



# **General Terms & Definitions**

## **Tech Tips**



# General Terms & Definitions

- **Abrasion:** Wearing away of paint film by some external force, such as sanding.
- **Abrasive:** Substance used to wear away or smooth a surface by friction.
- **Accelerator:** A substance that when added to a paint will speed up the rate of cure.
- **Acetone:** A very fast evaporating solvent with high solvency for certain types of compounds and resins. Has a characteristic ether-like odor.
- **Acrylic:** A coating based on a polymer containing short chain esters of acrylic and methacrylic acid. Acrylics were once widely used as automotive topcoats.
- **Acrylic Urethane:** A coating based on urethane chemistry which also includes acrylic chemistry as part of the cross-linked polymer backbone.
- **Activator:** A necessary component used to provide a chemical reaction to cure paint.
- **Additives:** Chemical substances added to a finish in relatively small amounts to impart or improve desirable properties. Examples include UV screeners, flow agents, and fish eye eliminators.



# General Terms & Definitions

- **Adhesion:** The phenomenon by which one material is attached to another by means of surface attraction.
- **Agitator (or mixing) Cup:** Paint cup used with high metallics and pearls to keep the pigment particles in suspension by continually mixing the paint. This ensures better color uniformity.
- **Air Cap:** The front of a spray gun nozzle that directs compressed air against the paint to form and shape an atomized cloud of droplets.
- **Air Dry:** The ability of a coating to dry or cure to its ultimate hardness under normal atmospheric conditions, without bake. Measurement of time required must state conditions such as temperature and humidity.
- **Air Spray:** A system of applying paint in the form of tiny droplets. The paint is broken into droplets (atomized) by a spray gun as a result of being forced into a high velocity air stream. The shape and paint density of the resulting droplet cloud can be controlled by air pressure, paint viscosity and gun tip geometry.



# General Terms & Definitions

- **Airless Spray:** A system of applying paint in which the paint, under high pressure, is passed through a nozzle and broken into droplets when it enters the lower pressure region outside the gun tip.
- **Alkyd:** A coating based on a polyester binder. Such polyesters are chemical combinations of molecules that contain more than one acid or alcohol group.
- **Aluminum:** Metal used as a substrate or a pigment.
- **Aluminum Oxide:** Sharp and hard abrasive.
- **Ambient Temperature:** Temperature of the air surrounding an object.
- **Anionic Electrodeposition:** One of the electrocoating methods in which the body is charged positively and the paint negatively. Frequently used for OEM primer application.
- **Anodizing:** An electrolic surface treatment for aluminum which builds up an aluminum oxide coating, to provide better adhesion.
- **Anticorrosive:** Protective coating applied on metal surfaces to prevent corrosion.



# General Terms & Definitions

- **Anti-Skinning Agents:** Chemicals added to a paint to help prevent the formation of a surface film.
- **Applied Solids:** Solids that remain on the substrate being coated or painted.
- **Aqueous:** Describes a water-based solution or suspension.
- **Aromatics:** A type of solvent based on benzene ring molecules.
- **Atomization:** The formation of tiny droplets of liquid as in the paint spraying process. Atomization is usually caused by turbulence in an air stream, or a sudden drop in pressure.
- **Back Sanding:** Technique of sanding a surface to taper the paint film away from the metal repaired area.
- **Backing:** The base material of sandpaper onto which abrasive grains are coated. For masking tape, the backing is the paper section without the adhesive.
- **Backing Pad:** A supporting pad, for abrasive disc and/or buffing pads, that is attached to a buffer or a DA sander. In the compounding, glazing or polishing operation, a foam or wool polishing or glazing pad is attached on top of the backup pad. In dry sanding operations an abrasive disc is attached to the face of the back-up pad.



# General Terms & Definitions

- **Baffle:** A part used in a spray gun to direct the air stream.
- **Baking:** Application of heat to cure and dry a coating. In automotive refinishing, baking is used to speed up the drying of air-drying finishes and is sometimes called force drying. The metal temperature in refinish baking usually does not exceed 180 degrees F.
- **Balancer:** Additive used to balance color formula in proportion to size and pigment-to-binder ratio.
- **Base Color (Basecoat):** A color coat requiring a clear coat. Base Color provides color and appearance, while the clear coat provides gloss as well as UV protection and chemical resistance.
- **Binder:** The paint material that forms the film. So-called because it binds the pigment and any additives present into a solid durable film.
- **Bleeding:** A defect in which pigment from a lower coat of paint diffuses into an upper coat and discolors the latter. A nonbleeding color is one that is not soluble in materials used over it and consequently does not work up into succeeding layers. Body filler will also cause bleeding.



