

Glossary of Caulk, Sealant, Adhesive, Paint, Coatings & Related Terms

A

AAMA: Architectural Aluminum Manufacturer's Association

Above-Grade: That portion of a home or building that is above ground level.

Abrasive: Agent used for abrasive blast cleaning - example: Sand, Grit, Steel Shot, etc.

ABS: (Acrylonitrile Butadiene Styrene Resin) A common polymer (plastic w/ high resistance to heat, low-temperatures & impact. Bonds well w/ many adhesive families.

Absorption: The relationship of the weight of water absorbed to the weight of the dry sample, expressed as a percentage.

Accelerator: Usually Part B of an adhesive formula, it causes &/or speeds the resin's curing process.

Acetone: A fast evaporating, highly flammable solvent.

Acid: A chemical substance usually corrosive to common metals, such as aluminum, iron & zinc. Acids are usually divided into two classes:

1. Strong mineral or inorganic acids such as sulfamic, sulfuric, Phosphoric, hydrochloric or nitric.
2. Weak organic or natural acids such as acetic (vinegar), citric (citric Fruit juices), oxalic & fatty acids (Oleic, palitic, stearic)

Acid Rain: Rainfall which becomes acidic due to air pollution.

Acoustical Sealant: A sealant exhibiting acoustical properties, usually containing one or more dense mineral fillers.

Acre: 43,500 square feet.

Accelerator: A material added which speeds up the set-time/natural set of Stucco, plaster, mortar, etc.

Acrylic: Product whose formulation is based upon an emulsion made up of acrylic monomers such as ethylacrylate, methylacrylate, etc.

Activator: Catalyst or curing agent; accelerator.

Active Solids: Ingredients of a caulk, mastic, paint or sealant which are deposited following coreaction or reaction with the substrate. Active solids are usually measured as a weight percent of the total.

Adhesion: The bonding forces between two different materials (between an adhesive & substrate) (The state in which two surfaces are held together by inter-surface forces which may consist of electronic forces or mechanical action, or both.) That property of a sealant to bond to the surface to which it is applied.

Adhesion-in-Peel: Force required to peel a sealant, caulk, adhesive or coating from the surface; usually expressed in pounds per inch (PPI).

Adhesive: A material employed to attach one solid to another so that the two solids may function as a single unit.

Adhesive Failure: Loss of adhesion between the adhesive & substrate. The adhesive pulls cleanly away from the substrate. In a sealant joint, failure between the sealant & the substrate. Loss of bond of a sealant from the surface to which it is applied.

Aerobic: An epoxy that requires exposure to oxygen to cure.

Aggregate: Materials such as Perlite, Sand or similar, added to paint to achieve a textured appearance when dry. Crushed stone, gravel or similar, used to surface built-up roofs.

Air Duct: Ducts, usually made of sheet metal, that carry cooled air to all rooms. Various sealants are typically used to make the ductwork as air-tight as possible, to maximize HVAC efficiency.

Air Infiltration: The amount of air leaking in & out of a building through cracks in walls, windows & doors.

Alcohol: Flammable solvent; alcohols commonly used in paints & coatings are ethyl alcohol (ethanol) & methyl alcohol (methanol, wood alcohol).

Alkali: Caustic, such as sodium hydroxide, lye, etc.

Alkyd: Synthetic resin modified w/ oil. Product that contains alkyd resins in the binder.

Alligatoring: Surface imperfections of coatings having the appearance of alligator hide. (Often a condition of a paint or aged asphalt coating caused by the loss of oils & the oxidation caused by solar exposure.

Ambient Temperature: Room temperature or temperature of surroundings.

Amide: A functional group which can act as an epoxy resin curing agent.

Amines: Curing agent combined with epoxy resins.

Anaerobic: A one-part sealant/adhesive that cures only in the absence of Oxygen. Designed for locking screws, nuts, bolts or retaining bearings, shafts, etc.

ANSI: American National Standard Institute.

APA: American Plywood Association

Apron: Trim or facing on the front or side of a countertop, table edge or windowsill.

Aqueous: Relating to or made/formulated with water.

Aromatic Hydrocarbons: Strong solvents such as Toluene, Xylene & Benzene.

Asphalt: Residue from petroleum refining; also a natural complex hydrocarbon. Dark colored - typically Black, highly viscous hydrocarbon produced from residue left following

distillation of petroleum. Asphalt is typically used on highways & roofs as a waterproofing agent.

ASTM: American Society for Testing & Materials.

B

Back Wall: The wall facing an observer who is standing at the entrance to a room, shower or closet.

Backer Rod: Typically a foam-like material used to properly configure expansion/contraction joints and to provide a surface that either the sealant will not adhere to or will be so flexible in its own right that, even though the sealant adheres to it, does not hinder the needed movement capability of the sealant itself. Backer rod usually comes in long lengths of a circular profile and is pressed into the joint just before the sealant is applied.

Bead: A strip of applied sealant, glazing compound or putty.

Below-Grade: The portion of a home or building that is below ground level.

Bench Mark: A permanent reference point.

Binder: The component of a sealant or adhesive formulation most responsible for the performance properties of the product in question. (Often called the Emulsion or Polymer) Generally, the higher the binder level in a formulation the better the quality.

Bituminous Coating: Coal tar or asphalt based coating.

Bleeding: Penetration of color from the underlying surface. Migration of a liquid to the surface or into or onto an adjacent material.

Blistering: Formation of dome-shaped projections in paints or varnish films resulting from local loss of adhesion & lifting of the film from the underlying surface.

Body: The thickness or viscosity of a fluid.

Bond: The union of materials by adhesives. The matrix established between a sealant and the substrate to which it is applied. The adherence of one material to another.

Bond Breaker: A material to prevent adhesion @ a designated interface.

Bond Line: The space or gap between two substrates which contain the adhesive.

Bond Strength: The amount of force a bond can sustain, usually measured in pounds per square inch.

Bronze Tools: Non-sparking tools; used when fire hazards are particularly acute.

Broom Finish: A surface texture obtained by sweeping a broom over freshly poured concrete.

Brown Coat: The second coat of a three-coat plaster or mortar application.

Butadiene: A gas which is chemically combined w/ styrene to create a resin, styrene-butadiene.

C

Calcium Chloride: Chemical used to speed up the curing of concrete during damp conditions.

Catalyst: Substance whose presence increases the rate of a chemical reaction; eg: Acid catalyst added to an epoxy resin system to accelerate drying time.

Caulk: (See also Sealants & Caulks) - A non-elastomeric material used for filling joints where little or no movement capability is required; a joint sealer with relatively low movement capability, usually < 10%.

Caulk (verb): The application of sealant to a joint, crack or crevice.

Cement: Usually refers to Portland cement, usually mixed with sand, gravel & water to form concrete.

Cement Grout: A cementitious mixture of Portland cement, sand & other ingredients, with water, to produce a water resistant, uniformly colored material used to fill the joints between tile or similar materials.

Cementitious: Having properties like cement or in some way related to cement or a cement application.

Cement Mix Ratios: **RICH:** 1 part cement, 2 parts sand, 3 parts coarse aggregate. Used for concrete roads & waterproof structures. **STANDARD:** 1 part cement, 2 parts sand, 4 parts coarse aggregate. Used for reinforced work floors, roofs, columns, arches, tanks, sewers, conduits, etc. **MEDIUM:** 1 part cement, 2 1/2 parts sand, 5 parts coarse aggregate. Used for foundations, walls, abutments, piers, etc. **LEAN:** 1 part cement, 3 parts sand, 6 parts coarse aggregate. Used for all mass concrete work, large foundations, backing for stone masonry, etc. Mix ratios are always listed Cement to Sand to Aggregate.

Cement Types: **TYPE I NORMAL:** A general purpose cement suitable for practically all uses in residential construction but should not be used where it will be in contact with high sulfate soils or be subject to excessive temperatures during curing. **TYPE II MODERATE:** Used where precaution against moderate sulfate attack is important, as in drainage structures where sulfate concentrations in ground waters are higher than normal. **TYPE III HIGH EARLY STRENGTH:** Used when high strengths are required @ very early periods, usually a week or less; used when it is desirable to remove forms as soon as possible or to put the concrete into service quickly. **TYPE IV LOW HEAT:** A special cement for use where the amount & rate of heat generated during curing must be kept to a minimum. Development of strength is slow & is intended in large masses of concrete such as dams. **TYPE V SULFATE RESISTING:** A special cement intended for use only in construction exposed to severe sulfate action, such as western states having soils of high alkali content.

Chalking: Formation of a powder on the surface of a paint film caused by disintegration of the binder during weathering. Can be affected by the choice of pigment or binder.

Chalk Line: A cotton cord coated with chalk, used to mark a straight line.

Checking: A pattern of surface cracks generally running in irregular lines; often a preliminary stage of alligating.

Chemical Resistance: A resistance exhibited by products to physical or chemical reactions, resulting from contact with or immersion in various solvents, acids, alkalies, salts, etc.

Chemically Curing Sealant: A compound that cures primarily through chemical reaction.

