

GLOSSARY OF TERMS IN SURFACE COATING



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A

Abrasion - Act of being worn away.

Absorption- Process of soaking up, or assimilation of one substance by another.

Acetone- A fast evaporating, highly flammable organic solvent.

Acoustic Paint- Paint which absorbs or deadens sound.

Acrylic Resin- A clear resin derived from polymerized esters of acrylic acids and methacrylic acid, often used in water-based paints

Activator- Catalyst or curing agent; accelerator.

Adhesion- Bonding strength; adherence of coating to the surface to which it is applied.

Agglomeration- Formation of masses or aggregates of pigments; not dispersed.

Airless Spraying- Spraying using hydraulic pressure to atomize paint.

Aliphatic- Molecule structure arranged in open or straight chains of carbon atoms.

Alkali- Caustic, strong base, high pH, such as sodium hydroxide, lye, etc.

Alkyd Resins- Resins prepared from polyhydric alcohols and polybasic acids.

Alligating- Surface imperfections of paint having the appearance of alligator hide.

Ambient Temperature- Temperature or temperature of surroundings.

Aromatic- Type of polyurethane with good chemical resistance but poor urethane ultraviolet resistance

ASTM- American Society for Testing and Materials

Atomize- Break steam of liquid into small droplets.

B

Baking Finish- Paint product requiring heat cure, e.g., as used on factory coated metal siding.

Barrier Coating- Coating that protects by shielding substrate from the environment

Binder- Resin; non-volatile vehicle; film forming portion of paint, such as oil, alkyd, latex emulsion, epoxy, etc.

Bituminous Coating- Coal tar or asphalt based coating

Blast Cleaning- Cleaning with propelled abrasives.

Bleaching- Removing color.

Bleeding- Penetration of color from the underlying surface to surface of existing paint film, e.g., brown color from asphalt coatings.

Blisters- Bubbles in film, areas in which film has lost adhesion to substrate.

Blooming- Whitening of surface of paint film; moisture blush; blushing.

Bridging- Forming a skin over a depression, crack, inside corner, etc.

C

Catalyst- Accelerator; curing agent; promoter.

Chalking- Powdering of surface of paint film.

Checking- Formation of slight breaks in the topcoat that do not penetrate to the underlying paint films.

Chloride diffusion- the dispersal of chlorides within a concrete section.

Chlorinated- Type of resin used as a paint binder that cures by solvent rubber evaporation

Coal Tar-Epoxy Paint- Paint in which binder or vehicle is a combination of coal tar with epoxy resin.

Coating- Surface coverings; paints; barriers.

Cohesion- Property of holding self together.

Color Retention- Ability to retain original color.

Conversion Coating- System used to convert rusted surface to one that is paintable without abrasive or mechanical cleaning.

Copolymer- Large molecule resulting from simultaneous polymerization of different monomers.

Corrosion- Oxidation of material; deterioration due to interaction with environment.

Cracking- Splitting, disintegration of paint by breaks through film to substrate.

Crawling- Shrinking of paint to form uneven surface shortly after application.

Crazing or Cracking- Development of non-uniform surface appearance of myriad tiny scales as a result of weathering.

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

Curing- Setting-up or hardening of paint film.

Curing Agent- Hardener; promoter.

D

Delamination- Separation and peeling of one or more layers of paint from underlying substrate

Detergent- Cleaning agent.

Dew Point- Temperature at which moisture condenses.

DFT- Dry film thickness.

Diluents- Thinners; reducer

Dispersion- Suspension of one substance in another.

Dry Film- Thickness of applied coating when dry, thickness usually expressed in mils (1/1000 inch).

Drying Oil- An oil which hardens in air.

Drying Time- Time interval between application and a specified condition of dryness

E

Efflorescence- Powdery white to gray soluble salts deposited on surface of brick and other masonry.

Elasticity- Degree of recovery from stretching.

Elastomeric- Ability of the material to return to its original shape and size after substrate movement during expansion or contraction.

