



## GLOSSARY OF ROOFING TERMS

**ASTM** - American Society for Testing and Measurement is a not-for-profit organization which provides a forum for producers and consumers to meet on common ground and to write standards for materials, products, systems, and services.

**Aggregate** - 1. crushed stone, crushed slag or water worn gravel used for surfacing a built-up roof. 2. any granular mineral material.

**Application Rate** - the quantity (mass, volume, or thickness) of material applied per unit area.

**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 thermal stresses in a roof system where no expansion joints have been provided.

**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. Dead-Level Asphalt: a roofing asphalt conforming to the requirements of ASTM Specification D 312, Type I. Flat Asphalt: a roofing asphalt conforming to the requirements of ASTM Specification D 312, Type II. Steep Asphalt: a roofing asphalt conforming to the requirements of ASTM Specification D 312, Type III. Special Steep Asphalt: a roofing asphalt conforming to the requirements of ASTM Specification D 312, Type IV.

**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.

**Asphaltene** - a high molecular weight hydrocarbon fraction precipitated from asphalt by a designated paraffinic naphtha solvent at a specified temperature and solvent-asphalt ratio. NOTE: The asphaltene fraction should be identified by the temperature and solvent asphalt ratio used.

**Backnailing** - the practice of blink-nailing roofing felts to a substrate in addition to hot mopping to prevent slippage.

**Base Ply** - the lowermost ply of roofing material in a roof assembly.

**Base Sheet** - a saturated or coated felt placed as the first ply in some multi-ply built-up roof membranes.

**Bitumens** - 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.

**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).

**Blind Nailing** - the practice of nailing the back portion of a roofing ply in a manner that the fasteners are not exposed to the weather in the finished product.

**Blister** - an enclosed pocket of air mixed with water or solvent vapor, trapped between impermeable layers of felt, or between the felt and substrate.

**Blocking** - wood built into a roofing system above the deck and below the membrane and flashing to stiffen the deck around an opening, act as a stop for insulation, or to serve as a nailer for attachment of the membrane or flashing.

**Bond** - the adhesive and cohesive forces holding two roofing components in intimate contact.

**Breaking Strength** - the amount of tension required to cause material or a system to give way or collapse. It is calculated by measuring the amount of force required to fracture a uniform sized sample.

**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 heat energy required to raise the temperature of 1 pound of water 1 degree fahrenheit.

**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 surface with mineral aggregate, bituminous materials, or a granule-surfaced roofing sheet. (Abbreviation: BUR)

**Cant Strip** - a beveled strip used under flashing to modify the angle at the point where the roofing or waterproofing membrane meets any vertical element.

**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.

**Cap Sheet** - a granule-surfaced coated sheet used as the top ply of a built-up roof membrane or flashing.

**Caulk** - a composition of vehicle and pigment, used at ambient temperatures for filling joints, that remains plastic for an extended time after application.

**Closed cut valley** - A method of valley treatment in which shingles from one side of the valley extend across the valley, while shingles from the other side are trimmed two inches from the valley centerline. The valley flashing is not exposed.

**Coal Tar** - a dark brown to black, semi-solid hydrocarbon obtained as residue from the partial evaporation or distillation of coal.

**Coal-Tar Pitch** - a coal tar used as the waterproofing agent in dead-level or low slope built-up roof membrane, conforming to ASTM Specification D 450, Type I. Coal-Tar Waterproofing Pitch: a coal tar used as the damproofing or waterproofing agent in below-grade structures, conforming to ASTM D 450, Type II. Coal-Tar Bitumen: a coal tar used as the waterproofing agent in dead-level or low slope built-up roof membrane, conforming to ASTM D 450, Type III.

**Coal-Tar Felts** - a felt that has been saturated with refined coal tar.

**Coated Sheet Felt** - 1. an asphalt felt that has been coated on both sides with harder, more viscous asphalt; 2. a glass fiber felt that has been simultaneously impregnated and coated with asphalt on both sides.

**Cold-Processing 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.

**Condensation** - the conversion of water vapor or other gas to liquid as the temperature drops or the atmospheric pressure rises.

**Coping** - the covering piece on top of a wall exposed to the weather, usually sloped to shed water.

**Counterflashing** - 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** - 1. the term used for each application of material that forms the waterproofing system or the flashing; 2. one layer of a series of material 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.)

**Coverage** - the surface area continuously covered by a specific quantity of particular roofing material.

**Crack** - a separation or fracture occurring in a roof membrane or roof deck, generally caused by thermal induced stress or substrate movement.

**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 relatively small, elevated area of a roof constructed to divert water.

