

Poly-Tuff Systems Glossary

A

A-Side: One component of a two component system.

Abrasion Resistance: Is the ability of a fabric to resist surface wear caused by flat rubbing contact with another material.

Accelerator: A substance that speeds up a chemical process.

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. The material's physical properties are measured after this process and compared to the original properties of the unexposed material, or to the properties of the material that has been exposed to natural weathering.

Acrylic: Chemical compounds that contain the acryloyl group derived from acrylic acid.

Acrylic Coating: A coating system based on an acrylic resin. Generally, a "water based" coating system that cures by coalescence and air-drying.

Adhere: To cause two surfaces to be held together by adhesion, typically with asphalt or roofing cements in built-up roofing and with contact cements in some single-ply membranes.

Adhesion: Adhesion is the bond strength measurement of a coating to a substrate. When an adhesive is bonded to an item or surface, numerous physical, mechanical and chemical forces come into play, which may have an effect on each other. These need to be tested before a product can be used.

Adhesion Strength: Refers to the ability of an adhesive to stick to a surface and bond two surfaces together. It is measured by assessing the maximum tensile stress needed to detach or unstick the adhesive perpendicular to the substrate. The adhesive strength is the maximum tensile stress possible at the interface.

Aggregate: Rock, stone, crushed stone, crushed slag, water-worn gravel or marble chips used for surfacing a coatings system.

Aging: The effect on materials that are exposed to an environment for an interval of time.

Air Entrapment: The inclusion of air in the liquid or coating film.

Airless Spray: A spraying system in which coating is atomized using high hydraulic pressure rather than compressed air.

"Alligator" Cracking: When longitudinal and transverse cracks intersect, an advanced state of multi-directional cracking, sometimes called block or alligator cracking occurs. This is a precursor to the formation of potholes.

Aliphatic: Relating to or denoting organic compounds in which carbon atoms form open chains (as in the alkanes), not aromatic rings. Products that are ultraviolet resistant. They will not discolor in sunlight.

Ambient Temperature: The temperature of the air; air temperature.

Ambient Temperature Range: Refers to a scale of hotness or coldness in the immediate atmosphere environment as recorded in a universally accepted unit of measure such as Celsius, Fahrenheit or Kelvin. It is a vital parameter to observe to optimize equipment function and prevent corrosion.

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Amine Catalyst: A broad range of nitrogen-based compounds that are used to promote blowing and curing reactions in polyurethanes. Amine catalyst is typically contained in the B-side, or resin, of the two-component polyurethane system.

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

Aromatic: Is one that has special stability and properties due to a closed loop of electrons. Not all molecules with ring (loop) structures are aromatic.

Aromatic Solvents: Hydrocarbon solvents comprised of organic compounds, which contain an unsaturated ring of carbon atoms, including benzene, xylene, toluene and their derivatives.

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.

ASTM: Is an American body of skilled personnel that specializes in testing materials and giving specifications on standards

B

B-Side: One component of a two component system.

Backfill: Refers to the process of, or material used in, refilling a hole or trench dug around a foundation, basement, or crawlspace.

Back Rolling: Rolling wet coating behind a spray or roller application to insure better coverage on rough surfaces.

Back Slope: The slope from the bottom of the ditch to natural ground, on the opposite side of the foreslope.

Basecoat: The layer of coating of polyurethane, usually after a primer is applied.

Below-grade: The part of a home or building that is below ground.

Bending/Flexural Testing: Involves the measurement of ductility of a sample material. Bending tests may involve taking the sample material to a specific limit and determining the load measurement and its relationship to a load specification (pass/fail). Or, it may involve bending a material until the material experiences a break and determining both the load and deflection required to initiate the break limit.

Bitumen: 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 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.

Bleeding: The diffusion of coloring matter through a coating from its substrate (such as bleeding of asphalt mastic through coating).

Bleeding or Flushing (Fattening Up): The exuding of bitumen on to the pavement surface causing reduction in skid resistance. Bleeding is generally caused by excessive amount of asphalt in the mix or low air void content. It occurs in the mix in hot weather.

Blister: The out pocketing of gas in a coating by the local loss of adhesion and lifting of the film from the underlying substrate.

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Block Cracking: Cracks forming large interconnected polygon usually with sharp corners or angles. These cracks are generated by hardening or shrinking e.g. asphalt or reflection cracking for underlying layers such as cement treated base.

