

ROOFING GLOSSARY

Accelerated Weathering: the process in which materials are exposed to a controlled environment where various exposures such as heat, water, condensation, or light are altered to magnify their effects, thereby accelerating the weathering process. .

Aggregate: rock, stone, crushed stone, crushed slag, water worn gravel or marble chips used for surfacing and/or ballasting a roof system.

Alligatoring: the cracking of the surfacing bitumen on a built-up roof, producing a pattern of cracks similar to an alligator's hide; the cracks may or may not extend through the surfacing bitumen.

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

Asbestos: a group of natural, fibrous, impure silicate materials used to reinforce some roofing products.

Asphalt: a dark brown or black substance found in a natural state or, more commonly, left as a residue after evaporating or otherwise processing crude oil or petroleum. Asphalt may be further refined to conform to various roofing grade specifications: 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 Emulsion: a mixture of asphalt particles and an emulsifying agent such as bentonite clay and water. These components are combined by using a chemical or clay emulsifying agent and mixing or blending machinery.

Asphalt Felt: an asphalt-saturated and/or an asphalt-coated felt

Asphalt Roof Cement: a trowelable mixture of solvent-based bitumen, mineral stabilizers, other fibers and/or fillers. Classified by ASTM Standard D 2822-91 Asphalt Roof Cement, and D 4586-92 Asphalt Roof Cement, Asbestos-Free, Types I and II. Type I is generally referred to as plastic cement, and is made from asphalt characterized as self-sealing, adhesive and ductile, and conforming to ASTM Specification D 312, Type I; Specification D 449, Types I or II; or Specification D 946. Type II is generally referred to as vertical-grade flashing cement, and is made from asphalt characterized by a high softening point and relatively low ductility, and conforming to the requirement of ASTM Specification D 312, Types II or III; or Specification D 449, Type III.

ASTM: American Society for Testing and Materials

Back-Nailing: (also referred to as Blind-Nailing) the practice of nailing the back portion of a roofing ply, steep roofing unit, or other components in a manner so that the fasteners are covered by the next sequential ply, or course, and are not exposed to the weather in the finished roof system.

Ballast: an anchoring material, such as aggregate, or precast concrete pavers, which employ the force of gravity to hold (or assist in holding) single-ply roof membranes in place.

Base Flashing: plies or strips of roof membrane material used to close-off and/or seal a roof at the roof-to-vertical intersections, such as at a roof-to-wall juncture. Membrane base flashing covers the edge of the field membrane. (Also see Flashing.)

Base Ply: the lowermost ply of roofing in a roof membrane or roof system.

Base Sheet: an impregnated, saturated, or coated felt placed as the first ply in some multi-ply built-up and modified bitumen roof membranes.

Batten: (1) cap or cover; (2) in a metal roof: a metal closure set over, or covering the joint between, adjacent metal panels; (3) wood: a strip of wood usually set in or over the structural deck, used to elevate and/or attach a primary roof covering such as tile; (4) in a membrane roof system: a narrow plastic, wood, or metal bar which is used to fasten or hold the roof membrane and/or base flashing in place.

Bird Bath: random, inconsequential amounts of residual water on a roof membrane.

Bird Screen: wire mesh used to prevent birds from entering the building through ventilators, louvers, or other openings.

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

Bituminous Emulsion: a suspension of minute particles of bituminous material in water or other aqueous solution.

Blackberry (sometimes referred to as Blueberry or Tar-Boil): a small bubble or blister in the flood coating of an aggregate-surfaced built-up roof membrane.

Blanket (Batt) Insulation: fiberglass or other compressible fibrous insulation, generally available in roll form.

Bleed-Sheet: a sheet material used to prevent the migration of bitumen.

Blind-Nailing: the use of nails that are not exposed to the weather in the finished roofing system.

Blister: an enclosed pocket of air, which may be mixed with water or solvent vapor, trapped between impermeable layers of felt or membrane, or between the membrane and substrate.

