

Glossary of Paint Terms



Abrasion Resistance

The ability of a coating to resist degradation due to mechanical wear.

Abrasive Media

The material used in abrasive blasting to remove surface contaminants. Examples of abrasive media are sand, iron shot, crushed iron slag, glass beads or ground nut shells.

Adhesion

The degree of attachment between a paint film and the underlying material to which it is in contact.

Air Entrapment

The inclusion of air bubbles in liquid paint or a paint film.

Airless Spray

A spraying system in which paint is atomized using high hydraulic pressure rather than compressed air.

Alkali

An aqueous liquid which has a pH value of between 7 and 14. A base or caustic material.

Alligatoring

Surface imperfections of a coating film having the wrinkled appearance of alligator skin.

Ambient Temperature

Room temperature or the existing temperature of the surroundings.

Amine

Materials often used as curing agents for epoxy coatings.

Anchor Pattern

The surface profile generated by abrasive blasting. The distance between peaks and valleys of the blast profile.

Binder

The nonvolatile portion of the vehicle of a coating which holds together the pigment particles.

Bituminous Coating

A coal tar or asphalt based coating material usually used in thick films.

Blast Cleaning

The cleaning and roughing of a surface by the use of sand, artificial grit or fine metal shot which is projected a surface by compressed air or mechanical means.

Blistering

The formation of blisters in paint films by the local loss of adhesion and lifting of the film from the underlying substrate.

Blushing

A film defect which manifests itself as a milky appearance which is generally caused by rapid solvent evaporation or the presence of excessive moisture during the curing process.

Bonding

The attachment between a coating film and the underlying material to which it is applied.

Build

The wet or dry thickness of a coating film.

Cathodic Protection

The reduction or prevention of corrosion of a metal surface caused by making it cathodic. This is accomplished by using a sacrificial anode (such as in zinc rich coatings or galvanizing) or by using impressed current.

Caustic

A common name for sodium hydroxide, a strong base or alkali.

Cementitious Coatings

A coating containing portland cement as one of its components held on the surface by a binder.

Centipoise

One hundredth of a poise which is a unit of measurement for viscosity. Water at room temperature has a viscosity of 1.0 centipoise.

Chalking

The formation of a friable powdery coating on the surface of a paint film, generally caused by exposure of ultraviolet radiation resulting in a loss of gloss.

Cleaners

A detergent, alkali, acid or similar contamination removing material, which is usually water borne.

Coal Tar

A dark brown to black bituminous material produced by the destructive distillation of coal.

Coal Tar Epoxy

A coating in which the binder or vehicle is a combination of coal tar and epoxy resins.

Coat

The paint applied to a surface in a single application to form a film when dry.

Coating System

A number of coats separately applied, in a predetermined order, at suitable intervals to allow for drying and curing, resulting in a completed job.

Cohesion

The forces which bind the particles of a paint film together into a continuous film.

Compatibility

The ability to mix with or adhere properly to other coatings without detriment.

Corrosion

The decay, oxidation or deterioration of a substance due to interaction with the environment.

Crosslinking

The setting up of chemical links between molecular chains to form a three dimensional network of connected molecules.

Cross Spraying

Spraying the first pass in one direction and the second at a right angle to the first, providing more even film distribution.

Curing Agent

A hardener or activator added to a synthetic resin to develop the proper film forming properties.

Degreaser

A chemical solution or compound designed to remove grease, oils and similar contaminants.

Delamination

The separation between layers of coats due to very poor adhesion.

Density

Mass per unit volume, usually expressed as grams per milliliter or pounds per gallon.

Dew Point

The temperature of a surface, at a given ambient temperature and relative humidity, at which condensation of moisture will occur.

DFT

Dry film thickness.

Dry Time

Time allotted for an applied coating film to reach a set stage of cure or hardness.

Dry to Tack Free

A stage at which a coating film will form a skin to which dust will not adhere.

Dry to Touch

The state of dry at which a coating film will not transfer onto an item touched lightly against it.

Efflorescence

Water soluble salts, deposited a moisture evaporates, on the exterior of brick or concrete.

Elcometer

A trademark and brand name for a magnetic instrument for measuring dry film thicknesses of coatings applied to ferrous surfaces such as steel.

Epoxy

A synthetic resin, derived from petroleum products, that can be cured by a catalyst or used to upgrade other synthetic resins to form a harder, more chemical resistant film.

Etching

The treatment of a surface with an acid in order to dissolve loose particles or provide a profile.

External Atomization

Using air to break up a coating material after it has exited the spray gun nozzle.

Fan Pattern

The geometry of a spray pattern.

Filler

A compound used to extend or bulk a coating to provide extra body or hiding power.

Film Build

The dry film thickness characteristics of a coat.

Film Integrity

The continuity of a coating free of defects.

Film Thickness Gauge

A device for measuring either wet or dry film thickness.

Fingering

A broken spray pattern delivering heavier paint to one area than another.

Flammable

Any substance easily ignited in the presence of a flame; any liquid having a flash point below 100* F (37.8*C).

Flexibility

The degree at which a coating is able to conform to movement or deformation of its supporting surface without cracking or flaking.

Fluid Tip

The orifice in a spray gun to which the needle is seated.

Gelled

A coating which has thickened to a jelly like consistency making it unusable.

Hardener

An activator curing agent, catalyst or cross linking agent.

High Build

A term referring to a paint film which can produce a thick film in a single coat.

Holiday

Any discontinuity, bare or thin spot in a painted area.

Hydrophilic

A substance which absorbs or has an affinity for water, water loving.

Hydrophobic

A substance which does not absorb or exhibit and affinity for water.