Chemical Injection Grouting: Leak repair technique usually used below-grade in cracks & joints in

concrete walls & floors that involves injection of sealant (usually urethane) that reacts with water to form a seal.

Chroma: A measurement of color. The degree of saturation of a hue. A color @ its full intensity has maximum chroma.

Clear Coating: A transparent protective &/or decorative film; generally the final coat of sealer applied to a surface; eg: automotive finishes.

Cleavage Membranes: A membrane that provides a separation/slip sheet between the mortar setting bed & the backing or base surface/substrate.

Coalescent Aid: A small amount of solvent in some latex coatings. Not a true solvent, since it does not actually dissolve latex resins; the coalescent aid helps the latex resins flow together, facilitating film formation.

Coating: A layer of any liquid, semi-liquid or low-viscosity product applied to/spread over a surface for protection.

Cohesion: A bonding together of a single substance to itself. Internal adhesion.

Cohesive Failure: This type of failure occurs when the sealant cracks down the middle (or somewhat off-center), while the adhesion of the sealant on both sides of the joint is maintained. If failure is unavoidable (such as when large joint movement occurs), cohesive failure is the most desirable failure mode. The reason is that usually this type of failure does not require that the failed sealant be removed; only that it be cleaned well & resealed w/ fresh material of the same type.

Cold-Cracking: Cracking occurring @ low temperatures.

Cold Joint: A point in concrete construction where a pour was terminated & the surface lost plasticity before work was continued or completed.

Colorant: Concentrated color (dyes or pigments) that can be added to make specific colors. (not appropriate for some products)

Colorfast: Non-fading in long-term exposure to light.

Color Retention: The ability of a coating to retain its original color. Significant threats to color retention are exposure to ultraviolet rays (sun) & abrasion from weather or repeated cleaning.

Compatibility: Ability to mix with or adhere properly to other components or substances.

Compatible: Two or more substances which can be mixed or blended without separating, reacting or affecting either material adversely.

Composite Board: An insulation board which has two different insulation types laminated together in two or three layers.

Compound: A chemical formulation of ingredients used to produce a caulking, joint sealant, etc.

Compressive Strength: The ability of a material to withstand a load, usually measured in psi.

Condensation: Moisture/water vapor on the surface of an object caused by warm moist air coming into contact with a colder object.

Conduit: A tube for the protection of electrical wires.

Contaminants: Foreign material such as dust, dirt, oils or rust on the joint substrate/surface.

Control Joints: Expansion Joint.

Coping: The material used to form a cap or finish on top of a wall, pier or chimney.

Copolymer: A polymer consisting of molecules containing large numbers of units of two or more chemically different types in irregular sequence; polymer made (polymerized) by combining two monomers.

Corrosion: The major type of deterioration of metals; sometimes called oxidation; a chemical reaction of pure metal with oxygen or other elements.

Corrosion Inhibitive: A paint, primer or coating - typically for metal - that prevents rust by preventing moisture from reaching the metal. Zinc phosphate, barium metaborate & strontium chromate (pigments) are common ingredients in corrosion-inhibiting coatings.

Cracking: The severe breakdown of internal cohesive forces of a sealant either during cure or afterward, as a result of excessive stress. Two typical examples are side & center cracking in an expansion joint. Shrinkage upon curing of elongation can build up excessive stress either @ the center of the joint or near the center of the joint causing severe failure.

Crazing: Similar to cracking, however much less severe & does not destroy the basic function of the caulk. Crazing only extends a few molecules deep into the surface of the product (due again to excessive stress) & can occur during the curing phase or after being exposed to high elongation & weathering.

Creosote: A liquid coating made from coal tar once used as a wood preservative. It has been banned from consumer use due to potential health concerns.

Cross-linking: A particular method by which chemicals unite to form films.

Crow Hop: Tile joints that are out of alignment.

CSI: The Construction Specification Institute.

CTDA: Ceramic Tile Distributors Association.

Cure: The process by which a semi-liquid sealant/adhesive becomes a firm, functional solid. (A) Latex systems cure by evaporation/coalescence; whereby as the water evaporates from the system the particles of polymer binder come closer & closer together until they touch and coalesce together, forming a continuous film. (B) Chemically curing systems (silicone, polyurethanes, polysulfide, etc. function by using highly reactive chemical components of simple chemical structure that interact to form complex polymers in place. (C) Oil-based caulks rely on the slow process of air oxidation to cause vegetable oils to polymerize in place.

Curtain Wall: A thin wall, supported by the structural steel or concrete frame of the building independent of the wall below; can also be a metal (usually aluminum) framing system on the face of a building containing vision glass panels & spandrel panels made of glass, aluminum or other material

Cutback: Typically a basic asphalt or tar, cutback with solvents &/or oils, so the material will flow.

D

Dampproofing: Process used on concrete, masonry or stone surfaces to repel water, the main

purpose of which is to prevent the coated surface from absorbing rain water while still permitting moisture vapor to escape from the surface. (Moisture vapor readily penetrates coatings of this type.) Dampproofing generally applies to above-grade surfaces. Waterproofing generally applies to below-grade surfaces.

Dead Flat: No gloss or sheen @ all.

Deflection: A variation in the position or shape of a structure element due to the effect of loads or volume change; usually measured as a linear deviation from an established plane rather than an angular variation.

Density: Weight per unit volume.

Dew Point: The temperature @ which vapor condenses from the atmosphere & forms water.

Dielectric Strength: The maximum voltage a material can withstand without failure. (measured in volts per millimeter of thickness of the material)

Diluent: A liquid used in products to reduce viscosity. The water in latex paints/coatings/caulks is a diluent. A diluent may also be called a reducer, thinner, reducing agent or reducing solvent.

Dirt Pick-up: Soiling caused by a foreign material other than micro-organism growth that is deposited on, adhered to or embedded into a sealant, coating or membrane.

Discoloration: Color change.

Dormer: A house-like structure which projects from a sloping roof.

Double Bullnose: A type of trim with the same convex radius on two opposite sides.

Double-Glazing: Use of two lites of glass, separated by an air space, within an opening, to improve insulation against heat transfer &/or sound transmission. In insulating glass units the air between the glass sheets is dried & the space is sealed, eliminating possible condensation & providing superior insulating properties.

Downspout: The metal pipe used to drain rain water from a roof.

Driers: Various compounds added to coatings to speed up the drying process.

Dry Colors: Powder-type colors to be mixed with water, alcohol or mineral spirits & resin to form a stain or paint coating.

Dry Glazing: Often called compression glazing, a term used to describe various means of sealing monolithic & insulating glass in the supporting framing system with synthetic rubber &/or other elastomeric gasketing materials.

Drying Oil: An oil that when exposed to air will dry to a solid through chemical reaction with air; linseed oil, tung oil, perilla, fish oil & soybean oil.

Dry-set Mortar: A mixture of Portland cement, sand & additives to impart water retentivity; used as a bond coat in setting tile. Typically when this mortar is used, neither the tile nor the walls have to be soaked during installation.

Drywall: Sheetrock (gypsum board) that covers the framing & taping, coating & finishing to make the interior walls & ceilings of a house/building. Drywall is also used as a verb, referring to the installation

process.

Duct: A cylindrical or rectangular "tube" used to move air in a house/building. The installation is referred to as "duct work".

Durometer: A device used to determine the hardness of a material.

Durometer Hardness: A measure of the hardness of a material as measured by a durometer. The resultant numerical rating of hardness in Shore A softer material (30 or 40) to higher numbered, harder material (80 to 90).

Dusting: The application of dry Portland cement to a wet floor or deck mortar surface.

E

Earth Pigments: Pigments obtained from the earth, including barytes, ocher, chalk & graphite.

Eave: The part of a roof which projects out from the side wall, or the lower edge of the part of a roof that overhangs a wall.

EER: Energy Efficiency Ratio; is figured by dividing BTU hours by watts.

Efflorescence: A residue deposited on the surface of a material (often the grout joint) by crystallization of soluble salts. The process by which water leeches soluble salts out of concrete or mortar & deposits them on the surface.

EIFS: Exterior Insulation & Finish Systems, are the most commonly used stucco-look exterior cladding in the United States. According to 2002 Industry Statistics, EIFS accounts for approximately 17% of the U.S. commercial exterior.

Elastic: The property of a material which allows it to be stretched substantially & upon immediate release of the stress, to return with force to its approximate original length. An excellent example is a rubber band; it can be stretched & will return to its original length many times. If a material can be deformed under stress but will not return to its original shape or dimension it is not elastic.

Elastomer: Macromolecular material that returns rapidly to approximately the initial dimensions & shape after substantial deformation by a weak stress & release of the stress.

Elastomeric: Materials that are "elastomeric" could also be said to be "elastic". Both terms describe what most people would refer to as "rubberiness" or behaving like rubber (which stretches & compresses, & returns to its original shape after stress is removed.)

Elongation: The ratio of the change in length of a stretched sample to the original length of the sample (measured in per cent), usually the ultimate value (elongation @ failure.) (extension produced by a tensile stress)

Emulsion: Mixture of solids particles of binder & the liquid carrier in which they are suspended but insoluble.

Enamel: Broad class of paints that dry to a hard, usually glossy finish. Many equipment coating enamels require baking. Enamels for walls, trim do not.

