

A

Absorption T

The process of taking in and/or retaining moisture.

Abutment T

The point of junction where the roof slope meets a vertical surface or intrusion (e.g. chimney or wall).

Accessory Tile T

Tiles at ridge, rakes, hip ridges, valleys, and starter courses. Also referred to as trim pieces, trimmings, or fittings.

ACRM T

A friable or non-friable Asbestos-Containing roofing material.

Adhesive T

A bonding material which joins two or more surfaces together.

Aerodynamic Moment T

The effect expressed by multiplication of a force times its distance from an axis rotation.

Air barrier T

The assembly of materials used in building construction to reduce or retard the uncontrolled passage of air into and out of the building.

Algae

Rooftop fungus that can leave dark stains on roofing.

Aluminum

A nonrusting, malleable metal sometimes used for metal roofing and flashing.

Angled Fasteners

Roofing nails and staples driven into wood at an angle – not perpendicular to the roof deck.

Anchor Sheet T

The first sheet applied over decking. Referred to as base sheet.

Apron Flashing T

A term used for a flashing located at the juncture of the top of a sloped roof and a vertical wall, chimney or steeper-sloped roof. That portion of the flashing applied at the downslope edge of a wide penetration, such as a chimney.

APEX T

The junction of a ridge and one or more hips.

Architectural shingle

See "dimensional shingle."

Asphalt

Asphalt is a sticky, black and highly viscous liquid or semi-solid form of petroleum. It may be found in natural deposits or may be a refined product; it is a substance classed as a pitch. ARMA Asphalt Roofing Manufacturers Association is an organization of asphalt roofing manufacturers.

A dark brown to black cementitious material in which the predominating constituents are bitumens found in a natural state or more commonly left as a residue after evaporating or otherwise processing crude oil or petroleum. See "bitumen." Asphalt may be further refined to conform to various roofing grade specifications.

Asphalt Felt T

An asphalt-saturated felt, or an asphalt-impregnated or asphalt-coated felt.

Asphaltic Pitch T

A bituminous waterproofing agent from the petroleum industry. Referred to as asphalt.

Asphalt Plastic Cement T

A solvent-based asphalt sealant used for hand sealing shingles and sealing other locations on asphalt roofs. Meets ASTM D4586 Type I or II.

Asphalt Primer

Asphalt-based primer used to prepare the surface of concrete, metal, or other materials to enhance the adhesion of asphalt adhesives or asphalt sealant. Meets ASTM D41

Asphalt Roofing Cement T

See asphalt plastic cement.

Asphalt Shingle

A shingle manufactured by coating a reinforcing material (paper felt or fiberglass mat) with an asphalt-based coating and having mineral granules on the side exposed to the weather. See "shingle."

Attic

The cavity or open space above the ceiling and immediately under the roof deck of a steep-slope roof.

B

Backnailing T

The nailing of roofing such that nails in the underlying course are covered by the overlapping course of roofing.

Barge Tile T

Fittings that complete open tile edges along a gable end. Referred to as rake fittings or rake tiles.

Barrel T

A cylindrical tile section placed in the concave up position.

Barrel/Mission T

See Pan and Cover.

Barrel vault

A building profile featuring a rounded profile to the roof on the short axis but with no angle change on a cut along the long axis.

Base Flashing (membrane base flashing) T

Plies or strips of roof membrane material used to close off and/or seal a roof at the horizontal-to-vertical intersections, such as at a roof-to-wall juncture. Membrane base flashing covers the edge of the field membrane and extends up the vertical surface. See "flashing."

Base ply T

The first ply. The bottom or first ply in a built-up or polymer-modified bitumen roof system when additional plies are to be subsequently installed.

Base sheet T

An impregnated, saturated or coated felt placed as the first ply in some low-slope roof systems.

Batten T

(1) Cap or cover; (2) in a metal roof, a metal closure set over, or covering the joint between, adjacent metal panels; (3) in a steep-slope roof system, a strip of wood or metal usually set in or over the structural deck, used to elevate and/or attach a primary roof covering; (4) in a single-ply membrane roof system, a narrow plastic or metal bar that is used to fasten or hold the roof membrane and/or base flashing in place; (5) in a **tile roof**, lumber fastening strips attached parallel to eaves over decking or counter battens to receive tile lugs.

Bed and Point T

Application of mortar; bedding to attach and pointing to smooth.

Bitumen

(1) A class of amorphous, black or dark-colored, (solid, semi-solid or viscous) cementitious substances, natural or manufactured, composed principally of high-molecular-weight hydrocarbons, soluble in carbon disulfide, and found in asphalts, tars, pitches and asphaltites; (2) a generic term used to denote any material composed principally of bitumen, typically asphalt or coal tar.

Blanket insulation

Fiberglass or other compressible fibrous insulation, generally available in roll form.

Bird Stop T

Closures that prevent birds and other animals from entering below tiles along eaves and fittings along ridges and hip ridges. Referred to as eave closures and top fixtures.

Blistering

Bubbles or pimples in roofing materials. Usually moisture related.

Blocking

(1) Sections of wood (which may be preservative-treated) built into a roof assembly, usually attached above the deck and below the membrane or flashing, used to stiffen the deck around an opening, act as a stop for insulation, support a curb, or serve as a nailer for attachment of the membrane and/or flashing; (2) wood cross-members installed between rafters or joists to provide support at cross-joints between deck panels.

Blow-Offs

When shingles are subjected to high winds and are forced off a roof deck by the wind.

Bonnet hip T

A rounded hip tile used with plain tiles which gives the appearance of a lady's bonnet (known as a 'granny's bonnet'). The void beneath hip tiles is filled with pointed mortar.

Boosted T

Achieve the authentic look of a mortar-boosted clay tile with boosted accessory pieces. These individual boosted pieces are available in a wide range of colors and are intended to create a rustic look, that will stay strong for a lifetime.