Bond, Chemical: Adhesion between surfaces, usually of similar materials, resulting from a chemical reaction or cross linking of polymer chains.

Bond, Mechanical: Adhesion between surfaces resulting from interfacial forces or a physical interlocking.

Bond, Strength: Involves determining the stress required to rupture a bond formed by an adhesive between two substrates. Often, the test involves the measurement of the shear and flexural bond strength of a bonding agent or a comparison of bonding agents under varying environmental conditions.

Boxing: Mixing of coatings by pouring from one container to another to help maintain uniform color.

Breaking Strength: is the ability of a material to withstand a pulling or tensile force.

Brittleness: It is the property of a material, which is opposite to ductility. Material, having very little property of deformation, either elastic or plastic is called Brittle.

Bridge Deck: A deck is the surface of a bridge. A structural element of its superstructure, it may be constructed of concrete, steel, open grating, or wood. Sometimes the deck is covered a railroad bed and track, asphalt concrete, or other form of pavement for ease of vehicle crossing.

Bubbling: A temporary or permanent film defect in which bubbles of air or solvent vapor are present in the applied film.

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.

C

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

Catalyst: A substance that increases the rate of a chemical reaction without itself undergoing any permanent chemical change.

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

Chemical Resistance: Is the strength of a material to protect against chemical attack or solvent reaction. It is the opposite of chemical reactivity. It determines a material's resistivity to corrosive environments.

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.

Coefficient of Friction (COF): Is the maximum value of the frictional force divided by the normal force. It is generally determined to be the ease by which two surfaces (often



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of different materials) slide against each other. It is the maximum value of the frictional force divided by the normal force. The dimensionless value of the COF is the ratio of the force required to slide the surface to the force perpendicular to the surface. A low COF indicates that the surfaces are smoother, e.g. less resistant to a sliding motion.

Coefficient of Thermal Expansion (CTE): The fractional increase in length per unit rise in temperature. The exact definition varies, depending on whether it is specified at a precise temperature (true coefficient of thermal expansion or α -bar or over a temperature range (mean coefficient of thermal expansion or α).

Cohesion: The degree of internal bonding of one substance to itself.

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.

Color Retention: The ability to retain its original color during weathering or chemical exposure.

Coating: A coating is a covering that is applied to the surface of an object, usually referred to as the substrate.

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

Compressive Strength: Is the maximum compressive stress that, under a gradually applied load, a given solid material can sustain without fracture. Compressive strength is calculated by dividing the maximum load by the original cross-sectional area of a specimen in a compression test.

Compressive Stress: Is a force that causes a material to deform to occupy a smaller volume. When a material is experiencing a compressive stress, it is said to be under compression. A high amount of compressive stress, such as tensile stress, leads to failure due to tension. A compressive stress causes a material to compress or shorten.

Condensation: Water that collects on cool basement walls, floors, pipes, or other surfaces. This happens when moisture or water vapor is exposed to air or another material of a colder temperature.

Contamination: The process of making a material or surface unclean or unsuited for its intended purpose, usually by the addition or attachment of undesirable foreign substances.

Corrosion Resistance: It is the property of a material to withstand the action of acids, alkalis gases etc., which tend to corrode (or oxidize).

Corrosive: Refers to a substance that has the power to cause irreversible damage or destroy another substance by contact. A corrosive substance may attack a wide variety of materials, but the term is usually applied to chemicals that can cause chemical burns upon contact with living tissue. A corrosive substance may be a solid, liquid, or gas.

Corrugations: Due to instability of base or poor original riding surface (plastic movement of pavement).

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.



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Coverage: The rate at which a coating spreads on a material and is usually expressed in units of square feet per gallon or square meters per liter.

Coving: Term frequently used to refer to any horizontal or vertical mouldings that form the surround to a door, window or other opening.

Crack: A fracture of the pavement surface not necessarily extending through the entire thickness of the pavement. Cracks generally develop after initial construction of the pavement and may be caused by temperature changes, excess loadings, or excess deflections, which are movements in or under the pavement. (See Working Crack.)

Crack Filling: Placing materials into non-working cracks to reduce the infiltration of water and other matter, while also reinforcing the adjacent pavement. Crack filling should be distinguished from crack sealing (see below).

Crack Sealing: Placing specialized materials into working cracks in unique configurations to keep water and other matter out of the crack and the underlying pavement layers.

Creep: It is the property of the material which enables it under constant load to deform slowly but progressively over a certain period.