Electrostatic Spray- Spraying with electrically charged paint and substrate to attract paint to surface.

Emulsion Paint- Water-thinned paint with resin or latex vehicle dispersed in water.

Enamel- A paint which is characterized by an ability to form an especially smooth and usually glossy film.

EPA- Environmental Protection Agency.

Epoxy Resins- A type of resin; film formers usually made from bisphenol A and epichlorohydrin.

Erosion- Wearing away of paint films to expose the substrate or undercoat.

Extender Pigment- Pigment which can contribute specific properties to paint, generally low in cost.

F

Fading- Reduction in brightness of color or change in color of paint film as a result of weathering.

Film Thickness Gage- Device used for measuring film thickness; both wet and dry gages are available.

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

Flash Point- The lowest temperature at which a given flammable material will flash if a flame or spark is present.

Flexibility- Elongation; ability to bend without damage.

Floating- Separation of pigment colors on surface of paint film.

Flow- A property of self-leveling.

Fog Coat- Thin or mist coat (about 1/2 mil dry film thickness).

Fungicide- Mildewcide; toxic chemical to control fungal growth.

G

Galvanized Steel- Zinc-coated steel, usually by dipping in a bath of molten zinc.

Generic- Basic class or type; generic type of paint is denoted by the type of resin present.

Gloss- Luster; sheen; brightness.

Graffiti-Resistant Coating- Coating from which graffiti can be removed by scrubbing.

Grit- Abrasive from slag and other sources used in blast cleaning.

Grounding- Dissipation of electric charge.

H

Hardener- Catalyst; curing agent.

Hazing- Clouded appearance.

Holiday- Pinhole, skip, or other discontinuity in paint film.

Humidity- Measure of moisture content; relative humidity is the ratio of the quantity of water vapor in the air compared to the greatest amount possible at a given temperature. Saturated air has a humidity of 100 percent.

Hydroblasting- Water blasting; cleaning a surface with water at extremely high pressures.

Hydrolysi- Chemical reaction in which a compound, such as an oil resin, is split into two parts by reaction with water; see saponify.

I

Impermeable- Restricting the passage of moisture, air or other substance.

Incompatibility- Inability of a coating to perform well over another coating because of bleeding, poor bonding, or lifting of old coating; inability of coating to perform well on a substrate.

Induction Time- Time interval required between mixing of components and application of two or more component paints to obtain proper application properties.

K

Krebs Unit (KU)- Arbitrary unit for measuring viscosity.

L

Lacquers- Coatings which dry by solvent evaporation.

Laitance- White to gray deposit on surface of new concrete.

Latex- Natural or synthetic binder for emulsion (water) paints. LBP. Lead-based paint

Leveling- Flowing of paint to form films of uniform thickness; tendency of brush marks to disappear.

M

Micron- Micrometer, 0.001 of a millimeter.

Mildewcide- Toxic chemical added to paint to control mildew.

O

Opacity- Hiding power; ability to obscure underlying surface.

Orange Peel- Hills and valleys in paint resembling the skin of an orange.

Organic Coating- Coating with organic binder, generally of petroleum or vegetable origin.

OSHA- Occupational Safety and Health Administration.

Overcoat- Top coat.

Overlap- Portion (width) of fresh paint covered by next layer.

Overspray- Dry spray, particularly such paint that failed to hit target.

P

Paint- Coating materials used in painting.

Permeability- The ability of the material or substrate to allow the passage of water vapor through itself without blistering.

Pitting- Formation of small, deep or shallow cavities formed in steel by rusting.

Pinholing- Formation of small holes through coating from improper application

Polyvinyl Acetate (PVA)- Synthetic resin used extensively in emulsion (water) paints.

Polymer- Large molecule formed by reaction of smaller molecules; used to make synthetic resins.

Pot Life- Time interval after mixing of components during which the coating can be satisfactorily applied.

R

Rebound- Paint spray bounce-back.