Boot

(1) A covering made of flexible material that may be preformed to a particular shape, used to exclude dust, dirt, moisture, etc., from around a penetration; (2) a flexible material used to form a closure, sometimes

installed at inside and outside corners.

Buckling

A visible wrinkle or ripple in shingles or underlayments.

Building code

The minimum construction requirements established generally by national organizations and adopted completely or in altered form by local governing authorities. Building code controls design, construction, quality of materials, use and occupancy, location, and maintenance of buildings and structures within the area for which the code was adopted.

Built-up roof (BUR)

A continuous, semi-flexible roof membrane consisting of multiple plies of saturated felts, coated felts, fabrics or mats assembled in place with alternate layers of bitumen and surfaced with mineral aggregate, bituminous materials, a liquid-applied coating or a granule-surfaced cap sheet.

Butt Edge

The lower edge of the shingle or shingle tabs.

C

Cap flashing

(1) Usually composed of metal, used to cover or shield the upper edges of the membrane base flashing or wall flashing; (2) a flashing used to cover the top of various buildings components, such as parapets or columns. See "flashing" and "coping."

Cap sheet

A sheet, often granule-surfaced, used as the top ply of some built-up or polymer-modified bitumen roof membranes and/or flashings.

Cant Strips

A triangular strip of material typically used on low-slope roofs for deflecting water away from flashing areas.

Caulking

(1) The physical process of sealing a joint or juncture; (2) sealing and making weathertight the joints, seams or voids between adjacent surfaces by filling with a sealant.

Channel flashing

In steep-slope roof construction, a type of flashing used at roof-to-wall junctures and other roof-to-vertical plane intersections where an internal gutter is needed to handle runoff. Commonly used with profile tile.

Chimney

Stone, masonry, prefabricated metal or wood-framed structure containing one or more flues projecting through and a roof.

Chip T

The process or result of breaking smaller pieces from the surface of a larger tile.

Cladding

A material used as the exterior wall enclosure of a building.

Clay roof tile T

An interlocking or non-interlocking tile comprised of vitrified clay.

Cleat

A continuous metal strip, or angled piece, used to secure metal components. See "clip."

Clerestory

(1) An upward extension of enclosed space created by carrying a setback vertical wall (typically glazed) up and through the roof slope; (2) two intersecting shed roofs on different planes.

Clip

A noncontinuous metal component or angle piece used to secure a metal panel to a substrate or two or more metal components together. See "cleat."

Closed-cut valley

A method of valley application in which shingles from one side of the valley extend across the valley while shingles from the other side are trimmed back approximately 2 inches from the valley centerline.

(T) Valley constructed with tiles trimmed along its centerline.

Cloaked or dry verge T

Tile used at the verge (gable) which wraps over the edge of the roof and eliminates the need to mortar bed the verge tiles

Code

A collection of laws (regulations, ordinances or statutory requirements) adopted by an authority having jurisdiction. See "building code."

Cold-applied

Designed for or capable of being applied without heating as contrasted to hot-applied. Cold-applied materials are furnished in liquid state, whereas hot-applied materials are furnished as solids that must be heated to liquefy before application.

Cold process roofing T

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

Collar

A metal cap flashing around a vent pipe projecting above a roof deck.

Cool roof

A roof system that uses products made of highly reflective and emissive materials for its top surface. Cool roof surfaces can remain at markedly lower temperatures when exposed to solar heat in service than surfaces of roofs constructed with traditional non-reflective roofing products.

Concealed nail method T

Roofing applied with all nails driven into the underlying course of roofing and covered with a cemented, overlapping course. Nails are not exposed to weather.

Concrete roof tile T

An interlocking or non-interlocking tile comprised of concrete.

Coping

The covering piece on top of a wall exposed to the weather, usually made of metal, masonry or stone.

Copper

A soft, malleable, naturally weathering metal used in metal roofing or flashing.

Cornice

The decorative horizontal molding or projected roof overhang.

Counter-battens T

Vertical wood or metal strips installed on steep-slope roofs over which horizontal battens are secured. The primary roof covering is attached or secured to these horizontal battens.

Counterflashing T

Formed metal or elastomeric sheeting secured on 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 T

(1) The term used for a row of roofing material that forms the roofing, waterproofing or flashing system; (2) one layer of a series of materials applied to a surface (e.g., a five-course wall flashing is composed of three applications of roof cement with one ply of felt or fabric sandwiched between two layers of roof cement).

Cover board

An insulation board used over closed cell plastic foam insulation (e.g., polyisocyanurate) to prevent blistering when used in conjunction with hot bituminous membranes. Suitable cover-board insulations are glass-faced siliconized gypsum board, fiberglass board, perlite board, wood fiberboard or mineral fiberboard. Cover boards are also recommended between polyisocyanurate insulation and single-ply membranes to protect the polyisocyanurate.

Coverage T

The surface are covered uniformly by a material.

Cricket T

A relatively small area of a roof constructed to divert water from a horizontal intersection of the roof with a chimney, wall, expansion joint or other wide projection or penetration.

Cure T

The process of drying or aging clay or concrete tile, respectfully.

Curb

(1) A raised member used to support roof penetrations, such as skylights, mechanical equipment, hatches, etc., above the level of the roof surface; (2) a raised roof perimeter relatively low in height.

D

Damp-proofing

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

Deck

A structural component of the roof of a building. The deck must be capable of safely supporting the design dead and live loads, including the weight of the roof system, and the additional live loads required by the governing building codes and provide the substrate to which the roof or waterproofing system is applied. Decks are either noncombustible, (e.g., corrugated metal, concrete or gypsum) or combustible (e.g., wood plank or plywood).

Decking T

The structure to which the tiles are fastened. Decking can be open (spaced) or solid.

Decorative Hips T

A hip tile available in a variety of shaped crests.