**Cutback** - solvent-thinned bitumen used in cold process roofing adhesives, flashing cements and roof coatings.

**Cutoff** - a detail designed to prevent lateral water movement into the insulation where the membrane terminates at the end of a day's work, or used to isolate sections of the roofing system. It is usually removed before the continuation of the work.

**Damproofing** - treatment of a surface or structure to resist the passage of water in the absence of hydrostatic pressure.

**Dead Level** - absolutely horizontal, or zero slope.

**Dead Loads** - non-moving rooftop loads, such as mechanical equipment, air conditioning units, and the roof deck itself.

**Deck** - the structural surface to which the roofing or waterproofing system is applied.

**Delamination** - separation of the plies in a roof membrane system or separation of laminated layers of insulation.

**Dew Point** - the temperature at which water vapor starts to condense in cooling air at the existing atmospheric pressure and vapor content.

**Dormer** - A box-like structure projecting from the sloping plane of a roof that frames a window.

**Double-Pour** - the process of applying two layers of aggregate and bitumen to a built-up roof.

**Drain** - a device that allows for the flow of water from a roof area.

**Edge Sheets** - felt strips that are cut to widths narrower than the standard width of the full felt roll, used to start the felt shingling pattern at a roof edge.

**Edge Stripping** - application of felt strips cut to narrower widths than the normal felt roll width to cover a joint between flashing and built-up roofing.

**Edge Venting** - the practice of providing regularly spaced protected opening along a roof perimeter to relieve moisture vapor pressure.

**Elastomeric** - a rubber like synthetic polymer that will strengthen when pulled and will return quickly to its original shape when released.

**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 pressing granules into coating in the manufacture of factory prepared roofing.

**Emulsion** - the homogeneous dispersion of an organic material and water achieved by using a chemical or clay emulsifying agent.

**Envelope** - a continuous membrane edge seal formed at the perimeter and at penetrations by folding the base sheet or ply over the plies above and securing it to the top of the membrane. The envelope prevents bitumen seepage from the edge of the membrane.

**Equiviscous Temperature (EVT)** - the temperature at which the viscosity is 75 centipoise for asphalt and 25 centipoise for coal tar products; the recommended temperature for mopping asphalt plus or minus 25 F at the time of application.

**Eaves** - The horizontal overhang of the non-sloping edge of a roof beyond a vertical wall.

**Expansion Joint** - a structural separation between two building elements that allows free movement between the elements without damage to the roofing or waterproofing system.

**Exposure** - 1. the traverse 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.

**Fabric** - a woven cloth of organic or inorganic filaments, threads, or yarns.

**Factory Square** - 108 square feet of roofing material.

**Felt** - a flexible sheet manufactured by the interlocking of fibers through a combination of mechanical work, moisture, and heat. Felts are manufactured principally from vegetable fibers (organic felts), or glass fibers (glass fiber felts); other fibers may be present in each type.

**Felt Layer** - a machine used for applying bitumen and built-up roofing plies.

**Fine Mineral Surfacing** - water-insoluble, inorganic material, more than 50 percent of which passes the No.35 sieve, used on the surface of roofing.

**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.

**Flashing** - Sheet metal or roll roofing pieces fitted to the joint of any roof intersection, penetration, or projection (chimneys, copings, dormers, valleys, vent pipes, etc.) in order to prevent water leakage.

**Flashing Cement** - a trowelable mixture of cutback bitumen and mineral stabilizers, including organic or other inorganic fibers.

**Flood Coat** - the top layer of bitumen into which the aggregate is embedded on an aggregate-surfaced built-up roof.

**Fluid Applied** - an electrometric material, fluid at ambient temperature, that dries or cures after application to form a continuous membrane. Such systems normally do not incorporate reinforcement.

**Gable** - A side wall that comes to a point at its intersection with the ridge of two sloping roof planes set at the same length and angle.

**Gable roof** - A type of roof with sloping planes of the same pitch on each side of the ridge. Has a gable at each end.

**Glass Felt** - glass fibers bonded into a sheet with resin and suitable for impregnation in the manufacture of bituminous waterproofing materials, roof membranes, and shingles.

**Glass Mat** - a mat composed of glass fibers with or without a binder.

**Glaze Coat** - 1. the top layer of asphalt in a smooth surfaced 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.

**Gravel** - course, granular aggregate, with pieces larger than sand grains, resulting from the natural erosion of rock.

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

**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.

**Hip** - The sloping intersection of two, inclined roof planes or the angle formed by them.

**Hip roof** - A type of roof formed by sloping roof planes on all four sides, with no gables.

**Hip Shingles** - Shingles used to cover the inclined external angle formed by the intersection of two sloping roof planes.

**Holiday** - an area where a liquid-applied material is missing.

**Hot** - the roofer's term for hot bitumen.

**Ice Dam** - a mass of ice formed at the transition from a warm to 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.

