Glossary

A/C CIRCUIT (ALTERNATING CURRENT) – The flow of current through a conductor first in one direction, then in reverse. It is used exclusively in residential and commercial wiring because it provides greater flexibility in voltage selection and simplicity of equipment design.

ABOVE GRADE – The portion of a building that is above ground level.

ACCELERATOR – Any material added to concrete, stucco, plaster, or mortar which speeds up the natural set.

ACCESSORY – An extra building product which supplements a basic solid sheeted building such as a door, window, skylight, ventilator, etc.

ACRE – A unit of measure which is 43,560 square feet.

ACRYLIC COATING CURED WITH RADIATION PROCESS – This material is a coating over particle board that meets the requirements of Woodwork Institute (WI). The coating also meets the requirements of NEMALQ 1-77, Light Duty, and shall be as manufactured by Willamette Industries product known as Kor Tron /EB.

ADAPTOR TRIM – Trim used at roof or wall to tie into unlike panel or masonry.

ADHESION – The property of a coating or sealant to bond to the surface to which it is applied.

ADHESIVE – A substance capable of bonding materials together by surface attachment. It is a general term and includes all cements and glues.

ADHESIVE FAILURE – Loss of bond of a coating or sealant from the surface to which it is applied.

ADHESIVE, TYPE I FULLY WATERPROOF – Forms a bond that will withstand fully weather exposure and will be unaffected by micro-organisms; bond shall be of such quality that specimens will withstand shear and cyclic boil tests specified in PS 51-71.

ADHESIVE, TYPE II WATER-RESISTANT – Forms a bond that will retain practically all of its strength when occasionally subjected to a thorough wetting and drying; bond shall be of such quality that specimens will withstand the cold soak test specified in PS 51-71.

AGGREGATE – Crushed stone, slag or water-worn gravel that comes in a wide range of sizes that is used to surface built-up roofs.

AIR DUCT – Ducts, usually made of sheet metal, that carry cooled air to all rooms.

AIR FILTERS – Adhesive filters made of metal or various fibers that are coated with adhesive liquid to which the particles of lint and dust adhere. These filters will remove as much as 90 percent of the dirt if they do not become clogged. The more common filters are of the throwaway or disposable type.

AIR INFILTRATION – The amount of air leaking in and out of a building through cracks in walls, windows and doors.

AIR-DRIED LUMBER – Lumber that has been piled in yards or sheds for any length of time. For the United States as a whole, the minimum moisture content of thoroughly air-dried lumber is 12 to 15 percent, and the average is somewhat higher. In the South, air dried lumber may be no lower than 19 percent.

AIRWAY – A space between roof insulation and roof boards for movement of air.

ALLIGATORING – A condition of paint or aged asphalt brought about by the loss of volatile oils and the oxidation caused by solar radiation. Coarse checking pattern characterized by a slipping of the new paint coating over the old coating to the extent that the old coating can be seen through the fissures. "Alligatoring" produces a pattern of cracks resembling an alligator hide and is ultimately the result of the limited tolerance of paint or asphalt to thermal expansion or contraction.

ALUMINUM WIRE – Conductors made of aluminum for carrying electricity. Aluminum generally is limited to the larger wire sizes. Due to its lower conductivity, aluminum wire smaller than No. 12 is not made. Aluminum is lighter and less expensive than copper but not as good a conductor. It also breaks easily.

AMMETER – Device to measure the current flowing in a circuit.

AMPS (AMPERES) – The rate at which electricity flows through a conductor.

ANATOMY OF A DOOR – Parts of a raised panel door are similar in nomenclature to other door types such as hollow metal, solid and hollow core flush wood and composition doors; see Figure 1.

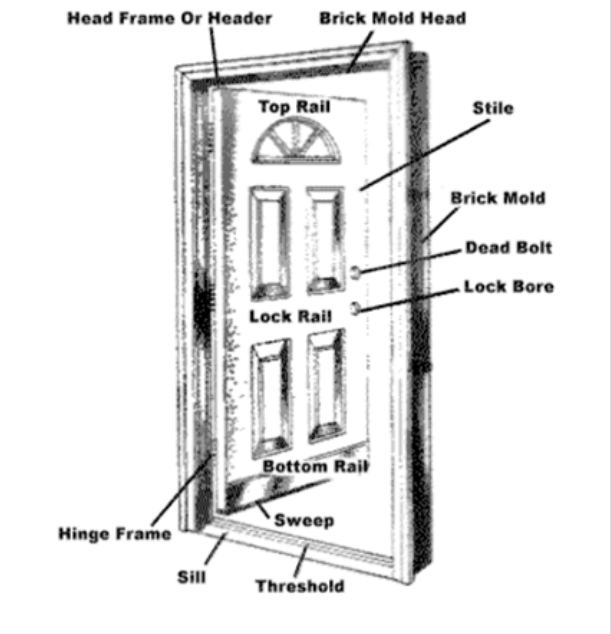


Figure 1. Anatomy of a Door

ANCHOR BOLTS – Bolts used to anchor members to a foundation or other support.

ANCHOR BOLT PLAN– A plan view drawing showing the diameter, location, and projection of all anchor bolts for the components of the Metal Building System.

ANGLE IRON – A piece of iron that is rolled in the form of a right angle. It is used for wall ledgers, bridging, and cross bracing for lift joist support and masonry openings.

ANNEALING – In the manufacturing of float glass, it is the process of controlled cooling done in a lehr to prevent residual stresses in the glass. Re-annealing is the process of removing objectionable stresses in glass by re-heating to a suitable temperature followed by controlled cooling.

ANTI-WALK BLOCKS – Elastomeric blocks that limit lateral glass movement in the glazing channel which may result from thermal, seismic, wind load effects, building movement, and other forces that may apply.

APPLICATION RATE – The quantity (mass, volume, or thickness) of material applied per unit area.

APPROVAL DRAWINGS – A set of drawings that include framing plans, elevations, and cross sections for approval of the buyer.

APRON – The flat member of the inside trim of *a* window placed against the wall immediately beneath the stool.

ARCHITECTURAL PANEL – Intricately formed panel with special attention given to its appearance.

AREA DIVIDER – A raised, double wood member attached to a properly flashed wood base plate that is anchored to the roof deck. It is used to relieve the stresses of thermal expansion and contraction in a roof system where no expansion joints have been provided. (see NRCA Construction Detail D-1)

ASBESTOS – A group of natural, fibrous, impure silicate materials.

ASPHALT – A dark brown to black cementitious material in which the predominating constituents are bitumens, which occur in nature or are obtained in petroleum processing

ASPHALT, AIR BLOWN – An asphalt produced by blowing air through molten asphalt at an elevated temperature to raise its softening point and modify other properties.

ASPHALT FELT – An asphalt-saturated felt or an asphalt-coated felt.

ASPHALT MASTIC – A mixture of asphaltic material and graded mineral aggregate that can be poured when heated but requires mechanical manipulation to apply when cool.

ASPHALT, STEAM BLOWN – An asphalt produced by blowing steam through molten asphalt to modify its properties, normally used for highway bitumen.

ASSEMBLY – A group of mutually dependent and compatible components or subassemblies of components.

ASTRAGAL – A closure between two leaves of a double swing or double slide door.

ATTIC VENTILATORS – Openings in gables or ventilators in the roof.

AUXILIARY LOADS – Dynamic live loads such as those induced by cranes and material handling systems.

AWNING WINDOW – A window in which the vent or vents pivot outward about the top edge, giving an awning effect.

AXIAL FORCE – A force tending to elongate or shorten a member.

BACK PUTTY – After the glass has been face puttied, it is turned over and putty is run into any voids that may exist between the glass and the wood parts.

BACKER ROD – Pipe insulation without the hole.

BACKFILL – The replacement of excavated earth into a pit or trench.

BACKFLOW PREVENTER – A device to prevent backflow, especially into a potable water supply. This is generally required for sprinkler systems, pullout faucet spouts, and outside hose bibs.

BACKNAILING – The practice of blind nailing (in addition to hot-mopping) all the plies of a substrate to prevent slippage. (See BLIND NAILING.)

BACKING OUT – Wide, shallow groove machined in back surface of members.

BACKPRIMING – The first prime coat of paint that is applied to the backside of a wood surface. Required on Caltrans building projects, but not as common in the commercial industry.

BALANCING SPECIES – A species of similar density used to achieve balance by equalizing the rate of moisture absorption or emission.

BALL VALVE – A shutoff valve with a spherical ball that has a cylindrical hole through the ball for flow.

BALUSTERS – Small members forming the main part of a railing of a stairway or balcony, fastened between bottom and top rail.

BAR JOIST – A name commonly used for "Open Web Steel Joist".

BASE ANCHORS – Anchor bolts shop welded to an angle or plate that are set in concrete to receive main frame columns. (To be used with Truss Beam).

BASE ANGLE – An angle secured to a wall or foundation used to attach the bottom of the wall paneling.

BASE FLASHING – See FLASHING.

BASE MOLDING – Molding used to trim the edge of interior baseboard.

BASE PLATE – A plate attached to the bottom of a column which rests on a foundation or other support, usually secured by anchor bolts.

BASE PLY – The first ply of roofing material in a roof membrane assembly.

BASE SHEET – A saturated or coated felt placed as the first ply in some multi-ply, built-up roof membranes.

BASE SHOE – Molding used next to the floor on interior baseboard.

BASE TRIM – Z-shaped trim designed to close off opening at base of wall around perimeter of building.

BASEBOARD – A board placed next to the wall around a room, at the floor.

BATTEN – Narrow strips of wood or metal used to cover joints.

BATTER BOARDS – A pair of horizontal boards nailed to posts at the corner of an excavation, used to indicate the desired levels or to stretch strings for walls.

BAY – The space between the main frames measured normal to the frame.

BAY WINDOW – Any window space projecting from- the walls of a building.

BEAM – A member, usually horizontal, that is subjected to bending loads. There are three types–simple, continuous, and cantilever.

BEARING PARTITION – One that supports a vertical load and its own weight.

BEARING PLATE – A steel plate that is set on the top of a masonry support on which a beam or purlin can rest.

BEARING WALL – One that supports a vertical load and its own weight.

BEDDING IN PUTTY – Glazing whereby a thin layer of putty or bedding compound is placed in the glass rabbet, the glass inserted and pressed onto this bed.

BILL OF MATERIALS – A list that enumerates by part number or description each piece of material or assembly to be shipped. Also called tally sheet or shipping list.

BIRD SCREEN – Wire mesh used to prevent birds from entering the building through ventilators and louvers.

BIRD STOP – Closure used at corner rake fascia to prevent birds from entering building.

BIRDSEYE – A small central spot with wood fibers arranged around it to give the appearance of an eye.

BITUMEN – the generic term for an amorphous, semi-solid mixture of complex hydrocarbons derived from any organic source. Asphalt and coal tar are the two bitumens used in the roofing industry.

BITUMINOUS – Containing or treated with bitumen. Examples: bituminous concrete, bituminous felts and fabrics, bituminous pavement.

BITUMINOUS EMULSION – (1.) A suspension of minute globules of bituminous material in water or in an aqueous solution; (2.) A suspension of minute globules of water or an aqueous solution in a liquid bituminous material (invert emulsion).

BITUMINOUS GROUP – A mixture of bituminous material and fine sand that will flow into place without mechanical manipulation when heated.

BLACK IRON – Any steel member without primer.

BLIND NAILING – Nailing done in such a way that the nail heads are not visible.

BLIND RIVET – A small-headed pin with expandable shank for joining light gauge metal. Typically used to attach flashing, gutter, etc.

BLIND STOP – A rectangular molding used in assembling a window frame.

BLINDS (SHUTTERS) – Light wood sections in the form of doors to close over windows. Commonly now used for ornamentation – fastened rigidly to the walls.

BLISTER – A spongy raised portion of roof membrane, ranging in area from one inch in diameter and of barely detectable height upwards. Blisters result from the pressure buildup of gases entrapped in the membrane system. These gases most commonly

are air and/or water vapor. Blisters usually involve delamination of the underlying membrane plies.

BOARD – A piece of lumber before gluing for width or thickness.

BOLSTER – A short horizontal timber resting on the top of a column for the support of beams or girders.

BOLTING PLATE – Plate used to connect two members by bolting.

BOND – The adhesive and cohesive forces holding two roofing components in intimate contact.

BOND BEAM – A course or courses of a masonry wall grouted and usually reinforced in the horizontal direction serving as an integral beam in the wall. May serve as a horizontal tie, bearing course for structural members, or as a flexural member itself.

BOND BEAM BLOCK – A hollow concrete masonry unit with depressed sections forming a continuous channel in which reinforcing steel can be placed for embedment in grout. Lintel blocks are sometimes used as bond beam blocks.

BOND BREAKER – Any material used to prevent concrete from bonding to a surface. Usually 15 lb. Roofing felt is used between surfaces to break contact or fiberglass insulation is commonly used around piping through slabs.

BOND BREAKER – Any material used to prevent concrete from bonding to a surface. Usually 15 lb. Roofing felt is used between surfaces to break contact or fiberglass insulation is commonly used around piping through slabs.

BOW – A deviation flatwise from a straight line drawn from end to end of a piece. It is measured at the point of greatest distance from the straight line.

BOXED – Member composed of two "C" members welded face to face.

BRACE – An inclined piece of framing lumber used to complete a triangle and thereby to stiffen a structure.

BRACE RODS – Rods used primarily on roof and sidewalls of RF (Rigid Frame) or BC (Beam & Column) buildings for plumbing the structures and to transfer wind force to foundation. These are BRICK VENEER. (See **BRICK VENEER** below)

BRACING – Rods or angles used in the plane of the roof and walls to transfer loads, such as wind, seismic, and crane thrusts to the foundation.

BRACKET – A structural support projecting to a structural member such as a crane bracket.

BRIDGE CRANE – A load lifting system consisting of a hoist which moves laterally on a beam, girder, or bridge which in turn moves longitudinally on a runway made of beams and rails.

BRIDGING – (1) Small members inserted in a diagonal position between floor joists for tension and compression, to brace, and to spread the action of loads. (2) Bracing or systems of bracing used between structural members.

BRICK VENEER – A facing of brick against frame or tile wall construction.

BROOMING – Embedding a ply of roofing material by using a broom to smooth out the ply and ensure contact with the adhesive under the ply.

BRITISH THERMAL UNIT (BTU) – The amount of heat required to raise the temperature of one pound of water by 1° F.

BUILDER – See "Dealer.