# General Terms & Definitions

- **Blistering:** The development of hollow bubbles or water droplets in a paint film. Blistering is usually caused by the expansion of air or moisture trapped beneath the film. It can occur rapidly or over a long period of time after application. Blistering may also occur from the presence of unreacted acid within the paint film.
- **Blending:** Repainting a panel, or multi panels, and blending the new color into the existing or old color in a tapered fashion to achieve an almost invisible blending of the old and new color such that it is difficult to detect with the human eye.
- **Blooming:** A powder-like deposit which sometimes forms on the surface of a paint. It is often the result of a solvent component partly dissolving the pigment(s) and then depositing them on the surface below the dew point.
- **Blushing:** The appearance of whitish or "cloudy" areas in a paint film, caused by absorption and retention of moisture in a drying paint film.
- **Body Filler (AKA "Bondo"):** A heavy-bodied plastic filler material which cures very hard and is used to fill small dents in metal.



# General Terms & Definitions

- **Bodying:** Thickening in the package, usually due to evaporation of solvents or volatile material because of exposure to heat or air.
- **Bridging:** A characteristic of undercoat performance that occurs when a scratch or surface imperfection is not completely filled. It's caused by under-reducing the primer or using too fast a solvent and can lead to the appearance of sand scratches in the finished repair.
- **Bronzing:** The formation of a metallic-appearing haze on a paint film.
- **Buffing:** A technique used to polish an area to remove sanding marks or surface imperfections.
- **Buffing Compound:** A soft paste containing fine abrasive in a neutral medium, used to eliminate fine scratches and polish the topcoat.
- **Build:** The amount of paint film deposited on a substrate (the depth or thickness of which is measured in mils).
- **Bulls Eye:** Edge of a repaired area of a paint film that shows up after a surface has been repainted.
- **Butyl Acetate:** A medium-evaporating solvent used in paint.





# General Terms & Definitions

- Cadmium: A metal used to manufacture durable but expensive red and yellow pigments.
- Calcium: A metal component of driers and pigments.
- Calcium Carbonate: An extender pigment, also known as "whiting."
- Carbitol: A slow lacquer solvent of the ether-alcohol type.
- Carbon Black: A black pigment manufactured by collecting the carbon resulting from incomplete combustion of natural gas.
- Catalyst: A substance that changes the rate of a chemical reaction when it is mixed with another substance and that does not change or react. A catalyst differs from a curing agent in that the catalyst is not itself chemically consumed in the reaction while a curing agent is consumed. Technically, catalysts that increase reaction rates are called accelerators; those which decrease reaction rates are called inhibitors or retarders.
- Caulking: Sealing used in joints to prevent the passage of fluid (commonly moisture) or gas.



# General Terms & Definitions

- **Cationic Electrodeposition:** One of the electrocoating (E-coat) methods in which the body is charged negatively and the paint positively. The cationic method is superior to the anionic method in terms of corrosion. Frequently used for OEM primer application.
- **Centipoise:** A unit for the measurement of viscosity.
- **Chalking:** The degradation of a paint film by gradual erosion of the binder, typically due to weathering. It is characterized by loose pigment particles on the surface of the paint.
- **Checking:** A type of failure of paint film in which cracks in the film begin at the surface and progress downward. The result is usually a straight v-shaped crack which is narrower at the bottom than the top.
- **Chemical Cartridge:** A respirator which uses a cartridge containing various chemical substances to purify inhaled air of certain gases and vapors.
- **Chipping:** Small flakes of a finish losing adhesion from the substrate. Usually caused by the impact of stones or hard objects.



# General Terms & Definitions

- **Chemical Staining:** Spotty discoloration of the topcoat sometimes caused by environmental conditions (acid rain, tree sap, etc.) It also can be caused by improper activation of body filler which leads to staining of subsequent layers of topcoat.
- **Chroma:** The level of saturation or intensity and richness of a color. Desaturated or "dirty" colors have less chroma, saturated or "clean" colors have more chroma.
- **Chromate:** A heavy metal used to provide corrosion protection to metal.
- **Chromate Rinse:** The use of a chronic acid solution after zinc or iron phosphating to passivate the metal at the base of cracks and pinholes in the phosphate. Chromate rinsing will greatly increase corrosion resistance.
- **Cleaner:** Material used to clean a substrate.
- **Cleaner Wax:** A combination of wax and polish that contains mild abrasives. The abrasives remove minor paint imperfections. The wax and other ingredients produce a durable, high-gloss finish.