Decorative ridge T

A ridge tile available in a variety of shaped crests.

Direct Deck T

The application of a tiles against decking (covered by underlayment) without battens.

Dollop T

The application of a certain amount (normally quarter sized) of plastic asphalt cement or other adhesive over an area.

Dormer (Includes illustration)

A structure projecting from a sloping roof usually housing a window or ventilating louver.

Dormer (Includes illustration)

A structure projecting from a sloping roof usually housing a window or ventilating louver.

Downspout

A vertical pipe or conduit used to carry runoff water from a scupper, conductor head or gutter of a building to a lower roof level or to the ground or storm water runoff system; also called a conductor or leader.

Drip edge T

A metal flashing or other overhanging component with an outward projecting lower edge intended to control the direction of dripping water and help protect underlying building components. A non-corrosive, non-staining material installed along roof eaves/rakes that forces runoff water to drain away from underlying construction materials.

E

Edge venting

The practice of providing regularly spaced or continuously protected (louvered or otherwise shielded) openings along a roof edge or perimeter, used as part of a ventilation system to dissipate heat and moisture vapor.

End Laps

When installing rolled products in roofing, the area where a roll ends on a roof and is overlapped by the next section of rolled material.

EPDM

Ethylene propylene diene M-class rubber, also called ethylene propylene diene terpolymer. See "ethylene propylene diene terpolymer."

Ethylene propylene diene terpolymer (EPDM)

A terpolymer of ethylene, propylene and diene with the residual unsaturated portion of the diene in the side chain to provide for vulcanization. It is a thermosetting synthetic elastomer. EPDM is an acronym for "ethylene propylene diene M-class rubber," which is a name assigned to this material within the classification established in ASTM D1418.

Eaves T

The overhanging lower edge of the roof slope.

Eaves (or Top) Tiles T

Short tiles used in a single course to give a double course of tiling at the eaves.

A single course of short tiles is also used both sides of the ridge.

Eave Closure T

An eave closure is a metal riser that has holes, called weep holes, which allow any moisture to exit the roof. Also known as “bird stop”, these closures help block any infestations from vermin and birds alike. When installed properly, an eave closure can elevate the tiles at the eave to the proper height, and give your concrete tile roof the perfect finished look.

*There is also ventilated eave closure that has specially designed openings that allow air to flow in at the eaves and under the tile to help cool the roof.

Eave Flashing T

A layer of roofing material at roof eaves to help prevent damage from water ponding (back-up) due to ice damming.

Expansion joint

A structural separation between two building elements that allows free movement between the elements without damage to the roof or waterproofing system.

Efflorescence T

Deposits of white powdery residue found on the surface of some tiles. The residue consists of salts brought to the surface of a tile by water passing through the concrete. The passing water has evaporated away.

Exposure T

The portion of roofing material exposed to the weather after installation.

F

Fabric T

A woven or non-woven cloth of inorganic or organic materials, normally fiberglass or polyester.

Fastener T

Any of a wide variety of mechanical securement devices and assemblies, including nails, staples, screws, cleats, clips and bolts, that may be used to secure various components of a roof assembly.

Felt T

A flexible sheet manufactured by the interlocking of fibers with a binder or through a combination of mechanical work, moisture and heat. Felts are manufactured principally from wood pulp and vegetable fibers (organic felts), asbestos fibers (asbestos felts), glass fibers (fiberglass felts or ply sheets) or polyester fibers.

Fire-Resistant Roof Deck Protection

Roof deck protection that helps protect homes by providing a water-shedding secondary layer of protection under the final roof covering while also improving the fire resistance of many roof assemblies. Refer to Underwriters Laboratories Certifications Directory for actual roof assemblies. **Fabric T**

A woven or non-woven cloth of inorganic or organic materials, normally fiberglass or polyester.

Fascia

- (1) In steep-slope roofing, a board that is nailed to the ends of a roof rafter; sometimes supports a gutter;
- (2) in low-slope roofing, the vertical or steeply sloped roof or trim located at the perimeter of a building. Typically, it is a border for a low-slope roof system.

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Fiberglass insulation

Blanket or rigid board insulation composed of glass fibers bound together with a binder, faced or unfaced, used to insulate roofs and walls.

Fiberglass Matt

Glass fibers formed into strong, resilient mats uses in roofing materials.

Field Tile T

Tiles applied on roof slopes.

Finial T

The end ridge of the gable which has some form of decoration on it, e.g. a scroll, a ball top or a fleur-de-lys.

Fire resistance

The property of materials or their assemblies that prevents or retards the passage of excessive heat, hot gases or flames under conditions of use.

Fire-retardant-treated (FRT) plywood

Plywood that has been impregnated under pressure with mineral salts; in the event of fire, the burning wood and salts emit noncombustible gases and water vapor instead of the usual flammable vapors.

Flange

The flat metal extending out on the roof from around flashing pieces, usually at chimneys and plumbing vents.

Flashing T

Components used to weatherproof or seal roof system edges at perimeters, penetrations, walls, expansion joints, valleys, drains and other places where the roof covering is interrupted or terminated. For example, membrane base flashing covers the edge of the field membrane, and cap flashings or counter flashings shield the upper edges of the base flashing.

Flashing Cement

Sealant designed for use around flashing areas as a component in the flashing system, typically thicker than asphalt plastic cement.

Foam Paddy T

An amount of foam plastic adhesive used to bond a roof tile to underlayment.

Freeze/Thaw Cycle T

The occurrence of freezing followed by thawing.

Functional Damage T

Reducing the function a roof by impairing its water-shedding ability or shortening it's expected service life.

G

Gable T

The vertical triangular portion of the end of a building having a double-sloping roof from the level of the eaves to the ridge of the roof.

Galvanized steel T

Steel coated with zinc for corrosion resistance.