BUILDING – A structure forming an open, partially enclosed, or enclosed space constructed by a planned process of combining materials, components, and subsystems to meet specific conditions of use.

BUILDING CODE – Regulations established by a recognized agency describing design loads, procedures, and construction details for structures usually applying to a designated political jurisdiction (city, county, state, etc.).

BUILDING PAPER – Usually No. 15 lb. roofing felt or plastic such as Tyvek.

BUILT UP MEMBER OR SECTION – A structural member, usually an "I" shaped section, made from individual flat plates welded together.

BUILT-UP ROOFING – A roof covering made of alternating layers of tar and asphaltic materials.

BUILT-UP ROOF MEMBRANES – A continuous, semi-flexible roof membrane assembly, consisting of plies of saturated felts, coated felts, fabrics or mats between which alternate layers of bitumen are applied, generally surfaced with mineral aggregate, bituminous materials, or a granule surfaced roofing sheet. (Abbreviation: BUR.)

BUMPER – An energy-absorbing device for reducing impact when a moving crane or trolley reaches the end of its permitted travel; or when two moving cranes or trolleys come into contact.

BURL – In softwoods, a distortion of the grain due to injury of the tree, in hardwoods, a swirl or twist of the grain near a knot but does not contain a knot. It must have a sound center. The measurement of the burl is the average of the maximum and minimum dimensions of the burl.

1. Very small burl – does not exceed 1/2” in diameter.
2. Small burl – does not exceed 3/4” in diameter.
3. Medium burl – does not exceed 1” in diameter.

BUTT – A joint formed by square edge surfaces (ends, edges, faces) coming together, end butt joint, edge butt joint.

BUTT JOINT – The junction where two ends of timbers meet in a square-cut joint.

BUTT PLATE (OR SPLICE PLATE) – The end plate of a structural member usually used to rest against a like plate of another member in forming a connection. Sometimes called a splice plate or bolted end plate.

"C" SECTION – A member formed from steel sheet in the shape of a block "C" that may be used either singularly, back-to-back, or face-to-face.

CABINET AND COUNTERTOP – Terms can be found at a cabinet or countertop shop.

CAMBER – Curvature of a flexural member in the plane of its web before loading.

CANOPY – A projecting roof system that is supported and restrained at one end only.

CANT STRIP – A beveled-shaped strip of wood or wood fiber that fits into the angle formed by the intersection of a horizontal surface and a vertical surface. The 45-degree slope of the exposed surface of the cant strip provides a gradual angular transition from the horizontal surface to the vertical surface.

CANTILEVER BEAM – A beam supported only at one end, having a free end and a fixed end.

CAP – The upper member of a column, pilaster, door cornice, etc.

CAP FLASHING – See FLASHING.

CAP PLATE – A plate located at the top of a column or end of a beam for capping the exposed end of the member.

CAP SHEET – A granule-surfaced coated sheet used as the top ply of a built-up roof membrane or flashing.

CAPACITY – The maximum load (usually stated in tons) which a crane is designed to support.

CAPILLARY ACTION – That action which causes movement of liquids when in contact with two adjacent surfaces such as panel side laps.

CAPILLARITY – The action by which the surface of a liquid (where it is in contact with a solid) is elevated or depressed, depending upon the relative attraction of the molecules of the liquid for each other and for those of the solid.

CASEMENT FRAMES AND SASH – Frames of wood or metal enclosing part or all of the sash, which may be opened with hinges on the vertical edges.

CASEMENT WINDOW – A window that is hinged on one side to open like a door.

CASEWORK – All the parts that constitute a finished case or cabinet, inclusive of doors, drawers, and shelves.

CASING – Wide moldings used to trim door and window openings.

CAULK – See "Sealant".

CAULKING – A composition of vehicle and pigment, used at ambient temperatures for filling joints, that remains plastic for an extended time after application.

CHANNEL, HOT ROLLED – A "C" shaped member formed while in a semi-molten state at the steel mill to a shape having standard dimensions and properties.

CHECK VALVE – A type of backflow preventer installed in a pipe that allows water to flow in only one direction.

CHECKING – Fissures that appear with age in many exterior paint coatings, which may in time penetrate through the coating.

CLEANOUT – Pipes running from a septic system up above ground surface, to facilitate "snaking," jet cleaning and other maintenance and troubleshooting tasks. A plug in a trap or drainpipe that provides access for the purpose of clearing an obstruction.

CLIP – A plate or angle used to fasten two or more members together.

CLOSURE STRIP – (1) Sealant material formed to match either inside or outside wall or roof panel configuration, used at base, eave, rake, or accessory locations to provide closure against the elements. (2) A resilient strip, formed to the contour of ribbed panels and used to close openings created by ribbed panels joining other components.

CMU – Concrete Masonry Unit. A hollow concrete ‘brick’ often 8" x 8" x 16" in size.

COAL TAR – A dark brown to black, semi-solid hydrocarbon formed as a residue from the partial evaporation or distillation of coal tar. It is used as the waterproofing agent in dead-level or low-slope built-up roofs. It differs from COAL TAR PITCH in having a lower front-end volatility. (For specification properties, see ASTM Standard D 450, Type III.)

COAL TAR FELT – See TARRED FELT.

COAL TAR PITCH – A dark brown to black, semi-solid hydrocarbon formed as a residue from the partial evaporation or distillation of coal tar. It is used as the waterproofing agency in dead- level or low-slope built-up roofs. (For specification properties, see ASTM Standard D 450, Types I and II.)

COATED BASE SHEET (or FELT) – A felt that has been impregnated and saturated with asphalt and then coated on both sides with harder, more viscous asphalt to

increase its permeability to moisture; a parting agent is incorporated to prevent the material from sticking in the roll.

COATING SYSTEM COMPATIBILITY – Refers to the compatibility between primers and finish coats. For instance, alkyds and latex are incompatible.

COLD FORMING – The process of using press brakes or rolling mills to shape steel into desired cross sections at room temperature.

COLD-PROCESS ROOFING – A continuous, semi-flexible roof membrane, consisting of plies of felts, mats, or fabrics that are laminated on a roof with alternate layers of cold-applied roof cement and surfaced with a cold-applied coating.

COLLAR BEAM – A beam connecting pairs of opposite roof rafters, over the attic.

COLLATERAL LOADS – The weight of additional permanent materials required by the contract, other than the Building System, such as sprinklers, mechanical and electrical systems, partitions, and ceilings.

COLUMN – A structural compression member, usually vertical, supporting loads acting on or near and in the direction of its longitudinal axis.

COMMERCIAL QUALITY – Supplied by a commercial plant. Sections 10 through 95 of the Standard Specifications do not apply on building projects. However, Section 9 does apply and requires a 109 certification.

COMPATIBLE FOR COLOR AND GRAIN – For purposes of this Manual, this phrase means that members shall be selected so that lighter than average color members will not be adjacent to darker than average color members, and there will be no sharp contrast in color between the adjacent members. Two adjacent members shall not be widely dissimilar in grain, character, and figure.

COMPONENT – A part used in a Metal Building System.

CONCEALED CLIP – A hold-down clip used with a wall or roof panel system to connect the panel to the supporting structure without exposing the fasteners on the exterior surface.

CONCRETE HARDENER – A commercial product that is usually combined with a concrete sealer from the factory to seal concrete to prevent the movement of water vapor into the slab. The hardener hardens the sealer, not the concrete.

CONCRETE, PLAIN – Concrete without reinforcement, or reinforced only for shrinking or temperature changes.

CONCRETE SEALER – A commercial product that is usually combined with a concrete hardener from the factory to seal concrete to prevent the movement of water vapor into the slab.

CONDENSATION – (1) Beads or drops of water that accumulate on the inside of the exterior cover of a building, from warm air on the interior. (2) The conversion of water vapor or other gas to a liquid as the temperature drops or the atmospheric pressure rises. (See DEW POINT.)

CONDUIT, ELECTRICAL – A pipe, usually metal, in which wire is installed.

CONNECTION – The means of attachment of one structural member to another.

CONSTRUCTION, DRY-WALL – A type in which the interior wall finish is applied in a dry condition, generally as sheet materials, as contrasted to plaster.

CONSTRUCTION, FRAME – A type in which the structural parts are of wood or are dependent on a wood frame for support.

CONTINUITY – The terminology given to a structural system denoting the transfer of loads and stresses from member to member as if there were no connections.

CONTINUOUS BEAM FRAME (CB) – A frame consisting of tapered exterior columns, continuous beams, and straight interior columns. The exterior frame is fully continuous, and the interior columns are all assumed pinned.

CONTINUOUS PURLIN – Purlin that overlaps at frames and is based on the use of continuity in design.

CONTINUOUS VENT – 10-foot-long roof ventilator located along ridge line.

CONTRACT DOCUMENTS – The documents that define the material and work to be provided by a Contractor or the General Contractor for a Construction Project.

CONTROL JOINT – Joint or space to control crack locations for movement due to temperature. Control joints or expansion joints do not have reinforcing steel beyond the joint.

COPED – To cut the end of one member to match the profile of another molded member.

COPING – The covering piece placed on top of a wall that is exposed to the weather. It is usually sloped to shed water.

COPPER PIPE (TYPE K, L, M) – Caltrans Building projects will include Type K and/or L, but not M. Type M is the lightest weight, with the thinnest wall, while Type K is the heaviest.

CORNER BEAD – A strip of formed, galvanized iron, sometimes combined with a strip of metal lath, placed on corners before plastering to reinforce them.

CORNER BOARDS – Used as trim for the external corners of a frame structure.

CORNER BRACES – Diagonal braces let into studs to reinforce corners.

CORNER CAP – Prefabricated trim piece used to trim rake fascia at corner of building.

CORNER POST – Corner column of post and beam frame.

CORNICE – A decorative element made of molded members usually at or near the top of an exterior or interior wall.

CORNICE RETURN – Cornice that returns on the gable end of a house.

COUNTERFLASHING – Formed metal or elastomeric sheeting secured to or into a wall, curb, pipe, rooftop unit or other surface to cover and protect the upper edge of a base flashing and its associated fasteners.

COURSE – (1.) The term used for each application of material that forms the waterproofing system or the flashing; (2.) One layer of a series of materials applied to a surface (i.e., a five-course wall flashing is composed of three applications of mastic with one ply of felt sandwiched between each layer of mastic).

COVE MOLDING – A 3-sided molding with concave face used wherever small angles are to be covered.

COVERAGE – The surface area (in square feet) to be continuously coated by a specific roofing material, with allowance made for a specific lap.

COVERING – The exterior metal roof and wall paneling of a Metal Building System.

CRACK – A separation or fracture occurring in a roof membrane or roof deck, generally caused by thermally induced stress or substrate movement.

CRANE – A machine designed to move material by means of a hoist.

CRANE GIRDER – The principal horizontal beam of the crane bridge which supports the trolley and is supported by the end tracks.

CRANE RAIL – A track supporting and guiding the wheels of a bridge crane or trolley system. On underhung cranes, the crane rail also acts as the runway beam.

CRANE RUNWAY BEAM – The member that supports a crane and is supported by columns or rafters depending on the type of crane system. On underhung bridge cranes, the runway beam also acts as the crane rail.

CRANE SPAN – The horizontal distance center-to-center of runway beams.

CRANE STOP – A device to limit travel of a trolley or crane bridge. This device normally is attached to a fixed structure and normally does not have energy-absorbing ability.

CRANE SUPPORT COLUMN – A separate column which supports the runway beam of a top- running crane.

CRAWL SPACE – A shallow space below the living quarters of a house.

CREEP – The permanent deformation of a roofing material or roof system caused by the movement of the roof membrane that results from continuous thermal stress or loading.

CRICKET – A small, drainage-diverting roof structure of a single or double slope placed at the juncture of larger surfaces that meet at an angle.

CRIMP – The standard treatment on the bottom of a wall panel in which the major ribs are crimped (mashed), thereby closing off the sheet.

CROOK – A deviation edgewise from a straight line drawn from end to end of a piece. It is measured at the point of greatest distance from the straight line.

CROSSBANDING – In the construction of flush doors, the veneer which is placed between the core and face veneers with the direction of the grain at right angles to that of the face veneer.

CROWN MOLDING – A molding used on a cornice or wherever a large angle is to be covered.

CUP – A deviation in the face of a piece from a straight line drawn from edge to edge of a piece. It is measured at the point of greatest distance from the straight line.

CURB – A raised edge on a concrete floor slab or roof accessory.

CURTAIN WALL – Perimeter wall panels which carry only their own weight and wind load.

CUTBACK– Any bituminous roofing material that has been solvent thinned. Cutbacks are used in cold process roofing adhesives, flashing cements, and roof coatings.

CUTOFF – A material seal that is designed to prevent lateral water movement into the edge of a roof system where the membrane terminates at the end of a day's work or used to isolate sections of the roof system. Cutoffs are usually removed before the continuation of work.

DADO – A rectangular groove across the grain of a wood member into which the end of the joining member is inserted; also, a housed joint; variations include "dado and tenon" and "stopped or blind dado" joints.

DADO, BLIND OR STOPPED – A dado that is not visible when the joint is completed.

DAMPER – A baffle used to open or close the throat of ventilators.

DAMPPROOFING – Treatment of a surface or structure to resist the passage of water in the absence of hydrostatic pressure.

DEAD LEVEL – The term used to describe an absolutely horizontal roof. Zero slope. (See SLOPE.)

DEAD LOAD – The weight of the Building System construction consisting of members such as framing and covering.

DEAD LEVEL ASPHALT – A roofing asphalt that has a softening point of 140 degrees F (60 degrees C) and that conforms to the requirements of ASTM Standard D 312, Type I.

DEAD LOADS (ROOF) – Non-moving rooftop loads, such as mechanical equipment, air conditions units, and the roof deck itself.

DEALER – A party who, as a routine part of their business, buys Metal Building Systems from a manufacturer for the purpose of resale.

DECAY – Disintegration of wood due to the action of wood-destroying fungi. “Doze”, “rot” and “unsound wood” mean the same as decay.

DECK – The structural surface to which the roofing or waterproofing system (including insulation) is applied.

DECK PAINT – An enamel with a high degree of resistance to mechanical wear.

DEFECT – Fault which detracts from the quality, appearance, or utility of the piece. Handling marks and/or grain raising due to moisture shall not be considered a defect.

DEFLECTION – The displacement of a structural member relative to its supports due to applied loads. Deflection should not be confused with drift.

DELAMINATION – The separation of layers in an assembly because of failure of the adhesive, either in the adhesive itself or at the interface between the adhesive and the lamination.

DESIGN LOADS – The loads expressly specified in the contract documents which the Metal Building System is designed to safely resist.

DESIGN PROFESSIONAL – The Architect or Engineer responsible for the design of a Construction Project.

DEW-POINT – The temperature at which water vapor starts to condense in cooling air at the existing atmospheric pressure and vapor content.

DIAGONAL BRACING – See "Bracing".

DIAPHRAGM ACTION – The resistance to racking generally offered by the panels, fasteners, and members to which they are attached.

DISTRIBUTION BOX – Usually a small square concrete box between the septic tank and leach field whose purpose is to disperse effluent evenly across the leach field. The Distribution Box (D Box) typically has a single inlet (from the septic tank) and

several outlets that lead to individual drain field trenches; baffles are used to reduce wastewater velocity.

DOOR – A hinged, pivoted, or sliding member, permitting passage through a wall.

DOOR JAMB – The surrounding case into and out of which a door opens and closes.

DOOR JAMB BASE BRACKET – Bracket used to attach door jambs to floor slab.

DORMER – An internal recess, the framing of which projects from a sloping roof.

DOUBLE-HUNG – A window with two movable up-and-down sashes for optimum ventilation.

DOVETAIL – A joint formed by inserting a projecting wedge-shaped member (dovetail tenon) into a correspondingly shaped cut-out member (dovetail mortise); variations include the “dovetail dado” and the “blind dovetail dado.”

DOVETAIL, BLIND – A dovetail joint that is not visible when the joint is completed.

DOWEL – Wood peg or a metal screw used to strengthen a wood joint.

DOWELED – A joint using “dowels” (doweled construction); also “doweled edge joint.”

DOWNSPOUT – A conduit used to carry water from the gutter of a building.

DRAIN – A device that allows for the flow of water from a roof area. (See NRCA Construction Detail W-2.)

DRIFT (SIDESWAY) – Horizontal displacement at the top of a vertical element due to lateral loads. Drift should not be confused with "Deflection".

DRIFT (SNOW) – The snow accumulation at a height discontinuity.

DRIFT PIN – A tapered pin used during erection to align holes in steel members to be connected by bolting.

DRIP – A member of an exterior finish course that projects beyond the other parts to throw off water.

DRIP CAP – A molding on the exterior top side of a door or window to cause water to drip beyond the outside of the frame.

DROPBACK – A reduction in the softening point of bitumen that occurs when bitumen is heated in the absence of air. (See SOFTENING POINT DRIFT.)

DUCTS – Pipes, of metal or of asbestos and composition materials, to convey warm air from a heating plant, or to convey air from an air conditioning device.

EASED EDGE – Slightly rounded edge not to exceed 1/15” radius, to remove sharp corners.

EAVES – The margin or lower part of a roof projecting over a wall.

EAVE FASCIA – Trim formed to match rake fascia, that can be used to trim the eave of a building.

EAVE GUTTER – Approximately 6" x 6" gutter with a face configuration that matches the rake fascia.

EAVE HEIGHT – The vertical dimension from finished floor to the eave.

EAVE PURLIN – A structural member at the eave to support roof panels and wall panels. It may also transmit wind forces from roof brace rods to wall brace rods.

EAVE TRIM – L-shaped trim designed to close off the top of side wall panels.

EAVE STRUT GUSSET – A small gusset shop welded to main frame, used at eave to support eave purlins.

EDGE BAND, CONCEALED – Not more than 1/16” of the edge band shall show on the face of the plywood or particleboard.

EDGE SHEETS – Felt strips that are cut to widths narrower than the standard width of the full felt roll. They are used to start the felt-shingling pattern of a roof edge.

EDGE STRIP – The surface area of a building at the edges of the roof and at the wall intersections where the wind loads on components and covering are greater than at other areas of the building.

EDGE STRIPPING – Application of felt strips cut to narrower widths than the normal width of the full felt roll. They are used to cover joints.

EDGE VENTING – The practice of providing regularly spaced protected openings along a roof perimeter to relieve moisture vapor pressure.

EFFECTIVE WIND AREA – The area used to determine the wind coefficient. The effective wind area may be greater than or equal to the tributary area.

ELASTIC DESIGN – A design concept utilizing the proportional behavior of materials when all stresses are limited to specified allowable values in the elastic range.

ELASTOMER – A macromolecular material that returns rapidly to its approximate initial dimensions and shape after substantial deformation by a weak stress and the subsequent release of that stress.

ELASTOMERIC – The term used to describe the elastic, rubber-like properties of a material.

EMBEDMENT – (1.) The process of pressing a felt, aggregate, fabric, mat, or panel uniformly and completely into hot bitumen or adhesive; (2.) The process of placing a

material into another material so that it becomes an integral part of the whole material.

EMULSION – The intimate dispersion of an organic material and water achieved by using a chemical or clay emulsifying agent.

END BAY – The bays adjacent to the end walls of a building. Usually, the distance from the end wall to the first interior frame measured normal to the end wall.

END FRAME –A frame at the end wall of a building which supports the loads from a portion of the end bay.

END POST – See "End Wall Column".

END STOP – A device attached to a crane runway or rail to provide a safety stop at the end of a runway.

END TRUCK – The unit consisting of truck frame, wheels, bearings, axles, etc., which supports the bridge girders.

ENDWALL – An exterior wall which is parallel to the interior main frame of the building.

ENDWALL COLUMN – A vertical member located at the end wall of a building which supports the girts. In beam and column end frames, end wall columns also support the beam.

ENDWALL OVERHANG – The projection of the roof beyond the plane of the end wall.

END ZONE – The surface area of a building along the roof at the end wall and at the corners of the walls.

ENGINEER/ARCHITECT OF RECORD –The engineer or architect who is responsible for the overall design of the building project. The manufacturer's engineer is typically not the Engineer of Record.

ENVELOPE – A continuous felt fold formed by wrapping and securing a portion of a base felt back up and over the felt plies above it. Envelopes help prevent the seepage of bitumen.

EQUILIBRIUM MOISTURE CONTENT – (1) The moisture content of a material stabilized at a given temperature and relative humidity, expressed as percent moisture by weight; (2) Typical moisture content of a material in any given geographical area.

ERECTION – The on-site assembling of fabricated Metal Building System components to form a completed structure.

ERECTION BRACING – Materials used by erectors to stabilize the building system during erection.

ERECTION DRAWINGS – Roof and wall erection (framing) drawings that identify individual components and accessories furnished by the manufacturer in sufficient detail to permit proper erection of the Metal Building System.

ERECTOR – A party who assembles or erects a Metal Building System.

EXPANSION JOINT – Joint or space to allow for movement due to temperature.

EXPANSION JOINT MATERIAL – Fibrous material (at 1/2 inch thick) installed in and around a concrete slab to permit it to move up and down (seasonally) along the non-moving foundation wall.

EXPOSED SURFACES – Surfaces visible after installation, except for exposed portions of casework.

EXPOSURE – (1.) The transverse dimension of a roofing element not overlapped by an adjacent element in any roof system. The exposure of any ply in a membrane may be computed by dividing the felt width minus 2 inches by the number of shingled plies; thus, the exposure of a 36-inch-wide felt in a shingled, four-ply membrane should be 8 1/2 inches; (2.) The time during which a portion of a roofing element is exposed to the weather.

FABRIC – A woven cloth of organic or inorganic filaments, threads, or yarns.

FABRICATION – The manufacturing process performed in a plant to convert raw material into finished Metal Building System components. The main operations are cold forming, cutting, punching, welding, cleaning, and painting.

FAÇADE – An architectural treatment, partially covering a wall, usually concealing the eave and/or rake of the building.

FACTOR MANUAL (FM) – An organization which classifies roof assemblies for their fire characteristics and wind-uplift resistance for insurance companies in the United States.

FACTOR SQUARE – 108 square feet (10 square meters) of roofing material.

FASCIA – A flat member or other finish trim.

FELT – A fabric manufactured from vegetable fibers (organic felts), asbestos fibers (asbestos felts), or glass fibers (glass fiber felts). The manufacturing process involves mechanically interlocking the fibers of the particular felt material in the presence of moisture and heat.

FELT MILL REAM – The mass in pounds of 480 square feet of dry, unsaturated felt; also termed “point weight.”

FIELD – The "jobsite", "building site", or general marketing area.

FIELD WELD – A weld that must be made at the jobsite.

FILLER STRIP – See "Closure Strip".

FINE MINERAL SURFACING – A water-insoluble, inorganic material, more than 50 percent of which passes through the No. 35 sieve, that may be used on the surface of roofing material.

FINGER – A series of fingers machined on the ends of two pieces of wood to be joined, which mesh together and are securely glued in position.

FINISH CARPENTRY – Trim and molding work.

FIRE-RESISTIVE – In the absence of a specific law or ruling, a material that will ordinarily resist fires for at least an hour.

FIRE-STOP – A solid, tight closure of a concealed space, placed to prevent the spread of fire and smoke through such a space.

FISHMOUTH – (1.) A half-cylindrical or half-conical opening formed by an edge wrinkle; (2.) In shingles, a half-conical opening formed at a cut edge.

FIXED CLIP – A standing seam roof system hold-down clip which does not allow the roof panel to move independently of the roof substructure.

FIXED BASE – A column base that is designed to resist rotation as well as horizontal or vertical movement.

FLAGSTONE – Flat stones, 1 to 4 inches thick, used for walks, floors, etc.

FLANGE – The projecting edge of a structural member.

FLANGE BRACE – A member used to provide lateral support to the flange of a structural member.

FLASHING – The system used to seal the edges of a membrane at walls, expansion joints, drains, gravel stops, and other areas where the membrane is interrupted or terminated. Base flashing covers the edges of the membrane. Cap flashing or counterflashing shields the upper edges of the base flashing. (See "TRIM").

FLASHING CEMENT – A trowelable mixture of cutback bitumen and mineral stabilizers, including asbestos or other inorganic fibers.

FLAT ASPHALT – A roofing asphalt that has a softening point of approximately 170 degrees F (77 degrees C) and that conforms to the requirements of ASTM Standard D 312, Type II.

FLAT PAINT – An interior paint with a high proportion of pigment, that dries to a flat or lusterless finish.

FLOATING CLIP – See "Sliding Clip".

FLOOD COAT – The top layer of bitumen into which the aggregate is embedded on an aggregate surfaced built-up roof.

FLOOR LIVE LOAD – Those loads induced on the floor system by the use and occupancy of the building.

FLUE – A passage for smoke in a chimney.

FLUE LINING – Fire clay or terra-cotta pipe, round or square, usually in 2-foot lengths for the inner lining of chimneys.

FLUID APPLIED ELASTOMER – An elastomeric material, which is fluid at ambient temperature, that dries or cures after application to form a continuous membrane.

FLUSH FRAMES – A wall framing system where the outside flange of the girts and the columns are flush.

FLUX – Paste applied to copper pipes and fittings before soldering to help the fusion process and prevent oxidation.

FOOTING – A pad or mat, usually of concrete, located under a column, wall, or other structural member, that is used to distribute the loads from that member into the supporting soil.

FOUNDATION – The substructure which supports a building or other structure.

FRAME – The primary structural element of a metal building that attaches to a footing and supports the girts, purlins, and sheeting.

FRAMED OPENING – Opening in a wall that is framed with light gauge members and completely trimmed.

FRAMING – The primary and secondary members (columns, rafters, girts, purlins, brace rods, etc.) which go together to make up the skeleton of a structure to which the covering can be applied.

FRAMING, BALLOON – A system of framing in which all vertical structural elements consist of single pieces extending from the soleplate to the roof plate.

FRAMING PLANS – See "Erection Drawings".

FRAMING, PLATFORM – A system of framing in which floor joists of each story rest on the top plates of the story below, or on the foundation sill for the first story, and the bearing walls and partitions rest on the subfloor of each story.

FRIEZE – Any sculptured or ornamental band in a building.

FROSTLINE – The depth of frost penetration in soil. Footings should be placed below this line to prevent movement. It varies according to location.

FULL BASE GIRT – Floor line girt that is the same size as wall girt members.

FUNGI, WOOD – Microscopic plants that live in damp wood and cause decay.

FURRING – Strips of wood or metal applied to a wall or other surface to even it, to form an air space, or to give the wall an appearance of greater thickness.

GABLE – The triangular wall enclosed by the sloping ends of a ridged roof.

GABLE OVERHANG – See "End Wall Overhang".

GABLE ROOF – A roof consisting of two sloping sides that form a ridge and a gable at each end.

GAUGE – Thickness of steel or distance between holes punched or drilled.

GALVANIZED – Steel coated with zinc for corrosion resistance.

GALVANIZED STEEL PIPE (GSP) – Schedule 40 is the type of pipe.

GATE VALVE – A shutoff valve with a tapered gate and slot that controls the flow of water. Common gate valves are used on hose bibs.

GIRDER – A main horizontal or near horizontal structural member that supports vertical loads. It may consist of several pieces.

GIRT – (1)A secondary horizontal structural member attached to sidewall or end wall columns to which wall covering is attached and supported horizontally; usually a cold-formed "Z" shape. (2) A horizontal structural member that is attached to side wall or end wall columns and supports paneling.

GLASS FIBER FELT – A felt sheet in which glass fibers are bonded into the felt sheet with resin. They are suitable for impregnation and coating. They are used in the manufacture and coating of bituminous waterproofing materials, roof membranes, and shingles.

GLASS FIBER MAT – A thin mat composed of glass fibers with or without a binder.

GLAZE – The process of installing glass in windows and doors.

GLAZE COAT – (1.) The top layer of asphalt in a smooth-surface built-up roof assembly; (2.) A thin protective coating of bitumen applied to the lower plies or top ply of a built-up roof membrane when application of additional felts or the flood coat and aggregate surfacing are delayed.

GLAZING – Glass panes or paneling used in windows and doors.

GLOBE VALVE– A shutoff valve with a washer at the end of a stem that fits into a seat to control the flow of water. Common globe valves are faucet and shower valves and included in the fixture.

GLOSS ENAMEL – A finishing material made of varnish and sufficient pigments to provide opacity and color, forming a hard coating with a high degree of gloss.

GLUE BLOCK – A wood block, usually triangular in cross-section, securely glued to an angular joint between two members, for greater glue bond area.

GLUED, SECURELY – The bonding of two members with an adhesive forming a tight joint with no visible delamination at the lines of application.