# General Terms & Definitions

- **Clearcoat (Clear Gloss):** The clear, non-pigmented top coat that is applied over a colored base coat paint. Most late-model cars have factory-applied clear coat paints. Clear coat paint increases paint durability, gloss, and resistance to harmful environmental effects.
- **Clogging:** Condition where sandpaper becomes clogged by the abraded surface coating.
- **Clouding:** The formation or presence of a haze in a liquid or in a film.
- **Coalescence:** The fusing or flowing of liquid particles. The term is frequently applied to waterborne coatings, which require coalescence to form a continuous film.
- **Coating:** The act of applying paint or the actual film left on the substrate by a paint. A single coat is produced by two passes of a spray gun, one overlapping the other in half steps. A double coat is two single coats with little or no flash time between them.
- **Cob webbing:** The tendency of sprayed paint to form strings or strands rather than droplets as it leaves the gun. May be caused by too fast or improper solvent, or to much air pressure.



# General Terms & Definitions

- **Cold Cracking:** Cracking of a paint film resulting from a sudden drop in temperature, or repeated cycling from high to low to high temperatures.
- **Color:** The visual appearance of an object that can be described in terms of hue, value, and chroma. Colors are seen differently by different people and under different light conditions.
- **Color Coat:** The single-stage or basecoat that provides the visible color of a coating system.
- **Color Match:** Achieved when the applied color duplicates all aspects of the original color's appearance in hue, value, and chroma.
- **Color Retention:** The ability of a paint to maintain color under exposure to light, heat, moisture or other conditions of use.
- **Color Sanding:** The sanding of a paint film to prepare for buffing or recoating.
- **Compliance Coating:** A coating whose volatile organic compound (VOC) content does not exceed that allowed by regulation. Compliance coatings may be waterborne, low solvent, or powder.



# General Terms & Definitions

- **Compounding:** Use of an abrasive material, either by hand or machine, to smooth and bring out the gloss of the applied topcoat.
- **Contaminants:** Any polish, wax, tree sap, tar, oil or the like that would damage the paint film or spoil the adhesion of a new paint film.
- **Conversion Coating:** Part of a metal pretreatment system that modifies a metal substrate for improved paint adhesion and corrosion protection.
- **Converter:** An additive used to provide a chemical reaction to cure paint.
- **Copper:** A difficult metal substrate to paint. Also used in the manufacture of pigments and driers.
- **Corrosion:** The decomposition of a metal in contact with its environment-a chemical reaction of oxygen and moisture or corrosive materials on a metal surface. Also called rusting or oxidation.
- **Coverage:** The amount of area a volume of paint will cover at a certain thickness. Theoretical coverage is described as the number of square feet a coating will cover at 1 mil film thickness.



# General Terms & Definitions

- **Cracking:** Splitting of a paint film. Cracking usually occurs as straight lines which penetrate the entire film thickness and can be caused by over-baking or by application of excessive film builds.
- **Cratering:** Small round depressions in a paint film which may or may not expose the underlying surface. Frequently caused by contamination of the substrate.
- **Crawling:** The tendency of a wet paint film to recede from certain areas of a painted surface. Often caused by the presence of contaminants on the surface.
- **Crazing:** The formation of surface cracks, often as a fine network, which do not penetrate to the underlying surface of a paint film. Crazing is sometimes caused by the softening effect of solvents from excessive paint coats as in lacquer repair operations.
- **Cross Coat:** A method of paint application often used with high solids paint. The technique involves a side-to-side application followed by a top-to-bottom application with very little flash time.
- **Cross Draft Booth:** A spray booth in which air movement is horizontal from end to end.



# General Terms & Definitions

- **Cure:** The process, usually a chemical change, by which paint is converted from the liquid to the solid state.
- **Cured Paint:** Paints that have completed the curing process. Cured paints include all factory-applied paints and refinish paints that have air dried for more than 30 days. Wax application is recommended only for cured paints.
- **Custom Painting:** