

Glossary of Paint Terms



Helping to understand some of the jargon of the protective and marine coatings industry

Introduction

Each industry has its own terminology, sometimes giving new meaning to common words in a language. Direct translation from a home language to English so commonly used in the (protective and marine) coatings industry may not be straightforward.

In the list below, Transocean Coatings has made an attempt to give descriptions for a list of some of the key jargon used in the (protective and marine) coatings industry. By no means is this intended to be complete or definitive, language evolves and technical innovation and updates of standards may mean a shift in interpretation of some of the terminology.

Misinterpretations can lead to mistakes. If something is unclear on a coating project, due to the language used, feel free to ask and learn.

List of paint terms

Term	Description
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.
Accelerated Weathering	A test designed to simulate but at the same time intensify and accelerate the destructive action of natural outdoor weathering.
Acrylic Resin	A clear resin attained by polymerizing various acrylic monomers either alone or in combination.
Adhesion	The degree of attachment between a paint film and the underlying material to which it is in contact (substrate).
Adsorption	Process of attraction or attachment to a surface. The retention of foreign molecules on the surface of a substance.
Air Cap (Air Nozzle)	Perforated housing for directing the atomizing air at the head of an air spray gun.
Air Drying	The most common form of curing a coating in which drying takes place by oxidation or solvent evaporation by simple exposure to air without heat or catalyst.
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.
Aliphatic Hydrocarbons	A class of organic solvents which are composed of open chains of carbon atoms. Aliphatics are relatively weak solvents. Mineral spirits and VM & P Naphtha are aliphatic solvents.
Alkali	An aqueous liquid which has a pH value of between 7 and 14. A base or caustic material.
Alkyd Resin	Resins prepared by reacting alcohols and fatty acids. Widely used in general purpose coatings.
Alligating	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.
AMPP	AMPP - Association for Materials Protection Result of the 2021 merger of NACE (National Association of Corrosion Engineers) with SSPC (Society for Protective Coatings)

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Anchor Pattern	The surface profile generated by abrasive blasting or some power tool cleaning. The distance between peaks and valleys of the blast profile.
Anode	The positive terminal of an electrical source. In a corrosion cell, the anode is the electrode that has the greater tendency to go into solution of the point at which corrosion occurs.
Aromatic Hydrocarbons	A class of relatively strong organic solvents which contain an unsaturated ring of carbon atoms. Examples are benzene, toluene and xylene.
Barrier Coat	A coating used to isolate a paint system either from the surface to which it is applied or a previous coating for the purpose of increasing adhesion or insuring compatibility.
Binder	The non-volatile portion of the vehicle of a coating which holds together the pigment particles.
Blast Cleaning	The cleaning and roughing of a surface by the use of sand, artificial grit or fine metal shot which is projected at a surface by compressed air or mechanical means.
Bleeding	The diffusion of colour matter through a coating from underlying surfaces causing colour change.
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.
Bounce back	The rebound of atomized paint, especially when applied by conventional air spray methods.
Brittleness	The lack of resistance to cracking or breaking of a paint film when bent or flexed.
Bubbling	A temporary or permanent film defect in which bubbles of air or solvent vapour are present in the applied film.
Catalyst	An accelerator, activator or curing agent which chemically increases the rate of reaction in a coating.
Cathode	The negative terminal of an electrolytic cell which, in the corrosion process, is protected and not attacked.
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 strong base or alkaline material.
Caustic Soda	A common name for sodium hydroxide, a strong base or alkali.
Chalking	The formation of a friable powdery coating on the surface of a paint film, generally caused by exposure to ultraviolet radiation resulting in a loss of gloss.
Checking	Cracks in the surface of a paint film.
Chipping	Small pieces of paint removed from the surface, typically a sign of physical damage incurred in shipping or handling. Use of a surface tolerant primer for touch up followed by the same finish coat generally solves the problem.
Chlorinated Rubber	A coating resin formed by the reaction of rubber with chlorine gas. Often used for chemical or water resistant properties.

