinforcing bars; see also *plain masonry*.

Reinforcement cage A preassembled unit of reinforcing bars used in concrete members.

Relative humidity Amount of water vapor present in the air, measured as a percentage of the maximum water vapor the air can hold at the same temperature.

Reshoring A method of supporting a concrete floor after the formwork has been stripped and before it has gained the strength required to support the superimposed loads.

Resilient channel Light-gauge steel channel used for attaching gypsum boards so that the gypsum boards are acoustically decoupled from the backup wall on which the channel is attached.

Resilient flooring Synthetic flooring material, such as linoleum, vinyl, or rubber tiles or sheets, that returns to its original shape after being compressed by impacts caused by walking, dropped objects, and so on.

Resinous flooring A liquid-applied flooring material that dries to form a thin, strong floor surface; also called epoxy flooring. Includes epoxy-based terrazzo.

Ribbed floor See *joist floor*.

Ribbed slab A concrete slab that is stiffened by the edge and interior ribs (beams) in both directions, used as an elevated or ground-supported slab. Where the ribs are closely spaced (in both directions), it is also called a waffle slab or two-way joist floor.

Ridge beam A structural beam that supports the top ends of roof rafters at the ridge line and forms a triangular shape without creating lateral thrust.

Ridge board A nonstructural board used to align and join rafters at the ridge line of a sloping roof.

Ridge line The line of intersection of two oppositely sloping roof planes.

Ridge vent Passive air-exhaust unit located along the ridge of a sloping roof to exhaust attic air.

Rigid connection See *moment connection*.

Rigid insulation Rigid boards of foamed, granular, or cellular materials.

Rim joist Outer joist that surrounds the wood frame floor structure.

Riser Vertical component of a stair.

Roof deck A load-bearing surface on which a roof membrane is attached.

Roofing felt Organic (typically paper-based) or inorganic (typically fiberglass) fibers pressed into a thin, flat sheet and saturated with bitumen (asphalt or coal tar).

Roof membrane The entire waterproofing layer on the roof.

Rubber flooring Rubber sheets or tiles used as floor finish.

Running bond Masonry bond pattern that staggers the units in each course, creating staggered head joints.

R-value See *thermal resistance*.

S

Safety glass Glass that can resist impact (per the safety glass test standard) and, upon breaking, falls into pieces that are small and blunt enough not to cause injury.

Safety margin See *factor of safety*.

Sapwood The outer portion of a tree trunk that conducts nutrients, typically lighter in color than heartwood. See also *heartwood*.

Sash The (operable) part of a window, which holds the glass.

SBS See *styrene butadiene styrene*.

Scab A small piece of lumber nailed to two butt-jointed lumber members to give them continuity.

Scaffold An elevated temporary platform (movable or unmovable) on which workers (such as bricklayers, plasterers, and painters) stand to perform their work. The term scaffolding is used for a system of scaffolds.

Scratch coat First of two base coats in stucco.

Seasoning Process of drying of lumber until the moisture content reaches the desired percentage.

Secondary reinforcement Reinforcement in a one-way concrete slab placed perpendicular to primary reinforcement. See *one-way slab*.

Security glazing Glazing system that can withstand various levels of assault from handheld weapons, ballistic weapons, and so on.

Seismic joint Continuous joint that divides large or complex buildings into smaller buildings that can move independently of each other to reduce damage from an earthquake; generally wider than a building separation joint. See also *building separation joint*.

Self-drilling fastener A fastener that drills its own hole.

Self-furring metal lath A metal lath with dimples that holds the lath away from the substrate to which the lath is applied, allowing the plaster to go through the lath and embed the lath in the plaster.

Setting block A strong, resilient block that supports the glass pane in its frame and cushions it against damage; located at the lower edge of a glazing pocket.

Setting material A material used to adhere ceramic and stone floor tiles to the subfloor.

Settlement Natural compaction of a soil mass, or shifts in a structure resulting from compaction or instability of soil underlying the foundation.

S4S A lumber member surfaced on all four sides.

Shading coefficient Solar heat gain through a glass divided by the solar heat gain through clear $\frac{1}{8}$ -in.-thick glass.

Shaft A continuous vertical enclosure around stairs, elevators, ducts, pipes, and so on.

Shear Stress that acts tangential to the cross section of a member, causing various planes of the member to slide relative to each other.