Critical Value: A scientifically determined figure used to evaluate the impact of strain energy or a chemical's concentration impact on a given surface after being exposed to an external force. It is the point at which a metal is no longer recoverable to its original state.

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

Cure Time: The time required to effect curing. The time required for a material to reach its desirable long-term physical characteristics.

D

Damp Proofing: This refers to moisture control and includes damp proof course which specifically refers to water rising up (rising damp). The term also reference the application applied to a substrate to prevent moisture seeping from water or from the ground.

Deck: A flat surface capable of supporting weight, similar to a floor, but typically constructed outdoors, often elevated from the ground, and usually connected to a building. 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.

Dehumidifier: A small machine that removes moisture from the air in a room in the home. Consult with a professional on the size and type of dehumidifier appropriate for your basement.

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

Delamination Strength Testing: testing method used to determine the delamination characteristics of adhesives used to bond different materials together. This test covers the determination of the peel resistance of adhesive bonds between a relatively flexible adherent and the relatively flexible facing of a sandwich structure and its core.



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Delineators: Road markers that define lanes and shoulders; safety measures intended to guide drivers.

Density: It is defined as mass per unit volume. It is expressed as kg/m³.

Dew Point Temperature: The temperature at which water vapor condenses in cooling air at the existing atmospheric pressure and vapor content. Cooling at or below the dew point will cause condensation.

Diamond Grinding: A process that uses a series of diamond-tipped saw blades mounted on a shaft to shave the upper surface of a pavement to remove bumps, restore pavement rideability, and improve surface friction.

Downspout: A pipe that moves water out of a home's gutter system and away from the foundation and walls of a home or building.

Dowel: A plain round steel bar which extends into two adjoining slabs of pavement at a joint. Dowels are used to keep concrete slabs from heaving up and down.

Dowel Bar Retrofits: A rehabilitation technique used to distribute the weight of vehicles across existing joined pavements by placing dowel bars across joints and/or cracks.

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.

Drip Track Raveling: Progressive disintegration of the surface between wheel paths caused by dripping of gasoline oil from vehicle.

Dry film thickness (DFT): Is the thickness of a coating as measured above the substrate after the coating has dried. This can consist of a single layer or multiple layers. DFT is measured for cured coatings (after the coating dries). The thickness of a coating depends on the application and type of process employed. Proper thickness should be determined by recommended coating system parameters.

Ductility: It is the property of a material which enables it to be drawn out or elongated to an appreciable extent before rupture occurs.

E

Efflorescence: The formulation of crystalline deposits, generally whitish in color, on the surface of stone, brick, concrete, or other masonry surface when moisture moves through and evaporates on the masonry. May also be caused by free alkalis leached from mortar, grout, or adjacent concrete.

Elasticity: It is the property of a material which enables it to regain its original shape and size after the removal of external load.

Elastomeric: Is a generic term for coatings that are elastic. There are many types of elastomeric roof coatings such as acrylic, butyl, polyurethane or silicone.

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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.

Elongation: The increase in a sample's gauge length measured after a rupture or break divided by the sample's original gauge length.

Emulsified Asphalt: A liquid mixture of asphalt binder, water and an emulsifying agent.

EPDM: Ethylene Propylene Diene Monomer.

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

Epoxy: Any of a class of adhesives, plastics, or other materials that are polymers of epoxides.

Epoxy Injection: This is simply injecting epoxy adhesives into the cracks to fill them. The epoxy gun is used to inject the epoxy.

Evaporative Moisture Cooling: Moisture evaporating from material has a cooling effect upon other material that is damp or wet.

Exotherm: The freeing of heat energy during a chemical reaction. Exotherm increases in large masses.

Expansion Tie Anchors: Whenever the Department widens a pavement or constructs new curbing adjacent to an existing concrete pavement, these accessories are tied to the old pavement by use of steel anchor bolts drilled into the vertical edge of the pavement.

F

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.

Film Thickness: Is the depth of the coating applied.

Fishmouth: 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; in shingles, a half-conical opening formed at a cut edge.

Flaking: The detachment of a uniform layer of a coating or surface material, usually related to internal movement, lack of adhesion, or passage of moisture.

Flame Retardant: A substance which is added to a polymer formulation to reduce or retard its tendency to burn.

Flange: The projecting edge of a rigid or semi-rigid component, such as a metal edge flashing flange, skylight flange, flashing boot, structural member, etc.

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.