Blocking: 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 to serve as a nailer for attachment of the membrane and/or flashing.

BOMA: Building Owners & Managers Association, International

Bond: the adhesive and/or cohesive forces holding two components in positive contact.

Bonding Agent: a chemical substance applied to a suitable substrate to create bond between it and a succeeding layer.

Boot: (1) a covering made of flexible material, which 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.

British Thermal Unit (BTU): the heat energy required to raise the temperature of one pound of water one degree Fahrenheit (joule).

Brooming: an action carried out to facilitate embedment of a ply of roofing material into hot bitumen by using a broom, squeegee, or special implement to smooth out the ply and ensure contact with the bitumen or adhesive under the ply.

Buckle: an upward, elongated tenting displacement of a roof membrane frequently occurring over insulation or deck joints. A buckle may be an indication of movement within the roof assembly.

Building Code: published regulations and ordinances established by a recognized agency prescribing design loads, procedures, and construction details for structures. Usually applying to designated jurisdictions (city, county, state, etc.). Building codes control design, construction, and quality of materials, use and occupancy, location and maintenance of buildings and structures within the area for which the code has been adopted.

Built-Up Roof Membrane (BUR): a continuous, semi-flexible multi-ply roof membrane, consisting of plies or layers of saturated felts, coated felts, fabrics, or mats between which alternate layers of bitumen are applied. Generally, built-up roof membranes are surfaced with mineral aggregate and bitumen, a liquid-applied coating, or a granule-surfaced cap sheet.

Butyl: rubber-like material produced by copolymerizing isobutylene with a small amount of isoprene. Butyl may be manufactured in sheets, or blended with other elastomeric materials to make sealants and adhesives.

Canopy: any overhanging or projecting roof structure, typically over entrances or doors. Sometimes the extreme end is unsupported.

Cant: a beveling of foam at a right angle joint for strength and water run off.

Cant Strip: a beveled or triangular-shaped strip of wood, wood fiber, perlite, or other material designed to serve as a gradual transitional plane between the horizontal surface of a roof deck or rigid insulation and a vertical surface.

Cap Flashing: usually composed of metal, used to cover or shield the upper edges of the membrane base flashing, wall flashing, or primary flashing. (See Flashing and Coping.)

Cap Sheet: a granule-surface coated sheet used as the top ply of some built-up or modified bitumen roof membranes and/or flashing.

Caulk: a material (usually a composition of vehicle and pigment) used for filling/sealing joints or junctures, where no elastomeric properties are required.

Caulking: (1) the physical process of sealing a joint or juncture; (2) sealing and making weather-tight the joints, seams, or voids between adjacent units by filling with a sealant. .

Cavity Wall: a wall built or arranged to provide an air space within the wall (with or without insulating material), in which the inner and outer materials are tied together by structural framing.

Chalking: the degradation or migration of an ingredient, in paints, coatings, or other materials.

Chlorinated Polyethylene (CPE): a thermoplastic material, used for single-ply roof membranes, composed of high molecular weight polyethylene which has been chlorinated, a process that yields a flexible rubber-like material.

Chlorosulfonated Polyethylene (CSPE or CSM): (probably best known by the DuPont trade name Hypalon TM) a synthetic, rubber-like thermoset material, based on high molecular weight polyethylene with sulphonyl chloride, usually formulated to produce a self-vulcanizing membrane.

Cladding: a material used as the exterior wall enclosure of a building.

Cleat: a metal strip, plate or metal angle piece, either continuous or individual (clip),.

Closure Strip: a metal or resilient strip, such as neoprene foam, used to close openings created by joining metal panels or sheets and flashings.