Shear block A small metal block used to attach horizontal rails to mullions in a metal-glass curtain wall.

Shear key A continuous groove in the first concrete pour that is filled with concrete during the second pour to prevent differential movement between the two elements, such as between two adjacent concrete slabs or a foundation wall and its footing.

Shear stud A short, headed steel rod welded to the top of a steel beam (girder or joist) that is embedded in the concrete slab over the beam so that the beam and the slab act as one structural unit.

Shear wall See *vertical diaphragm*.

Sheathing A panelized material applied to the exterior surfaces of wood or light-gauge steel frame members to add rigidity to the frame and to serve as a base for (wall) cladding or roofing.

Shed roof A roof that slopes to one side.

Sheet bracing A panelized material applied to a structural frame to prevent the frame from racking. See *racking*.

Sheeting Sheet piles; a thin sheet material such as polyethylene sheet.

Sheet pile Piles made of interlocking sheet steel driven into the ground to support an excavation.

Shelf angle Steel angle attached to a spandrel beam or a load-bearing wall to support masonry veneer.

SHGC See *solar heat-gain coefficient*.

Shim A thin, flat piece of metal, plastic, or wood placed between two components to adjust their relative positions during construction.

Shingles Small roofing units of asphalt-treated felts, wood, metal, concrete, or clay tiles, slate, and so on, that lap over each other to waterproof steep roofs.

Shop drawings Detailed drawings of a building component developed by its fabricator based on construction drawings and specifications.

Shores Temporary vertical or inclined supports used in concrete formwork or excavation.

Shotcrete Concrete mix that is deposited through a nozzle at high pressure in combination with a stream of compressed air; also called gunite.

Siding Exterior wall-finish material applied to a wood light frame or light-gauge steel-frame building.

Sieve An open-top container with a wire mesh bottom used for screening particles. Sieves are used in laboratories for analyzing the particle size distribution of soils and concrete aggregates.

Sill Bottom horizontal portion of a window, the exterior part of which is typically sloped away from the window.

Sill plate The bottom, horizontal member in a wood light frame (or light-gauge steel) wall that is directly in contact with the foundation.

Simple (shear) connection A connection between a beam and its support (e.g., a wall or column) that allows the beam to bend without transferring its bending to the support.

Simply supported beam A single-span beam with simple connections at both supports.

Single-ply roof (SPR) membrane A single-layer synthetic roof membrane.

Single-strength (SS) glass A $\frac{3}{32}$ -in.-thick flat glass.

SIPS See *structural insulated panels*.

Site-cast concrete Concrete cast in the position where it will remain in the final structure.

Slab-on-grade A concrete slab that is supported directly on the ground.

Slab-on-ground Same as *slab-on-grade*.

Slaked lime Same as *hydrated lime*

Slag A noncombustible waste product obtained from the manufacture of iron in a blast furnace, commonly used as aggregate on built-up roofs.

Slag wool Slag converted to fibrous insulation.

Slip connection A connection that allows movement between connected elements in at least one direction.

Slip-critical connection A connection between two structural steel members bolted together in which the load on one member is transferred to the other member mainly by friction.

Slump test A test that measures the workability of fresh concrete by filling a cone-shaped mold with concrete, removing the mold, and measuring the height to which the concrete settles below its original height.

Slurry A liquid mixture of an insoluble material and water, such as portland cement and water (called portland cement slurry) or bentonite clay and water (called bentonite slurry).

Slurry wall A method of constructing a reinforced-concrete basement wall by temporarily stabilizing the wall excavation with bentonite slurry and then pumping concrete into it. As the concrete is pumped, the slurry is displaced.

Smoke-developed index (SDI) A measure of the visibility through smoke in a building fire.

Smooth, off-the-form concrete The smooth finish on concrete revealed when formwork is removed, without any further surface treatment.

Snap tie A steel wire tie used in formwork for concrete walls.

Soffit The underside of a horizontal building element, such as that of a roof overhang or of a stair.

Soffit vent Air intake ventilation unit located in the soffit of a roof overhang.

Softwood Wood obtained from trees that have thin conical leaves and are typically evergreen. See *hardwood*.

Solar heat-gain coefficient Solar heat transmitted through a glass divided by the solar heat that falls on the glass.