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Clean and Dry	<p>Rather than a method, the requirement for Clean and Dry describes the condition of the surface prior to painting.</p> <p>The surface shall be clean, dry, and free of oil, grease, wax, form oils, and any other contaminant that may affect the adhesion of the coating.</p> <p>For best results and high performance requirements remove laitance and contaminants from precast and cast-in-place concrete by abrasive blasting or high pressure water blasting.</p> <p>Dry means that the substrate contains less than 15% moisture.</p> <p>Concrete should be cured at least 28 days and mortar joints at least 15 days @ 75F and 50% RH.</p>
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.
Cob webbing	Premature drying of a coating during spraying causing a spider web effect.
Cohesion	The forces which bind the particles of a paint film together into a continuous film.
Cold Rolled Steel	Low carbon, cold-reduced, sheet steel. Differs from hot rolled steel by the absence of mill scale.
Colour Retention	The ability to retain its original colour during weathering or chemical exposure.
Compatibility	The ability to mix with or adhere properly to other coatings without detriment.
Copolymer	Large molecules obtained by simultaneous polymerization of different monomers, as in vinyl copolymers.
Corrosion	The decay, oxidation or deterioration of a substance (steel, concrete, and others) due to interaction with the environment.
Cracking	Splitting of a paint film usually as a result of aging.
Craters	The formation of small bowl shape depressions in paint films.
Cross linking	The setting up of chemical links between molecular chains to form a three dimensional network of connected molecules.
Curing Agent	A hardener or activator added to a synthetic resin to develop the proper film forming properties.
Curtains	Long horizontal runs in a coating film that occur on vertical surfaces when a coating is applied too heavily.
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.

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Diluent	A portion of the volatile components of a coating which is not a true solvent and has minimal effect on the viscosity.
Dispersion	The suspension of tiny particles, usually pigments, in a liquid, usually resin.
Dry Spray	Overspray or bounce back producing a sandy finish due to the sprayed particles having partially dried before reaching the surface.
Dry Time	Time allotted for an applied coating film to reach a set stage of cure or hardness.
Dry to Handle	The degree of cure at which a film will resist deformation due to handling.
Dry to Recoat	The time required for a cured film to dry prior to the application of a second coat.
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 as moisture evaporates, on the exterior of brick or concrete.
Elastic	The ability of a substance to return to its original shape or volume after a distorting force on the substance has been removed.
Elcometer	A trademark and brand name for test equipment. Often used to refer to a magnetic instrument for measuring dry film thickness of coatings applied to ferrous surfaces such as steel.
Electrical Potential	A minute voltage produced by the separation of molecules into their ionic state.
Electrolyte	A substance that dissociates into ions in solution thereby becoming electrically conductive.
Electrostatic Spray	The spray application of paint where the particles are charged causing them to be electrically attracted to the grounded surface.
Emulsion	A two phase liquid system in which small droplets of one liquid are immiscible in and are dispersed uniformly throughout a second continuous liquid phase.
Enamel	A term used to characterize a coating which has a glossy smooth finish. A common term for alkyd coatings.
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.
Fading	Loss of gloss or sheen.
Fan Pattern	The geometry of a spray pattern.
Feather Edge	Reduced film thickness at the edge of a dry paint film in order to produce a smooth, continuous appearance.
Filler	A compound used to extend or bulk a coating to provide extra body or hiding power.
Film Thickness Gauge	A device for measuring wet or dry film thickness.
Fineness of Grind	The degree of dispersion of particles within a liquid.
Fingering	A broken spray pattern delivering heavier paint to one area than another.