Endothermic: A process of change that takes place w/ absorption of heat. (Some formulations may be endothermic in curing, while others could be exothermic, giving off

heat during cure.)

EPDM: Ethylene Propylene Diene Monomer; a single ply membrane consisting of synthetic rubber; usually 45 or 60 mils. Application can be ballasted, fully adhered or mechanically attached.

Epoxy: Extremely tough & durable synthetic resin used in some products. Epoxy coatings are extremely tough, durable & highly resistant to chemicals, abrasion, moisture & alcohol. A class of synthetic, thermosetting resins which produce tough, hard, chemical resistant coatings & excellent adhesives.

Epoxy Adhesive: An adhesive system using/requiring epoxy hardener portions.

Epoxy Resin: A thermosetting resin based on the reactivity of the epoxide group; characterized by toughness, good adhesion, corrosion resistance, chemical resistance & good dielectric properties. Generally epoxy resins are the two-part type, which harden when mixed/blended. They are used as surface coatings, adhesives for composites & for metals, floor surfacing & wall panels, cements & mortars.

Etch: Surface preparation of metal by chemical means.

Expansion Coefficient: Amount a specific material will vary in any one dimension with a change in temperature.

Expansion Joint: A type of building joint where a significant distance is left between two substrates so as to accommodate normal building expansion & contraction due primarily to temperature changes. A sealant placed in this type of joint is subject to being stretched & compressed, rather than being sheared.

Exothermic: Pertaining to a chemical reaction which releases heat.

Extender: Ingredients added to paint or similar coatings to increase coverage, reduce cost, achieve durability, enhance appearance, control rheology & achieve other desirable properties. Less expensive than prime hiding pigments such as titanium dioxide; Examples: barium sulfate, calcium carbonate, clay, gypsum, silica or talc. Addition may also improve coating performance.

F

Façade: The front of a building; frequently in architectural terms an artificial or decorative effort.

Face Brick: Brick made especially for exterior use with special consideration of color, texture & size.

Face Glazing: A system having a triangular bead of compound applied with a putty knife, after bedding, setting & clipping the glazing infill in place on a rabbeted sash.

Fading: Reduction in brightness of color.

Fan or Fanning: Spacing tile joints to widen areas so they will conform to a section that is not parallel.

Fascia: Cover board or framed metal assembly @ the edge or eaves of a flat, sloping or overhanging roof which is placed in a vertical position to protect the edge of the roof assembly.

Federal Specifications: Government Specifications for products, components &/or performance.

Fenestration: Any glass panel, window, door, curtain wall or skylight unit on the exterior of a building.

Filler: Extender; bulking agent; inert pigment.

Fillet Bead: Caulking or sealant placed in such a manner that it forms an angle between the materials being caulked.

Film Former: A protective treatment that fills masonry pores, forming a continuous film on the surface.

Film Thickness: Depth or thickness of the dry coating in millimeters.

Fireproof: The act of installing fireproofing. Immune to the effects of fire. Nothing known to man is immune to the effects of fire of sufficient intensity &/or duration.

Fire-protection Rating: The time in hours or fraction thereof that a closure, window assembly or glass block assembly will withstand the passage of flame when exposed to fire under specified conditions of test & performance criteria, or as otherwise prescribed in the Building Code.

Fire-Rated: Description of materials that have been tested for use in fire walls.

Fire-resistance: The property of a material or assembly in a building to withstand fire or give protection from it & is characterized by the ability of the material or assembly to confine a fire or to continue to perform a given structural function or both.

Fire-resistance Rating the passage of flame & the transmission of heat when exposed to fire under specified conditions of test & performance criteria, or as determined by extension or interpretation of information derived there from as prescribed in the Building Code.

Fire Retardant: A treatment to reduce surface burning characteristics of a material.

Fire Separation: A construction assembly that acts as a barrier against the spread of fire & may or may not have a fire-resistance rating or a fire-protection rating.

Firestop: A system of various components used to seal mechanical, electrical or structural through penetrations, unpenetrated openings & building joints in fire-resistance rated wall & floor assemblies in order to restore their fire-resistance ratings, which are ZERO, until such openings are fire stopped with a certified firestop system, whereby the installed configuration is bounded in all respects by a certification listing.

Firewall: A fire separation of non-combustible construction that subdivides a building or separates adjoining buildings to resist the spread of fire that has a fire-resistance rating as prescribed in the Building Code & that has structural stability to remain intact under fire conditions for the required fire-rated time.

Flake: A scale-like particle. To lose bond from a surface in small thin pieces. (Sometimes a paint film "flakes".)

Flammability: Measure of ease of catching fire; ability to burn.

Flashing: A thin impervious material placed in construction to prevent water penetration &/or provide water drainage, especially between a roof & wall & over exterior door openings & windows & around chimneys.

Flash Point: The temperature @ which the vapor from a coating will ignite when exposed to a flame - when tested in a closed cup - some FP Analysis are performed/reported in open cup, although closed cup is more common. (The critical temperature @ which a material will ignite.)

Flash Rusting: A thin film of surface rust on a metal substrate that occurs within minutes to several hours after exposure to water or the application of certain waterborne coatings.

Flat: A surface that scatters or absorbs the light falling on it so as to be substantially free from gloss or sheen (0 - 15 gloss on a 60 - degree gloss meter).

Flexibility: Ability to be bent without damage.

Flexible: The property of a material to undergo deformation under stress, but not exhibit the ability to stretch & return to its original shape when the stress is relieved. An excellent example is a sheet of paper: it can be bent but will tear if you try to stretch it.

Filler: A relatively neutral ingredient added to a sealant/adhesive formulation to reduce its cost, improve its working properties, increase its cohesive strength or enhance other properties. Most formulations require a certain amount of filler to achieve desirable finished products but high filler levels generally degrade performance.

Freeze-Thaw Stability: The ability of a material to undergo cycles of freezing and thawing with no deterioration.

Frost-proof Tiles: Tile manufactured for use where freezing & thawing conditions are common.

FRP: Fiberglass Reinforced Plastic

Fungicide: A material that retards or prevents the growth of fungus.

Furring: Stripping used to build out a surface such as a studded wall. Strips of suitable size are added to the studs to accommodate vent pipes, shower pans, tubs or other fixtures.

G

Gable: The end of a building as distinguished from the front or rear side. The triangular end of an exterior wall from the level of the eaves to the ridge of a double-sloped roof.

Galvanizing: Process in which a thin coating of zinc is applied to iron or steel to prevent rust.

Gambrel Roof: A type of roof which has its slope broken by an obtuse angle, so that the lower slope is steeper than the upper slope. A double sloped roof having two pitches.

Gel: A jelly-like substance.

Gelling: Conversion of a liquid to a gel state.

GFRC: Glass Fiber Reinforced Concrete; used in wall systems that resembles but generally does not perform as well as concrete. Usually a thin cementitious material laminated to plywood or other lightweight backing.

Glazing (Puttying): Setting glass.

Gloss: The luster or shininess of paints, coatings, etc. Different types of gloss are frequently arbitrarily differentiated, such as sheen, distinctness-of-image gloss, etc. Trade practice recognizes the following gloss levels, in increasing order of gloss: flat (or matte) > practically free from sheen, even when viewed from oblique angles (usually less than 15 on 60 degree meter); eggshell > usually 20 to 35 on 60 degree meter; semi-gloss > usually 35 to 70 on 60 degree meter; full-gloss > smooth & almost mirror-like surface when viewed from all angles, usually above 70 on 60 degree meter.

Gloss Meter: A device for measuring the light reflectance of coatings. Different brands w/ the same description (such as semi-gloss or flat) may have quite different ratings on the gloss meter.

Grade: A predetermined degree of slope that a finished floor should have.

Grade -18C: Indication in a sealant specification that product meets low temperature flex requirements to -18C (0 F). (Example ASTM C834-00)

Grade 0 C: Indication in a sealant specification that product meets low temperature flex requirements to 0 C (32F) (Example ASTM C834-00)

Grade NF: Indication in a sealant specification that product does not meet the requirements for low temperature flexibility of Grade 0 C. (Example ASTM C834-00)

Grade P: Indication in a sealant specification that product is pourable or self-leveling in a horizontal joint. (Example ASTM C920-02)

Grade NS: Indication in a sealant specification that product is a non-sag or gunnable product suitable for vertical applications. (Example ASTM C920-02)

Grout: A cementitious or other type material used to fill joints between tile.

Grouting: The process of filling tile joints with grout.

Grout Saw: A saw-toothed carbide steel blade attached to a wooden handle, used to remove old grout. It may also be used in patching work; extreme care should be exercised as it can easily damage adjacent tiles; carbide steel blade is brittle & it will shatter if dropped or otherwise abused.

Gun Consistency: Sealant formulated to a viscosity suitable for application through the nozzle of a caulking gun.

Gutter: Metal trough @ the eaves of a roof to carry rain water from the roof to the downspout.

Gypsum: Drywall.

H

Hardener: Curing agent for epoxies or fiberglass.

Hardness: The resistance of indentation as measured under specified conditions.

Hardwood: Lumber obtained from broad-leafed or deciduous trees. Softwood is lumber obtained from evergreen or coniferous trees.

Hawk: A flat wood or metal tool 10 inches to 14 inches square with a handle used by plasterers to carry plaster mortar or mud.

Hazing: Clouding

Header: Framing members over windows, doors or other openings.

Heel Bead: Sealant applied @ the base of a channel, after setting the lite or panel & before the removable stop is installed; one of its purposes being to prevent leakage past the stop.

HEPA Vacuum: High-efficiency particulate air-filtered vacuum designed to remove lead-contaminated dust.

Hermetic Seal: Vacuum seal (between panes of a double-paned window ie: insulated glass unit or IGU) Failure of a hermetic seal causes permanent fogging between the panels of the IGU.

Hiding Power: The ability of a coating to obscure the substrate.

HomeShield Seal:

Horizontal Broken Joints: A pattern or style of laying tile with each course offset one-half its length.

Hot-Applied Sealant: A compound applied in a molten state, that cures primarily by cooling to ambient temperatures.

Hot-Mopped Pan: A type of shower pan made by altering layers of hot asphalt & tar paper.

Hue: The description of a color in terms of Red, Orange, Yellow, Green, Blue, Indigo or Violet.

HVAC: Heating, Ventilation & Air Conditioning.

Hydrophilic: Having a strong tendency to bind or absorb water, which results in swelling & formation of gels; water-loving or attracted to water.

Hydrophobic: Incapable of dissolving in water; water-hating or repelled by water.

Hydrostatic Pressure: The state of stress where all stresses are equal (no shear stress) - such as a liquid @ rest; the product of the unit weight of the liquid & the difference in elevation between the given point & the free water elevation.

Hygroscopic: The ability to absorb & retain atmospheric moisture.

Impervious Tile: Tile with water absorption of 0.5% or less.

Incompatibility: The inability to mix with or adhere to another material.

Inert: A material that will not react chemically w/ other ingredients.

Initial Rate of Absorption: The weight of water absorbed expressed in grams per 30 sq. in. of contact surface - when a brick is partially immersed for one minute (also called suction). ASTM C67.

Inorganic: Designation of compounds that generally do not contain carbon; Source: matter other than vegetable or animal; examples: sulfuric acid & table salt. Exceptions are carbon monoxide & carbon dioxide & their derivatives.

Installation Temperature: Temperature @ time of installation.

Insulation: 1. Any material which slows down or retards the flow or transfer of heat. Building insulation types are classified according to form as loose fill, flexible, rigid, reflective & foamed-in-place. All types are rated according to their ability to resist heat flow (R-Value). 2. In electrical contracting, rubber, thermoplastic or asbestos wire covering. Thickness of insulation varies with wire size & type of material, application or other code limitations.

Intumescence: A mechanism whereby fire-retardant caulks, coatings or paints protect the substrates to which they are applied. An intumescent material expands when exposed to high temperatures, forming an insulating, protective layer over the substrate.

Intumescent: Substances which swell as a result of heat exposure thus increasing in volume & decreasing in density. Intumescent are typically endothermic to varying degrees, as they can contain chemically bound water. Intumescent are used in firestopping, fireproofing & gasketing applications. Some intumescent are susceptible to environmental influences such as humidity, which can reduce or negate their ability to function.

ISO: International Organization for Standardization

ISO 9001: International Quality Management System

ISO 14001: International Environmental Management System

Isocyanate Resins: Urethane resins.

J

Jamb: The frame in which a door or window sits.

Joint: The space or opening between two or more adjoining surfaces.

Joint Filler: See Backer Rod.

Joint Sealer: Caulking compounds, sealants, gaskets & tapes used as part of a joint sealing system.

Joint Sealing System: A combination of joint cleaners, primers, fillers, backer rods, bond breakers, caulking compounds, sealants, gaskets or tapes used to close joints between building components sections, panels or dissimilar materials.

Joist: Horizontal framing members that support floors in a building or home.

K

KB (Kauri-Butanol) Value: Measure of solvent power.

Kelvin: Thermometer scale on which a unit of measurement equals the Celsius degree.

Ketone: Organic solvents containing the carbon-oxygen or ketone group.

Knife Consistency (Knife Grade): Compound formulated to an amount or degree of firmness suitable for application with a putty knife such as that used for glazing, spackling, elastomeric patches & other appropriate applications.

Kraft: Heavy water resistant paper.

Kynar Coating: Architectural coating that is UV stable & suitable for exterior use on aluminum & other metal surfaces.

L

Lacquer: A fast-drying usually clear coating that is highly flammable & dries by solvent evaporation only. Can be reconstituted after drying by adding solvent.

Laitance: A layer of weak & non-durable material containing cement & fines from aggregates, brought by bleeding water to the top of over wet concrete, the amount of which is generally increased by overworking/overmanipulating concrete @ the surface by improper finishing or by job traffic.

Laminate: To unite layers of materials with an adhesive.

Lap-Joint: A type of building joint where two substrates overlap one another & their relative motion is one of sliding past one another. Sheet metal joints are good examples. The stress placed on a sealant placed between two substrates of this kind is shear. The sealant has a tendency to be torn instead of being pulled apart as an expansion joint.

Lap Shear: Shear stress acting on an overlapping joint.

Latex: Several definitions apply, however, the two most important are as follows: 1. A dispersion of particles of polymeric material suspended in water by emulsifiers & surfactants & used in the manufacture of water-based paints, sealants & adhesives. 2. A general term describing any system using a water-based latex emulsion as its binder.

Latex-based Caulk, Coatings, Paint: General term used for water-based emulsion caulks, coatings or paints made with synthetic binders such as 100% Acrylic, Vinyl Acrylic, Styrenated Acrylic or other similar binders. Products that cure primarily through water evaporation.

Latex Foam Rubber: An elastomeric open-cell material made by whipping or stirring air or some other gas into rubber latex compound as it is gelled & before it is subsequently cured.

Latex-Portland Cement Grout: Combining Portland cement grout with a special latex polymer/additive.

Latex-Portland Cement Mortar: A mixture of Portland cement, sand & a special latex additive which is used as a bond coat for setting tile.

Lath: A metal mesh which acts as a backing or reinforcing agent for a scratch coat or mortar.

Lead: A metal, previously used as a pigment in paints; discontinued in the 1950s by industry consensus standard & banned by the Consumer Products Safety Commission in 1978 due to its toxicity.

Leaching: The process of extraction of a soluble component from a mixture by percolation of the mixture with a solvent; usually water.

Lean-to-Roof: The sloping roof of a building addition having its rafters/supports pitched against & supported by the adjoining wall of a building.

Level: A surface with all points @ the same elevation; horizontally straight.

Lime Mortar: A slow hardening mortar made by combining lime putty or hydrated lime & sand.

Linseed Oil: Drying oil produced from the flax seed. Used as a solvent in many oil-based paints & related products. Boiled linseed oil can be used to protect wood from water damage; sometimes also used as a furniture polish in some parts of the world.

Lintel (Header): Horizontal piece of wood or steel over an opening such as a window or door to support the walls immediately above the opening. (Lintels can also be stone)

Liquid Gold: Colloquial nuclear firestop industry jargon for firestops consisting in large part of silicone foam.

Lite: Another name for a pane of glass; sometimes spelled "light" but often spelled "lite" to avoid confusion with light as in "visible light."

Lithopone: A white pigment of barium sulfate & zinc sulfide. (Lithopone was once a primary substitute for lead carbonate or "white lead" pigments; it has been largely replaced by titanium

dioxide.)

M

MAC (Maximum Allowable Concentration): Maximum concentration of solvent vapor in parts per million parts of air in which a worker may work eight consecutive hours without an air-fed mask; the lower the MAC Number, the more toxic the solvent.

Mandrel Test: A physical bending test for adhesion & flexibility in caulks, sealants, coatings, etc.

Mansard Roof: Roof that rises by inclined planes from all four sides of a building. The sloping roofs on all four sides have two pitches, the lower pitch usually very steep & the upper pitch less steep.

Marine Paint: Coating specially designed for immersion in water & exposure to marine atmospheres; Anti-fouling Paint.

Mason's Hammer/Bricklayer's Hammer: Tool shaped like a chisel for trimming brick or stone.

Mastic: Tile adhesives; soft putty-like sealant often packed in cartridges & applied with a gun with a nozzle of appropriate size or in bulk for application by a knife or other spreading device.

Material Safety Data Sheet (MSDS): Information document listing any hazardous substance that comprises 1% or more (lesser concentrations often disclosed) of a product's total volume. Also lists procedures to follow in the event of fire, explosion, spill/leak or exposure to hazardous substance by inhalation, ingestion or contact with skin or eyes. Coatings manufacturers are required to provide retailers with an MSDS for every product sold to the retailer. Sales clerks often make MSDS's available to retail customers.

Melt Point: Temperature @ which a solid becomes a liquid - example could be asphalt.

Methacrylate: A modified acrylic adhesive.

MIA: Marble Institute of America.

Microban: Chemical known as "triclosan" neutralizes bacterial & fungal growth @ the surface. Used in Dap Kwik Seal Plus K&B w/ Microban. (Microban International)

Migration: Spreading or creeping of a compound constituent onto/into adjacent surfaces - sometimes referred to as "bleeding".

MIL: One one-thousandth of an inch; 0.001"; 1/1000 inch.

Mildew: Fungus, mold.

Mildewcide: A material that retards or prevents the growth of mildew.

Mineral Spirits: Paint Thinner. A solvent grade of Naphtha distilled from petroleum.

Miscible: Capable of mixing or blending uniformly.

MMSA: Materials & Methods Standards Association.

Modulus: Force required to obtain a certain elongation. Measured in pounds per square inch of cross section of the sample. The tensile strength @ a given elongation.

Molding: Finish wood such as door & window trim.

Monitor: Large structure rising above the surrounding roof planes, designed to give light &/or ventilation to the building interior.

Monomer: Substance composed of low molecular weight molecules capable of reacting with like or unlike molecules to form a polymer. (Process often under heat & pressure)

Mortar Types: **Type M** is suitable for general use & is recommended specifically for masonry below-grade & in contact with earth, such as foundations, retaining walls & walks. **Type M** is the strongest type. **Type S** is suitable for general use & is recommended where high resistance to lateral forces is required. **Type N** is suitable for general use in exposed masonry above-grade & is recommended specifically for exterior walls subject to severe exposures. **Type O** is recommended for load-bearing walls of solid units where the compressive stresses do not exceed 100 lbs per square inch & the masonry wall not be subjected to freezing & thawing in the presence of excessive moisture.

MS Sealant: Premium performance sealant technology – Methoxysilane – introduced by Kaneka over 20 years ago; known for versatility, excellent application characteristics, environmental friendliness, weather resistance/durability, paintability & adhesion to multiple substrates.

Mud: A slang term for mortar, fresh concrete, bulk mastic or bulk sealant.

Mudcracking: A rapid evaporation of water & co-solvent from a coating resulting in an appearance similar to a dried up lake bed. Cracks developing from the normal shrinkage of an emulsion coating when applied to heavily.

Mullion: Horizontal or vertical member that supports & holds such items as panels, glass, sash or sections of a curtain wall.

Muntins: Horizontal or vertical bars that divide the sash frame into smaller lites of glass. Muntins are smaller in dimensions & weight than mullions.

MVT (Moisture Vapor Transmission): Moisture vapor transmission rate through a known membrane.

N

Naphtha: A petroleum distillate used mostly by professionals (as opposed to do-it-yourself painters) for cleanup & to thin solvent-based coatings. A volatile organic compound (see VOC).

Natural Resins: Resins from trees, plants, fish & insects.

Neat Plaster: A base coat plaster which does not contain aggregates & is used where the addition of aggregates on the job is desired.

Needle Glazing: The application of a small bead of sealant @ the sight line adhering to the sash & glass or panel by means of a nozzle w/ an orifice not exceeding 1/8 inch in diameter.

Neoprene: A rubber-like film former based on the polymerization of chloroprene.

NFPA: National Fire Protection Association.

NIST: National Institute of Standards & Technology

Non-Drying (Non-Curing): A sealant that does not set up or cure - example non-curing butyl sealants.

Non-Flammable: Incombustible, will not burn

Non-Sag Sealant: A compound that exhibits little or no flow when applied in vertical joints.

Non-Skinning: Description of a product that does not form a surface skin.

Non-Staining: Characteristics of a compound or sealant that will not stain a surface.

Non-Toxic: Not Poisonous.

Non-Volatile: Solid; non-evaporating; the portion of a caulk, sealant, paint or coating left after the solvent evaporates.

Notched Trowel: A trowel with a serrated or notched edge, used for the application of a gauged amount of tile mortar or adhesive in ridges of a specific thickness.

Nozzle: The tubular tip of a caulk/sealant cartridge through which the product is extruded.

NTCA: National Tile Contractors Association, Inc.

O

O.C.: On Center; measurement term meaning a certain distance between like materials - studs placed @ 16" O.C. are laid out so that there is 16" from the center of one stud to the center of the next.

Oil Absorption: The quantity of oil required to wet a specified amount of filler or pigment.

Oil-Based Caulk: A type of caulking of low-performance, primarily in the area of poor elasticity, flexibility, yellowing & an inability to accommodate joint movement. (Adhesion is often very good, however.) The caulk is usually heavily loaded w/ filler & relies on either linseed or soybean oil as its binder.

Oil Paint: A paint that contains drying oil, oil varnish or oil-modified resin as the film-forming ingredient; term often used incorrectly to refer to any paint soluble by organic solvents.

Oleoresin: A natural plant product that contains oil & resins. Turpentine is an example.

Opacity: Hiding power.

Opaque: Having the property to hide or obliterate an underlying material or substrate.

Open Time: The period of time during which the bond coat retains its ability to adhere to the tile & bond the tile to the substrate; the period during which a sealant may still be tooled after application; the period during which a positioned object may still be re-positioned prior to the initial setting/bonding of an applied adhesive.

Orange Peel: A pebbled appearance of the dried coating film or surface similar to that of an orange skin. A condition usually caused by poor flow & leveling of the coating.

Organic: Designation of any chemical compound containing carbon (some of the simple compounds of carbon, such as carbon dioxide, are frequently classified as inorganic compounds). To date over one million organic compounds have been synthesized or isolated. Many occur in nature; others are produced by chemical synthesis. (term designating any chemical compound containing carbon & hydrogen)

Organic Adhesive: A prepared organic material, ready to use with no further addition of liquid or powder, which cures nor sets by evaporation.

Out-Gassing: A characteristic of closed cell backer rods to release trapped air or gasses behind a sealant if its surface skin has been punctured or abraded.

Overhang: Part of the roof structure that extends horizontally beyond the vertical plane of the exterior walls of the building.

Oxidation: The action of oxygen (or ozone) on other chemicals; including caulks & sealants. Oxidation causes caulks & sealants to become hard & brittle. Chalking & cracking are the most common indicators of oxidation.

P

Paint: A coating including resin/polymer, solvent, additives, pigments, diluents & related materials. Paints are often opaque & commonly represent that portion of the industry referred to as architectural coatings.

Paint Remover: A chemical that softens old paint or varnish & permits it to be easily scraped off. Often referred to as "Stripper."

Paint Thinner: Mineral Spirits.

Parapet: A wall or top portion of a wall extending above an attached horizontal surface such as a roof, terrace or deck, often used to separate combustible adjoining roof areas or to provide a safety barrier @ a roof edge.

Parge: In masonry construction, a coat of cement mortar on the face of rough masonry, the earth side of foundation & basement walls, & the like; a parge coat.

Paver Stones: Typically pre-cast concrete slabs used to create a traffic surface.

Peeling: Top paint film inadequately bonded with undercoats, resulting in partial delamination or detachment of final coat.

Peel Strength: The force required to break a bond by peeling a sealant away from a given substrate. Measured in pounds per linear inch of bond width. The angle of peel for most sealant tests is 180 degrees.

Pencil Rod: Reinforcing rod with a diameter of no greater than 1/4 inch.

Penetrant: A protective treatment that lines masonry pores; no film is formed on the surface

Penetrating Finish: A finish that sinks into the substrate as opposed to laying on the surface.

Percent Elongation/Compression: Amount of tensile & compressive deformation that a sealant will reportedly withstand without adhesive or cohesive failure; usually expressed as a percentage.

Perimeter Joint: A joint formed by the outer edge of one panel or material & the leading edge of another.

Perlite: An aggregate formed by heating & expanding siliceous glass; often used as an additive to create a textured appearance in paints.

Permanent Set: The amount by which an elastic material fails to return to its original form following deformation.

pH: The numerical value indicating the degree of acidity or alkalinity of a solution. Acid solutions range from 0 to 6; 7 is neutral (water); & basic solutions range from 8 to 14. The greater the extreme, the higher the acidity or alkalinity.

Photo-Oxidation: Oxidation as a result of exposure to rays of the sun.

Pigment: Finely ground materials that give paint its properties of color & hide - also common in caulks, sealants, mastics & other coatings. Titanium Dioxide is the most significant pigment. Others include anatase titanium, barium metaborate, barium sulfate, burnt sienna, burnt umber, carbon black, china clay, chromium oxide, iron oxide, tuscan red, zinc oxide, zinc phosphate & zinc sulfide.

Plaster: A cementitious material or combination of cementitious material & aggregate that, when mixed with a suitable amount of water, forms a paste which when applied to a surface, adheres to it & subsequently hardens, preserving in a rigid state the form or texture imposed during the period of plasticity; also refers to the applied & hardened mixture.

Plasticizer: A chemical incorporated into a sealant formulation to increase its flexibility & elasticity. As the level of plasticizer is increased in the formula (generally) its modulus will decrease.

Plenum Chamber: Chamber or container for moving air under a slight positive pressure to which one or more ducts are connected.

Plumb: Perpendicular to a true level.

Plywood: Wooden sheets formed by gluing thin sheets of wood together, with the grain of adjacent layers arranged @ right angles.

Pointing: Process where joints between masonry units, brick, etc., are filled with mortar.