Solid-core door Flush wood or metal veneers laminated to both sides of a solid interior, in contrast to a hollow-core door.

S1S2E A lumber member surfaced on one side and two edges.

Sound-absorbing material A material that absorbs more sound than most other materials.

Sound frequency The number of to-and-fro movements of air particles in 1 s in a sound wave.

Sound insulation A material that retards the transmission of sound.

Space truss A three-dimensional truss.

Spall Loss of the surface of a material, such as concrete or masonry, resulting from stresses caused by expansion or contraction of the material, such as during freeze-thaw cycles.

Spandrel area The area of the exterior facade of a building at the level of the spandrel beam.

Spandrel beam A beam that spans between columns on the exterior face of a frame structure.

Spandrel glass Glass (usually opaque) used in a metal-glass curtain wall in the spandrel area of the facade.

Spandrel panel A panel used in the spandrel area of a glass curtain wall.

Specific gravity Density of a material divided by the density of water.

Specifications Written technical description of materials and assemblies shown in construction drawings, organized in three parts: general, products, and execution.

Spider connector Four-pronged stainless steel connector used at the corner of four lites of glass in a mullionless glass curtain wall.

SPR See *single-ply roof (SPR) membrane*.

Spray-applied fire protection A mixture composed of portland cement, water, and mineral fibers (or lightweight aggregate) sprayed on a steel member to increase its fire resistance.

Stack bond Masonry bond pattern in which units are stacked vertically with continuous head joints.

Standing-seam metal roof Sheet metal roof panels joined by folding and/or interlocking seams.

Static joint Same as *nonmovement joint*.

Steel A strong, malleable metal (alloy of iron and carbon) used for structural and nonstructural shapes.

Steel decking A ribbed-sheet steel formed into panels, commonly used in floors and roofs.

Steep roof A roof with a slope greater than or equal to 3:12. See *low-slope roof*.

Stem wall A short foundation wall, generally used to form a crawl space below the ground floor of a light-frame building.

Step flashing Small lengths of metal sheets placed between roof shingles, used at locations where a sloping roof meets a wall.

Stick-built curtain wall A metal-glass curtain wall whose framing members are installed at the site member by member.

Stiffback A member attached to a frame to increase its stiffness.

Stirrup A loop or U-shaped steel reinforcement used to increase the shear resistance of a concrete beam.

Stone cladding Stone panels attached to a backup wall or curtain wall frame.

Stone honeycomb panel A lightweight panel made of thin stone veneer laminated to an aluminum honeycomb backing.

Stone masonry Stone laid with mortar unit by unit.

Storefront system Glazed facade, generally one or two stories high from the ground, with a framing system similar to that of a metal-glass curtain wall but with less stringent performance requirements.

Story drift Horizontal deflection of an upper-story floor with respect to a lower floor caused by lateral loads as a result of racking.

Strain Change in the dimension of a member divided by its original dimension.

Strands High-strength steel wires used in prestressing cables; thin wafers of wood.

Stress Internal resistance created by a member in response to an applied external force, expressed as force divided by the cross-sectional area of the member.

Stretcher Long face of a brick laid in its usual way in a wall.

Striking Leveling a freshly placed concrete surface, generally followed by floating. See *floating*.

Stringer See *carriage*.

Strip flooring Wood finish flooring made of long, narrow tongue-and-groove boards.

Stripping time Length of time between placing concrete and removing the formwork.

Strip windows An array of continuous window units placed side by side horizontally or vertically.

Structural composite lumber Manufactured wood products produced by gluing together longitudinally oriented wood veneers or stands.

Structural insulated panels Structural panels composed of rigid insulation glued on each side with oriented strandboard or plywood panels.

Stucco See *portland cement plaster*.

Studs Closely spaced vertical members that constitute a wood light frame or light-gauge steel frame wall.

Styrene butadiene styrene A polymer with rubberlike properties generally used as a modifier of asphalt, giving an SBS-modified roof membrane.

Subfloor Structural (rough) floor beneath a floor finish, such as carpet or floor tiles.

Substrate Underlying member on which other material is placed.

Substructure Below-ground portion of a structure, including the basement and foundation.

Sump A pit used to collect water, from which it is pumped out.

Superstructure Above-ground portion of a structure.

Surety bond A type of insurance required of a contractor by the owner to ensure that the obligations of the construction contract will be met.