**Incline** - the slope of a roof expressed either in percent or in the number of vertical units of rise per horizontal unit of run.

**Laminated shingles** - Shingles that have added dimensionality because of extra layers or tabs, giving a shake-like appearance. May also be called "architectural shingles" or "three-dimensional shingles."

**Membrane** - a flexible or semi-flexible roof covering or waterproofing layer, whose primary function is the exclusion of water.

**Metal Flashing** (See Flashing) - Metal flashing is frequently used as through-wall flashing, cap flashing, counter flashing, or gravel stops.

**Mineral Granules** - opaque, natural, or synthetically colored aggregate commonly used to surface cap sheets, granule-surfaced sheets, and roofing shingles.

**Mineral Stabilizer** - a fine, water-insoluble inorganic material, used in a mixture with solid or semi-solid bituminous materials.

**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.

**Modified Bitumen** - are composite sheets consisting of a copolymer modified bitumen often reinforced and sometimes surfaced with various types of films, foils, and mats.

**Mopping** - the application of hot bitumen with a mop or mechanical applicator to the substrate or to the felts of a built-up roof membrane. Solid Mopping - a continuous mopping of a surface, leaving no unmopped areas. Spot Mopping - a mopping pattern in which hot bitumen is applied in roughly circular areas, leaving a grid of unmopped perpendicular bands on the roof. Sprinkle Mopping - a random pattern in which heated bitumen beads are strewn into the substrate with a brush or mop. Strip Mopping - a mopping pattern in which hot bitumen is applied in parallel bands.

**Neoprene** - a synthetic rubber (polychloroprene) used in liquid-applied and sheet applied elastomeric roof membrane or flashings.

**Ninety-Pound** - a prepared organic felt roll roofing with a granule surfaced exposure that has a mass of approximately 90 pounds per 108 square feet.

**Open valley** - Method of valley construction in which shingles on both sides of the valley are trimmed along a chalk line snapped on each side of the valley. Shingles do not extend across the valley. Valley flashing is exposed.

**Overhang** - The portion of the roof structure that extends beyond the exterior walls of a building

**Parapet Wall** - that part of any wall entirely above the roof.

**Perlite** - an aggregate used in lightweight insulating concrete and in preformed perlitic insulation board, formed by heating and expanding siliceous volcanic glass.

**Pitch Pocket** - a flange, open-bottomed, metal container placed around columns or other roof penetrations that is filled with hot bitumen or flashing cement to seal a projection.

**Ply** - a layer of felt in a built-up roof membrane system. A four-ply membrane system has four plies of felt.

**Ponding** - a roof surface that is incompletely drained.

**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 drainage of the roof area within 48 hours of rainfall.

**Primer** - a thin, liquid bitumen applied to a surface to improve the adhesion of subsequent applications of bitumen.

**Rafter** - The supporting framing member immediately beneath the deck, sloping from the ridge of the roof to the wall plate.

**Rake** - the slope edge of a roof at the first or last rafter.

**Re-entrant Corner** - an inside corner of a surface, producing stress concentrations in the roofing or waterproofing membrane.

**Reglet** - a groove in a wall or other surface adjoining a roof surface for use in the attachment of counter flashing.

**Reinforced Membrane** - a roofing or waterproofing membrane reinforced with felts, mats, fabrics, or chopped fibers.

**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.

**Replacement** - the practice of removing an existing roof system and replacing it with a new roofing system.

**Re-roofing** - the process of re-covering or replacing an existing roofing system.

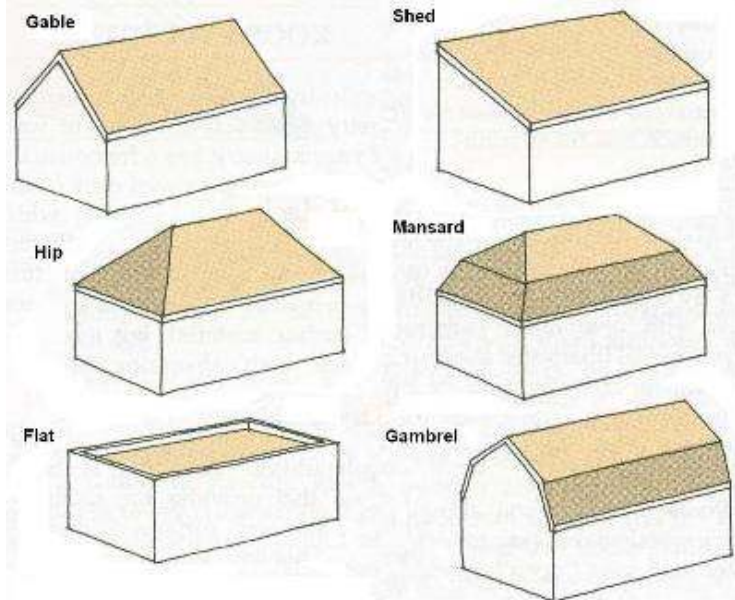
**Ridge** - The intersection of two roof planes or the angle formed by them. Ridge shingles - Shingles used to cover the horizontal external angle formed by the intersection of two sloping roof planes.