Polymer: A complex chemical compound made of similar components/monomers linked together (e.g. acrylics, silicones, polyurethanes).

Polymerization: The interlocking of molecules by chemical reaction to produce larger molecules. (A combo of monomers are polymerized to produce a polymer, the base emulsion for a given caulk/sealant, paint or coating).

Polysulfide Sealant: Polysulfide liquid polymer sealant which is mercaptan terminated, long chain aliphatic polymers containing disulfide linkages. They can be converted to rubbers @ room temperature without shrinkage with addition of a curing agent.

Polyurethane: A one or two part structural adhesive or sealant w/ excellent flexibility & durability. An organic compound formed by reaction of a glycol with an isocyanate.

Polyvinyl Acetate: Synthetic resins/polymers made by polymerizing vinyl acetate either by itself or with additives. These resins are largely used in emulsion form, as a vehicle or binder for latex caulks or paints; often called PVAc Emulsions.

Polyvinyl Chloride: A synthetic resin used in the binders of coatings; may discolor under exposure to UV. Commonly called "vinyl."

Ponding: A condition on a roof or surface where water stands for prolonged periods due to poor drainage; sometimes called water-ponding.

Porosity: Ratio of pore space to the total volume of a material, expressed as a percent.

The density of a substance & its capacity to pass liquids.

Portland Cement: A combination of clay & calcareous minerals which are calcined & pulverized; a highly hydraulic material.

Portland Cement Mortar: The principal mortar material for building construction.

Post & Beam Construction: Most common type of wall framing utilizing posts which carry horizontal beams on which joists are supported; allows for fewer bearing partitions & less material.

Pot Life: The period of time during which a material maintains its workable properties after it has been mixed.

Precast: Concrete building components that are formed & cured @ a manufacturing plant & then transported to a job site for erection.

Pre-shimed Tape Sealant: A sealant having a pre-formed shape containing solids or particles that limit its deformation under compression.

Pressure Treated Lumber: Lumber that is treated in such a way that the sealer is forced into the pores of the wood.

Prime Coat: First coat on the substrate.

Primer: A coating applied to a surface, prior to application of an adhesive or sealant, to improve performance of the bond.

Propellant: The gas used to expel materials from aerosol containers.

psi: Pounds per square inch.

Purlins: Horizontal structural member spanning between beams or trusses for support of a roof deck. (In slope glazing, purlins are the horizontal framing members)

PVC: Pigment Volume Concentration. The ratio of the volume of pigment to the ratio of total non-volatile material (pigment & binder) present in a paint. The figure is usually expressed as a percentage. Higher percentage figures (40 to 75%) are associated with Flat Paints & lower figures (10 to 25%) are associated with Gloss & Semi-Gloss Paints. (**PVC has a second meaning: Polyvinyl Chloride, the major component in vinyl plastic.**)

PVDF: Architectural coating (see Kynar Coating).

Q

QA: Quality Assurance.

QC: Quality Control.

QUV: Type of accelerated weather tester commonly used in evaluation of caulks, sealants, coatings & related products.

R

Rabbet: A two-sided, L-shaped recess in a sash or frame designed to receive glazing.

Rafter: A sloping roof member that supports the roof covering which extends from the ridge or the hip of the roof to the eaves. A common rafter is one which runs square with the plate & extends to the ridge. A hip rafter extends from the outside angle of the plate towards the apex of the roof. They are 2" deeper or wider than common rafters. A valley rafter extends from an inside angle of the plates toward the ridge of the house.

Raggle Block: Specially designed masonry block having a slot or opening into which the top edge of the roof flashing is inserted & anchored.

Rail: Top & bottom frame members of a door or window - not the jamb.

Rake: The angle of slope of a roof rafter, or the inclined portion of a cornice.

Rankin: Thermometer scale on which unit of measurement equals the Fahrenheit degree.

Re-bar: Reinforcing bar used to increase the tensile strength of concrete.

Receptor: Waterproof base for a shower stall.

Recovery: The ability of an elastic material to regain its shape after being deformed. It is expressed as a percent of the length regained after release from a given elongation.

Register: Fixture through which conditioned air flows. In a gravity heating system, it is located near the baseboard. In an air conditioning system, it is located close to the thermostat.

Reglet: A groove or slot provided in the face of a vertical surface to receive the terminal edge of flashing or counter flashing.

Reinforced Joint: A concrete joint bridged by reinforcing steel embedded in both joining parts.

Resin: Synthetic or natural material used as the binder in coatings, caulks or paints. Can be translucent or transparent, solid or semi-solid. Examples: acrylic, alkyd, copal ester, epoxy, polyurethane, polyvinyl chloride (vinyl) & silicone.

Reversion: A loss of elastomeric properties & a decrease in durometer hardness of a seal or cured sealant following environmental exposure. (The seal & sealant industry is not in agreement on reversion causes.)

Rheology: The term generally describing the flow behavior of liquid & semi-liquid materials when subjected to applied force. The rheology of sealants is very important from an application standpoint since the ease of application of a sealant is often the determining factor in a product's acceptance in the marketplace.

Room Temperature: Generally regarded as 72F to 77F in most evaluation environments.

Rosin: Natural resin obtained from living pine trees or from dead tree stumps & knots.

RTV: (Room Temperature Vulcanizing): The tendency of an RTV adhesive or sealant to vulcanize/cure @ room temperature. Changes from a liquid/paste state to a solid/flexible rubber.

Rubber Trowel: The rubber trowel used for grouting; non-porous synthetic rubber faced float that is mounted on an aluminum back with a wood handle. Trowel used to force material into tile joints, remove

excess grout & form a smooth grout finish.

Rust: Corroded iron; red iron-oxide deposited on metal; also other metal oxides formed by corrosion.

R-Value: The thermal resistance of a glazing system. R-Value is the reciprocal of the U-Value - the higher the R-Value, the less heat is transmitted throughout the glazing material.

S

Saddle: A ridge in the roof deck whose top divides two sloping parts of the roof so that water will be diverted to the roof drains.

Sag: A decrease in the thickness of a section. A term used when a wall surface has developed a slide.

Sandblasting: Method of scarifying the surface of concrete or masonry to provide a bondable surface. Compressed air used to propel a stream of wet or dry sand onto the surface: also used to improve the surface of rusted/damaged metals, prior to priming & painting.

Sand Finish: Rough finish plaster wall or a paint that has been texturized w/ sand ora similar additive. (RD 0240 Perlite Additive)

Saponification: A chemical decomposition of a paint or coatings binder by alkali & moisture from a substrate (new concrete, fresh plaster, new treated lumber). Saponified paint or coatings may deteriorate, lose their adhesion & become discolored.

Sash: The window frame, including muntin bars if used, to receive the glazing infill.

SBCCI: Southern Building Code Congress International. One of three US regional model code bodies. The other two are ICBO (International Building Code Congress) & BOCA (BuildingOfficials Code Administrators International). Each of the three model code organizations & building inspector associations publish a code used in certain US states. The country is divided among the three code groups. Collectively these three US regional model code groups are affiliated within a US national code body & umbrella organization entitled ICC or International Code Council.

Scarify: A mechanical means of roughing a surface to obtain a better bond.

Scratch Coat: The first coat of plaster gets its name from cross-raking which is performed on the wet surface to improve bond with the following brown coat. It is considered a base coat plaster.

Scupper: An outlet in the wall of a building or a parapet wall for water drainage from a flat roof.

Scutch: Bricklayer's cutting tool used for dressing & trimming brick to a special shape (resembles a small pick).

Seal: A barrier against the passage of liquids, solids or gasses.

Sealants & Caulks: Sealants are materials that are initially fluid or semi-fluid, placed between two opposing solid materials, that become solids themselves (by evaporation of volatiles or chemical reaction), bond to the surfaces they are applied to & accommodate joint movement. In architectural applications sealants & caulks use their ability to accommodate joint movement to seal out the intrusion of water, wind pollutants, dust & insects. "Sealants" are generally considered to deliver appreciably higher performance than "Caulks" - while they both serve the same basic purpose. (A MATERIAL THAT HAS THE ADHESIVE & COHESIVE PROPERTIES TO FORM A SEAL.) - Sealant: An elastomeric material used to fill & seal expansion & control joints. The

material prevents the passage of moisture & air yet allows the horizontal & lateral movement @ the expansion & control joints.

Sealant Backing: A compressible material placed in a joint before applying a sealant.

Sealer: Any finishing material applied with the primary purpose of stopping the absorption of succeeding coats. Sealers are often used in wood finishing & wallpapering.

Secondary Colors: Colors formed by mixing together two primary colors. Examples: Orange, Green, Purple.

Self-Healing: Term used to describe a material that melts from the heat of the sun, sealing over cracks that were previously formed from all causes - some waterproof membranes are self-healing.

Self-Leveling Sealant: A compound that exhibits flow sufficient to seek gravitational leveling.

Semigloss Finish: A paint w/ a gloss level between high gloss & eggshell/satin.

Set-up Time: The time adhesive or mortar, spread on a surface/substrate takes to cure or harden.

Shear Strength: The force required to break a bond by shearing the bond line (measured in pounds per square inch of bond area).