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Flexural Strength: Is a measure of the tensile strength of concrete beams or slabs. Flexural strength identifies the amount of stress and force an unreinforced concrete slab, beam or other structure can withstand such that it resists any bending failures.

Flexural Testing: Is used to determine the flex or bending properties of a material.

Formulation: As it relates to paints and coatings, is used to describe a coating whose constituents have been selected and prepared to make it suitable for a particular application.

French Drain: A waterproofing technique in which a water diversion system is installed under the floor to prevent accumulation and dampness.

G

Galvanized Steel: Steel coated with zinc for corrosion resistance.

Gel: The initial jelly-like solid phase that develops during the transition from a liquid to a solid. Note- In this state the epoxy is soft, flexible, and has no strength.

Gloss: The ability of a cured material to reflect light.

Grade Separation: A crossing that uses an underpass or overpass to eliminate conflict points.

Green Roof: Is defined as the rooftop of a structure, typically a building, which is covered fully or partially by vegetation. This vegetative layer is grown with the intention of increasing the building's overall energy efficiency, mainly by reducing its internal temperature.

Grinders: Electric tool that grinds a cement surface readying it for repair etc.

Grooving: The process used to cut slots into a pavement surface to provide channels for water to escape beneath tires. This improves skid resistance and reduces the potential for hydroplaning.

H

Hardener: A substance or mixture of substances added to an epoxy resin to promote or control the curing reaction by taking part in it.

Hardness: It is the property of the material which enables it to resist abrasion, indentation, machining and scratching.

Hydrostatic Pressure: The exertion of force on an underground structure by the water that surrounds it.

Horizontal Cracks: Fissures or cracks in a basement wall, often due to bowing or other movement, that can cause leaking and dampness in the basement's interior.

Hot Mix Asphalt Concrete (HMAC or HMA): A carefully controlled mixture of asphalt binder and well-graded, high quality aggregate thoroughly compacted into a uniform density. HMAC pavements may also contain additives such as anti-stripping agents and polymers.

Humidity: The amount of moisture contained in the atmosphere. Generally expressed as percent relative humidity (the ratio of the amount of moisture [water vapor] actually present in the air, compared to the maximum amount that the air could contain at the same temperature).

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Humidity (Absolute): The amount of moisture present in the atmosphere expressed in grams per cubic meter.

Humidity (Relative): The ratio of the amount of moisture contained in the atmosphere to the amount of moisture that can be carried in the atmosphere at a given temperature. Relative humidity is expressed in percent, e.g., 75% R.H. at a given temperature means that the air is 75% saturated with moisture.

Hydrostatic Pressure: Also known as water pressure, this term describes pressure put by outside moisture against the basement walls or foundation. Often occurs when the water table in the surrounding soil rises, and after significant rainfall.

I

Ignition Temperature: The minimum temperature to which a solid, liquid, or gas must be heated in order to initiate or cause self-sustained combustion independent of the heating element.

Impact Strength: The impact strength of a material is the quantity of work required to cause its failure per its unit volume. It thus indicates the toughness of a material.

Impact Resistance: The ability of a roofing material to resist damage (e.g., puncturing) from falling objects, application equipment, foot traffic, etc. The impact resistance of the roofing assembly is a function of all of its components, not just the membrane itself.

Infiltration: A situation in which water or another substance has leaked into a structure.

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.

Inorganic: Any chemical or compound that is derived from minerals, does not contain carbon, and is not classified as organic; being or composed of materials other than hydrocarbons and their derivatives; not of plant or animal origin.

Intercoat Adhesion: The adhesion between successive coats of paint.

J

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.

L

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

Lateral Pressure: Soil pressure on the exterior of a structure. When this pressure gets too strong for the structure to hold, it can cause bowing, cracks, and water leakage.

Latex: A colloidal dispersion of a polymer or elastomer in water which coagulates into a film upon evaporation of the water.

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Longitudinal Cracking: Cracks approximately parallel to the pavement centerline. These are caused by poorly constructed construction joints and shrinkage of the asphalt concrete surface. Longitudinal cracks may also be reflection cracks.

M

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.) Meter: Unit of length measurement in the metric system, equal to 39.37 inches.

Microsurfacing: A mixture of polymer-modified asphalt emulsion, mineral aggregate, mineral filler, water, and other additives, properly proportioned, mixed, and spread on a paved surface. Unlike slurry seal, microsurfacing can be used on high volume roadways to correct wheel path rutting and provide a skid resistant pavement surface.

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 membrane.

Milling: Grinding off the top layer of pavement.

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

Modulus of Elasticity (or Young's Modulus): A measurement of the rate of change of strain as a function of stress. It represents the slope of the straight-line portion of a stress-strain curve. With respect to tensile testing, it may be referred to as Tensile Modulus.

Mohs Hardness: It involves the assignment of a number that relates to the hardness of other key minerals.

Mohs Hardness Scale: A scale used to measure the relative hardness of a mineral by its resistance to scratching. From softest to hardest, the ten minerals of the Mohs scale are talc (measuring 1 on the scale), gypsum, calcite, fluorite, apatite, orthoclase, quartz, topaz, corundum, and diamond (measuring 10 on the scale).

Moisture Meter: An essential instrument used in many industries to detect moisture content in materials. Home and building inspectors rely on moisture meters to identify potential problems and damage to structures from moisture buildup.

Moisture Vapor Transmission Rate (MVTR): Also water vapor transmission rate (WVTR), is a measure of the passage of water vapor through a substance. It is a measure of the permeability for vapor barriers. There are many industries where moisture control is critical.



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Muriatic Acid: Concentrated hydrochloric acid often diluted and used for etching concrete.

N

Negative Hydrostatic Pressure: When water is drawn from an area of high pressure, such as the soil surrounding a foundation, to an area of lower pressure, such as the interior of a basement. Below-grade interiors are particularly subject to this type of water pressure.

Neoprene Expansion Joint: The transverse joint found at the ends of bridge deck slabs is sometimes filled with a prefabricated black rubberized material called neoprene expansion joint. The rubber expands and contracts with the broad range of Nebraska temperatures.

Nonvolatile: The portion of the coating left after the solvent evaporates; solids.

O

Orange Peel: Uneven surface with pits, like the skin of a lemon or orange.

Organic: A material being or composed of hydrocarbons or their derivatives originating from plant or animal matter.

Overlay: The application of a surface layer of asphalt or asphaltic concrete. An overlay may be a thin layer of material (usually 1 to 2 in inches thick and limited to travel lanes) or it may be a "full overlay" which typically is thicker in depth and usually runs from curb to curb in width.

P

Pan: The bottom flat part of a roofing panel which is between the ribs of the panel.

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

Patch: Repair of a localized defect in the pavement surface.

Peel Strength: Is generally used to measure the bond strength of a material, typically an adhesive.

Peel Strength Test: Is the average load per unit width of bond line required to separate bonded materials where the angle of separation is 180 degrees. This test is used extensively for pressure-sensitive tape systems to understand how well the adhesive "sticks" to the surface to which it is applied. All of these tests can be performed after various environmental and chemical exposures that mimic service conditions.

Penetration: Any object passing through the roof; 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.

Pin-holing: Refers to a small, sunken area that forms on a coating film after a bubble ruptures. Pinholes are typically larger and less abundant across a coating's surface than solvent pops. They are caused by trapped solvents, air moisture, and improper surface preparation.



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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.

Plasticity: It is the property of the material which enables the formation of permanent deformation.

Pliability: The material property of being flexible or moldable.

Ply: A layer of felt, ply sheet, or reinforcement in a roof membrane or roof system.

Polyurethane: A synthetic resin in which the polymer units are linked by urethane groups, used chiefly as constituents of paints, varnishes, adhesives, and foams.

Porosity: The term porosity is used to indicate the degree by which the volume of a material is occupied by pores. It is expressed as a ratio of volume of pores to that of the specimen.

Positive Hydrostatic Pressure: Movement of water toward gravity.

Pothole: If vehicle movement and/or water cause the top layer of asphalt to slough away and expose the subgrade or the road bed, the resultant condition is commonly called a pothole. Once the subgrade or road bed has been disturbed, the road is considered structurally failed.

Pot Life: Is the length of time in which multiple part coatings or paints can be applied to a surface. Pot life begins when the mixing is complete, and ends when the mix is unsuitable for application or has set.

Potable Water: Water fit or suitable for drinking: potable water.

Pounds per Square Inch (PSI): PSI stands for pounds per square inch. Concrete strength is measured in psi. Typically, the required strength of concrete is specified by the architect or engineer, or if there is none, by the minimum required in the building code.

Pressure Relief System: A mechanism installed below a basement floor to remove water buildup resulting from hydrostatic pressure.

Primer: The first coat applied to a surface, formulated to have good bonding, wetting and inhibiting properties.