Gambrel

(1) A roof that has two pitches on each side of a central ridge where the upper roof areas have less slope than the lower roof areas; (2) a roof with two inclines on each slope.

Gauge

A metal thickness measurement; a smaller gauge number indicates a thicker metal.

Glass felt

Glass fibers bonded into a sheet with resin and suitable for impregnation with asphalt in the manufacture of bituminous waterproofing, roof membranes and shingles.

Glaze T

A coating of transparent or colored material applied to the surfaces of tiles before firing.

Granules

Opaque, natural or synthetically colored aggregate commonly used to surface cap sheets, shingles and other granule-surfaced roof coverings; also referred to as mineral or ceramic granules.

Gravel stop

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

Gutter T

A channeled component installed along the downslope perimeter of a roof to convey runoff water from the roof to the drain leaders or downspouts.

Gypsum board panels

Cementitious board stock with noncombustible core primarily comprised of gypsum that is commonly used as a barrier board, thermal barrier or cover board in a roof assembly.

H

Hand-tabbing/sealing

A method of spot-applying asphalt-based adhesive to shingles for securement and wind resistance. Also termed "hand-sealing."

Head lap T

Shortest distance from the nose of an overlapping tile to the head of the tile in the course below; an area of double coverage.

Head lug T

A protrusion at the head of a tile designed to hang onto a batten.

Hip T

The sloping line along the outer angle formed by the meeting of two sloping sides of a roof with eaves that meet at a right angle.

Hip and or Ridge Board T

See nailer board/stringer.

Hip roof

A roof that rises by inclined planes from all four sides of a building to form hips at the intersection of adjacent roof slopes.

Hip Starter T

A trim tile designed as the bottom end tile installed at the end of the hip.

Hot Mop System T

A hot bitumen, multiple-ply built-up roofing applied to a base and/or an anchor sheet.

Hurricane Clip T

A mechanical device attached onto or near the nose of a tile to enhance wind resistance.

High Velocity Hurricane T

Defined by Florida Building Code as Broward County and Dade, Florida, counties only.

I

Ice dam T

A mass of ice formed at the transition from a warm to a cold roof surface, frequently formed by refreezing meltwater at the overhang of a steep roof causing ice and water to back up under roofing materials.

Inclusion T

Material impurities in or under the surface of a tile. These can expand disproportionality to the clay and pop off (spall) the overlying clay material.

Insulation

Any of a variety of materials designed to reduce the flow of heat from or into a building. See "thermal insulation."

Interlayment

A felt, metal or membrane sheet material used between courses of steep-slope roofing to improve the weather- and water-shedding characteristics of the primary roof covering during times of wind- driven precipitation; typically used with wood shakes.

Interlock T

Ribs or groves along edges of tiles to facilitate joining of adjacent tiles in the same course.

Interlocking tile T

Tiles attached to one another along a course by their interlocks. Comprises both over-lock and under-lock components/keys.

J

Jack T

Flashing, normally metal, specifically fabricated for use with a specific penetration.

K

Kiln T

The furnace used to fire clay tile.

L

Leak Barrier

Self-adhering film-surfaced underlayment used to help protect homes from wind-driven rain and damaging ice dams.

Loose laid method T

Installation of roofing tiles without mechanical or adhesive fastening.

Lug T

The thicker part on the bottom side of a field tile that has a specific function, for instance, a head lug.

M

Mastic T

See plastic asphalt cement.

Mansard (Includes illustration)

A decorative steep-sloped roof on the perimeter of a building.

Masonry

Construction, usually set in mortar, of natural building stone or manufactured units, such as brick, concrete block, adobe, glass block, tile, manufactured stone or gypsum block.

Mats

The general term for the base reinforcement material of shingles and certain rolled products.

Mathematical Tiles T

Hanging vertical tiles which gives the appearance of brick cladding.

Modified Bitumen

Rolled roofing membrane with polymer modified asphalt and either polyester or fiberglass reinforcement.

Membrane

A flexible or semiflexible roof covering or waterproofing whose primary function is to exclude water.

Metal flashing

See "flashing"; frequently used as through-wall-, step-, cap- or counterflashing.

Metal roof panel

A sheet-metal product having an installed weather exposure less than 3 square feet per sheet.

Mildew

A superficial growth produced on organic matter or living plants by fungi.

Mineral-surfaced roofing

Roofing materials with a surface or top layer consisting of a granule-surfaced sheet.

Mitered hip T

An abutment of two tiles at the hip.

Mineral-surfaced roll roofing T

Composition roofing products manufactured in roll form.

Modified bitumen T

See "polymer-modified bitumen."Mold

A surface growth of fungus on damp or decaying matter. The term has no taxonomic significance and is used only in a general sense of visible fungal growth on organic matter.

Mortar T

A mixture of Portland or lime, aggregate, and water used for bonding, bedding, and pointing of roof tiles and fittings.

Mortar paddy T

An amount of mortar used to bond a tile to a substrate.

N

Nailable T

The ability to be mechanically attached as in a tile to a substrate.

Nailer-board/stringer T

Lumber installed along a hip or ridge to receive hip or ridge fittings.

Nail Guide Line

A painted line on laminated shingles to aid in the proper placement of fasteners.

Nailer

(Sometimes referred to as "blocking"); a piece or pieces of dimensional lumber and/or plywood secured to a structural deck or walls that provides a receiving medium for the fasteners used to attach membrane or flashing. See "blocking (1)."

Nail Guide Line

A painted line on laminated shingles to aid in the proper placement of fasteners.

Nail hole T

A hole in the head of a tile used to bond a tile to a substrate.

Nail-Pop

When a nail is not fully driven or backs out of the roof deck, that can cause overlaying shingles to raise or can result in nail heads breaking through overlaying shingles.

Nesting

The practice of installing a second layer of shingles over existing shingles in reroof applications where the top edge of the new shingles is butted against the bottom edge of the existing shingles to help provide a smoother installation.