Sheathing: Plywood, gypsum or wood fiber encasing walls, ceilings, floors & roofs of framed buildings. It is the first layer of outer wall covering, nailed to the studs or rafters.

Shed Roof: A roof having only one slope or pitch, with only one set of rafters which fall from a higher to a lower wall.

Sheen: Light reflectance properties of a dried coating, usually measured @ an angle of 85 degrees from vertical. Gloss is usually measured @ 60 degrees from vertical.

Sheetrock: Panels made primarily from gypsum installed over the framing to form the interior walls & ceilings. Sheetrock is often called gypsum board or wallboard.

Shelf-Life: The usable storage time of a material. Most adhesives, caulks & sealants have a shelf-life of 6 to 12 months. The shelf-life may be increased by cool storage conditions & is usually shortened by exposure to heat. (THE MAXIMUM TIME PACKAGED MATERIALS CAN BE STORED UNDER SPECIFIED CONDITIONS & STILL MEET THE PERFORMANCE REQUIREMENTS SPECIFIED.)

Shellac: Alcohol-soluble, clear to orange-colored resin derived from lac. (Lac is a substance secreted by insects on tree branches, mainly in India.) Used as a sealer & clear finish for floors, for sealing knots & in alcohol-based primers. Thinner is denatured alcohol.

Shingles: Small units of material which are laid in a series of overlapping rows as a roof covering on pitched roofs.

Shore Hardness: For sealants the "A" scale is usually used, whereby a hardened steel pin (which is connected to a calibrated spring meter) is pressed into the sealant & its depth of penetration is measured. Shore Hardness is a strong indicator of modulus. Low modulus sealants have Shore Hardness of 20 or less. Medium modulus sealants have values from 21 to 50; while High modulus materials have Shore Hardnesses above 50 (A hardness of 25 is about the firmness of an art gum eraser while a hardness of 90 is about the firmness of a rubber heel)

Shrinkage: The ratio of the volatile ingredients in a sealant formula to the nonvolatile components,

expressed as a percent. It can indicate a weight percentage but most importantly indicates a volume percentage. (A DECREASE IN LENGTH, AREA OR VOLUME.)

Silane: A silicone-like substance that is added to sealants to improve adhesion to glass & aluminum under wet conditions.

Silicate, Sodium: Strongly alkaline compound commonly referred to as water glass; used in soaps, detergents, adhesives, waterproofing mortars & cements.

Silicone: Compound used in the manufacture of binders that is characterized by outstanding heat resistance, high water repellency & chemical resistance. A key ingredient in some sealants & in the formulation of many effective defoamers for latex paints.

Silicone Grout: An engineering elastomeric grout system, generally for interior use.

Silicone Sealant: A liquid-applied curing compound based on polymer(s) of polysiloxane structures.

Siliconized Acrylic Sealant: Similar to an acrylic sealant, except it contains a small amount of silane (hence its name) added to it, which enhances adhesion to glass & aluminum under wet conditions.

Sill Plate: The framing member anchored to the foundation wall upon which studs & other framing members will be attached - the bottom plate of exterior walls.

Sill Sealer: A material placed between the top of the foundation wall & the sill plate. Often a foam strip, the sill sealer helps make a better fit & eliminate water problems.

Sink Angle: Trim shape used on a drainboard @ the corners of a kitchen sink. The trim shape (AU 106) is also called a "Butterfly".

Skin: A thin layer @ the surface of a sealant or joint filler that differs in physical properties from the material beneath it.

Skylight: Structure on a roof designed to admit light & that is somewhat above the plane of the roof surface.

Slate: A dark gray stratified stone cut relatively thin & installed on pitched roofs in a shingle like fashion.

Soffit: The underside of a part or member of a building extending out from the plane of the building walls.

Softening Point: The temperature @ which a substance changes from a hard material to a softer & often more viscous material.

Solids: Non-volatile matter in the composition of a coating/paint, caulk, sealant or adhesive; the ingredients that after drying, constitute the dry film. Solids are primarily pigment & binder.

Solubility: Degree to which a substance/material may be dissolved.

Soluble: The ability of a material to be dissolved in a liquid. For example, sugar is soluble in water.

Solvent: Any liquid which can dissolve a resin. Generally refers to the liquid portion of paints coatings, caulks or sealants that evaporates as the product dries.

Solvent-Release Sealant: A compound that cures primarily through solvent evaporation.

Source Reduction: Steps taken to reduce waste generation & toxicity @ the source through more effective utilization of raw materials & reformulation.

Spalling: The chipping or flaking of concrete, bricks or other masonry where improper drainage or venting & freeze/thaw cycling exists.

Spandrel: That part of a wall between the head of a window & the sill of the window above it.

Spar Varnish: A very elastic waterproof varnish with good UV resistance & resistance to fading. Originally used for coating masts & spars on sailing vessels.

Specification: Detailed written instructions or performance requirements that a product must meet or exceed, in order to claim compliance.

Specific Gravity: The ratio of the weight of a body to the weight of an equal volume of water @ 40C, or other specified temperature. (Example: If a silicone sealant has an average WPG of 8.60, its Sp Gr is 1.03; $8.60 \text{ Silicone WPG} \div 8.34 \text{ WPG of water} = 1.03 \text{ Specific Gravity}$.)

Specular Gloss: Mirror-like finish (usually 60 degrees on a 60 degree meter).

Stain Bleed-Through: When tannin found in certain types of wood such as cedar or redwood, migrates through the coating, sealant or spackling, causing discoloration. Also discoloration from a contaminant on the substrate.

Standard Grade Ceramic Tile: Highest grade of all types of ceramic tile.

Standing Seam: A type of joint often used on metal roofs.

Static Coefficient of Friction (COF) - Slip Resistance: The degree of slip resistance presented in a quantitative number that expresses the degree of slip resistance. Slip resistance is evaluated by the horizontal pull method (ASTM C1028). There is no ANSI Requirement @ present. A COF of 0.5 & above is the recognized industry standard for a slip resistant floor, as an example.

Static Load: The total amount of permanent non-moving weight that is applied to given surface areas.

Steel Trowel: Tool used for non-porous smooth finishes of concrete; a flat steel tool used to spread & smooth plaster, mortar or concrete. Pointing trowels are small enough to be used in places where larger trowels will not fit. The pointing trowel has a point. The common trowel has a rectangular blade attached to a handle. For a smooth finish, use trowel when concrete begins to stiffen.

Stile: The side frame members of a door or window - not the jamb.

Strain: The percentage of elongation or compression of a material or portion of a material as a result of an applied force.

Striking Joints: A process of removing excess grout from joints by wiping them with a sponge or cloth or by scraping them with a curved instrument.

Striking Off: Operation of smoothing off excess compound or sealant @ sight line when applying same around lites or panels.

String Line: A line usually strung tightly between supports to indicate direction & elevation, used in checking grades or deviations in slopes or rises - used in landscaping to level the ground.

Structural Silicone Glazing: Use of a silicone sealant for the structural transfer of loads from the glass to its perimeter support system & retention of the glass in the opening.

Stucco: A type of exterior finish.

Styrene-Butadiene: A synthetic latex similar to synthetic rubber, used in certain types of paint & sealants.

Subfloor: A rough floor; plywood or boards laid over joists & on which an underlayment or substrate is installed.

Substrate: Any surface to which a coating or sealant is applied. (The underlying support for ceramic tile installations.)

T

Tack: Adhesive "stickiness" on a surface that is not yet completely cured. (Some surfaces (sealants) may remain slightly tacky long-term, resulting in airborne particles attaching to the surface. The phenomenon is described as "dirt pick up" a generally has a negative impact on bead appearance. (Sealants can also become tacky w/ age as a result of "plasticizer migration" as plasticizer migrates to the surface during sealant life, rendering the surface tacky & resulting in dirt pick up.)

Tack Cloth: A fabric impregnated w/ a tacky substance that is used to remove dust from a surface after sanding or rubbing down, & prior to further painting. It should be stored in an airtight container to preserve its tackiness (sometimes called a Tack Rag).

Tack Free Time: The time required for a material to cure enough to develop a skin which is non-tacky.

Tape Sealant: A sealant having a preformed shape & intended to be used in a joint initially under compression.

Taping: Applying joint tape over embedding compound in the process of joint treatment of drywall.

TCA: Tile Council of America.

Tensile Strength: Force required to break a test material when stretched. Measured in pounds per square inch of cross section.

Texture Paint: One which may be manipulated by brush, trowel or other means to give various patterns.

Thermal Movement: Measured amount of dimensional change that a material exhibits as it is warmed or cooled.

Thermal Shock: Stress built up by sudden & significant changes in temperature.

Thermoplastic: A material which will repeatedly soften when heated & harden when cooled. Virtually all sealants that are not chemically curing are of this type.

Thermoset: A material which will undergo or has undergone a chemical reaction by the action of heat, catalysts, ultraviolet light, etc. leading to a relative insensitivity to temperature changes.