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Flammable	Any substance easily ignited in the presence of a flame; for instance a liquid having a flash point below 100°F (38.8°C). Definitions in health and safety documents may vary by region
Flash Point	The lowest temperature of a liquid at which sufficient vapour is provided to form an ignitable mixture when mixed with air.
Flexibility	The degree at which a coating is able to conform to movement or deformation of its supporting surface without cracking or flaking.
Floating (Flooding)	A concentration of one of the ingredients of the pigmented portion of a paint at its surface giving rise to a colour change.
Flow	The degree to which a wet paint film can level out after application so as to eliminate brush marks and produce a smooth uniform finish.
Fluid Tip	The orifice in a spray gun to which the needle is seated.
Fluorescent	A class of pigments which, when exposed to visible light, emit light of a different wave length producing a bright appearance.
Fouling	Marine growth such as weeds or barnacles adhering to the surface.
Galvanic Anode	A metal which, when properly connected to metallic structures of different composition, will generate an electric current.
Galvanic Corrosion	Corrosion associated with the current of a galvanic cell made up of dissimilar electrodes.
Galvanized Steel	Cold rolled steel which has been coated with a thin layer of metallic zinc by hot dipping or electroplating.
Gelled	A coating which has thickened to a jelly like consistency making it unusable.
Generic	Belonging to a particular family.
Gloss	The sheen or ability to reflect light.
Gloss Retention	The ability to retain the original sheen during weathering.
Glycol Ether	A group of relatively slow evaporating, strong solvents commonly utilized in epoxy coatings.
Grit	An abrasive blasting media obtained from slag and various other materials.
Grit Blasting	Abrasive blasting using grit as the blasting media.
Hardener	An activator curing agent, catalyst or cross linking agent.
Hardness	The degree to which a material will withstand pressure without deformation or scratching.
Hiding power	The ability of a coating to obscure the surface to which it is applied.
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.
Hot Rolled Steel	Steel which has been formed while still hot, generally characterized by the presence of bluish-black mill scale.
Hydrocarbon	Extracts from petroleum such as gasoline, lubricating oils, solvents, etc.
Hydrophilic	A substance which absorbs or has an affinity for water.
Hydrophobic	a substance which does not absorb or exhibit an 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.

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Incompatibility	Unsuitable for use together because of undesirable chemical or physical effects.
Induction Time	The period of time between mixing of two component products and the moment they can be used.
Inert Pigment	A non-reactive pigment, filler or extender.
Inhibitive Pigment	A pigment which assists in the prevention of the corrosion process.
Inorganic Zinc	A coating based on a silicate resin and pigmented with metallic zinc which has excellent resistance to organic solvents and general weathering.
Intercoat Adhesion	The adhesion between successive coats of paint.
Intumescent Coating	A fire retardant coating which, when heated, produces non-flammable gasses which are trapped by the film, converting it to a foam, and thereby insulating the substrate.
Ketone	An organic compound with a carbonyl group attached to two carbon atoms. Usually indicates a strong, fast evaporating solvent.
Krebs Units (KU)	An arbitrary unit of viscosity for a Stormer viscosity instrument.
Lacquer	A coating comprised of a synthetic film forming material which is dissolved in organic solvents and dries by solvent evaporation.
Lead-Free	Contains, by weight, less than 0.5% lead for industrial products and less than 0.6% lead in consumer products.
Leafing	The orientation of pigment flakes in a horizontal plane, usually aluminium.
Lifting	Softening and raising or wrinkling of a previous coat by the application of an additional coat; often caused by coatings containing strong solvents.
Mastic	A term used to describe a heavy bodied coating.
Micron	A micro-meter or one millionth of a meter, a thousand of a millimetre, depicted as μm . Used to denote coating thickness.
Mil	One one-thousandth of an inch; 0.001 inches. Used to denote coating thickness in the United States and parts of the world following US instead of metric standards. 1 mill is approximately $25\mu\text{m}$ (microns)
Mill Scale	A layer of iron oxide formed on the surface of steel plates during hot rolling; bluish in appearance.
Mist Coat	A thin tack coat usually applied to fill porous surfaces such as zinc rich primers.
Mud cracking	A paint film defect characterized by a broken network of cracks in the film.
Muriatic Acid	Concentrated hydrochloric acid often diluted and used for etching concrete.
NACE	National Association of Corrosion Engineers, see AMPP
Neutral	A liquid which is neither acid nor alkali such as water; pH7.
Nonferrous	A term used to designate metals or alloys that do not contain iron; example: brass, aluminium, magnesium.
Non-volatile	The portion of the paint left after the solvent evaporates; solids.
Opacity	The ability of a paint film to obliterate or hide the colour of the surface to which it is applied.
Orange Peel	The dimpled appearance of a dried paint film resembling the peel of an orange.
Organic	Designation of any chemical compound containing carbon.
Organic Zinc	A zinc rich coating utilizing an organic resin such as an epoxy.