Ninety-pound roll roofing T

See mineral surfaced roll roofing.

Non-interlocking tile T

Tiles not attached to one another along a course.

Nose T

The downslope edge of a tile.

Nose clips T

See hurricane clip.

NRCA

The National Roofing Contractors Association, a respected national organization of roofing contractors.

O

OSB

Oriented Strand Board, a decking made from oriented wood chips and

lamination glues.

Organic Mat

Material made from recycled cellulose fibers (wood pulp and paper).

Overexposed

Installing shingle courses higher than their intended exposure.

Open Valley

Valley installation using metal down the valley center. A method of valley construction in which the steep-slope roof-covering materials on both sides are trimmed along each side of the valley, exposing the metal valley flashing.

Organic Shingles

Shingles made using a base reinforcement of organic (paper) mats.

Oriented strand board (OSB)

A mat-formed panel product with oriented layers resulting in directional properties. OSB is comprised primarily of wood strands bonded with exterior adhesive formulations under heat and pressure. Design capacities are referenced to the primary and secondary structural axes, which typically correspond to the manufacturing machine and cross-machine directions, respectively. The primary direction is often referred to as the strength direction.

Overdriven Fasteners

The term used for fasteners driven through roofing material with too much force, breaking the material.

Overflow drainage

Component(s) in a roof or waterproofing drainage system used to protect it against damage from a water load imposed by blocked or partially blocked primary drainage system; e.g., overflow scupper, overflow interior drain.

Open Valley T

Valley constructed with tiles trimmed along both sides of exposed valley flashing.

Overlay T

See re-cover.

P

Parapet wall

The part of a perimeter wall that extends above a roof.

Penetration T

(1) Any construction (e.g., pipes, conduits, HVAC supports) passing through a roof; (2) the consistency of a bituminous material expressed as the distance, in tenths of a millimeter (0.1 mm), that a standard needle penetrates vertically into a sample of material under specified conditions of loading, time and temperature (ASTM D5 is the test method used for bituminous materials). A cone is sometimes used for special purposes instead of a needle.

Phased T

The installation of a roof system or waterproofing system during two or more applications at separate time

intervals.

Pitch T

See roof pitch.

Pitch-pocket (pitch-pan)

A flanged, open-bottomed enclosure made of sheet metal or other material placed around a penetration through the roof, properly stripped-in to the roof membrane and filled with grout and bituminous or polymeric sealants to seal the area around the penetration.

Pipe Boot

A pre-flashed flashing unit for flashing plumbing vent pipes or other round roof penetrations.

Plastic Cement

See Asphalt Plastic Cement.

Plumbing Vents

A term used to describe plumbing pipes that projects through the roof plane. Also called vent stacks.

Ply
A layer of felt or ply sheet in a built-up roof membrane or roof system.

Ply T

A single layer of roofing (one-ply, two ply, etc.).

Plywood

A flat panel built up of sheets of wood called veneers, united under pressure by a bonding agent to create a panel with an adhesive bond between plies as strong as or stronger than the wood. Plywood is constructed of an odd number of layers with grain of adjacent layers perpendicular. Layers may consist of a single ply or two or more plies laminated with parallel grain direction. Outer layers and all odd-numbered layers generally have the grain direction oriented parallel to the long dimension of the panel

Point-up T

The non-structural application of mortar to fill voids along noses or edges of tiles.

Polyisocyanurate foam

A cellular, unfaced, preformed rigid thermal insulation produced by the polymerization of polyisocyanates in the presence of polyhydroxyl compounds, catalysts, cell stabilizers, and blowing agents; classified in accordance with ASTM C591.

Polyisocyanurate foam board

A thermal insulation composed of polyisocyanurate foam with adhered facers; commonly called iso or isoboard; classified in accordance with ASTM C1289.

Polymer-modified bitumen

(1) A bitumen modified by including one or more polymers (e.g., atactic polypropylene, styrene butadiene styrene); (2) composite sheets consisting of a polymer-modified bitumen often reinforced with various types of mats or films and sometimes surfaced with films, foils or mineral granules.

Polyvinyl chloride (PVC)

A synthetic thermoplastic polymer prepared from vinyl chloride. PVC can be compounded into flexible and rigid forms through the use of plasticizers, stabilizers, fillers and other modifiers. Rigid forms are used in pipes; flexible forms are used in the manufacture of sheeting and roof membrane materials.

Ponding

The excessive accumulation of water at low-lying areas on a roof that remains after 48 hours after precipitation under conditions conducive to drying.

Positive drainage

The drainage condition in which consideration has been made during design for all loading deflections of the deck and additional roof slope has been provided to ensure drainage of the roof area within 48 hours of precipitation.

Primary drainage

Drainage devices, such as drains or scuppers, that provide for the direct removal of water from a waterproofing system.

Prevailing Wind

The most common direction of wind for a particular region.

Profile T

The shape of a tile when viewed from the nose end.

PVC

See "polyvinyl chloride (PVC)."

R

Racking

A method of asphalt shingle application also referred to as the "straight-up method," whereby shingle courses are applied vertically up the roof rather than laterally or across and up; requires placing a part of a shingle under product already in place every other course, which may result in a less-than-recommended number of nails being used for fastening.

Rafter T

One of a series of sloped structural members that extend from the ridge or hip to the downslope perimeter or eave designed to support the roof deck or secondary horizontal structural members such as purlins and the associated loads.

Raggle

A groove or slot often cut in a masonry wall or other vertical surface adjoining a roof for inserting an inset flashing component such as a reglet.

Rake (Includes illustration)

The sloped edge of a roof at or adjacent to the first or last rafter.

Rain Channel T

The area on the interlock of a tile which carries water to the top of a tile to the course below.