Puncture Strength Tests: Tests that are used to determine the puncture or rupture characteristics of a material. This is generally a compressive test where a material is compressed by a probe or other type of device until the material ruptures or until an elongation limit is achieved.

R

Radon Mitigation Kits: A kit that is used to determine levels of radon and materials to reduce its effects to acceptable amounts.

Radon Gas: A hazardous substance that can seep into a basement interior through cracks in the foundation or walls. Radon testing can determine if you have acceptable or dangerous levels of radon in your home.

Raveling: Wearing away the pavement surface caused by dislodging of aggregate particles and binders. This is usually a result of insufficient asphalt binder in the mix or stripping of asphalt from particles of aggregate.



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Reconstruction: Extensive street repair work that typically involves the excavation of the existing street to the road bed and the rebuilding of the road bed and surface layers of the street. Reconstruction generally is at least four to five times more costly per lineal foot than rehabilitation.

Rehabilitation: Surface repairs to streets. Examples of rehabilitation work include slurry seals (on low-volume streets) and full paving overlays.

Ruts: Depressions formed under the wheel due to heavy load, this causes consolidation, deformation or plastic flow.

Rutting: Usually caused by higher weight vehicles such as trucks and buses, which deflect the pavement surface and also can compress and distort the road base by "pumping" the underlying materials and creating subsurface voids.

S

Safety Data Sheet (SDS): Is an important document containing a chemical product's physical data, potential hazards, handling and required safety precautions. The information is used as a starting point when developing complete safety and health programs. It is a requirement for every manufacturer to include this information with every chemical product.

Sandblasting: A procedure in which compressed air is used to blow sand particles at a pavement surface to abrade and clean the surface. Sandblasting is a construction step in partial-depth patching and joint resealing.

Sealant: A substance used to block the passage of fluids through the surface or joints or openings in materials, a type of mechanical seal. In building construction sealant is sometimes synonymous with caulking and also serve the purposes of blocking dust, sound and heat transmission.

Sealing: The process of placing sealant material in prepared joints or cracks to minimize intrusion of water and incompressible materials. This term is also used to describe the application of pavement surface treatments.

Shrinkage: The decrease in volume, or contraction, of a material by the escape of any volatile substance, or by a chemical or physical change in the material.

Shear Strength: The strength of a material or component against the type of yield or structural failure when the material or component fails in shear.

Shear Testing: is performed to determine the shear strength of a material. It measures the maximum shear stress that may be sustained before a material will rupture. Shear is typically reported as MPa (psi) based on the area of the sheared edge.

Shore A Hardness: The reading of a material's hardness on a durometer, the scale of which is 0-100, used on elastomers and other flexible materials. Consists of a pin point depression into the material, the material being at least 100 mils thick. A Shore A reading of 80 equal a Shore D reading of 30.

Shore D Hardness: The reading of a material's hardness on a durometer similar to the Shore A durometer, the scale of which 0-100, used on rigid and semi-rigid materials. Consist of a pin point depression into the material. Both the Shore A and Shore D instruments are made by the Shore Instrument Manufacturing Company, Inc., Jamaica, NY.



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Slurry: Mixture of a liquid and fine solid particle that together are denser than water.

Slurry Seal: A mixture of slow setting emulsified asphalt, well graded fine aggregate, mineral filler and water. It is used to fill cracks and seal areas of old pavement, to restore a uniform surface texture, to seal the surface to prevent moisture and air intrusion into the pavement, and to improve skid resistance.

Spalling: Refers to any disruption of the normal surface to concrete and its products. racking, breaking, chipping, or fraying of slab surface, usually within a confined area less than 0.5 square meters. Once water permeates a concrete surface and freezes, it will expand causing surface deterioration (spalling).

Specific Gravity: Is a measurement of the density of a material relative to another material. Specific gravity is expressed as a ratio. A material with a specific gravity greater than 1 will have a higher density than its reference material.

Split-Slab: This term refers to concrete. One slab serves as a slab on grade that is waterproofed with a drainage systems. This first slab can be suspended too. The second slab goes over the first completing the 'split' which defines this process.

Shear: A pull directed across the adhesive, forcing the substrates to slide past each other. The test might be dynamic where one panel is bonded to another and pulled apart in a testing machine. The higher the load needed to "shear apart" the test panel the better its' ability resist sudden loads and thermal expansion. The test can also be run in a static mode where a constant load is applied and time to failure is recorded. Static shear value are useful in understanding how a system might perform if it must support a vertical load during service.