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Osmosis	The diffusion of liquid through a paint film or other such membrane.
Overspray	Sprayed coating that is dry when it hits the surface resulting in dusty, granular adhering particles, reducing gloss and presenting a poor appearance.
Oxidation	The formation of an oxide; the curing mechanisms for alkyds.
Passivate	To make a surface such as steel inert or unreactive, usually by chemical means.
Paste	The product of a dispersion process. It is usually very high viscosity and requires dilution prior to application; a concentrated pigment dispersion used for shading.
Pattern	The shape or stream of material coming from a spray gun.
Peeling	A film of paint or coating lifting from the surface due to poor adhesion. Peeling normally applies to large pieces.
Permeability	The degree to which a membrane or coating film will allow the passage or penetration of a liquid or gas.
pH	A measure of acidity and alkalinity; pH 1-7 is acid and pH 7-14 is alkali.
Phenolic	A synthetic resin used for heat or water resistance.
Phosphatizing	A pre-treatment of steel by a chemical solution containing metal phosphates and phosphoric acid to temporarily inhibit corrosion.
Pickling	The treatment of steel for the removal of rust and mill scale by immersion in a hot acid solution containing an inhibitor.
Pigment	A finely ground natural or synthetic, insoluble particle adding colour 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.
Plasticizer	An agent added to the resin to aid in flexibility.
Polyester Resin	A group of synthetic resins which contain repeating ester groups. A special type of modified alkyd resin.
Polymer	A substance of molecules which consist of one or more structural units repeated any number of times.
Polymerization	A chemical reaction in which two or more small molecules combine to form large molecules containing repeated structural units.
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.
Pot Life	The length of time a paint material is useful after its original package is opened or a catalyst or other curing agent is added.
Practical Coverage	The spreading rate of a paint calculated at the recommended dry film thickness and assuming 15% material loss.
Primer	The first coat of paint applied to a surface, formulated to have good bonding, wetting and inhibiting properties.
Profile	The term used to describe the anchor pattern of a surface produced by sandblasting, acid etching or similar method.
Pyrometer	An instrument used to measure the temperature of a surface.

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Term	Description
QUV	An accelerated testing device designed to evaluate the fading properties of a coating by exposure to high intensity, ultraviolet light.
Relative Humidity	The ratio, expressed as a percent, of the quantity of water vapour 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 moulded or dissolved.
Roller	A cylinder covered with lamb's wood, felt, foamed plastics or other materials used for applying paint.
Runs	Sagging and curtaining of a coating or paint film, usually caused by improper thinning, excessive film build or poor application techniques.
Rust	<p>The corrosion of steel or iron is an electrochemical phenomena wherein the base metal reverses to a lower, more stable energy state. If the corrosive environment is water or brine, then the corrosion product formed is commonly known as rust. In the case of other chemicals, such as alkalis or acids, other combinations of iron salts are formed as part of the corrosion product.</p> <p>The electrochemical corrosion process may be retarded or stopped by the proper use of protective coatings.</p> <p>One preventive method provides an insulation barrier between the corrosive environment and the metallic substrate. This type of protection is exemplified by the painting of structural steel with organic coatings such as epoxies, alkyds and acrylics.</p> <p>An even more effective method is to use a more reactive metal such as zinc. A conductive zinc-filled coating protects the metal by galvanic protection. The zinc sacrifices itself and corrodes in preference to the steel.</p>
Sag Resistance	The ability of a paint to be applied at proper film thicknesses without sagging.
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.
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 coast areas.
Salt Fog Test	A cabinet designed to accelerate the corrosion process in evaluating coatings; combines 100% humidity with a 5% salt concentration at 100F in an enclosed cabinet.
Saponification	The alkaline hydrolysis of fats whereby a soap is formed; typical reaction between alkyds and galvanized metals resulting in peeling.
Settling	The sinking of pigments, extenders or other solid matter in a paint, on standing in a container, with a consequent accumulation on the bottom of the can.
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.
Shop Primer	An inexpensive, rust inhibiting primer designed to protect steel from general weathering immediately after fabrication and before final coating.
Shot Blasting	Abrasive blasting with round iron shot, or any material which retains its spherical shape, for peening purposes.