Rake Edge T

The inclined edge of sloped roof extending beyond the wall. The vertical edge of gable-style roof planes.

Receiver

A component in a two-piece counterflashing that may be surface-mounted to a wall, inset into a raggle or embedded behind cladding. It is used for ease of installation and future maintenance and repair or replacement. See "reglet."

Re-cover

The process of installing an additional roof covering over a prepared existing roof covering without removing the existing roof covering.

Reglet T

A sheet-metal receiver for the attachment of counterflashing. A reglet may be surface-mounted, inset into

a raggle or embedded behind cladding.

Re-Cover T

Applying a new roof over an old roof.

Replacement

The process of removing the existing roof covering, repairing any damaged substrate and installing a new roof covering; also know as "tear-off and replacement."

Re-roofing T

The process of replacing an existing roof covering.

Rib T

A thickening of the tile to increase it's strength.

Ridge T

Highest point on a roof, represented by a horizontal line where two roof areas intersect, running the length of the area. The apex of two slopes on a pitched roof.

Ridge board T

A horizontal board in wood frame construction at the upper end of the common rafters to which the rafters are nailed.

Ridge cap

A material or covering applied over the ridge of a roof.

Ridge course

The last or top course of roofing materials, such as tile, roll roofing, shingles, that covers the ridge and overlaps the intersecting field roofing.

Ridge vent

A ventilator located at the ridge that allows the escape of warm and/or moist air from the attic area or rafter cavity.

Ripper T

A long, flat steel tool with used to extract a nail from between tiles.

Roll roofing

Coated felts, either smooth or mineral-surfaced.

Roof area divider

See "area divider."

Roof assembly

An assembly of interacting roof components including the roof deck, vapor retarder (if present), insulation and membrane or primary roof covering designed to weatherproof.

Roof covering

The exterior roof cover or skin of the roof assembly consisting of membrane, panels, sheets, shingles, tiles, etc.

Roof curb

Raised frame used to mount mechanical units such as air conditioning units, exhaust fans, skylights, etc., on a roof.

Roof Deck Protection

Synthetic roof deck protection that helps protect homes by providing a water-shedding secondary layer of protection under the final roof covering.

Roof Pitch T

A roof pitch is a numerical measurement of the steepness of any given roof. It is the ratio of the rise of the roof, in inches, to the span of the roof, in feet. Steep Slope – Generally all slopes higher than 4:12 are considered steep slopes.

Low Slopes – Roof pitches less than 4:12 are considered low sloped roofs.

Roof slope

The angle a roof surface makes with the horizontal, expressed as a ratio of the units of vertical rise to the units of horizontal length (sometimes referred to as run). For English units of measurement, when dimensions are given in inches, slope may be expressed as a ratio of rise to run, such as 4:12, or as an angle in degrees.

Roof system

A system of interacting roof components generally consisting of a membrane or primary roof covering and roof insulation (not including the roof deck) designed to weatherproof and sometimes improve the building's thermal resistance.

Rust

(1) A reddish material, primarily hydrated iron oxide; a corrosion product formed on iron or its alloys, resulting from exposure to a humid atmosphere or chemical attack; (2) a special case of corrosion that deteriorates or alters the original surface condition.

Rounded valley T

Valley constructed of with tiles integrated in continuous courses through the valley.

S

Saddle T

A small tapered/sloped roof area structure that helps to channel surface water to drains; frequently located in a valley. A saddle is often constructed like a small hip roof or pyramid with a diamond-shaped base.

Saturated Felt T

A felt that has been partially saturated with low softening point bitumen.

Scaling T

The spalling of blades of material from a tile surface, which is the result of manufacturing deficiencies and weathering.

Scupper

A drainage device in the form of an outlet through a wall, parapet wall or raised roof edge typically lined with a sheet-metal sleeve.

Sealant

(1) A material that has the adhesive and cohesive properties to form a seal; (2) a mixture of polymers, fillers and pigments used to fill and seal joints where moderate movement is expected; unlike caulking, it cures to a resilient solid.

Seam

A joint formed by mating two separate sections of material. Seams can be made or sealed in a variety of ways, including adhesive bonding, hot-air welding, solvent welding, using adhesive tape and sealant.

Sheathing T

Panels (plywood or oriented strand board, OSB) or boards used as roof decking.

Self-adhering membrane

A membrane that can adhere to a substrate and to itself at overlaps without the use of an additional adhesive. The undersurface of a self-adhering membrane is protected by a release paper or film, which prevents the membrane from bonding to itself during shipping and handling.

Service life

(1) The period of time a building component or system will function successfully without replacement or excessive repair assuming reasonable or expected periodic maintenance is performed; (2) the number of years of service a material, system or structure will provide before rehabilitation or replacement is required.

Selvage

The non-exposed area on rolled roofing. Area without granules. Designed for nail placement and/or sealant.

Shed Roof

Roof design of a single roof plane. Area does not tie into any other roofs.

Shingle

(1) A small unit of prepared roofing designed for installation with similar units in overlapping rows or courses on inclines normally exceeding 3:12 slope; (2) to cover with shingles; (3) to apply any sheet material in succeeding overlapping rows like shingles.

Side Laps

The area on rolled material where one roll overlaps the rolled material beneath it. Also called selvage edge on rolled roofing.

Side clip **T**

See hurricane clip.

Side Walls

Where a roof plane meets a vertical wall. For example: sides of dormers.

Siding

The finish covering of an exterior wall of a frame building; the siding may be a cladding material such as wood, aluminum or vinyl (but not masonry).

Single-ply roofing

A roof system in which the principal roof covering is a single-layer flexible thermoset or thermoplastic membrane.

Skylight (Includes illustration)

An opening in a roof that is covered with a transparent or translucent material; used to admit diffuse light to the space below; commonly mounted on a framed curb.

Slab

A layer of reinforced concrete, generally flat and horizontal (or minimally sloped), usually of uniform thickness, placed on prepared earth or supported by beams, columns or walls.

Slate

A hard, brittle metamorphic rock consisting mainly of clay minerals used extensively as dimensional stone for steep roofing and in granular form as surfacing on some other roofing materials.

Slope

The angle of incline, usually expressed as a ratio of rise to run, or as an angle. See "roof slope."

Snow guard T

A series of devices attached to the roof in a pattern that attempts to hold snow in place, thus preventing sudden snow or ice slides from the roof; any device intended to prevent snow from sliding off a roof.

Soffit

The exposed undersurface of any exterior overhanging section of a roof eave.

Soffit vent

A manufactured or custom built air inlet source located at the downslope eave or in the soffit of a roof assembly.

Soil stack T

A sanitation pipe that penetrates the roof; used to vent plumbing fixtures.

Solder

A lead and tin mixture that is melted and used to bond two pieces of some types of metals together.

Slope T

The ratio of vertical rise of the roof per foot of horizontal run. The slope typically is expressed as 4:12. 8:12 etc.

Slurry coat T

A Cementitious colored finishing layer applied to add color to tile exposures.

Spaced sheathing T

Boards or battens applied rafters with gaps between them. Referred to as open decking.

Spall T

A conically shaped volume broken from the surface of a tile.

Span

The distance between supports or beams, girders or trusses.

Spray polyurethane foam (SPF)

A foamed plastic material, formed by mixing and spraying two components, methylene diphenyl diisocyanate (MDI) ("A-component") and resin containing a polyol ("B-component") to form a rigid, fully adhered, water-resistant and insulating membrane.

Square T

(1) A unit used in measuring roof area equivalent to 100 square feet; (2) a quantity of material sufficient to cover 100 square feet of a roof deck. For example, a roof that is 200 square feet is equal to 2 roofing squares.

Stainless steel

An alloy of steel that contains chromium and also may contain nickel or copper; generally, has good resistance to corrosion.

Standing seam

In metal roofing, a type of seam between adjacent sheets of material made by turning up the edges of two adjacent metal panels and then folding or interlocking them in a variety of ways.

Starter course

The first layer of roofing, applied along a line adjacent to the downslope perimeter of the roof area; with steep-slope water-shedding roof coverings, the starter course is covered by the first course.

Starter sheet

(1) Felt, ply sheet or membrane strip that is made or cut to a width narrower than the standard width of the roll material and used to start the shingling pattern at a roof edge; (2) particular width sheet designed for perimeters in some mechanically attached and fully adhered single-ply systems.

Starter strip

Roll roofing or shingle strips applied along the downslope eave line before the first course of roof covering and intended to fill spaces between cutouts and joints of the first course.

Starter Tile **T**

The first course of cover tile in a pan and cover application.

Steel

A malleable alloy of iron and carbon produced by melting and refining pig iron and/or scrap steel; graded according to the carbon content (in a range from 0.02 percent to 1.7 percent); other elements, such as manganese and silicon, may be included to provide special properties.

Steel joist (open web steel joist)

Normally used as a horizontal supporting member between beams or other structural members; suitable for the support of some roof decks.

Steep-slope roofs (Includes illustration)

A category of roofing that generally includes water-shedding types of roof coverings installed on slopes exceeding 3:12.

Step flashing **T**

Individual pieces of sheet-metal material used to flash walls, around chimneys, dormers and such projections along the slope of a roof. Individual pieces are overlapped and stepped up the vertical surface.

Straight bond method **T**

Tile application such that side laps are aligned.

Strip shingles

Asphalt shingles that are manufactured in strips approximately three times as long as they are wide with or without cutouts.

Structural panel

A metal roof panel designed to be applied over open framing rather than a continuous or closely spaced roof deck.

Substrate

The surface upon which a roofing or waterproofing membrane is applied (e.g., in roofing, the structural deck or rigid board insulation).

Suction **T**

See absorption.

Surfacing

The top layer or layers of a roof covering specified or designed to protect the underlying roofing from direct exposure to the weather.

Surface fastening **T**

Installing nails, staples or screws through the weathering surface of a tile instead of covering them with overlying roofing. This practice is incorrect.

T

Tab

The bottom portion of traditional shingles separated by the shingle cut-outs. Three-Tab Roofing Shingles

Thermal resistance (R)

The quantity determined by the temperature difference at steady state between two defined surfaces of a material or construction that induces a unit heat flow rate through a unit area. In English (inch•pound) units, it is expressed as $F \cdot ft^2 \cdot h / Btu$.

Note 1: A thermal resistance (R) value applies to a specific thickness of a material or construction.

Note 2: The thermal resistance (R) of a material is the reciprocal of the thermal conductance (C) of the same material (i.e., $R = 1/C$).

Note 3: Thermal resistance (R) values can be added, subtracted, multiplied and divided by mathematically appropriate methods.

Thermoplastic olefin membrane (TPO)

A blend of polypropylene and ethylene-propylene polymers, colorant, flame retardants, ultraviolet radiation absorbers and other proprietary substances that may be blended with the TPO to achieve the desired physical properties. The membrane may or may not be reinforced.

Tile T

Rigid units, normally clay or concrete, applied in shingle courses on a slope.

Tile-Accessory T

Tiles at ridge, rakes, hip ridges, valleys, and starter courses. Also referred to as trim pieces, trimmings, or fittings.

Tile-Flat T

Tiles having a top surface rise equal to or less than $\frac{1}{2}$ ".

Tile -Graduated T

Tiles tapered in shape and reduced in length to facilitate circular or rounded roofs.

Tile High profile T

Tiles having a rise to width ratio greater than 1:5 (often an S or barrel tile, or pan and cover tile).

Tile-Lightweight roof T

Tiles whose installed weight per unit area is less than 9 pounds per square.