Thixotropic: A material with paste-like consistency @ rest but flows under pressure or agitation (e.g. cold cream, grease, most sealants). Thixotropy is the phenomenon of a fluid material (such as a caulking compound) thinning out & flowing easily as long as force is applied to the material (when gunning the product); then, once the applied force is removed (when the product is on

the wall) the caulk thickens up so that it doesn't run down the wall.

Thixotropy: The property of a liquid or gel to become fluid with agitation or stirring.

Threshold Limit Value (TLV): Values of airborne toxic materials that are to be used as guides in control of health hazards & present time weighed concentrations to which all workers may be exposed 8 hrs per day over extended periods of time without adverse effects.(often addressed in MSDS Section II)

THW: Moisture & heat resistant thermoplastic conductor; flame retardant, moisture & heat resistant & suitable for use in dry or wet applications.

Tile Cutter: Special machine to cut ceramic tile.

Tile Nipper: Special pliers that remove little bits of ceramic tile to create small, irregular or curved cuts.

Titanium Dioxide (TiO₂): An expensive, high opacity, bright white pigment that is used to achieve & maintain a white appearance in sealants, paints & coatings, water or solvent-based.

Title 24: Federal set of laws that mandates the construction industry to conserve energy.

Toe Bead: Sealant applied @ the intersection of the outboard glazing stop & the bottom of the glazing channel - must be sized to also provide a seal to the edge of the glass.

Tongue & Groove: Type of flooring where the tongue of one board is joined to the groove of another board.

Tooling: The act of compacting & contouring a sealant

Tooling Time: The time interval after application of a one-component sealant or after mixing & application of a multi-component sealant during which tooling is possible.

Top Plate: Top horizontal member of a frame wall.

Torching: Applying direct flame to a membrane for the purpose of melting, heating or adhering.

Toxic: Poisonous.

Toxicity: The degree of harmfulness or poisonousness.

Truss: A major supporting structure typically made of wood.

Tuck Pointing: Deteriorated joints in masonry are raked out; then filled with free mortar or appropriate sealant applied with a tool. The filling in reseals the mortar joint.

Turpentine: Distilled pine oil, used as a cleaner, solvent or thinner for oil-based & alkyd coatings.

TW: Moisture-resistant thermoplastic conductor suitable for use in dry or wet locations & that has no outer covering - & is not heat resistant.

Two-Part Sealant: Product composed of a base & curing agent or accelerator, necessarily packaged in separate containers - uniformly mixed just prior to use.

Type OP: Indication in a sealant specification of an opaque sealant containing color pigments or extender pigments, or both.(Example ASTM C834-00)

Type C: Indication in a sealant specification of a clear or translucent sealant. (Example ASTM C834-00)

Type S: Indication in a sealant specification of a single component sealant. (Example ASTM C920-02)

Type M: Indication in a sealant specification of a multicomponent sealant. (Example ASTM C920-02)

U

Ultraviolet: The invisible rays of the spectrum of light @ its violet end - often abbreviated U.V.

Urethane: A very important resin in the coatings industry. A true urethane coating is a two-component product that cures when an isocyanate (the catalyst) promotes a chemical reaction that unites the components. An elastomeric polymer with excellent chemical & water resistance. Single component (moisture cure) & 2-part (chemical cure) systems are available. Both types may be applied in a fluid state & cure (polymerize) after installation. Typical applications include sealants, waterproofing membranes & high performance flexible adhesives.

UV: Ultraviolet (UV) light is that portion of the light spectrum which is most energetic & therefore most damaging. For sealants to give good long-term life they must be formulated for adequate UV resistance.

U-Value: Measure of air-to-heat transmission (gain or loss) due to thermal conductance & the difference in indoor & outdoor temperatures. As the U-Value decreases so does the amount of heat that is transferred through the glazing material. The lower the U-Value, the more restrictive the fenestration product is to heat transfer. The reciprocal of R-Value.

UV Resistance: Resistance to degradation by ultraviolet rays.

V

Vapor: Gaseous form of any substance.

Vapor Barrier: A material usually in thin sheet form or combined with a sheathing material, designed to prevent the passage of moisture through a wall or floor with the aim of avoiding condensation within the wall - sometimes called a Vapor Retarder.

Vapor Transmission: The passage of moisture as a gas or vapor as opposed to liquid form. A wall which can do this is said to "breathe".

Vehicle: Portion of a caulk, sealant, paint or coating that includes all liquids & the binder. The vehicle & the pigment are the two basic components of such products.

Vent System: In plumbing, a system to provide a flow of air to or from a drainage system or to provide circulation of air within such a system to protect traps/seals from siphonage & back pressure.

Vermiculite: Aggregate somewhat similar to perlite, formed from mica, a hydrous silicate.

Vinyl: Term describing a type of synthetic polymer that is moderately resistant to degradation. (Relatively inexpensive base polymer for vinyl latex caulk or paint, usually appreciably below acrylic latex in overall performance & durability.)

Viscosity: The resistance of a fluid to flow (thickness). Measured in centipoise (cps).

Approximate viscosities of common materials @ 70 F:

Water: 1 CPS

Milk: 3 CPS

SAE 10 Motor Oil: 85 to 140 CPS

SAE 40 Motor Oil: 650 to 900 CPS

Castor Oil: 1,000 CPS

Karo Syrup: 5,000 CPS

Honey: 10,000 CPS

Chocolate Syrup: 25,000 CPS

Ketchup: 50,000 CPS

Sour Cream: 100,000 CPS

Peanut Butter: 250,000 CPS

Shortening: 1,200,000 CPS

Volatile Organic Compounds (VOC): Any organic molecules which evaporate easily. They are often associated w/ unpleasant odors or noxious fumes. (VOC limits are now in effect for many products in the State of California.) (The current limit in California for Caulks & Sealants (calculated VOC, less water, less exempts, is 4.0%/weight.)

Volatility: The defining quality of a liquid that evaporates quickly when exposed to air.

Volume Solids: Solid ingredients as a percentage of total ingredients. The volume of pigment plus binder divided by the total volume, expressed as a percent. High-volume solids mean a thicker dry film w/ improved durability.

Vulcanization: An irreversible chemical reaction during which a rubber compound's chemical structure is changed to make it less plastic, more resistant to solvents, & have improved physical & mechanical properties.

W

Waste Management Hierarchy (in descending order):

1. Source reduction
2. Reuse
3. Recycling
4. Reclamation
5. Treatment
6. Disposal

Water Borne Coatings: Coatings which bear or carry water. This could mean water is part of the package or it could be added to a liquid coating containing no water in order for the coating to be applied. Water borne coatings can be developed which are water reducible as well as solvent reducible.

Water-Cement Ratio: The strength of a concrete mixture depends on the water cement ratio. The water & cement form a paste; if the paste is made with more water, the concrete becomes weaker. Traditionally, concrete mixes have been identified in terms of the ratio of cement to fine aggregate to coarse aggregate. Example - the ratio 1:2:4 refers to a mix consisting of 1 cubic foot of cement, 2 cubic feet of sand & 4 cubic feet of gravel. Cement & water are the two chemically active elements in concrete & when combined, form a paste or glue which coats & surrounds the particles of aggregate & upon hardening binds the entire mass together.

Waterproof: An exterior-grade product or adhesive bond which is capable of withstanding prolonged & repeated exposure to water w/o failure.

Waterproofing Membrane: A covering applied to a substrate to protect the substrate from water damage. May be applied a number of ways including spraying, rolling, troweling, gunning & dipping.

Water-based: Products in which a portion of the liquid content is water; water-based products can typically be cleaned up with water, prior to cure.

Water Resistant: An interior or exterior-grade product or adhesive bond that is moderately resistant to water for short-term duration of exposure on a repeated basis.

Water Soluble: Dispersible in water.

Water Vapor: Moisture existing as a gas in air.

Weathertight: Impermeable to the passage of air or water or both under certain conditions as determined by test.

Weep Hole: Hole allowing for drainage of entrapped water from masonry or glazing structures.

Weep Screed: Tool used to drain moisture from concrete.

Wet Seal: Application of an elastomeric sealant between the glass & sash to form a weather tight seal.

Wet Tack: The stickiness of an adhesive before drying.

White Lead: Lead carbonate

WHMIS: Workplace Hazardous Materials Information System. (Canadian federal legislation mandating classification of products into various controlled & non-controlled substances.

Wood Fiber Plaster: Calcified gypsum integrally mixed with selected coarse cellulose fibers which provide bulk & greater coverage. It is formulated to produce high-strength base coats for use in highly fire-resistant ceiling assemblies.

Working Life: The time interval after opening a container of a single component sealant, or after mixing the components of a multi-component sealant, during which application & tooling is possible.

Wrap Around: The ability of a coating to cover all areas of the substrate to which it is applied, including edges. Also, the effect of an electrostatic charge upon a coating & the ability of the coating to cover all exposed conductive areas.

X

Xylene: Clear solvent; flammable; sometimes used in formulations for adhesives, sealants & similar solvent based, flammable products.

Y

Yellowing: The tendency of a dried film/cured product to take on a yellowish cast with age.

Z

Zinc Oxide: Sometimes used as a mold-growth inhibitor in paints; also referred to as Zinc White.

Zinc Stearate: Often used as a drier or as a flattening agent.