Immersion

Referring to an environment which is continuously submerged in a liquid, often water.

Impact Resistance

The ability to resist deformation or cracking due to a forceful blow.

Incompatibility

Unsuitable for use together because of undesirable chemical or physical effects.

Intercoat Contamination

The presence of foreign matter such as dust or dirt between successive coats of paint.

Intercoat Adhesion

The adhesion between successive coats of paint.

Laitance

An accumulation of fine particles, loosely bonded, on the surface of fresh concrete, caused by the upward movement of water.

Methyl Ethyl Ketone (MEK)

A low boiling, highly volatile flammable solvent with extremely good solubility for most vinyls, urethanes and other coatings.

Micron

A micrometer or one millionth of a meter.

Mil

One one-thousandth of an inch; 0.001 inches. Commonly used to denote coating thickness.

Miscible

Capable of mixing or blending uniformly.

Mudcracking

A paint film defect characterized by a broken network of cracks in the film.

NACE

National Association of Corrosion Engineers.

Nonvolatile

The portion of the paint left after the solvent evaporates; solids.

Orange Peel

The dimpled appearance of a dried paint film resembling the peel of an orange.

Osmosis

The diffusion of liquid through a paint film or other such membrane.

pH

A measure of acidity and alkalinity; pH 1-7 is acid and pH 7-14 is alkali.

Pigment

A finely ground natural or synthetic, insoluble particle adding color and opacity or corrosion inhibition to a coating film.

Pigment Volume Concentration (PVC)

The percent by volume occupied by pigment in the dried film of paint generally expressed as a percentage.

Pinholing

A film defect characterized by small, pore-like flaws in a coating which extend entirely through the film.

Polymer

A substance of molecules which consist of one or more structural units repeated any number of times.

Polyurethane

An exceptionally hard, wear resistant coating made by the reaction of polyols with a multi-functional isocyanate.

Porosity

The presence of numerous minute voids in a cured material.

Potable Water

Water fit for human consumption; as in drinking water.

Pot Life

The length of time a paint material is useful after its original package is opened or a catalyst or their curing agent is added.

Primer

The first coat of paint applied to a surface, formulated to have good bonding, wetting and inhabiting properties.

Profile

The term used to describe the anchor pattern of a surface produced by sandblasting, acid etching or similar method.

Relative Humidity

The ratio, expressed as a percent, of the quantity of water vapor actually present in the air to the greatest amount possible at a given temperature.

Resin

A group of organic materials, either natural or synthetic, which can be melted or dissolved

Roller

A cylinder covered with lamb's wool, felt, foamed plastics or other materials used for applying paint.

Runs

Sagging and curtining of a coating or paint film, usually caused by improper thinning, excessive film build or poor application techniques.

Rust

The reaction product of steel, oxygen and water.

Sagging

The downward movement of a paint film on a vertical surface, between the time of application and drying, resulting in an uneven coating having a thick lower edge.

Sag Resistance

The ability of a paint to be applied at proper film thicknesses without sagging.

Salt Atmosphere

A moist, heavily laden air with a high chloride concentration; used as a test for accelerated corrosion evaluations and also present near sea coat areas.

Salt Fog Test

A cabinet designed to accelerate the corrosion process in evaluating coatings; combines 100% humidity with a 5% salt concentration at 100°F in an enclosed cabinet.

Shade

A term employed to describe a particular hue or tone.

Shelf Life

The maximum time interval in which a material may be kept in a usable condition during storage.

Silica Sand

Clean sand made up of sharp silica particles, not containing dirt or clay, used for abrasive blast cleaning.

Solids by Volume

The percentage of the total volume occupied by nonvolatile compounds.

Solvent

A liquid in which another substance may be dissolved.

Solvent Entrapment

The encapsulation of solvent within a cured paint film due to improper drying conditions; results in a noncontinuous film.

Spray Head

The combination of needle, tip and air cap.

Spray Pattern

The configuration of coating sprayed on the surface.

Specification

A set of instructions detailing the plan for coating of a project; a list of criteria for a coating.

Spread Rate

Coverage, usually at the specified dry film thickness.

SSPC

Society of Protective Coatings

Substrate

The surface to be painted.

Tabor Abraser

An instrument used to measure abrasion resistance.

Thermoplastic

Resins having the property of becoming soft upon the application of heat but which regain hardness after cooling.

Thermosetting

Resins having the property of becoming insoluble or hard upon the application of heat.

Thinners

A liquid (solvent) added to a coating to adjust viscosity.

Thixotropic

An adjective which describes full bodied material which undergoes a reduction in viscosity when shaken, stirred or otherwise mechanically disturbed but which readily recovers its original full bodied condition upon standing.

Vapor Barrier

A moisture-impervious layer which prevent the passage of water into a material or structure.

Vapor Transmission Rate

The rate at which moisture passes through a material or coating.

Viscometer

One of several types of instrument for measuring a liquids viscosity.

Viscosity

A measure of fluidity of a liquid.

Voids

Holidays or holes in a coating.

Volatile Content

The percentage of materials which evaporate from a coating.

Volatile Organic Compounds (VOC)

A measure of the total amount of organic compounds evaporating from a coating film, excluding water.

Volume Solids

The volume of the nonvolatile portion of a composition divided by the total volume expressed as a percent used to calculate coverage rate.

Water Blasting

Blast cleaning of metal using high velocity water.

Weld Splatter

Beads of metal left adjoining the weld.

Wetting

The ability of a vehicle to flow onto the surface in order to achieve a good bond.

Wet Sandblasting

The incorporation of water into the sandblasting operation in order to minimize dust.