Coal Tar: a dark brown to black colored, semi-solid hydrocarbon obtained as residue from the partial evaporation or distillation of coal tars. Coal tar pitch is further refined to conform to the following roofing grade specifications:

Coal Tar Bitumen: a proprietary trade name for Type III coal tar used as the

dampproofing or waterproofing agent in dead-level or low-slope built-up roof membranes, conforming to ASTM D 450, Type III.

Coal Tar Pitch: a coal tar used as the waterproofing agent in dead-level or low-slope built-up roof membranes, conforming to ASTM Specification D 450, Type I or Type III.

Coal Tar Waterproofing Pitch: a coal tar used as the dampproofing or waterproofing agent in below-grade structures, conforming to ASTM Specification D 450, Type II.

Coal Tar Felt: a felt that has been saturated with refined coal tar.

Coal Tar Roof Cement: a trowelable mixture of processed coal tar base, solvents, mineral fillers and/or fibers

Coated Base Sheet: a felt that has previously been saturated (filled or impregnated) with asphalt and later coated with harder, more viscous asphalt, which greatly increases its impermeability to moisture.

Coated Fabric: fabrics that have been impregnated and/or coated with a plastic-like material in the form of a solution, dispersion hot-melt, or powder. The term also applies to materials resulting from the application of a preformed film to a fabric by means of calendaring.

Cold Process Built-Up Roof: a continuous, semi-flexible roof membrane, consisting of a ply or plies of felts, mats or other reinforcement fabrics that are laminated together with alternate layers of liquid-applied (usually asphalt-solvent based) roof cements or adhesives installed at ambient or a slightly elevated temperature.

Compatible Materials: two or more substances that can be mixed, blended, or attached without separating, reacting, or affecting the materials adversely.

Composition Shingle: a unit of asphalt shingle roofing.

Concealed-Nail Method: a method of asphalt roll roofing application in which all nails are driven into the underlying course of roofing and covered by an adhered, overlapping

Construction Joint: a formed or assembled joint at a predetermined location where two successive placements of concrete meet.

Contact Cements: adhesives used to adhere or bond various roofing components. These adhesives adhere mated components immediately on contact of surfaces to which the adhesive has been applied.

Coping: the covering piece on top of a wall which is exposed to the weather, usually made of metal, masonry, or stone. It is preferably sloped to shed water back onto the roof.

Copolymer: the product of polymerization of two or more substances at the same time; a mixed polymer.

Counterflashing: formed metal sheeting secured on or into a wall, curb, pipe, rooftop unit, or other surface, to cover and protect the upper edge of the membrane base flashing or underlying metal flashing and associated fasteners from exposure to the weather.

Course: (1) the term used for each row of shingles 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 each layer of roof cement.)

Coverage: the surface area covered by a specific quantity of a particular material.

CPA: Copolymer Alloy.

CPE: Chlorinated Polyethylene.

Crack: a non-linear separation or fracture occurring in a material. May be generally caused by induced stress, dimensional instability, or substrate movement. Some cracks may be more of a linear separation or fracture

Cricket: an elevated roof substrate or structure, constructed to divert water around a chimney, curb, away from a wall, expansion joint, or other projection/penetration.

Crystalline Waterproofing: a compound of cement, quartz or silica sand, and other active chemicals that are mixed and packaged for use in a dry powder form; the packaged mixture is then mixed with water and applied to a concrete surface where it penetrates into the pores of concrete.

CSI: Construction Specifications Institute

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.

Cure: a process whereby a material is caused to form permanent molecular linkages by exposure to chemicals, heat, pressure, and/or weathering.

Cutback: solvent-thinned bitumen used in cold-applied (process) roofing adhesives, roof cements, and roof coatings.

Cutoff: a permanent detail designed to seal and prevent lateral water movement in an insulation system, and used to isolate sections of a roofing system.

Cutout: the open portions of a strip shingle between the tabs.

Dead Level: essentially horizontal or flat, as in a roof deck or rooftop with no intentional slope to the roof drains. Also referred to as zero (0) slope.

Dead Loads: permanent non-moving loads that result from the weight of a building's structural and architectural components, mechanical and electrical equipment, and the roof assembly itself. Essentially the same as "dead weight" or "dead weight loads."

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 systems, and the additional live loads required by the governing building codes. Decks are either non-combustible (e.g., corrugated metal, concrete, or gypsum) or combustible (e.g., wood plank or plywood), and provide the substrate to which the roofing or waterproofing system is applied.

Deflection (Bowing, Sagging): the downward displacement of a structural member or system under load.

Delamination: separation of the laminated layers of a component or system..).

Design Loads: those loads specified in building codes or standards published by federal, state, county, or city agencies, or in owners' specifications to be used in the design of a building..).

Downspout: a 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..).

Drain: an outlet or other device used to collect and direct the flow of runoff water from a roof area.

Drip Edge: 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 drip edge also can be used to break the continuity of contact between the roof perimeter and wall components to help prevent capillary action.

Eave Height: the vertical dimension from finished grade to the eave.

Edge Stripping: membrane flashing strips cut to specific widths used to seal/flash perimeter edge metal and the roof membrane.

Edge Venting: the practice of providing regularly spaced or continuously protected (e.g., louvered) openings along a roof edge or perimeter, used as part of a ventilation system to dissipate heat and moisture vapor.

Elastomer: natural or synthetic material which, at room temperature, can be stretched under low stress and, upon immediate release of the stress or force, will return quickly to its approximate original dimensions.

Elastomeric: the elastic, rubber-like properties of a material that will stretch when pulled and will return relatively quickly to its original shape when released.

Elastomeric Coating: a coating system which, when fully cured, is capable of being stretched at least twice its original length (100% elongation) and recovering to its original dimensions.

Embedment: (1) the process of installing or pressing-in a reinforcement felt, fabric, mat or panel uniformly into bitumen or adhesive; (2) the process of pressing granules into coating during the manufacture of factory-prepared roofing; (3) the process whereby ply sheet, aggregate, or other roofing components settle into hot- or cold-applied bitumen via the force of gravity.

Emulsion: a dispersion of fine particles or globules in a liquid. (See Asphalt Emulsion and Bitumen Emulsion.)

End Lap: the distance of overlap where one ply, panel, or piece extends beyond the end of the immediately adjacent underlying ply, panel, or piece.

Envelope (Bitumen-Stop): a continuous edge seal formed at the perimeter and at penetrations by extending the base sheet or one ply of felt beyond the edge of the membrane field plies. After all overlying field plies or insulation are in place, the extended ply is turned back onto the membrane and adhered. The envelope is intended to prevent bitumen seepage from the edge of the membrane.

EPDM: Ethylene Propylene Diene Monomer (See also Ethylene Propylene Diene Terpolymer.)

Epoxy: a class of synthetic, thermosetting resins that produce tough, hard, chemical-resistant coatings and adhesives. .

Equiviscous Temperature (EVT): the temperature at which a bitumen attains the proper viscosity for built-up membrane application.

Exhaust Ventilation: air that is typically vented or exhausted from the roof cavity, typically through vents installed on the upslope portion of the roof. For example, with most steep-slope roof assemblies exhaust vents are typically located at or near the ridge.

Expansion Cleat: a cleat designed to handle thermal movement of the metal roof panels.

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

Fabric: a woven cloth or material of organic or inorganic filaments, threads, or yarns used for reinforcement in certain membranes and flashings.

Factory Mutual Research Corporation (FMRC): (commonly referred to as "FM") a research and testing organization that classifies roofing components and assemblies for their fire, traffic, impact (hail), weathering, and wind-uplift resistance for four major insurance companies in the United States.

Factory Seam: a splice/seam made by the manufacturer during the assembly of sections of materials into large sheets.

Fascia: a vertical or steeply sloped roof or trim located at the perimeter of a building. Typically, it is a border for the low-slope roof system that waterproofs the interior portions of the building.

Fasteners: any of a wide variety of mechanical securement devices and assemblies, including nails, screws, cleats, clips, and bolts, which may be used to secure various components of a roof assembly.

Felt: a flexible sheet manufactured by the interlocking of fibers through a combination of mechanical work, moisture, and heat. Roofing felts may be manufactured principally from wood pulp and vegetable fibers (organic felts), asbestos fibers (asbestos felts), glass fibers (fiberglass felts or ply sheet), or polyester fibers.

Felt Machine (Felt Layer): a mechanical device used for applying bitumen and roofing felt or ply sheet simultaneously.

Ferrule: a small metal sleeve placed inside a gutter at the top. A spike is nailed through the gutter into the fascia board to hold the gutter in place. The ferrule acts as a spacer in the gutter to maintain its original shape.

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. Rigid boards usually have an asphalt and kraft paper facer.

Field of the Roof: the central or main portion of a roof, excluding the perimeter and flashing.

Field Seam: a splice or seam made in the field (not factory) where overlapping sheets are joined together using an adhesive, splicing tape, or heat- or solvent-welding.

Fishmouth: (1) a half-cylindrical or half-conical shaped opening or void in a lapped edge or seam, usually caused by wrinkling or shifting of ply sheets during installation; (2) in shingles, a half-conical opening formed at a cut edge.

Flash Point: the lowest temperature of a liquid at which it gives off vapors sufficient to form an ignitable mixture with air near its surface.

Flashing: components used to weatherproof or seal the roof system edges at perimeters, penetrations, walls, expansion joints, valley, 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 counterflashings shield the upper edges of the base flashing.

Flashing Cement: as used by the roofing industry, an ASTM D 2822 Type II roof cement that is a trowelable mixture of solvent-based bitumen and mineral stabilizers that may include asbestos or other inorganic or organic fibers. Generally, flashing cement is characterized as vertical-grade, which indicates it is

intended for use on vertical surfaces. (See Asphalt Roof Cement and Plastic Cement.)

Flood (Pour) Coat: the surfacing layer of bitumen into which surfacing aggregate is embedded on an aggregate surfaced built-up roof. A flood coat is generally thicker and heavier than a glaze coat, and is applied at approximately 45-60 pounds per square (2-3 kilograms per meter).

Fluid-Applied Elastomer: a liquid elastomeric material that cures after application to form a continuous waterproofing membrane.

FM: see Factory Mutual Research Corporation

Gable: a triangular portion of the endwall of a building directly under the sloping roof and above the eave line.

Gable-Shaped Roof: a single-ridge roof that terminates at gable end(s).

Gauge: a measurement of rating metal thickness.

Glass Felt: a sheet composed of bonded glass fibers, suitable for impregnation and coating in the manufacture of bituminous roofing and waterproofing materials, and shingles.

Glass Mat: a thin mat composed of glass fibers, woven or non-woven, with or without a binder. This mat may serve as reinforcement for certain roof materials and membranes.

Glaze Coat: (1) the top layer of asphalt on a smooth-surfaced built-up roof membrane; (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. (Also see Flood Coat.)

Granule: (also referred to as Mineral or Ceramic Granule) opaque, natural, or synthetically colored aggregate commonly used to surface cap sheets, shingles, and other granule-surfaced roof coverings.

Gravel: aggregate resulting from the natural erosion of rock.

Gravel Stop: a low profile upward-projecting metal edge flashing with a flange along the roof side, usually formed from sheet or extruded metal. Installed along the perimeter of a roof to provide a continuous finished edge for roofing material. Acts as a bitumen-stop during mop application of hot bitumen along a perimeter edge.

Grout: a mixture of cement, sand, and water used to fill cracks and cavities in masonry.

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

Headlap: the distance of overlap measured from the uppermost ply or course to the point that it laps over the undermost ply or course.

Heat Welding: method of melting and fusing together the overlapping edges of separate sheets or sections of polymer modified bitumen, thermoplastics or some uncured thermoset roofing membranes by the application of heat (in the form of hot air or open flame) and pressure. (See Heat Seaming.)

Hip: the inclined external angle formed by the intersection of two sloping roof planes.

Holiday: an area where a liquid-applied material is missing or absent.

HVAC: heating, ventilating, and air conditioning equipment.

Hypalon TM : a registered trademark of E.I. DuPont de Nemours, Inc., for "chlorosulfonated polyethylene" (CSPE). (See Chlorosulfonated Polyethylene.)

Ice Dam: 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.

Impregnate: to coat, saturate, and/or surround the fibers of a reinforcing mat or fabric with an enveloping liquid material, (e.g., bitumen, elastomeric compound, etc.).

Infrared Thermography: a practice of roof system analysis where an infrared camera is used to measure the temperature differential of a roof surface to locate areas of underlying wet or moist insulation.

Insulation: any of a variety of materials designed to reduce the flow of heat, either from or into a building.

Internal Pressure: pressure inside a building that is a function of ventilating equipment, wind velocity, and the number and location of openings and air leaks.

Joist: any of the small timbers, metal or wood beams arranged parallel from wall to wall to support a floor, ceiling, or roof of a building.

Knee Cap: a metal cover trim that fits over a panel rib after it has been cut and bent.

Lap: that part of roofing, waterproofing, or flashing component that overlaps or covers any portion of the same or another type of adjacent component.

Lap Cement: Asphalt-based roof cement formulated to adhere overlapping plies or asphalt roll roofing.

Lap Seam: occurs where overlapping materials are seamed, sealed, or otherwise bonded.

Lead: a soft workable metal used for miscellaneous flashings.

Life Cycling Costing: a method of economic analysis that takes into account expected costs over the useful life of an asset. .

Live Loads: temporary loads that the roof structure must be designed to support, as required by governing building codes. Live loads are generally moving and/or dynamic or environmental, (e.g., people, installation equipment, wind, snow, ice or rain, etc.).

Loose-laid Membranes: membranes that are not attached to the substrate except at the perimeter of the roof and at penetrations. Typically, loose-laid membranes are held in place with ballast, such as water-worn stone, gravel, pavers, etc.

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

Mansard Roof: a steeper roof that terminates into a flat roof at its high point.

Material Safety Data Sheets (MSDS): a written description of the chemicals in a product, and pertinent other data including such things as safe handling and emergency procedures. In accordance with OSHA regulations, it is the manufacturer's responsibility to produce an MSDS and the employer's responsibility to communicate its contents to employees.

Mechanically-Fastened Membranes: generally used to describe membranes that have been attached at defined intervals to the substrate. Mechanical fastening may be performed with various fasteners and/or other mechanical devices, such as plates or battens.

Membrane: a flexible or semi-flexible material, which functions as the waterproofing component in a roofing or waterproofing assembly, and whose primary function is the exclusion of water.

Metal Flashing: accessory components fabricated from sheet metal and used to weatherproof terminating roof covering edges. Frequently used as through-wall flashing, cap flashing (coping), counterflashing, step-flashing, etc. (See Flashing.)

Mil: a unit of measure, one mil is equal to 0.001 inches or 25.400 microns, often used to indicate the thickness of a roofing membrane.

Mineral-Surfaced Roofing: roofing materials whose surface or top layer consists of mineral granules.

Modified Bitumen: (1) a bitumen modified through the inclusion of one or more polymers (e.g., atactic polypropylene, styrene butadiene styrene, etc.); (2) composite sheets consisting of a polymer modified bitumen often reinforced and sometimes surfaced with various types of mats, films, foils, and mineral granules.

Moisture Relief Vent: a venting device installed through the roofing membrane to

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 or bitumen, and are then turned over and applied to the substrate.