**Ridging** - an upward, tenting displacement of a roof membrane frequently occurring over insulation joints, deck joints and base sheet edges.

**Rise** - The vertical distance from the eaves line to the ridge.

**Roll Roofing** - smooth-surfaced or mineral-surfaced coated felts.

**Roof Styles:**



**Run** - The horizontal distance from the eaves to a point directly under the ridge. One half the span.

**Saddle** - a small structure that helps channel surface water to drains, frequently located in a valley, and often constructed like a small hip roof or like a pyramid with a diamond shape base.

**Saturated Felt** - a felt that has been saturated with low softening point bitumen.

**Scuttle** - a hatch that provides access to the roof from the interior of the building.

**Seal** - 1. a narrow closure strip made of bituminous materials; 2. to secure a roof from the entry of moisture.

**Sealant** - a mixture of polymers, fillers, and pigments used to fill and seal joints where moderate movement is expected; it cures to a resilient solid.

**Selvage** - an edge or edging that differs from the main part of a fabric or a 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 in order to obtain better adhesion of the lapped cap sheet surface with the bituminous adhesive.

**Shed roof** - A roof containing only one sloping plane. Has no hips, ridges, valleys, or gables.

**Shingle** - 1. a small unit of prepared roofing material designed for installation with similar units in overlapping rows on inclines normally exceeding 25 percent; 2. to cover with shingles; 3. to apply any sheet material in overlapping rows like shingles.

**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. 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.

**Slag** - a hard, air-cooled aggregate that is left as a residue from blast furnace, used as a surfacing aggregate.

**Slippage** - relative lateral movement of adjacent components of a built-up membrane. It occurs mainly in roofing membranes on a slope, sometime exposing the lower plies or even the base sheet to the weather.

**Smooth-Surfaced 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 unmopped inorganic felt.

**Soffit** - The finished underside of the eaves.

**Softening Point** - the temperature at which bitumen becomes soft enough to flow, as determined by ASTM D 36-86.

**Split** - a membrane tear resulting from substrate or membrane stress.

**Spudding** - the process of removing the roofing aggregate and most of the bituminous top coating by scraping and chipping.

**Square** - the term used to describe 100 square feet of roof area.

**Stack Vent** - a vertical outlet in a built-up roof system designed to relieve the pressure exerted by moisture vapor between the roof membrane and the vapor retarded or deck.

**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 or fabric and hot-applied or cold-applied bitumen; 2. the technique of taping joints between insulation boards or deck panels.

**Substrate** - the surface upon which the roofing or waterproofing membrane is applied.

**Sump** - an intentional depression around a drain.

**Tapered Edge Strip** - a tapered insulation strip used to elevate the roof at the perimeter and at curbs that extend through a roof and to provide a gradual transition from one layer of insulation to another.

**Tar** - a brown or black bituminous material, liquid, or semi-solid in consistency, in which the predominating constituents are bitumen obtained as condensates in the processing of coal, petroleum, oil-shale, wood, or other organic materials.

**Test Cut** - a sample of the roof membrane that is cut from a roof membrane to determine the weight of the average interply bitumen moppings and to diagnose the condition of the existing membrane.

**Thermal Insulation** - a material applied to reduce the flow of heat.

**Through-Wall Flashing** - a water-resistant membrane or material assembly extending through a wall and its cavities, positioned to direct water entering the top of the wall to the exterior.

**Valley** - The inward angle formed by two intersecting, sloping, roof planes. Since it naturally becomes a water channel, additional attention to waterproofing is desirable.

**Vapor Migration** - the movement of water vapor from a region of high vapor pressure to a region of lower vapor pressure.

**Vapor Retarded** - a material designed to restrict the passage of water vapor through a roof or wall.

**Vent** - Any outlet for air that protrudes through the roof deck, such as a pipe or stack. Any device installed on the roof, gable, or soffit for the purpose of ventilating the underside of the roof deck.

**Vermiculite** - an aggregate used in lightweight insulating concrete, formed by the heating and consequent expansion of a micaceous mineral.

**Waterproofing** - treatment of a surface or structure to prevent the passage of water under hydrostatic pressure.

**Woven valley** - A method of valley construction 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. The valley flashing is not exposed.