GRADE – (1) The term used when referring to the ground elevation around a building. (2) Woodwork Institute Grade Rules, either Economy, Custom, Premium, Utility, Deluxe, Supreme, or Laboratory. When these terms are used, they mean W.I. grade unless otherwise noted.

GRADE BEAM – A concrete beam around the perimeter of a building.

GRAIN – (1) The fibers in wood and their direction, size, arrangement, appearance or quality. When severed, the annual growth rings become quite pronounced, and the effect is referred to as “grain”. (2) The weight unit equal to 1/7000 pd.; used in measuring atmospheric moisture content.

Flat Grain (F.G.) or Slash Grain (S.G.) lumber or veneer is a piece sawn or sliced approximately parallel to the annual growth rings so that some or all of the rings form an angle of less than 45 degrees with the surface of the piece.

Mixed Grain (M.G.) is any combination of Vertical or Flat Grain in the same member.

Vertical Grain (V.G.) lumber or veneer is a piece sawn or sliced at approximately right angles to the annual growth rings so that the rings form an angle of 45 degrees or more with the surface of the piece.

Quartered Grain is a method of sawing or slicing to bring out certain figure produced by the medullary or pith rays, which are especially conspicuous in oak. The log is flitched in several different ways to allow the cutting of the veneer in a radial direction.

Rift or Comb Grain, lumber or veneer that is obtained by cutting at an angle of about 15 degrees off of the quartered position. Twenty-five percent (25%) of the exposed surface area of each piece of veneer may contain medullary ray flake.

A varying pattern produced by cutting through growth rings, exposing various layers. It is most pronounced in veneer cut tangentially or rotary.

GRAIN FIGURE – The pattern produced in a wood surface by annual growth rings, rays, knots, or deviations from natural grain, such as interlocked and wavy grain, and irregular coloration.

GRAVEL – Coarse, granular aggregate; containing pieces approximately 5/8 inch to 1/2 inch in size and suitable for use in aggregate surfacing on built-up roofs.

GRAVEL STOP – A flanged device, frequently metallic, designed to provide a continuous finished edge for roofing materials and to prevent loose aggregate from washing off the roof.

GROOVE – Rectangular slot of three surfaces cut parallel with the grain of the wood.

GROUND BAR – Rebar used as a ground bar for electrical work cast into the slab. Refer to the Concrete Standard detail sheet in the project plans.

GROUND SNOW LOAD – The probable weight of snow on the ground for a specified recurrence interval exclusive of drifts or sliding snow.

GROUNDS – Strips of wood, of same thickness as lath and plaster, that are attached to walls before plastering is done. Used around windows, doors, etc., as a plaster stop, and in other places to attach baseboards and other trim.

GROUT – (1) Mortar made of such consistency by the addition of water that it will just flow into the joints and cavities of the masonry work and fill them solid. (2) A mixture of cement, sand, and water used to fill cracks and cavities. Sometimes used under base plates or leveling plates to obtain uniform bearing surfaces.

GUSSET PLATE – A steel plate used to reinforce or connect structural elements.

GUTTER – A light gauge metal member at an eave, valley, or parapet designed to carry water from the roof to downspouts or drains.

GUTTER END CLOSURE – Metal insert provided with sealant and fasteners to close the end of gutter.

GUTTER OR EAVE TROUGH – A shallow conduit of metal or wood set below or along the eaves of a house to catch and carry off rainwater from the roof.

GYPSUM PLASTER – Gypsum to be used with sand and water for basecoat plaster.

"H" SECTION – A steel member with a cross section in the shape of an "H".

HAIR PIN – "V" shaped reinforcing steel used to transfer anchor bolt shear to the concrete floor mass.

HALF LAP – A joint formed by extending (lapping) the joining part of one member over the joining part of the other member.

HARDBOARD – A generic term for a panel manufactured primarily from interfelled lignocellulosic fibers consolidated under heat and pressure in a hot press and conforming to the requirements of PS 58-74.

HARDWOOD – General term used to designate lumber or veneer produced from broadleaved or deciduous trees in contrast to softwood, which is produced from evergreen or coniferous trees.

HAUNCH – (1) The deepened portion of a column or rafter, designed to accommodate the high stress where column and rafter intersect and connect. May require special tightening instructions. (See “Knee”) (2) The deepened portion of a column or rafter, designed to accommodate the higher bending moments at such points. (Usually occurs at the intersection of column and rafter.)

HAUNCH BRACE – A diagonal member from the intersection of the column and rafter section of the rigid frame to the eave member to prevent lateral buckling of the haunch.

HEADER – A horizontal framing member located at the top of a framed opening.

HEADER OR LINTEL – A beam placed perpendicularly to joists and to which joists are nailed in framing for a chimney, stairway, or other opening.

HEADER TRIM – A trim used above some framed openings as a drip cap.

HEADLAP – The minimum distance, measured at 90 degrees to the eaves along the face of a shingle or felt, from the upper edge of the shingle or felt to the nearest exposed surface.

HEARTH – The floor of a fireplace, usually made of brick, stone or tile.

HEARTWOOD – The wood extending from the pith to the sapwood, the cells of which no longer participate in the life processes of the tree.

HEAT RESISTANCE TEST – A sample of the laminated plastic approximately 12” x 12” glued to substrate for a minimum of 21 days shall be used for this test. A hot air gun rated at 14 amperes, 120 volts, with a nozzle temperature of 500 degrees F or 274 degrees C shall be directed at the surface of the test panel. A thermometer set at the panel surface shall register 356 degrees F (180 degrees C) for an exposure time of 5 minutes. The formation of a blister or void between the overlay and the substrate shall constitute a failure of the adhesive. A metal straight edge shall be used to determine if a blister has occurred. This determination shall be made within 30 seconds of heat removal.

HIGH DENSITY OVERLAY – Shall be as defined in PS 1-74.

HIGH PRESSURE LAMINATED PLASTIC – Laminated thermosetting decorative sheets intended for decorative purposes. The sheets consist essentially of layers of a fibrous sheet material, such as paper, impregnated with a thermosetting condensation resin and consolidated under heat and pressure. The top layers have a decorative color or a printed design. The resultant product has an attractive exposed surface which is durable and resistant to damage from abrasion and mild alkalis, acids, and solvents, meeting the requirements of the National Electrical Manufacturers Association (NEMA) ld. 3-80, or latest revision thereof.

HIGH STRENGTH BOLTS – Any bolt made from steel having a tensile strength more than 100,000 pounds per square inch.

HIGH STRENGTH STEEL – Structural steel having a yield stress greater than 36,000 pounds per square inch. Bridge Construction Memo 52-1, Attachment 2, *Identification of Reinforcing Steel Bars*, provides further guidance for identifying bar reinforcement. Check ASTM A572, A514, A709, A1011, and A1085 for more information on high strength steel.

HINGED BASE – See "Pinned Base".

HIP – (1) The external angle formed by the meeting of two sloping sides of a roof. (2) The line formed at the intersection of two adjacent sloping planes of a roof.

HIP ROOF – A roof which is formed by sloping planes from all four sides.

HOIST – A mechanical lifting device usually attached to a trolley which travels along a bridge, monorail, or bridge crane. May be chain or electrically operated.

HOLE – Applies to holes from any cause. A pin hole is approximately 1/16 inch in diameter.

HOLIDAY – An area where a liquid-applied material is missing.

HOT-ROLLED SHAPES – Steel sections (angles, channels, S-shapes, W-shapes, etc.) which are formed by rolling mills while steel is in a semi-molten state.

“HOT STUFF” or “HOT” – The roofer’s term for hot bitumen.

HUMIDIFIER – A device discharging water vapor into a confined space to increase or maintain the relative humidity in an enclosure.

HYDRONIC TUBING – Usually flexible plastic tubing that is cast into the slab as part of the Hydronic Heating System (not on all jobs).

HYGROSCOPIC – The term used to describe a material which attracts, absorbs, and retains atmospheric moisture.

I-BEAM – A steel beam with a cross section resembling the letter “I”.

ICE DAM – A buildup of ice which forms a dam on the roof covering along the eave of the building.

IMPACT LOAD – A dynamic load resulting from the motion of machinery, elevators, craneways, vehicles, and other similar moving forces. See Auxiliary Loads.

IMPACT WRENCH – A power tool used to tighten nuts on bolts.

IMPORTANCE FACTOR – A factor that accounts for the degree of hazard to human life and damage to property.

INCLINE – The slope of a roof expressed either in percent or in the number of vertical units of rise per horizontal unit of run.

INORGANIC – Being or composed of matter other than hydrocarbons and their derivatives, or matter that is not of plant or animal origin.

INSET GIRTS OR PURLINS – Purlins or girts that frame into the side of beams or columns.

INSULATED PANELS – See "Sandwich Panel".

INSULATING UNIONS – Also referred to as dielectric unions. Fittings similar to unions except that insulating unions are used at locations of dissimilar pipe connections to prevent electrolysis. The insulating union has an inner and outer flanged sleeve made of plastic.
Note: On Caltrans building projects, a bonding jumper (electrical wire) is required on interior water piping where insulating unions are used.

INSULATING BOARD OR FIBERBOARD– A low-density board made of wood, cornstalks, sugarcane, or similar material, pressed to a thickness of 1/2 & 25/32 inch.

INSULATION – Any material high in resistance to heat transmission that, when placed in walls, ceilings, etc., will reduce the rate of heat flow.

INSULATION COLLAR – Sheet metal collar used to trim insulation at 20-inch round ventilators.

INSIDE CORNER TRIM – Trim designed to flash inside corners.

INTERNAL PRESSURE – Pressure inside a building.

JACK BEAM – A beam used to support another beam, rafter, or truss and eliminate a column support.

JACK RAFTER – One that spans from wallplate to hip, or from valley to ridge.

JACK TRUSS – A truss used to support another beam, rafter or truss and eliminate a column support.

JAMB – The sidepost or lining of a doorway, window or other opening.

JAMB TRIM – A trim used vertically on each side of a framed opening to trim off the edge of sheeting.

JIB CRANE – A cantilevered or suspended beam with hoist and trolley. This lifting device may pick up loads in all or part of a circle around the column to which it is attached.

JOINT – The space between the adjacent surfaces of two members or components.

JOINT CEMENT OR SPACKLE – A powder usually mixed with water and used for joint treatment in gypsum-wallboard finish.

JOINT SEAL – Consists of backer rod and sealant that completes the expansion joint.

JOIST – One of a series of parallel beams used to support floor and ceiling loads and supported in turn by larger beams, girders, or bearing walls.

KILN DRIED – Lumber dried in a closed chamber in which the removal of moisture is controlled by artificial heat and usually by controlled relative humidity.

KIP – A unit of measure equal to 1,000 pounds.

KNEE – The connection area of a column or rafter of a structural frame such as a rigid frame. (See “HAUNCH”)

KNEE BRACE – A diagonal member at a column and rafter intersection designed to resist horizontal loads.

KNOT – (1) That portion of a branch that has become incorporated in the trunk of a tree. (2) An imperfection or nonhomogeneity in materials used in fabric construction, the presence of which causes surface irregularities.

KNOT, SOUND TIGHT – A portion of a branch or a limb whose growth rings are partially or completely inter-grown on the face with the growth rings of the surrounding wood. It shall not contain any decay and shall be so fixed by growth shape that it will retain its place in the piece. The average of the maximum and minimum dimensions of the knot on the exposed surface shall be used in measuring the size.

For Plywood:

1. A pin knot does not exceed 1/4 inch in diameter.

For solid stock:

1. A small pin knot does not exceed 1/4 inch in diameter.
2. A pin knot does not exceed 1/2 inch in diameter.
3. A small knot is larger than 1/2 inch but does not exceed 3/4 inch.

LAMINATED – Layer construction of lumber. May be either horizontal or vertical layers securely glued together.

LAMINATED GLASS – This process bonds two pieces of glass permanently with a plastic interlayer of polyvinyl butyral through heat and pressure. Once bonded together, the sandwich behaves as a single piece. If broken, glass fragments adhere to the plastic interlayer rather than falling free and potentially causing injury. Laminated glass is considered a safety glass.

LANDING – A platform between flights of stairs.

LATH – A building material of wood, metal, gypsum, or insulating board that is fastened to the frame of a building to act as a plaster base.

LEACH LINE – Smooth plastic pipe perforated with small diameter holes that leaches the waste effluent into the leach field.

LEACHFIELD – Part of the septic system: the area of ground and system of subsurface pipes or chambers into which partially treated wastewater from the septic tank or alternative system is discharged for final treatment and absorption by soil. Also called Drain Field or Absorption Field.

LEAN-TO – A structure having only one slope and depending upon another structure for partial support.

LENGTH – The dimension of the building measured perpendicular to the main framing from end wall to end wall.

LEVELING PLATE – A steel plate used on top of a foundation or other support on which a structural column can rest.

LIGHT – Space in a window sash for a single pane of glass.

LINER PANEL – A metal panel attached to the inside flange of the girts or inside of a wall panel.

LINTEL – A horizontal structural member that supports the load over an opening such as a door or window. The masonry equivalent to a header.

LIVE LOAD – See "Roof or Floor Live Load".

LIVE LOADS – Moving roof installation equipment; wind, snow, ice, or rain

LOAD INDICATING WASHERS – A washer with dimples which flatten when the high strength bolt is tightened. The bolt tension can then be determined using feeler gauges to determine the gap between the washer and the bolt head.

LOCK – Interlocking machine joint between two members.

LONGITUDINAL – The direction parallel to the ridge or side wall.

LOOKOUT – A wood bracket or cantilever to support an overhanging part of a roof.

LOOSE AND LONG – Run to pattern only. Not assembled, nor machined for assembly, nor cut to length. The terms “material only” and “mill run” mean the same as “loose and long”.

LOUVER – An opening provided with fixed or movable, slanted fins to allow flow of air.

LOW PRESSURE DECORATIVE POLYESTER OVERLAY – The overlay is comprised of polyester resin saturated cellulosic sheets thermo-bonded to the particleboard, hardboard, or plywood core. The face overlay shall contain a decorative color or

printed design. The other side may have a suitable balance sheet bonded in the same manner. The resultant product has an attractive exposed surface which is durable and resistant to damage from abrasion and mild alkalis, acids and solvents, and shall meet the requirements of the following standards:

National Electrical Manufacturers Association LQ 1-77, General Purpose. Woodwork Institute of California Standards for Particleboard.