Mopping: the application of hot bitumen, with a roofer's hand mop or mechanical applicator, to the substrate or to the felts of a bituminous membrane.

Mud Cracking: surface cracking of a material whereby the degraded material appears similar to dried, cracked earthen mud.

Nailer: a piece or pieces of dimensional lumber and/or plywood secured to the structural deck or walls, which provide a receiving medium for the fasteners used to attach membrane or flashing. Generally, it is recommended that nailers be the same thickness as the adjacent insulation, and may be treated with a non-oil-borne preservative, and be of sufficient width to fully support the horizontal flashing flange of a metal flashing (where used)

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

NRCA: National Roofing Contractors Association

Organic Felt: an asphalt roofing base material manufactured from cellulose fibers.

Parapet Wall: that part of a perimeter wall immediately adjacent to the roof which extends above the roof.

Penetration: (1) any object passing through the roof; (2) the consistency (hardness) 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.

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

Phased Application: the installation of separate roof system or waterproofing system component(s) during two or more separate time intervals. Application of surfacings at different time intervals are typically not considered phased application. (See Surfacing.)

Pipe Boot: prefabricated flashing piece used to flash around circular pipe penetrations.

Pitch-Pocket (Pitch-Pan): a flanged, open bottomed enclosure made of sheet metal or other material, placed around a penetration through the roof, filled with grout and bituminous or polymeric sealants to seal the area around the penetration.

Plastic Cement: a roofing industry generic term used to describe Type I asphalt roof cement that is a trowel-able mixture of solvent-based bitumen, mineral stabilizers, other fibers and/or fillers. Generally, intended for use on relatively low slopes — not vertical surfaces. (Also see Asphalt Roof Cement and Flashing Cement.)

Polyester: a polymeric resin which is generally cross-linked or cured and made into a variety of plastic materials and products. Polyester fibers are widely used as the reinforcing medium in reinforced membranes. (See Polyester Fiber.)

Polyester Fiber: a synthetic fiber usually formed by extrusion. Scrims made of polyester fiber are used for fabric reinforcement.

Polyvinyl Chloride (PVC): a synthetic thermoplastic polymer prepared from vinylchloride. PVC can be com-pounded 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.

Pourable Sealer: a type of sealant often supplied in two parts, and used at difficult-to-flash penetrations, typically in conjunction with pitch-pockets to form a seal.

Primer: (1) a thin, liquid-applied solvent-based bitumen that may be applied to a surface to improve the adhesion of subsequent applications of bitumen; (2) a material which is sometimes used in the process of seaming single-ply membranes to prepare the surfaces and increase the strength (in shear and peel) of the field splice.

Puncture Resistance: extent to which a material is able to withstand the action of a sharp object without perforation.

Purlin: horizontal secondary structural member that transfers loads from the primary structural framing.

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

Re-Cover: the addition of a new roof membrane or steep-slope roof covering over a major portion of an existing roof assembly. This process does not involve removal of the existing roofing.

Reglet: a sheet metal receiver for the attachment of counterflashing. (A reglet may be inset into a raggle, embedded behind cladding, or be surface mounted.)

Reinforced Membrane: a roofing or waterproofing membrane that has been strengthened by the addition or incorporation of one or more reinforcing materials, including woven or nonwoven glass fibers, polyester mats or scrims, nylon, or polyethylene sheeting.

Reroofing: the process of re-covering, or tearing-off and replacing an existing roof system.

Ridge: highest point on the roof, represented by a horizontal line where two roof areas intersect, running the length of the area.

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. Most ridge vents are either premanufactured metal or flexible, shingle-over type.

Ridging: an upward, elongated tenting displacement of a roof membrane frequently occurring over insulation or deck joints. Ridging may be an indication of movement within the roof assembly.

Roof Curb: raised frame used to mount mechanical units (such as air conditioning or exhaust fans), skylights, etc.