Shelf Life: The period of time during which a packaged epoxy or curing agent can be stored under specific temperature conditions and remain stable for use.

Specification: Refers to a widely accepted publication of technical standards or guidelines that serve a particular industrial purpose. They are exact statements that provide clear instructions to ensure quality control in the selection of a good, material, process or system prior to installation.

Stain Resistant: A chemical finish applied to or inherent in carpet fibers which inhibits specific stains from adhering to or dyeing (staining) carpet fibers.

Split Tensile Strength Test: A method of determining the tensile strength of concrete using a cylinder which splits across the vertical diameter. It is an indirect method of testing tensile strength of concrete.

Stiffness: It is the property of a material which enables it to resist deformation.

Strength: Strength of a material has been defined as its ability to resist the action of an external force without breaking.

Substrate: A material upon the surface of which an epoxy is spread for any purpose, such as bonding or coating.

Surface Air Temperature: The temperature of the air near the surface of the earth.

T

Tack-free: Refers to a coating condition whereby a coating is completely dry with little or no moisture left after application on the surface to be protected.



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Tack-free time (TFT): Is a measure of a surface cure time during the application of a substance such as a coating or sealant. It is the time at which the coating is deemed to be properly adhered and capable of providing maximum protection to a surface without being disrupted or damaged.

Tear Resistance: The measurement of a sample's ability to resist tearing. Tear resistance can be impacted considerably by the speed of the test, e.g. test speed used in generate the tear. Tear propagation resistance for the purpose of acceptance testing is common with materials such as paper and rubber.

Tear Strength: The tensile force required to rupture a pre-slit woven fabric sample under controlled conditions. Edge tearing strength of paper is the load required to tear a sample over a V-notch fixture. Tensile ie a pull exerted equally over the entire joint. The pull direction is straight and away from the bond line. This is a useful test to understand how an adhesive might perform when a sudden load is applied such as a wind gust.

Technical Data Sheet (TDS): Is a document provided with a product that lists various pieces of information about the product. TDS include product composition, methods of use, operating requirements, common applications, warnings and pictures of the product.

Tensile Elongation: Is the stretching that a material undergoes as it is pulled in tension. Tensile elongation is a measure of both elastic deformation and plastic deformation, and is commonly expressed as a percentage.

Tensile Strength: Measures the force required to pull something such as rope, wire, or a structural beam to the point where it breaks.

Theoretical Coverage: refers to the mathematical expression of how a coating that is applied to a metal to prevent corrosion responds to heat and other environmental changes.

Thermal Conductivity: It is the property of a material which allows conduction of heat through its body. It is defined as the amount of heat in kilocalories that will flow through unit area of the material with unit thickness in unit time when difference of temperature on its faces is also unity.

Thixotropy: The property of a paste or fluid to thicken or set up to a paste or semi-gel when allowed to stand. Agitation breaks it down but further standing will again permit a viscosity rise.

Total Solids by Volume: Solids by volume refer to the percent ratio of the volume of dissolved solids (non-fluid particles) in a given mixture or solution relative to the overall three-dimensional linear space (i.e., total volume) that is occupied by said fluid mixture or solution.

Total Solids by Weight: Refers to the percent ratio of the mass of the non-fluid particles or dissolved solids in a given mixture relative to the total mass of said mixture or solution.

Toughness: Is the property of a material which enables it to be twisted, bent or stretched under a high stress before rupture.

Transverse Cracking: Cracks approximately at right angle to the pavement center line. These may be caused by hardness and shrinkage of asphalt or differential thermal stresses of asphalt concrete or may be reflection cracking.

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U

Ultimate Tensile Strength (UTS): Is the maximum stress that a material can withstand while being stretched or pulled. The ultimate tensile strength of a material is calculated by dividing the cross-section area of the material tested by the stress placed on the material, generally expressed in terms of pounds or tons per square inch of material.

Ultimate Tensile Stress (UTS): Refers to the maximum stress that a given material can withstand under an applied force. Metals that experience stress beyond the UTS value are more likely to exhibit traits of stress corrosion cracking.

Ultraviolet Resistance: Is the ability of a material, often a polymer, to withstand the degradation that can be caused by exposure to ultraviolet light. If a polymer has low ultraviolet resistance, it could be subject to premature or unintended failure as a result of deterioration.