LOW PRESSURE POLYESTER OVERLAY CABINET LINER – The overlays are comprised of polyester resin saturated cellulosic sheets thermo-bonded to the particleboard, hardboard, or plywood core. The resultant produce has a solid color exposed surface which is durable and resistant to damage from abrasion and mild alkalis, acids and solvents, and shall meet the requirements of the following standards:

National Electrical Manufacturers Association LQ 1-77, Light Duty. Woodwork Institute of California Standards for Particleboard.

LOW RISE BUILDING – A description of a class of buildings usually less than 60 feet in eave height. Commonly, they are single-story, but do not exceed four stories.

LRFD – Load and Resistance Factor Design.

LUMBER DIMENSION – Yard lumber from 2 inches to less than 5 inches thick and 2 or more inches wide. Includes joists, rafters, studding, plank, small timbers.

LUMBER, BOARDS – Yard lumber less than 2 inches thick and 2 inches or more wide.

LUMBER, MATCHED – Shaped to make a close tongue and groove joint.

LUMBER, SHIPLAP – Dressed to make a close rabbeted or lap joint.

LUMBER, TIMBERS – Yard lumber 5 or more inches in its least dimension. Includes beams, stringers, posts, caps, sills, and purlins.

LUMBER, YARD – Lumber of the grades and sizes for ordinary construction.

LUMBER, DRESSED SIZE – The dimensions after shrinking from the green dimension and planing – usually 3/8 inch less.

MACHINE RUN – Not sanded after machining

MACHINED AND KNOCKED DOWN – All pieces fully machined, ready for assembly.

MACHINED, SMOOTHLY – Free of defective manufacturing, with a minimum of 16 knife marks to the inch. Torn grain is not permitted. Handling marks and/or grain raising due to moisture shall not be considered a defect.

MAIN OR PRIMARY FRAMING – An assemblage of rafters and columns that support the secondary framing members and transfer loads directly to the foundation.

MANTEL – The shelf or framing over or around a fireplace.

MANUFACTURER – A party who designs and fabricates a Metal Building System.

MANUFACTURER'S BOND – A security company's guarantee that it will stand behind a manufacturer's liability to finance membrane repairs occasioned by ordinary wear within a period generally limited to 5, 10, 15, or 20 years.

MANUFACTURER'S ENGINEER – An engineer employed by a manufacturer who is responsible for the structural design of a Metal Building System fabricated by the manufacturer. The manufacturer's engineer is typically not the Engineer of Record.

MASONRY – Anything constructed of materials such as bricks, concrete blocks, ceramic blocks, and concrete.

MASTIC – (1) Caulking or sealant furnished in rolls, normally used in sealing roof panel laps. (2) See FLASHING CEMENT or ASPHALT MASTIC. (See "SEALANT")

MATERIAL ONLY – Run to pattern only. Not assembled, nor machined for assembly, nor cut to length. The terms "loose and long" and "mill run" mean the same as "material only".

MEDIUM DENSITY FIBERBOARD – A dry formed panel product manufactured from lignocellulosic fibers combined with a synthetic resin or other suitable binder. The panels are compressed to a density of 31 pounds per cubic foot to 50 pounds per cubic foot in a hot press by a process in which substantially the entire inter-fiber bond is created by the added binder. Other material may have been added during manufacture to improve certain properties. The product shall meet the standards of National Particleboard Association NPA 4-73.

MEDIUM DENSITY OVERLAY – Shall be as defined in PS 1-74.

MEMBER – An individual piece of solid stock or plywood which forms an item of millwork.

MEMBRANE – A flexible or semi-flexible roof covering or waterproofing layer, whose primary function is the exclusion of water.

MESH – The square or circular opening of a sieve.

METAL BUILDING SYSTEM - A complete integrated set of mutually dependent components and assemblies that form a building, including primary and secondary framing, covering, and accessories, and are manufactured to permit inspection on site prior to assembly or erection.

METAL FLASHING – See FLASHING; metal flashing is frequently used as a through-wall flashing, cap flashing, counterflashing, or gravel stops.

METAL LATH – Sheets of metal that are split and drawn out to form openings on which plaster is spread.

MEZZANINE – An intermediate level between floor and ceiling, occupying a partial area of the floor space.

MILL RUN – Run to pattern only. Not assembled, nor machined for assembly, nor cut to length. The terms “material only” and “loose and long” mean the same as “mill run”.

MILLWORK – Generally, all materials made of finished wood in millwork plants such as doors, windows, and door frames, panel work, stairs, interior trim. Architectural woodwork and related items as defined in Scope of Millwork, Section 2.

MINERAL FIBER FELT – A felt with mineral wool as its principal component.

MINERAL GRANULES – Opaque, natural, or synthetically colored aggregate commonly used to surface cap sheets, granule-surfaced sheets, and roofing shingles.

MINERAL STABILZER – A fine water-insoluble inorganic material, used in a mixture with solid or semi-solid bituminous materials.

MINERAL STREAK – An olive to greenish-black or brown discoloration of undetermined cause in hardwoods.

MINERAL-SURFACED ROOFING – Built-up roofing materials whose top ply consists of a granule-surfaced sheet.

MINERAL-SURFACED SHEET – A felt that is coated on one or both sides with asphalt and surfaced with mineral granules.

MITER – The joining of two members at an angle that bisects the angle of junction.

MITER, LOCK – A miter joint employing a tongue and groove working to further strengthen the joint.

MITER, SHOULDER – Any type of a miter joint that presents a shoulder, such as a lock miter or a splined miter.

MOD-EEZ FLEXIBLE JOINT FASTENING SYSTEM – A system of metal clips and shoulder screws for fastening cabinet parts together, manufactured by Modular Systems, Inc., Fruitport, Michigan 49415.

MOISTURE CONTENT – The weight of the water in the wood expressed in percentage of the weight of the oven-dry wood.

MOLDING – Material, usually patterned strips, used to provide ornamental variation of outline or contour, whether projections or cavities.

MOLE RUN – A meandering ridge in a roof membrane not associated with insulation or deck joints.

MOMENT – The tendency of a force to cause rotation about a point or axis.

MOMENT CONNECTION – A connection designed to transfer moment as well as axial and shear forces between connecting members.

MOMENT OF INERTIA – A physical property of a member, which helps define strength and deflection characteristics.

MONOLITHIC CONSTRUCTION – A method of placing a concrete grade beam and floor slab together to form the building foundation without forming and placing each separately.

MONORAIL CRANE – A crane that travels on a single runway beam, usually an "S" or "W" beam.

MOP-AND-FLOP – An application procedure in which roofing elements (insulation boards, felt plies, cap sheets, etc.) are initially placed upside down adjacent to their ultimate locations, are coated with adhesive, and are then turned over and applied to the substrate.

MOPPING – An application of hot bitumen applied to the substrate or to the felts of a built-up roof membrane with a mop or mechanical applicator.

MORTAR – A mixture of Portland cement, masonry sand (coarse compared to concrete sand), water, and lime. Proportions are found in the Special Provisions.

MORTISE – A slot in a board or plank, usually edgewise, to receive the tenon of another board, plank or timber to form a joint.

MORTISE AND TENON, BLIND – A mortise and tenon joint in which the tenon does not extend through the mortise and does not remain visible once the joint is completed; also “blind tenoned.”

MORTISE AND TENON, SLOTTED – A mortise and tenon right angle joint in which the tenon is visible on two edges once the joint is completed.

MORTISE AND TENON, STUB – A short tenon inserted in a plow or groove.

MORTISE AND TENON, THROUGH – A mortise and tenon joint in which the inserted tenon extends completely through the mortise and the end of the tenon remains visible once the joint is completed.

MOULDED EDGE – Edge of piece machined to any profile other than square or eased edge.

MULLION – A slender bar or pier, dividing panels or windows, screens, etc.

MULLIONS – Vertical member connecting more than one window when windows are located side by side.

MULTI-GABLE BUILDING – Buildings consisting of more than one gable across the width of the building.

MULTI-GUTTER – Heavy gauge gutter used between adjoining buildings.

MULTI-SPAN BUILDING – Buildings consisting of more than one span across the width of the building. Multiple gable buildings and single gable buildings with interior columns are examples.

MUNTIN – The members dividing the glass or openings of sash, doors, etc.

NAILED – Members secured together with nails, including power-driven nails or staples. On exposed surfaces, staples shall run parallel to the grain.

NAILING – (1.) In the Exposed Nail Method, nail heads are exposed to the weather; (2.) In the Concealed Nail Method, nail heads are concealed from the weather. (See also BLIND NAILING)

NATURAL FINISH – A transparent finish, usually a drying oil or varnish applied to wood to protect against soil or weathering. It may not alter the original color.

NEOPRENE – A synthetic rubber (polychloroprene) used in liquid-applied and sheet-applied elastomeric roof membranes or flashings.

NINTEEN-INCH SELVAGE – A prepared roofing sheet with a 17-inch granule-surfaced exposure and a nongranular-surfaced 19-inch selvage edge. This material is sometimes referred to as SIS or as Wide-Selvage Asphalt Roll Roofing Material Surfaced with mineral Granules.

NEWEL – A post to which any part of a stair railing or balustrade is fastened.

NONBEARING WALL – A wall supporting no load other than its own weight.

NOSING – Projecting edge of a molding or drip — usually that on the edge of a stair tread.

NOTCH – Miter cut at top of side wall sheets to allow them to mate with roof sheets.

O.C. (ON CENTER) – The measurement of spacing from the center of one member to the center of the next; often used for repetitive members such as studs, joists, etc.

O.G. (OR OGEE) – A molding with a profile like a letter S, forming a reverse curve.

OIL CANNING – A waviness that may occur in flat areas of light gauge, formed metal products. Structural integrity is not normally affected by this inherent characteristic and therefore is only an aesthetic issue.

OPAQUE FINISH – A paint or pigmented stain finish that hides the natural characteristics and color of the grain of the wood surface and is not transparent.

OPEN WEB STEEL JOIST – Lightweight truss.

ORDER DOCUMENTS – The documents normally required by the manufacturer in the ordinary course of entering and processing an order.

ORGANIC – Being or composed of hydrocarbons or their derivatives, or matter of plant or animal origin.

OUTSET GIRTS OR PURLINS – Purlins or girts that bypass the side of beams or columns.

OVERHEAD DOORS – See "Sectional Overhead Doors".

PANELS – The exterior metal roof and wall paneling of a Metal Building System.

PANEL NOTCH – A notch or block out formed along the outside edge of the floor slab to provide support for the wall panels and serve as a closure along their bottom edge.

PANEL RIB – VP Buildings rolled rib sheet.

PAPER, SHEATHING – Paper or felt, used in walls and roofs to protect against the passage of air, and sometimes moisture.

PARAPET – That portion of the vertical wall of a building which extends above the roof line.

PARTING STOP OR STRIP – A small wood piece used in the side and head jambs of double- hung windows to separate upper and lower sash.

PARTICLEBOARD – A mat-formed flat panel consisting of particles of wood bonded together with a synthetic resin or other suitable binder. The particles are classified by size and dried to a uniform moisture content, after which they are mixed with a binder, mat-formed into a panel, compressed to proper density, and then cured under heat and pressure. As used in this Manual, whether as particleboard alone or as core material for plywood, the particleboard shall meet the requirements of ANSI A208.1-79., Table I, Grade 1-M-3. However, when used for core material for flush veneered doors in Section 20, it shall meet the requirements of ANSI A208.1-79, Table I, Grade 1-L-1.

PARTITION – Interior wall or room divider.

PATCH – A repair made by inserting and securely gluing a sound piece of wood of the same species in place of a defect that has been removed. The edges shall be cut clean and sharp and fit tight with no voids. “Boat” patches are oval-shaped with sides tapering in each direction to a point or to a small, rounded end; “router”

patches have parallel sides and rounded ends; “sled” patches are rectangular with feathered ends.

PEAK – The uppermost point of a gable.

PEAK CAP – Prefabricated trim piece that trims rake fascia connection at peak of gable. (Plastic or sheet metal).

PERLITE – An aggregate used in lightweight insulating concrete and in preformed perlitic insulation boards, formed by heating and expanding siliceous volcanic glass.

PERM – A unit of water vapor transmission defined as 1 grain of water vapor per square foot per hour per inch of mercury pressure difference (1 inch of mercury = 1.491 psi). The formula for perm is:

P = GRAINS OF WATER VAPOR/SQUARE FOOT x HOUR x INCH MERCURY

PERMEANCE – An index of a material’s resistance to water vapor transmission. (See PERM.)

PERSONNEL DOORS – A door used by personnel for access to and exit from a building.

PHASED APPLICATION – The installation of a roof system or waterproofing system during two or more separate time intervals.

PICTURE FRAMING – A rectangular pattern of ridges in a roof membrane over insulation or deck joints.

PICTURE WINDOW – A window that is permanently fixed in one position to afford the least obstructed view of the outdoors. A picture window can also be referred to as a fixed window.

PIECE MARK – A number given to each separate part of the building for erection identification. Also called mark number and part number.

PIER – (1) A column of masonry, usually horizontal cross section, used to support other structural members. (2) A concrete column or pad designed to transfer vertical load from the base of a column to the footing.

PILASTER – A reinforced or enlarged portion of a masonry wall to provide support for roof loads or lateral loads on the wall.

PINNED BASE – A column base that is designed to resist horizontal and vertical movement, but not rotation.

PINNED CONNECTION – A connection designed to transfer axial and shear force between connecting members, but not moments.

PIPE JOINT COMPOUND – Substance applied to threaded fittings to create a watertight seal. Also referred to as pipe dope.

PITCH – (1) An accumulation of resin which occurs in separations in the wood or in the wood cells themselves. (2) The peak height of a gabled building divided by its overall span.

PITCH POCKET – (1) A well-defined opening between the annual growth rings, which contains pitch. (2) A flanged, open-bottomed, metal container placed around columns or other roof penetrations that is filled with hot bitumen and/or flashing cement to seal the joint. The use of pitch pockets is not recommended by NRCA.

1. A very small pocket is a maximum of 1/16” in width x 3” in length, or 1/8” in width x 2” in length.
2. A small pocket is a maximum of 1/16” in width x 6” in length, or 1/8” in width x 4” in length.
3. A medium pocket is a maximum of 1/16” in width x 12” in length, or 1/8” in width x 8” in length.

PITCH STREAK – A well-defined accumulation of pitch in the wood cells in a more or less regular streak.

1. A very small pitch streak is a maximum of 1/16” in width x 12” in length, or 1/8” in width x 6” in length.
2. A small streak is a maximum of 1/8” in width x 12” in length, or ¼” in width x 6” in length.
3. A medium streak is a maximum of 1/4” in width x 16” in length, or 3/8” in width x 12” in length.