Reducer- Thinner; solvent added to reduce paint viscosity for easier application.

Resin- Binder; nonvolatile vehicle; film-forming component of paints.

Run- Sag; curtain; associated with too heavy a paint film.

Rust- Corroded iron; red iron oxide deposited on metal.

S

Sand Blast- General term used to mean blast cleaning; blast cleaning using sand as an abrasive.

Scaling- Process of removing scale.

Seal Coating- Coating used to prevent excessive absorption of the first coat of paint by the substrate; a primer.

Sealer- A low viscosity (thin) liquid sometimes applied to wood, plaster, gypsum board, concrete, or masonry to reduce permeability.

Settling- Caking of paint pigments in wet paint; sediment.

Sheen- Appearance characteristic of dry film in which film appears flat when viewed at an angle near to perpendicular and glossy when viewed at an angle near to grazing, such as 85 degrees.

Shelf-Life- Maximum interval in which a material may be stored and still be in usable condition.

Shop Coat- Coating applied in fabricating shop

Silicate Paints- Those employing silicates as binders; used primarily in inorganic zinc-rich coatings.

Silicone Resins- A particular group of film formers; used in water-repellent and high-temperature paints.

Silking- A surface defect characterized by parallel hair-like striations in dry coating films.

Skinning- Formation of a solid membrane on top of liquid paint.

Skips- Holidays; misses; uncoated area; voids.

Solids By Volume- Percentage of total volume of wet paint occupied by non-volatile compounds.

Solvent- A liquid in which another substance may be dissolved; thin liquid used to add to paint to reduce viscosity.

Solvent Balance- Ratio of amounts of different solvents in a mixture of solvents.

Solvent Pop- Blistering of paint film caused by entrapped solvent.

Solvent Wash- Cleaning surface to be painted with solvent.

Stalling- The cracking, breaking, or splintering of the surfaces of substrates, such as cinder block, from the bulk material.

Spreading Rate- Area covered by a unit volume of paint at a specific thickness.

T

Thermoplastic- Paint softened by heat or solvent (type of one-component coating made up of high molecular resins which dry/cure by solvent evaporation, e.g., vinyls).

Thinner- Reducer; solvent added to reduce paint viscosity for easier application.

Thixotropic- Paint of gel consistency in the can that becomes a liquid paint when stirred or brushed but becomes a gel again upon standing.

Through Drying- Curing of paint film through the entire thickness as opposed to curing only on the surface.

U

Ultraviolet Radiation- Portion of sunlight having a shorter wavelength than visible light.

Undercutting- Blistering and/or peeling of paint from underfilm corrosion in areas of a paint defect.

Urethane Resins- A particular group of film formers.

Useful Life- The length of time a coating is expected to remain in service.

V

Vaporization- Conversion of material from liquid to a gaseous state.

Vehicle- Liquid portion of paint; binder or resin and solvent components of paint.

Viscosity- Consistency; a measure of fluidity.

VOC- Volatile organic compound.

Volatiles- Fluids which evaporate rapidly.

Volatile Content- Amount of materials which evaporate when paint cures; usually expressed as a percentage.

Volatile Organic Compound (VOC)- As defined by California Air Quality Districts, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, methane, 1,1,1-trichloroethane, methylene chloride, and trichlorotrifluoroethane, are compounds which may be emitted to the atmosphere during the application of and/or subsequent drying or curing of coatings.

W

Wash Primer- A thin rust-inhibiting primer with phosphoric acid and rust inhibitor which provides improved adhesion to subsequent coats.

Water Blasting- Blast cleaning using high velocity water.

Weld Spatter- Beads of metal left adjoining a weld.

Wet Edge- Fluid boundary

Wet Film Gage- Device for measuring wet film thickness.

White Metal Blast- Highest degree of cleaning, when surface is viewed without magnification it is free of visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter; SSPC SP 5, NACE No. 1,

Wrinkling- Rough, crinkled surface, usually related to surface skinning over uncured paint.