Suspended ceiling A ceiling hung from the overlying floor or roof structure.

Sustainable Comprehensively addressing aspects of building design and construction in addition to health, safety, welfare, and aesthetic aspects that account for resource consciousness and stewardship of the environment and ensure that the needs of future generations are not compromised by today's generation.

Synthetic stucco Another name for exterior insulation and finish system (EIFS).

T

T&G See *tongue-and-groove*.

Tabular area Allowable area per floor as obtained from the building code table.

Tempered glass A glass obtained by heating annealed glass to a high temperature and then suddenly cooling it, which makes it four times stronger than annealed (basic) glass; used as safety glass because it breaks into pieces that are small and blunt enough not to cause injury.

Tendon The combination of high-strength steel strands, sleeves, and end anchorages used for posttensioning concrete.

Terrazzo A concrete-like material (binder, filler, and aggregate mix) that is poured over a subfloor in a thin layer, ground, and polished after it cures to form a floor finish.

Thermal break A section of a material with high thermal resistance epoxied between two parts of a material with low thermal resistance.

Thermal bridge A portion of a building envelope or a building assembly with a much lower thermal resistance than the rest.

Thermal capacity Ability of a building material or component to store heat.

Thermal conductor Material that conducts heat rapidly

Thermal finish See *flame finish*.

Thermal insulation A material or assembly that retards the flow of heat.

Thermal movement Changes in the dimensions of a material that occur as a result of a change in its temperature.

Thermal resistance (R-value) Measure of the ability of a building material or assembly to resist the flow of heat.

Thermal transmittance Inverse of thermal resistance.

Thermoplastic polymer A polymer that softens when heated and hardens when cooled.

Thermoplastic polyolefin A thermoplastic polymer used as a single-ply roof membrane.

Thermosetting polymer A polymer that will not soften when heated.

Thick-set mortar Thick bed of cementitious mortar on which floor tiles are set, used where the subfloor surface or the bottom of the floor tiles (or slabs) are irregular or too large for the use of thin-set mortar.

Thin-set mortar Method for attaching tile to the subfloor or underlayment using a thin layer of adhesive.

Threshold Floor surface immediately below an exterior door, typically sloped to the exterior.

Tieback A fastener that connects an exterior cladding to the supporting frame to resist lateral loads.

Ties Closed-loop reinforcement used in columns to prevent the buckling of longitudinal bars.

Tile Small, thin flooring or ceiling unit.

Tilt-up wall Reinforced-concrete wall, precast on the ground-floor slab of the building and lifted by a crane to its required position.

Timber See *heavy timber*.

Tinted glass A type of glass made by adding a metallic pigment during its manufacture.

Tongue-and-groove A joint between two members in which the edge of one member is milled with a groove and that of the other member is milled with a projecting tongue.

Tooled joint Joint in masonry mortar or sealant that is compressed by a specific tool.

Torched membrane SBS modified-bitumen roofing sheet adhered using an open-flame torch.

TPO See *thermoplastic polyolefin*.

Travertine A type of natural stone pitted with voids.

Tread Horizontal (walking) surface of a stair.

Tread pan A steel pan in a prefabricated steel stair that is later filled with concrete at the site to give a finished tread.

Tributary area Area of a building that contributes to the load on a building component.

Truss A structural member with triangulated, linear elements, typically used for large spans.

Trussed joist Parallel chord truss used as a floor joist.

Two-way joist floor See *ribbed slab* and *waffle slab*.

Two-way slab An elevated reinforced-concrete slab in which the load on the slab is carried to the supporting beams in both directions; a four-side-supported rectangular slab whose length is less than twice its width.

U

Ultraviolet radiation (UV) Short-wave solar radiation that can damage human skin and eyes as well as fade the colors of materials and art.

Ultraviolet transmittance A measure of the transmission of ultraviolet radiation through glass.

Underlayment (floor) A panel attached to the subfloor to create a smooth, rigid surface for the application of finish flooring.

Underlayment (roof) Water-resistant sheet applied as a second layer of defense under shingles in a steep roof.

Unit-and-mullion curtain wall Preassembled metal-glass curtain units attached to mullions that have already been attached to the building frame.

Unitized curtain wall Preassembled metal-glass curtain wall units attached to the building frame.