PITCHED ROOF – Incline or rise of a roof. It is expressed in inches per foot of run, or by the ratio of the rise to the span. See also Roof Pitch.

PLASTIC BACK SHEET – A thick sheet, usually phenolic, applied under pressure to the back of a laminated plastic panel to achieve balance by equalizing the rate of moisture absorption or emission.

PLASTIC CEMENT – See “Flashing Cement.”

PLASTIC DESIGN – A design concept based on multiplying the actual loads by a suitable load factor and using the yield as the maximum stress in any member and taking into consideration moment redistribution.

PLASTIC PANELS – See "Translucent Panels.”

PLATE – (1) Horizontal structural member placed on a wall or supported on posts, studs, or corbels to carry the trusses of the roof, or (2) A shoe base or base member

of a frame. (3) A small, relatively flat member placed on or in a wall to support girders, rafters, etc.

PLOW – A rectangular groove or slot of three surfaces cut parallel with the grain of a wood member, in contrast to a dado, which is cut across the grain.

PLUMB – Exactly perpendicular, vertical.

PLY – A term to denote the number of thicknesses or layers of roofing felt, veneer in plywood, or layers in built-up materials, in any finished piece.

PLYWOOD – A panel composed of a crossbanded assembly of layers or plies of veneer, or veneers in combination with a lumber core or particleboard core, that are jointed with an adhesive. Except for special constructions, the grain of alternate plies is always approximately at right angles, and the thickness and species on either side of the core are identical for balanced effect. An odd number of plies is always used.

POINT WEIGHT – See FELT MILL REAM.

POLYESTER DECORATIVE PAPER EDGING – A two- or more ply cured polyester saturated decorative paper a minimum of 12 mils in thickness. A high-viscosity hot-melt adhesive may be pre-applied to the edging. The edging shall be applied to the panel with 375 degrees to 460 degrees heat and pressure. The surface shall withstand 500 degrees temperature without blistering. The surface shall meet the requirements of NEMA LD 3-80. The adhesive, whether pre-applied or not, shall be a pigment extended, resin modified, ethylene-vinyl acetate co-polymer base, hot-melted adhesive. Physical properties of this glue are:

Viscosity at 200 degrees:	75M-100 CPS
Ring and Ball melting point:	97 degrees –101 degrees Celsius
Penetrometer, 150 grs. at 25 degrees Celsius:	6.0 – 8.0

POLYVINYL CHLORIDE (PVC) – Types include Sch 40, Sch 80, C900, to name a few. Each type has designated uses for that type.

POLYVINYL EDGING – Application: Vinyl (PVC) edging on seamless rolls to be applied on single/double side edge banding machines using hot-melt adhesives.

Specifications: Product to be calendered, of wood design, grained or smooth material solid color. Product to be chip-proof, flame-resistant, flame resistant, and impervious to moisture. Thickness of 0.45 mm (0.0177”), 0.40 mm (0.0157”), 0.60 mm (0.0256”) with tolerance of +/- 0.001” and tear strength of approximately 18,700 pounds per square inch. Product to be antistatic and equipped with an adhesive agent for bonding.

POND – A roof surface which is incompletely drained.

PONDING – The gathering of water at low or irregular areas on a roof. Progressive accumulation of water from deflection due to rain loads.

POP RIVET – See “Blind Rivet.”

PORCH – A floor, covered or unenclosed, extending beyond exterior walls.

POROSITY – Openings in buildings which allow air to enter during a windstorm.

PORTAL BRACE – Light gauge box member used to brace bays where column bracing cannot be used.

PORTAL FRAME – A rigid frame so designed that it offers rigidity and stability in its plane. It is generally used to resist longitudinal loads where other bracing methods are not permitted.

POSITIVE DRAINAGE – The drainage condition in which consideration has been made for all loading deflections of the deck, and additional roof slope has been provided to ensure complete drainage of the roof area within 24 hours of rainfall precipitation.

POST AND BEAM – A structural system consisting of a series of rafter beams supported by columns. Often used as the end frame of a building.

POST-TENSIONING – A method of prestressing reinforced concrete in which tendons are tensioned after the concrete has reached a specific strength.

POWER ACTUATED FASTENER – A device for fastening items by the utilization of a patented device which uses an explosive charge or compressed air to embed the pin in the concrete or steel.

POWER TROWEL – A machine commonly used on large slabs for finishing the concrete.

PRE-HUNG – The door and frame are one unit already mounted.

PRE-PAINTED COIL – Coil of metal which has received a paint coating.

PRESERVATIVE – Any substance that for a reasonable time will prevent the action of wood-destroying fungi or borers.

PRESS BRAKE – A machine used in cold-forming metal sheet or strip into desired sections.

PRESSURE REDUCING VALVE (PRV) – A valve that automatically reduces inlet water pressure to a specified value at its outlet under static cold-water conditions.

PRESTRESSED CONCRETE – Concrete in which internal stresses of such magnitude and distribution are introduced that the tensile stresses resulting from the service loads are counteracted to a desired degree; in reinforced concrete, the prestress is commonly introduced by tensioning the tendons.

PRETENSIONING – A method of prestressing reinforced concrete in which the tendons are tensioned before the concrete has been placed.

PRIMARY FRAMING – See "Main Frame."

PRIMER – (1) The first coat of paint of two or more coats. (2) A thin, liquid bitumen applied to a surface to improve the adhesion of subsequent applications of bitumen.

PRIMER PAINT – This is the initial coat of paint applied in the shop to the structural framing of a building for protection against the elements during shipping and erection.

PRISMATIC BEAM – A beam with a uniform cross section.

PUBLIC ASSEMBLY – A building or space where 300 or more persons may congregate in one area.

PURLIN – A horizontal structural member which supports roof covering.

PURLIN HANGER – Angle that is attached to masonry wall to receive and support one end of a bay of purlins.

QUARTER ROUND – A molding that presents the profile of a quarter circle.

RABBET: (1) A cut or groove along or near the edge of a piece of wood that allows another piece to fit into it to form a joint. (2) A rabbet joint. *See also* **dado**.

RADIANT HEATING – Heating with coils or pipes in the floor, walls, or ceiling.

RAFTER – One of a series of structural members of a roof designed to support roof loads. The rafters of a flat roof are usually called roof joists.

RAFTER, HIP – A rafter that forms the intersection of an external roof angle.

RAFTER, VALLEY – A rafter that forms the intersection of an internal roof angle.

RAIL – A fence bar; or horizontal member of the framework of a door, sash, etc.

RAIL (CRANE) – See "CRANE RAIL."

RAILS (DOOR) – The horizontal stiffening members of framed and paneled doors.

RAISED GRAIN – Roughened condition of surface of dressed lumber on which hard summerwood is raised above the softer springwood but is not torn loose from it.

RAKE – (1) Members that run parallel to roof slope and form the finish between the roof and the wall. (2) The sloped edge of a roof at the first or last rafter.

RAKE ANGLE – Angle fastened to purlins at the rake for attachment of end wall panels.

RAKE BEAM – Rafter member of post and beam frame.

RAKE CHANNEL – Light gauge channel that runs continuously across the ends of the roof purlins at gable ends.

RAKE EXTENSION – Cantilevered continuation of roof at rake line.

RAKE FASCIA – A flashing designed to close the opening between the roof and end wall panels.

RATED CAPACITY (CRANE) – The maximum load (usually in tons) which the crane is designed to support safely.

RE-ENTRANT CORNER – An inside corner of a surface, producing stress concentrations in the roofing or waterproofing membrane.

REACTIONS – The resisting forces at the column bases holding the structure in equilibrium under a given loading condition.

REFLECTIVE INSULATION – Sheet material with comparatively low heat emissivity. When the surfaces face air spaces, they reduce the radiation across them.

REGLET – A groove in a wall or other surface adjoining a roof surface for use in the attachment of counterflashing.

REINFORCED MEMBRANE – A roofing or waterproofing membrane reinforced with felts, mats, fabrics or chopped fibers.

REINFORCING – Steel rods or metal fabric placed in concrete slabs, beams, etc. to increase their strength.

REINFORCING STEEL – The steel placed in concrete as required to carry tension, compression, and shear stresses.

RELATIVE HUMIDITY – The ratio of the weight of moisture in a given volume of air-vapor mixture to the saturated (maximum) weight of water vapor at the same temperature, expressed as a percentage. For example, if the weight of the moist air is one pound and if the air could hold 2 pounds of water vapor at a given temperature, the relative humidity (RH) is 50 percent.

REROOFING – The practice of applying new roofing materials over existing roofing materials.

RESILIENT BASE – Rubber or vinyl floor base molding.

RETROFIT – The placing of new metal roof or wall systems over deteriorated roofs or walls.

RIB – The longitudinal raised profile of a panel that provides much of the panel's bending strength.

RIBBED PANEL – A panel which has ribs with sloping sides and forms a trapezoidal-shaped void at the side lap.

RIBBON – A narrow board let into the studding to add support to the joists.

RIDGE – The horizontal line at the junction of the top edges of sloping roofs.

RIDGE BOARDS – The board placed at the ridge to support the upper rafter ends.

RIDGE CAP – A transition of the roofing materials along the ridge of a roof; sometimes called ridge roll or ridge flashing.

RIGID CONNECTION – See "Moment Connection."

RIGID FRAME (RF) – A structural frame consisting of members joined together with moment connections so as to render the frame stable with respect to the design loads, without the need for bracing in its plane.

RIGID INSULATION – A structural building board made of coarse wood or cane fiber in 25/32-inch thickness (typical). It can be obtained in various size sheets and densities.

RIDGING – An upward, “tenting” displacement of a roof membrane, frequently occurring over insulation joints, deck joints and base sheet edges.

RING, ANNUAL GROWTH – the growth layer put on in a growth year.

RISE – Height of a roof in horizontal distance from the outside wall to the ridge.

RISER – Each of the vertical boards closing the spaces between stairway treads.

ROLL ROOFING – Roofing material of fiber saturated with asphalt, in rolls containing 108 sq. feet in 36" lengths, usually in weights of 55 to 90 pounds per roll.

ROLLING DOORS – Doors that are supported at the bottom on wheels which run on a track.

ROLL-UP DOOR – A door that opens by traveling vertically.

ROOF ASSEMBLY – An assembly of interacting roof components (including the roof deck) designed to weather-proof and, normally, to insulate a building’s top surface.

ROOF CHANGE FLASHING – Flashing designed especially for a roof height change.

ROOF COVERING – The exposed exterior roof surface consisting of panels.

ROOF FASTENERS – Fasteners used to fasten roof sheeting.

ROOF LIVE LOAD – Loads that are produced (1) during maintenance by workers, equipment, and materials, and (2) during the life of the structure by movable objects and do not include wind, snow, seismic, or dead loads.

ROOF OVERHANG – A roof extension beyond the end wall or side wall of a building.

ROOF PITCH OR SLOPE – The tangent of the angle that a roof surface makes with the horizontal, usually expressed in units of vertical rise to 12 units of horizontal run. A common roof pitch for a residential building is 5:12, which translates to approximately 22.6 degrees.

ROOF SHEATHING – The boards or sheet material fastened to the roof rafters on which the shingles or other roof covering are laid.

ROOF SNOW LOAD – That load induced by the weight of snow on the roof of the structure. Usually obtained by taking a fraction of the "Ground Snow Load."

ROPESEAL – See "Sealant."

ROUGH CARPENTRY – Framing, sheathing, and siding work.

ROUGH OPENING – The size of the opening for which the window is framed. The net or heel size of the window is usually 1/2" smaller than the rough opening. Same as nominal size.

RUNWAY BEAM – See "Crane Runway Beam."

RUNWAY BRACKET – A bracket attached to the column of a building frame which supports the runway beam for top-running cranes.

"S" SHAPE – A hot-rolled beam with narrow tapered flanges.

SAFETY RELIEF VALVE – A valve that opens to relieve excess temperature or pressure. Commonly used on water heaters.

SAG MEMBER – A tension member such as rods, straps, or angles used to limit the deflection of a girt or purlin in the direction of its weak axis.

SAG ROD – Tie rods to support bottom purlin flanges against compression buckling due to special wind force.

SANDED, CROSS – Sanded across, rather than parallel to, the grain of a wood surface.

SANDED, MACHINE – Sanded by a drum or equivalent sander to remove knife or machine marks. Handling marks and/or grain raising due to moisture shall not be considered a defect.

SANDED, SMOOTHLY – Sanded sufficiently smooth so that sander marks will be concealed by painter’s applied finish work. Handling marks and/or grain raising due to moisture shall not be considered a defect.

SANDWICH PANEL – A panel used as covering consisting of an insulating core material with inner and outer skins.

SAPWOOD – Wood occurring between the bark and the heart of the tree.

SASH – A single assembly of stiles and rails into a frame for holding glass, with or without dividing bars, to fill a given opening. It may be either open or glazed.

SASH BALANCE – A device, usually operated with a spring, to counterbalance window sash and eliminate the need for weights, pulleys, and cords.

SATURATED FELT – A felt which is impregnated with tar or asphalt.

SCARF – End joint formed by having the two ends of the members beveled to form sloping plane surfaces.

SCRATCH COAT – First coat of plaster, scratched to form a bond for the second.

SCREEN – An apparatus with apertures for separating sizes of material.

SCREEDING – The process of striking off the excess concrete to bring the top surface of the concrete to proper finish and elevation.

SCREWED DOWN ROOF SYSTEM – See "Through-Fastened Roof System."

SCRIBE – To mark and cut an item of millwork so it will abut an uneven wall, floor, or other adjoining surface, without any gaps.

SCUPPER – An opening in a gutter or parapet system which prevents ponding.

SCRIBING – Fitting woodwork to an irregular surface.

SEAL – (1.) A narrow closure strip made of bituminous materials; (2.) To secure a roof from the entry of moisture.

SEALANT – Any material which is used to seal cracks, joints, or laps.

SEALER – A finishing material, either clear or pigmented, that is usually applied directly over undercoated wood to seal the surface.

SEAMING MACHINE – A mechanical device that is used to close and seal the side seams of the standing seam roof panels.

SEASONING – Removing moisture from green wood to improve its serviceability.

SECONDARY FRAMING – Members which carry loads from the building surface to the main framing. For example, purlins and girts.

SECTION MODULUS – A geometric property of a structural member. It is used in design to determine the flexural strength of a member.