Tile-Low profile T

Tiles having a top surface rise of $\frac{1}{2}$ " or less.

Tiles-Mathematical T

Hanging vertical tiles which gives the appearance of brick cladding. **Tile-Medium Profile T**

Tiles having a rise greater than $\frac{1}{2}$ " and a rise-to-width ratio of less than or equal to 1:5.

Tile-Mission T

See pan and cover.

Tile-Pan and Cover T

Non-interlocking straight or tapered tiles with semi-circular profiles installed alternatively concave-up and concave-down. Also known as barrel/mission tiles.

Tile-Ridge T

Tile covering the apex.

Tile-Roof Standard weight T

Tiles installed weight per unit are is 9 pounds per square foot or greater.

Tile thickness T

The overall measurement from the top surface of a tile to the top surface of a tile in the adjacent course below.

Tile and a half (Gable tile) T

A tile one and a half times the width of a standard plain tile to maintain a broken bond at verges and abutments. Sometimes called a gable tile.

Title 24

The part of the California Code of Regulations that contains Building Energy Efficiency Standards, designed to help reduce the state's energy consumption.

Through-wall flashing

A water-resistant membrane or material assembly extending totally through a wall and its cavities positioned to direct water within the wall to the exterior, usually through weep holes.

Tin tag T

A small diameter sheet metal disk through which a fastener is driven to secure underlayment.

Trim Tile* T

Trim tile is the most efficient and attractive way to complete your roof. Each trim tile is specifically designed to complement an individual tile profile. Most roofs will require at least two different types of tile: standard field tiles, hip and ridge tiles. Depending on the type of tile profile being used (Capistrano, Malibu, or Flat) rake, hip, and ridge pieces can be different.

Trim tile is also considered to be an accessory piece in a roof tile system, just like a Boosted piece.

Ridge – The uppermost, horizontal external angle formed by the intersection of two sloping roof planes.

Hip – The inclined external angle formed by the intersection of two sloping roof planes. Runs from the ridge to the eaves.

Rake Edge – The sloped edge of a roof that is at or adjacent to the first or last rafter.

Torch-applied

Method used in the installation of polymer-modified bitumen membranes characterized by using open flame propane torch equipment.

TPO

Thermoplastic olefin.

Transitions

When a roof plane ties into another roof plane that has a different slope.

Truss

A structure made up of three or more members usually in some triangular arrangement with each member designed to carry a tension or compression force. The entire structure in turn acts as a beam.

U

Underlayment T

An asphalt-saturated felt or other sheet material (may be self-adhering) installed between a roof deck and roof covering, usually used in a steep-slope roof construction. Underlayment is primarily used to separate a roof covering from the roof deck, shed water and provide secondary weather protection for the roof area of the building.

Under-driven

Term used to describe a fastener not fully driven flush to the shingle's surface.

Underlayments

Asphaltic, organic, fiberglass- or synthetic-based rolled materials designed to be installed under main roofing material to serve as added protection.

V

Valley T

The junction of two inclined roof slopes which meet at an internal angle.

Area where two adjoining sloped roof planes intersect on a roof creating a "V" shaped depression.

Valley Tile T

A tile used at this junction. The pitch of the roof must be stated when ordering.

Vapor T

Term used to describe moisture-laden air.

Vapor Barrier

Layer(s) of material or a laminate used to reduce or slow the passage of water vapor.

Vapor retarder T

See vapor barrier.

Veneer

A single wythe of masonry for facing purposes that may not be structurally connected; (2) any of the thin layers of wood glued together to form plywood.

Vent T

An opening designed to convey air, heat, water vapor, or other gas from inside a building or a building component to the outside atmosphere.

Vertical Tiling T

General term applied to plain tiles fixed to walls to form a wall cladding.

Verge T

The edge of the tiles projecting over the gable (the gable is the triangular upper part of the wall at the end of a ridged roof).

Vitrification T

Application of heat sufficient to turn clay into glass.

W

Water course **T**

The valley portions of tile profiles along which water drains.

Water lock **T**

The lower interlock.

Water-shedding

The ability of individual, overlapping components to resist the passage of water without hydrostatic pressure.

Water-shedding roof system

A roof system that depends on gravity for quick drainage via water shedding to prevent water entry into or through the system.

Water and ice-dam protection membrane (Includes illustration)

A continuous membrane installed under steep-slope roofing materials in areas subject to ice damming or wind-driven rain that prohibits water that gets through the roof covering from getting into the structure; ice- and water-protection membranes classified by ASTM D1970 must also seal around fasteners.

Waterproofing

Treatment of a surface or structure to prevent the passage of water under hydrostatic pressure.

Waterproofing system

A system of interacting waterproofing components consisting at a minimum of a membrane but may also include protection, drainage and insulation courses, as well as waterstops, expansion and control joints, various flashings and counterflashings, and overburden such as pavers, cast concrete and wire mesh or rebar. It does not include the substrate.

Warm Wall

The wall of a structure between the interior conditioned space and the exterior outside environment, used in roofing to determine how far up the deck to install waterproof underlayments at eaves.

Weathering **T**

The effects on a tile or slate of exposure to sunlight, humidity, wind, rain, snow, ice and hail.

Weather checks **T**

Protrusions on the bottom side of a tile designed to restrict the flow of wind-blown water.

Wire tie system **T**

Mechanical fastening of individual ties by wire.

Woven Valleys

The method of installing valleys in which shingles from both sides of the valley extend across the valley and are woven together by overlapping alternate courses as they are applied up the roof.

Z

Zinc

A soft, self-healing metal that reacts with the environment to produce a soft blue-gray zinc carbonate patina that protects the underlying metal from corrosion. Zinc is commonly used as sacrificial (galvanized) coating for a base metal such as sheet steel and iron, in various metal alloys and in oxide form as a white pigment.



Glossary of Terms

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