UV Stable: Many natural and synthetic polymers are attacked by ultraviolet radiation, and products using these materials may crack or disintegrate if they are not UV-stable. The problem is known as UV degradation, and is a common problem in products exposed to sunlight. Materials that do not degrade under UV Light, are called UV Stable.

V

Vapor Barrier: A barrier used to prevent water vapor diffusion; a vapor barrier is typically used to isolate wooden or steel framing from the concrete on which it rests.

Vapor Pressure: Is the pressure that is exerted by a vapor at a certain given temperature in a closed system when the entire system is operating in a thermodynamic equilibrium. Vapor pressure indicates a liquid's evaporation rate. The molecules in a liquid or a solid material have a tendency to transit from one phase to other phase under high vapor pressure.

Vertical Waterproofing: The term suggests the definition. Usually referencing walls or vertical structures that base out to a floor or substrate. Several layers of membrane (bitumous) are layered in a prescribed manner first using a torch and then several layers of membrane with a primer.

Viscosity: A measure of a fluid's resistance to flow. It describes the internal friction of a moving fluid. A fluid with large viscosity resists motion because its molecular makeup gives it a lot of internal friction. A fluid with low viscosity flows easily because its molecular makeup results in very little friction when it is in motion.

Volatile Organic Compounds (VOCs): Are gases that are emitted into the air from products or processes.

VOC-compliant: Is an abbreviation of the term "volatile organic compound-compliant." This refers to a system, substance or application that adheres to governmental regulations regarding volatile organic compounds.

W

Wall Deflection: The degree to which a basement wall is shifted due to outside pressure. This can result in cracks and water seepage.

Wall Drainage Board: A mechanism used to divert water from a structure, this board is often made from plastic and is propped at an angle against the exterior wall of a structure.

Water Absorption: The amount of weight gain (%) experienced in a polymer after immersion in water for a specific length of time under controlled environment.



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Water Repellant: It also refers to the coating applied to a surface to prevent water from seeping into a substrate or surface

Water Table: Refers to water underground that is saturated with water that creates water level. It often fills spaces, cracks and fissures occurring underground, including spaces in rocks.

Water Vapor Transmission Rate (WVTR): Measures the passage of water vapor through a substance of a given unit area and unit time. Controlling the water vapor transmission rate is important because varying working temperatures may lead to condensation and the formation of moisture, which can cause corrosion.

Weatherability: The ability of a material or structure to withstand, resist or endure harsh atmospheric weather conditions, such as extremely hot or cold temperatures, humidity, salt air or similar corrosive conditions. Weathering tests are conducted to understand the effects of weather on any structure and help determine the weathering characteristics of materials and coatings.

Weathering Test: Is test for determining weathering characteristics of materials and coatings. Weathering testing is used to improve product durability and is also a tool for decision making. Such tests can be used to predict durability or to monitor changes in mechanical properties during weathering of materials.

Weeping Tile: A porous or perforated pipe used for underground drainage. Weeping tile is installed along the foundation footings exposed to the water table.

Wet Film Thickness (WFT): Is the thickness of wet paint or any coating film that is liquid-based. Wet thickness is at its peak right after the application of the coating. It decreases once volatile and solvents from the coating film undergo evaporation. While measuring wet film thickness, it is necessary to identify the amount of material that needs to be applied to achieve a particular dry film thickness that will give the best protection against damage, wear and corrosion.

Wetting: The thorough impregnation of a material by a liquid. The more viscous a fluid, and the higher its surface tension, the more difficult it is for the liquid to "wet" materials. Certain additives, for example, water softeners, reduce surface tension, or viscosity and improve wetting properties, allowing the material to flow out more.

Working Life: The period of time during which an epoxy after mixing with a curing agent, remains workable and suitable for use.

Wicking: The flow of moisture through the small interconnected pores in concrete due to adhesion and surface tension.

Wind Uplift: Refers to a type of structural failure whereby the roofing component of a building is physically displaced due to a strong wind. This causes the roof to be partially or fully displaced. Wind uplift is more likely to occur in roofs with higher rates of corrosion due to their reduced structural stability.

X

Xylene: A volatile liquid hydrocarbon obtained by distilling wood, coal tar, or petroleum, used in fuels and solvents and in chemical synthesis.

Y

Young's Modulus (or Modulus of Elasticity): A measurement of the rate of change of strain as a function of stress. It represents the slope of the straight-line portion of a stress-strain curve. With respect to tensile testing, it may be referred to as Tensile Modulus.

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