SECTIONAL OVERHEAD DOORS – Doors constructed in horizontally hinged sections. They are equipped with springs, tracks, counterbalancers, and other hardware which roll the section into an overhead position, clear of the opening.

SECURELY ATTACHED – Attached by nails or screws, or by a groove or plow joint securely glued, forming a rigid assembly.

SEISMIC LOAD – The lateral load acting in any horizontal direction on a structural system due to the action of an earthquake.

SELF DRILLING SCREW – A fastener which combines the functions of drilling and tapping.

SELF-EDGE – Application to the edge of plywood or particleboard of a plastic laminate of the same pattern as the face surface.

SELF TAPPING SCREW – A fastener which taps its own threads in a predrilled hole.

SELLER – A party who sells a Metal Building System with or without its erection or other field work.

SELVAGE – An edge or edging which differs from the main part of (1) a fabric, or (2) granule-surfaced roll roofing material.

SELVAGE JOINT – A lapped joint designed for mineral-surfaced cap sheets. The mineral surfacing is omitted over a small portion of the longitudinal edge of the sheet below to obtain better adhesion of the lapped cap sheet surface with the bituminous adhesive.

SEMIGLOSS PAINT OR ENAMEL – One made with a slight insufficiency of nonvolatile paint or enamel so its coating has luster.

SEPTIC SYSTEM – A private waste removal system for homes that are not connected to a community sanitary sewer. A conventional septic system consists of three main parts: a septic tank, a leach field, and the soil beneath the leach field. Waste is filtered to the soil, where components in the soil neutralize bacteria and chemicals before they reach groundwater or nearby rivers and lakes.

SEPTIC TANK – The first component of an onsite wastewater treatment system providing wastewater treatment via settling and anaerobic processes. The septic tank is a watertight rectangular structure generally composed of fiberglass or cast concrete and buried underground 10-15 feet behind or to the side of the building it serves. Wastewater from the building flows into the septic tank and settles out into heavier solids (sludge), lighter solids (scum) and a middle layer of partially clarified effluent. Effluent exits the septic tank to a line which transports it to a secondary treatment system, typically a leach field, where it is distributed underground and absorbed and treated by microorganisms in the soil. Held-over solids accumulate in the tank, where they are partially decomposed by bacteria, but require periodic (e.g., every 3-5 years) pumping to prevent excessive buildup and diminished septic tank performance.

SERVICE DOOR (WALK DOOR) – Swinging hinged door.

SHAKE – (1) A handsplit shingle, usually edge-grained. (2) A separation of the wood, normally between growth rings.

SHARK FIN – An upward-curbed felt side lap or end lap.

SHEAR – The force tending to make two contacting parts slide upon each other in opposite directions parallel to their plane of contact.

SHEAR DIAPHRAGM – See "Diaphragm."

SHEATHING – The structural covering, usually wood boards, plywood, or wallboards, placed over exterior studding or rafters of a structure.

SHEETING – Thin metal usually pressed to form corrugations and used as exterior siding or roof sheathing. Thickness is measured in gauge.

SHELLAC – A transparent coating made by dissolving lac in alcohol.

SHIM – A piece of steel used to level base plates or align columns or beams.

SHINGLES. – Roof covering made of composition materials (often referred to as “asphalt”), or wood, concrete or clay tile, slate, etc.

SHINGLES, SIDING – Shingles cut to be used as exterior sidewall covering.

SHINGLING – (1.) The procedure of laying parallel felts so that one longitudinal edge of each felt overlaps and the other longitudinal edge underlaps an adjacent felt. (See PLY.) Normally, felts are shingled on a slope so that the water flows over rather than against each lap; (2.) The application of shingles to a sloped roof.

SHIPPING LIST – See "Bill of Materials".

SHOP PRIMER PAINT – See "Primer Paint".

SHOP WELD – Weld that is made in VP plants.

SHOT PIN – See "Power Actuated Fastener".

SIDE LAP FASTENER – A fastener used to connect panels together at their side lap.

SIDESWAY – See "Drift (Sidesway)"

SIDEWALL – An exterior wall which is perpendicular to the frames of a building system.

SIDEWALL OVERHANG – See "Roof Overhang".

SIDING – The finish covering of the outside wall of a frame building.

SIDING, BEVEL (LAP SIDING) – Used as a finish siding on a house exterior; usually made by resawing dry square surface boards diagonally to make two wedge-shaped pieces.

SIDING, DROP OR RUSTIC – It is usually 3/4" thick, 6" wide, machined into various patterns. It has tongue-and-groove joints, is heavier, has more structural strength.

SIEVE – An apparatus with apertures for separating sizes of material.

SILL – The lowest member of a frame, resting on the foundation and supporting the uprights of the frame; or forming the lower side of an opening, as a door sill.

SIMPLE CONNECTION – See "Pin Connection".

SIMPLE SPAN – A term used in structural design to describe a beam support condition at two points which offers no resistance to rotation at the supports.

SINGLE-HUNG – A window that slides open vertically.

SINGLE SLOPE – A sloping roof in one plane. The slope is from one wall to the opposite wall.

SINGLE SPAN – A building or structural member without intermediate support.

SIPHON BREAK – A small groove to arrest the capillary action of two adjacent surfaces. (Anti- Capillary Groove).

SISTER COLUMN – See "Crane Support Column".

SKYLIGHT – Translucent panel formed like a panel rib, used on roof or walls in place of certain panel rib sheets to supply natural light to the building.

SKYLIGHT TRIM – Trim that is used along both edges and beneath the skylight panel to cover the raw edge of insulation at those points. This trim is not necessary unless insulation occurs at the skylight panel.

SLAG – A hard, air-cooled aggregate that is left as a residue from blast furnaces. It is used as a surfacing aggregate and should be surface dry and free of sand, clay, or other foreign substances at the time of application.

SLIDE DOOR – A single or double leaf door which opens horizontally by means of sliding on an overhead trolley.

SLIDER – A window that slides open horizontally.

SLIDING CLIP – A standing seam roof system hold-down clip which allows the roof panel to move independently of the roof substructure.

SLIDING DOOR CLOSURE – Angles used vertically at sliding doors to interlap and serve as closures.

SLIPPAGE – The relative lateral movement of adjacent components of a built-up roof membrane. It occurs mainly in roof membranes on a slope, sometimes exposing the lower plies to the weather.

SLOPE – The Tangent of the angle between the roof surface and the horizontal. It is measured in inches per foot. The Asphalt Roofing Manufacturers Association (ARMA) ranks slope as follows:

Level Slope up to 1/2 inch per foot.

Low Slope 1/2 inch per foot to 1-1/2 inches per foot.

Steep Slope over 1-1/2 inches per foot.

(See "ROOF PITCH OR SLOPE").

SLUMP CONE OR SLUMP TEST – Test to determine workability using a 12" tall cone. The slump test results are twice the Kelly Ball penetration results. E.g., a 4" slump = a 2" penetration.

SMOOTH-SURFACE ROOF – A built-up roof membrane surfaced with a layer of hot-mopped asphalt, cold-applied asphalt-clay emulsion, cold-applied asphalt cutback, or sometimes with an unmapped inorganic felt.

SNOW LOAD – See "Roof Snow Load".

SNUG TIGHT – The tightness of a bolt in a connection that exists when all plies in a joint are in firm contact.

SOFFIT – (1) The underside of an eave that is covered with a solid building material such as plywood or metal panels. (2) A material which covers the underside of an overhang.

SOFFIT EAVE TRIM – Trim used at the outermost part of the soffit on canopies.

SOFTENING POINT – The temperature at which bitumen becomes soft enough to flow. The softening point of asphalt is measured by the “ring-and-ball” test (ASTM Standard D 2398). The softening point of coal tar pitch is measured by the “cube-in-water” test (ASTM Standard D 61).

SOFTENING POINT DRIFT – A change in the softening point of bitumen during storage or application. (See DROPBACK.)

SOIL PRESSURE – The load per unit area a structure will exert through its foundation on the soil.

SOLDER – A metal alloy that is melted to create a fused joint between metal pieces. Also the act of melting solder into the joint. Usually performed using a small propane torch.

SOLID MOPPING – See MOPPING.

SOLID STOCK – Solid, sound lumber (as opposed to plywood), which may be more than one piece of the same species, securely glued for width or thickness.

SOLID STUCK – A mold that is worked on the article itself, as opposed to an applied mold.

SOLDIER COLUMN – An intermediate column used to support a secondary structure; not part of a main frame or beam and column assembly.

SOUND – Absence of decay.

SPAN – The distance between supports of beams, girders, or trusses.

SPECIAL STEEP ASPHALT – A roofing asphalt that has a softening point of approximately 220 degrees F (104 degrees C) and that conforms to the requirements of ASTM Standard D 312, Type IV.

SPECIES – A distinct kind of wood.

SPECIFIC GRAVITY – A ratio of the weight of the body to the weight of an equal volume of water at some standard temperature.

SPECIFICATION (METAL BUILDING SYSTEM) – A statement of a set of Metal Building System requirements describing the loading conditions, design practices, materials, and finishes.

SPLASH BLOCK – Portable concrete (or vinyl) channel generally placed beneath an exterior sill cock (water faucet) or downspout to receive roof drainage from downspouts and to divert it away from the building.

SPLICE – A connection in a structural member.

SPLINE – A joint formed using a “spline.” A spline is a thin, narrow strip, usually of plywood, inserted into matching grooves which have been machined in abutting edges of panels or lumber to ensure a flush alignment and secure joint; customarily runs the entire length of the joint.

SPLIT – (1) A separation of the wood due to the tearing apart of the wood cells. (2) A separation in roofing material resulting from movement of the substrate. (See CRACK.)

SPLIT SHEET – See NINETEEN-INCH SELVAGE.

SPOT MOPPING – See MOPPING.

SPRINKLE MOPPING – See MOPPING.

SPUD WRENCH – A tool used by erectors to line up holes and to make up bolted connections, a wrench with a tapered handle.

SQUARE – A unit of measure–100 square feet–usually for roofing material.

STACK VENT – A vertical outlet in a built-up roof system designed to relieve any pressure exerted by moisture vapor between the roof membrane and the vapor retarder or deck.

STAIN – A variation (normally blue or brown) from the natural color of the wood. It should not be confused with natural red heart.

1. Slight stain is a light color, barely perceptible.
2. Medium stain is a pronounced discoloration.
3. Heavy stain is the darkest color that develops in lumber.

STAIN, SHINGLE – A thin oil paint to coat wood without much thickness or gloss.

STAINLESS STEEL – An alloy of steel which contains a high percentage of chromium to increase corrosion resistance. Also may contain nickel or copper.

STANDING SEAM – Side joints of roof panels that are arranged in a vertical position above the roof line.

STANDING SEAM ROOF SYSTEM – A standing seam roof system is one in which the side laps between the roof panels are arranged in a vertical position above the roof line. The roof panel system is secured to the roof substructure by means of concealed hold-down clips attached with screws to the substructure, except that through fasteners may be used at limited locations such as ends of panels and at roof penetrations.

STEEL PIPE WRAPPING OR COATING – Wrapping consisting of tape of varying mill thickness that is wrapped around underground piping to prevent corrosion. Coating consists of a factory-applied plastic coating around underground piping to prevent corrosion.

STEEP ASPHALT – A roofing asphalt that has a softening point of approximately 190 degrees F (88 degrees C) and that conforms to the requirements of ASTM Standard D 3312, Type III.

STIFFENER – A member used to strengthen a plate against lateral or local buckling. Usually, a flat bar welded perpendicular to the longitudinal axis of the member.

STIFFENER LIP – A short extension of material at an angle to the flange of cold-formed structural members, which adds strength to the member.

STILES – The vertical side members of framed and paneled doors.

STITCH SCREW – A fastener used to connect panels at the side lap.

STORM SASH OR WINDOW – An extra window on the outside of an existing window to give additional protection against cold weather.

STRAIN – The deformation per unit length measured in the direction of the stress caused by forces acting on a member. Not the same as deflection.

STRAWBERRY – A small bubble or blister in the flood coating of a gravel-surfaced roof membrane.

STRESS – A measure of the load on a structural member in terms of force per unit area.

STRING, STRINGER – A timber or other support for cross members. In stairs, the support on which stair treads rest; also stringboard.

STRIP MOPPING – See MOPPING.

STRIPPING OR STRIP FLASHING – (1.) The technique of sealing a joint between metal and the built-up roof membrane with one or two plies of felt and hot-applied or cold-applied bitumen; (2.) The technique of taping joints between insulation boards on deck panels.

STRUCTURAL STEEL MEMBERS – Load-carrying members, may be hot-rolled sections, cold-formed shapes, or build-up shapes.

STRUT – A member fitted into a framework which resists axial compressive forces.

STUCCO – Most commonly, an outside plaster with Portland cement as its base.

STUD – A vertical wall member to which exterior or interior covering or collateral material may be attached. May be either load-bearing or non-load-bearing.

SUBFLOOR – Material laid on joists, over which finish floor is to be laid.

SUBSTRATE – The surface upon which the roofing or waterproofing membrane is applied (i.e., the structural deck or insulation).

SUPERIMPOSED LOADS – Loads that are added to existing loads. For example, a large stack of insulation boards placed on top of a structural steel deck.

SURFACE CHECK – The separation of wood, normally occurring across the rings of annual growth, usually as a result of seasoning, and occurring only on one surface of the piece.

1. A fine surface check is not longer than 4″.
2. A small surface check is over 4″ and not longer than 6″.
3. A medium surface check is over 6″ but not longer than 8″.

SUSPENSION SYSTEM – The system (rigid or flexible) used to suspend the runway beams of underhung or monorail cranes from the rafter of the building frames.

SWAY BRACE – Rod bracing between frames (bent) in roof of building.

SWEEP – The amount of deviation of straightness of a structural section measured perpendicular to the web of the member.

TAPERED EDGE STRIP – A tapered insulation strip used to (1) elevate the roof at the perimeter and at curbs that extend through the roof; (2) provide a gradual transition from one layer of insulation to another.

TAPERED MEMBERS – A built-up plate member consisting of flanges welded to a variable depth web.

TAPING – See STRIPPING.

TAR – A brown or black bituminous material, liquid or semi-solid in consistency, in which the predominating constituents are bitumens obtained as condensates in the processing of coal, petroleum, oil-shale, wood, or other organic materials.

TARRED FELT – A felt that has been saturated with refined coal tar.

TEFLON TAPE – A fluorocarbon polymer with non-sticking properties used to wrap pipe threads to seal a joint.