UVT See *ultraviolet transmittance*.

V

Valley A trough formed at the intersection of two adjacent sloping roofs.

Valley flashing Flashing material used in a steep roof valley to increase the water resistance of a valley trough.

Vapor drive analysis A numerical analysis that determines the amount of water vapor flow through the building envelope to ascertain the condensation potential.

Vapor pressure Pressure exerted by water vapor on the building envelope. Vapor pressure is independent of air pressure.

Vapor retarder A material that restricts the flow (transmittance) of water vapor.

Vault A continuous, curved roof member.

Vaulted ceiling High ceiling that follows the shape of the roof structure. If the gypsum board is attached directly to the rafters in a wood frame building (with no attic space), such a ceiling is called a vaulted ceiling.

Veneer A thin layer of material over a backup component. See also *adhered veneer* and *anchored veneer*.

Vertical diaphragm Walls that serve to transfer lateral loads in a building to the foundation by interacting with horizontal diaphragms (floor and roof structures).

Vinyl Abbreviation for polyvinyl chloride, used in window frames, plumbing pipes, and so on; sheet vinyl used in floor tiles, siding, trim, and so on.

Visible transmittance A measure of the transmission of visible light through glass.

Vision glass Transparent glass used between the spandrel areas of a curtain wall.

Visual grading A method of grading lumber based on visual inspection of each piece by trained (graders) inspectors.

Vitreous Glasslike substance with zero vapor permeability.

VT See *visible transmittance*.

W

Waffle slab Also called a two-way joist floor or ribbed slab that has closely spaced ribs (beams) in both directions. See also *ribbed slab*.

Waler Horizontal member used to stiffen and support concrete formwork.

Wall anchor A steel fastener that connects a veneer wall to the backup wall.

Wallboard See *gypsum board*.

Wall cavity Air space between the veneer and the backup wall.

Waterproofing Liquid or sheet material applied to the exterior of a basement wall or floor to resist the intrusion of water under hydrostatic pressure, as distinct from dampproofing.

Waterstop A rubber or polymeric strip of material, used to seal joints between two concrete pours.

Water table The level below ground where the water pressure due to the water in the soil equals the atmospheric pressure; the level below ground to which water will fill an excavation.

Wavelength Distance between adjacent air pressure maxima (compression peaks) or adjacent minima (rarefaction crests) at a given point in time caused by sound.

Weatherstripping Strip of material (wood, metal, foam, etc.) applied to an exterior door or window, which allows the unit to open and close but prevents the passage of air and rain-water when it is in the closed position.

Web Transverse element in a concrete masonry unit; the vertical part of a steel wide-flange section; members in a steel truss between the top and bottom chords.

Weep hole A small opening in a veneer wall directly above the flashing to drain water.

Weld Method of attaching two steel members by heating them until they fuse together.

Welded-wire reinforcement (WWR) A prefabricated rectangular grid of steel wires spot-welded together at intersections, used as reinforcement in concrete slabs.

Wet glazing A semiliquid elastomeric sealant used to set glass in a frame. See also *dry glazing*.

White cement White portland cement, commonly used in architectural concrete, stucco, and terrazzo flooring.

Wind load Difference between inside and outside air pressures on a building component caused by the wind.

Wind uplift Upward pressure caused by wind on a building component, generally on the roof.

Wired glass Rolled glass sheet with embedded thin steel wire mesh, used in fire-rated glazed openings.

Wood flooring Solid or manufactured wood available in strips, planks, and tilelike units and used as a floor finish.

Wood light frame A structural frame assembly composed primarily of dimension lumber studs, floor joists, and roof rafters and panels of wood-based sheathing materials.

Workability Ease with which fresh concrete can be placed and compacted, roughly measured by a slump test; ease with which fresh masonry mortar or portland cement plaster can be troweled on.

Worked lumber Lumber that has been machined beyond surfacing to obtain a specific profile or cross section.

Wrought iron Iron-carbon alloy that is hammered into shape.

Wythe Vertical section of masonry that is 1 unit thick.

Y

Yield strength Maximum stress in steel before it experiences excessive deformation.

Z

Zero-slump concrete A stiff concrete that will not settle at all in a slump test, generally used in making concrete masonry units.

Zoning ordinance A document that describes regulations for the use of land in a particular jurisdiction.