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Silica Sand	Clean sand made up of sharp silica particles, not containing dirt or clay, used for abrasive blast cleaning.
Silicone Resins	Resins based on silicone instead of carbon, generally used for their outstanding heat resistance and water repellency.
Skinning	The formation of a solid membrane on the top of a liquid, caused by partial curing or drying of the coating during storage.
Solids by Volume	The percentage of the total volume occupied by non-volatile 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 non-continuous film.
Sound Rusted Substrate	A rusted substrate cleaned of all loose rust and other loose materials, but not cleaned to bare metal.
Spray Head	The combination of needle, tip and air cap.
Spray Pattern	The configuration of coating sprayed on the surface.
Spread Rate	Coverage, usually at the specified dry film thickness.
SSPC	Society for Protective Coatings (see AMPP)
Substrate	The surface to be painted.
Tabor Abraser	An instrument used to measure abrasion resistance.
Tails	Finger-like spray pattern produced by improper gun or coating material adjustment.
Thermoplastic	Resins having the property of becoming soft upon 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.
Two-Pack	A coating which is supplied in two parts and must be mixed in the correct portions before use in order to cure.
Vapour Barrier	A moisture-impervious layer which prevents the passage of water into a material or structure.
Vapour Transmission Rate	The rate at which moisture passes through a material or coating.
Vinyl Copolymer	A resin produced by copolymerizing vinyl acetate and vinyl chloride.
Viscosity	A measure of fluidity of a liquid.
Viscosity Cup	An efflux viscometer utilizing a measured volume of liquid flowing through a precise orifice.
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 non-volatile portion of a composition divided by the total volume expressed as a percent used to calculate coverage rate.

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Term	Description
Wash Primer	A thin paint, usually a chromate, designed to promote adhesion or to be used as a barrier coat.
Water Blasting	Blast cleaning of metal using high velocity water.
Water Spotting	A surface defect caused by water droplets depositing a circular ring of contaminants.
Weatherometer	A machine designed for the accelerated testing of coatings.
Weld Slag	Amorphous deposit formed during welding.
Weld Splatter	Beads of metal left adjoining the weld.
Wet on Wet Application	<p>As high solids coatings continue to grow in popularity, the statement of "wet on wet" application is used regularly. Over the past few years this statement has been used very loosely and its true meaning has been lost or misunderstood by many. As a clarification "wet on wet" is meant to be that the coating is applied in TWO separate coats or applications.</p> <p>Whenever possible contrasting colours should be utilized for the two coats to aid in the application.</p> <p>Typically the structure is coated with the first coat and the applicator then turns around and begins the second application.</p> <p>As an example, if you have an I-beam or a railcar, the complete structure has the first coat applied before the second coat begins.</p> <p>Depending upon what is being coated the time between coats will vary dramatically. The key to the whole concept is that it is two independent coats.</p> <p>By applying the coating in two distinctive coats or applications, it minimized the problems with pinholes, light mileage areas, and solvent entrapment.</p> <p>The misconception has been that you can apply the total thickness requirement in one coat with multiple passes. Some of the problems associated with one coat are not alleviated by the thicker film.</p>
Wet Sandblasting	The incorporation of water into the sandblasting operation in order to minimize dust.
Wetting	The ability of a vehicle to flow onto the surface in order to achieve a good bond.
White Rust	The oxide of zinc formed on galvanized metal.
Zinc Dust	Finely divided zinc metal used as a pigment in protective coatings.
Zinc Rich Primer	An anti-corrosion primer for iron and steel incorporating zinc dust in a concentration sufficient to provide cathodic protection.