TENON – Projecting tongue-like part of a wood member to be inserted into a slot (mortise) of another member to form a mortise and tenon joint.

TENSILE STRENGTH – The longitudinal pulling stresses a material can bear without tearing apart.

TENSION FORCES – Forces acting on a member tending to elongate it.

TERMITE SHIELD – A shield, usually of non-corrodible metal, placed in or on a foundation wall or other masonry around pipes to prevent passage of termites.

TEST CUT – A sample of the roof membrane, usually 4 inches x 40 inches in size, that is cut from a roof membrane to:

Determine the weight of the average interplay bitumen poundage

Diagnose the condition of the existing membrane (e.g., to detect leaks or blisters).

THERMAL BLOCK – A spacer of low thermal conductance material.

THERMAL CONDUCTANCE (C) – A unit of heat flow that is used for specific thicknesses of material or for materials of combination construction, such as laminated insulation. The formula for thermal conductance is:

C = k/THICKNESS (in inches).

THERMAL CONDUCTIVITY (k) – The heat energy that will be transmitted by conduction through one square foot of one-inch-thick homogeneous material in one hour when there is a difference of 1 degree Fahrenheit perpendicularly across the two surfaces of the material. The formula for thermal conductivity is:

k = BTU/SQUARE FOOT/INCH/HOUR/DEGREE FAHRENHEIT

THERMAL INSULATION – A material applied to reduce the flow of heat.

THERMAL RESISTANCE (R) – An index of a material's resistance to heat flow; it is the reciprocal of thermal conductivity (k) or thermal conductance (C). The formula for thermal resistance is:

R = 1/C or R=1/k or R = thickness (in inches)

THERMAL RESISTIVITY – Under steady conditions, the temperature difference between parallel surfaces of a slab (large enough so there is no lateral heat flow) of unit thickness that induces unit heat flow through unit area. Note: Thermal resistivity and thermal conductivity are reciprocals. Thermal resistivity is the R-value of a material of unit thickness.

THERMAL SHOCK – The stress-producing phenomenon resulting from sudden temperature changes in a roof membrane. (For example, when a rain shower follows brilliant sunshine.)

THERMAL TRANSMITTANCE (U-FACTOR) – The time rate of heat flow per unit area under steady conditions from the fluid on the warm side of a barrier to the fluid on the cold side, per unit temperature difference between the two fluids. It is evaluated by first evaluating the R-value and then computing its reciprocal.

THRESHOLD – A strip of wood or metal beveled on each edge and used above the finished floor under doors.

THROUGH FASTENED ROOF SYSTEM – A through-fastened roof system is one in which the roof panels are attached directly to the roof substructure with fasteners which penetrate through the roof sheets and into the substructure.

THROUGH TIES – Reinforcing steel, usually in the concrete, extending from one column pier to the other column pier, tying the two columns of a rigid frame together to resist thrust.

THROUGH-WALL FLASHING – A water-resistant membrane or material assembly extending through a wall and its cavities, positioned to direct any water entering the top of the wall to the exterior.

THRUST – The horizontal component of a reaction usually at the column base.

TIE – A structural member that is loaded in tension.

TIE RODS – Rods used to tie each end of a frame together at its base. Tie rods are poured in the building slab.

TOENAILING – Driving a nail at a slant to permit it to penetrate a second member.

TON – 2000 pounds.

TONGUE – Projection on the edge or end of a wood member that is inserted into the groove or plow of a similar size to form a joint.

TONGUE AND GROOVE – A joint formed by the insertion of the “tongue” of one wood member into the “groove” of the other.

TOP FLAT SURFACE – The flat surface that can be sanded with a drum sander.

TORN GRAIN – A roughened area caused by machine work in processing.

TORQUE WRENCH – A wrench containing an adjustable mechanism for measuring and controlling the amount of torque, or turning force, to be exerted-often used in tightening nuts of high-strength bolts.

TRACK – A metal way for wheeled components; specifically one or more lines of ways, with fastenings, ties, etc., for a craneway, monorail, or slide door.

TRANSLUCENT LIGHT PANELS – See "Skylight".

TRANSPARENT FINISH – A stain or a clear finish that allows the natural characteristics and color of the grain of the wood surface to show through the finish.

TRANSVERSE – The direction parallel to the main frames.

TREAD – The horizontal board on a stairway on which the foot is placed.

TRIBUTARY AREA – The area directly supported by the structural member between contiguous supports.

TRIM – The finish materials applied around openings or at floors and ceilings.

TRIMMER – A beam or joist to which a header is nailed in framing for a chimney, stairway, or other opening.

TROLLEY – (CRANE) The unit carrying the hoisting mechanism.

TROLLEY FRAME (CRANE) – The basic structure of the trolley on which are mounted the hoisting and transversing mechanisms.

TRUSS – A frame or jointed structure designed to act as a beam of a long span, while each member is usually subjected to longitudinal stress only.

TRUSS BEAM FRAME (TB) – Main structural frame (bent) composed of straight exterior columns and an open web truss for the roof beam.

TSP WASH "TRISODIUM PHOSPHATE" – Commercially available and sold as TSP.

TURN-OF-THE-NUT METHOD – A method for pre-tensioning high-strength bolts. The nut is turned from the "Snug tight" position, corresponding to a few blows of an impact wrench or the full effort of a man using an ordinary spud wrench, the amount of rotation required being a function of the bolt diameter and length.

TURPENTINE – A volatile oil, used as a thinner in paints and as a solvent in varnishes. Chemically, it is a mixture of terpenes.

TWIST – A distortion caused by the turning or winding of the edges of the surface so that the four corners of any face are no longer in the same plane.

TWIST OFF BOLTS – Bolts with a segment which shears off at a predetermined torque during bolt tightening. These bolts utilize a specially designed wrench for proper installation.

TYVEK – Plastic wrap used to insulate exterior walls and prevent moisture migration.

UNBRACED LENGTH – The length of a column or beam which does not have lateral bracing such as would be furnished by girts or purlins.

UNDERCOAT – A coating before the finishing or topcoat of paint.

UNDERGROUND TRACER TAPE – Color-coded and labeled tape/ribbon containing wire filaments and placed above underground piping for future detection without excavation.

UNDERWRITERS LABORATORIES (UL) – An organization which classifies roof assemblies for their fire characteristics and wind-uplift resistance for insurance companies in the United States.

UNI BEAM FRAME (UB) – Tapered solid web beam supported by straight columns.

UNIBEAM LEAN-TO (UBL) – Extension of main building at eave using a tapered Unibeam and straight column to continue roof and/or walls.

UNIONS – A fitting or coupler that joins pipes and permits assembly and disassembly without removing pipe sections. Commonly used at equipment connections.

UNSUPPORTED – The condition that exists when a structural member such as a column does not have any lateral support. A column is unsupported when there are no braces attached to the compression flanges.

UPLIFT – Wind load on a building which causes a load in the upward direction.

VACUUM BREAKER – An anti-siphon device that prevents the backflow of contaminated water into the water supply system.

VALLEY – The internal angle formed by the junction of two sloping roof sides.

VALLEY GUTTER – A channel used to carry off water from the "V" of roofs of multi-gabled buildings.

VALVE/METER BOX – A concrete box with a metal plate cover placed in the ground to access and protect the valve and/or meter.

VAPOR BARRIER – (1) A building product installed under concrete slabs. It is used to retard the movement of water vapor into the slab and prevent condensation. Normally, polyethylene plastic sheeting is used. (2) Material used to retard the flow of vapor or moisture to prevent condensation from forming on a surface.

VAPOR MIGRATION – The movement of water vapor from a region of high vapor pressure to a region of lower vapor pressure.

VAPOR–PRESSURE BARRIER – A material designed to restrict the passage of water vapor through a wall or roof; in the roofing industry, a vapor retarder should have a perm rating of 1.5 or less.

VARNISH – A thickened preparation of drying oil, or drying oil and resin, suitable for spreading on surfaces to form continuous, transparent coatings, or for mixing with pigments to form enamels.

VEHICLE – The liquid portion of a finishing material; it consists of the binder (non-volatile) and volatile thinners.

VENEER – Thin sheets of wood.

VENEER, QUARTERED – Veneer in which a log is sliced or sawed to bring out certain figure produced by the medullary or pith rays, which are especially conspicuous in oak. The log is flitched in several different ways to allow the cutting of the veneer in a radial direction.

VENEER, RIFT CUT – Veneer in which the rift or comb grain effect is obtained by cutting at an angle of about 15 degrees off of the quartered position. Twenty-five percent (25%) of the exposed surface area of each piece of veneer may contain medullary ray flake.

VENEER, ROTARY CUT – Veneer in which the entire log is centered in a lathe and is turned against a broad cutting knife which is set into the log at a slight angle.

VENEER, SLICED – Veneer in which a log or sawn flitch is held securely in a slicing machine and is thrust downward into a large knife which shears off the veneer in sheets.

VENT PIPE – ABS pipe that is vented through the building roof.

VENT – (1) A pipe used to provide a flow of air to or from a drainage system or to provide a circulation of air within such systems to protect trap seals from siphonage and back pressure. (2) An opening designed to convey water vapor or other gas from inside a building or a building component to the atmosphere, thereby relieving vapor pressure.

VENTILATOR – An accessory, usually used on the roof, that allows the air to pass through.

VERMICULITE – An aggregate used in lightweight insulating concrete, formed by the heating and consequent expansion of a micaceous mineral.

VINYL – Heavy vinyl film a minimum of 4 mils. in thickness, opaque or reversed-printed types with the following average property requirements, as shown in Figure 2.

PROPERTY	VALUE	TEST PROCEDURE
Widths	50" and 62"	Measuring Tape
Mil Thickness	4-6-7-8 mils	Caliper Gauge
Light Stability	300 hrs. – no change	Fadeometer ASTM E42-64
Flame Retardance	(Free Film) Self-Extinguishing	ASTM E162-67
Gloss Level	10 – 45	Gardner Glossmeter
Flame Spread	21–23 (laminated to asbestos board.) 25 (laminated to treated FB)	ASTM E-84 Tunnel Test
	Reverse Prints 6000 – 10000 Sandwich Types 4000 – 8000	Cycles to Print Failure CS 17 Wheel

Surface appearance is not affected when exposed to the following agents:

Water	Coffee	Olive Oil
Alcohol	Mustard	Show Polish
Inks, Washable	Crayon	Household Detergents and Soaps
Beet Juice	Mercurochrome	Teas

Figure 2. Properties of Vinyls

VOLATILE THINNER – A liquid that evaporates readily and is used to thin or reduce the consistency of finishes without altering the relative volumes of pigments and non-volatile vehicle.

"W" SHAPE – A hot-rolled steel member with parallel flanges.

WAINSCOT – Matched boarding or panel work covering the lower portion of a wall. Usually full-height plywood panels in Caltrans shop and equipment bays.

WALK DOOR – See "Personnel Doors".

WALL COVERING – The exterior wall surface consisting of panels.

WALLBOARD – Wood pulp, gypsum, or other materials made into large rigid sheets to be fastened to the frames of a building to provide a surface finish.

WANE – Bark or lack of wood from any cause, except eased edges, on the edge or corner of a piece of lumber.

WARP – Any deviation from a true or plane surface, including crook, bow, cup, twist, or any combination thereof.

WATER CUTOFF – See CUTOFFS.

WATER REPELLENT – A wood-treating solution which in the treating process deposits waterproof or water-resistant solids on the walls of wood fibers and any ray cells, thereby retarding their absorption of water. (Noun) Having the quality of retarding the absorption of liquid water by wood fibers and ray cells. (Adjective)

WATER TABLE – A ledge or offset on or above a foundation wall for the purpose of shedding water.

WATERPROOFING – Treatment of a surface or structure to prevent the passage of water under hydrostatic pressure.

WEATHERSTRIP – Narrow strips of metal or other material, so designed that when installed at doors or windows they will retard passage of air, moisture, or dust around the window or window sash.

WEB – That portion of a structural member between the flanges.

WEB STIFFENER – See "Stiffener".

WELDED WIRE FABRIC – Usually small diameter steel (smaller than a No. 3 bar) that is tack welded in a grid and used to reinforce concrete slabs.

WELL MATCHED FOR COLOR AND GRAIN – For the purpose of this Manual, this phrase means that the members shall be selected so that the color of adjacent members is similar and nearly uniform in appearance. The grain figure or other natural character markings shall be similar in character and appearance. Members with only flat grain shall not be permitted adjacent to members with only vertical grain. Members with mixed grain are only permitted adjacent to members with similar grain at the adjacent edge.

WHEEL BASE – Distance from center-to-center of outermost crane wheels.

WHEEL LOAD – The vertical force without impact produced on a crane wheel bearing on a runway or suspended from a runway beam. Maximum wheel load occurs with the crane at rated capacity and the trolley positioned to provide maximum vertical force at one set of wheels.

WIDTH – The dimension of the building measured parallel to the main framing from side wall to side wall.

WINDOW – A window consists of two single sashes to fill a given opening. It may be either open or glazed.

WINDOW SUPPORT CHANNEL – Light gauge channel located between two windows when windows are located side by side. This channel spans from the base girt to the first girt above the windows to give strength to the wall at that point.

WIND BENT See "Portal Frame".

WIND COLUMN – A vertical member designed to withstand horizontal wind loads.

WIND LOAD – The load caused by the wind from any horizontal direction.

WOOD FAILURE (%) – The area of wood fiber remaining at the glue line following completion of a shear test and expressed as a percentage of the test area.

WOOD FILLER – An aggregate of resin and strands, shreds, or flour of wood, which is used to fill openings in a wood and provide a smooth durable surface.

WORKED – Machined or formed in any manner except surfaced four sides.

WORKMANSHIP, FIRST CLASS – The finest or highest class or grade of workmanship. All joints shall be tight and true. Cabinet parts shall be square, plumb, and in alignment and securely glued. The exposed surface shall be free of splits, torn or chipped surfaces, tool marks, cross sanding, gouges, dents, sand through, and other similar type defects.

X-BRACING – Bracing system with members arranged diagonally in both directions to form an "X". See "Bracing".

YIELD STRESS – The stress at which the strain ceases to be directly proportional to the stress. The stress by which steel is identified, such as A-36, indicates 36,000 psi yield steel.

"Z" SECTION – A member cold-formed from steel in the shape of a "Z".

ZINC-ALUMINUM COATED – Steel coated with an alloy of zinc and aluminum to provide corrosion resistance.