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 a percent.

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

Roofer: craftsman who applies roofing materials.

Rosin Paper: a non-asphaltic paper used as a sheathing paper or slip sheet in some roof systems.

Run: horizontal dimension of a slope.

Saturated Felt: a felt that has been partially saturated with low softening point bitumen. .

Sealant: a single- or multi-component polymeric or bituminous-based material used to weatherproof many types of construction joints where moderate movement is expected. The material comes in various grades: pourable, self-leveling, non-sag, gun grade, and cured or uncured tapes.

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.

Side Lap: the continuous longitudinal overlap of neighboring like materials.

Single-Ply Membranes: roofing membranes that are field applied using just one layer of membrane material (either homogeneous or composite) rather than multiple layers.

Single-Ply System: generally, there are six types of single-ply roofing systems: 1) Fully-adhered 2) Loose-laid 3) Mechanically-fastened 4) Partially-adhered 5) Protected membrane roof 6) Self-adhering

SMACNA: Sheet Metal and Air Conditioning Contractors National Association .

Smooth Surfaced Roof: a roof membrane without mineral granule or aggregate surfacing.

Splitting: a rupture (generally linear) or tear in a material or membrane resulting from tensile forces.

Spalling: a condition in which the outer layer or layers of masonry or concrete material begin to break off or flake away.

Square: 100 square feet (9.29 m²) of roof area.

Standing Seam: a metal roof system that consists of an overlapping or interlocking seam that occurs at an upturned rib. The standing seam may be made by turning up the edges of two adjacent metal panels and overlapping them, then folding or interlocking them in a variety of ways.

Substrate: the surface upon which the roofing or waterproofing membrane is applied (e.g., in roofing, the structural deck or insulation).

Sump: an intentional depression around a roof drain or scupper that serves to promote drainage.

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

Tab: the exposed portion of strip shingles defined by cutouts.

Tapered Edge Strip: a tapered insulation strip used to (1) elevate and slope the roof at the perimeter and at curbs, and (2) 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 bitumens obtained as condensates in the processing of coal, petroleum, oil-shale, wood, or other organic materials.

Termination: the treatment or method of anchoring and/or sealing the free edges of the membrane in a roofing or waterproofing system.

Test Cut: a sample of the roof, which may contain all components or just the membrane, usually used to diagnose the condition of the existing membrane, evaluate the type and number of plies or number of membranes, or rates of

application such as determine the weight of the average inter-ply bitumen moppings.

Through-Wall Flashing: a water-resistant material, which may be metal or membrane, extending through a wall and its cavities, positioned to direct water entering the top of the wall or cavity to the exterior, usually through weep holes.

Tie-Off: (in roofing and waterproofing) the transitional seal used to terminate a roofing or waterproofing application at the top or bottom of flashings, or by forming a watertight seal with the substrate, membrane or adjacent roofing or waterproofing system.

UBC: Uniform Building Code.

UL: Underwriters Laboratories, Inc.

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

Underwriters Laboratories, Inc. (UL): an organization that tests, rates and classifies roof assemblies for their resistance to: fire, impact, leakage, corrosion of metal components, and wind uplift.

Valley: the internal angle formed by the intersection of two sloping roof planes.

Void: an open space or break in consistency.

Waterproof: the quality of a membrane, membrane material, or other component to prevent water entry.

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

Wind Uplift: the force caused by the deflection of wind at roof edges, roof peaks or obstructions, causing a drop in air pressure immediately above the roof surface. This force is then transmitted to the roof surface. Uplift may also occur because of the introduction of air pressure underneath the membrane and roof edges, where it can cause the membrane to balloon and pull away from the deck.

Woven Valley: a method of valley construction in which shingles or roofing from both sides of the valley extend across the valley and are woven together by overlapping alternate courses as they are applied.

Zinc: a metal that has application considerations including high expansion-contraction rates and low-temperature restrictions

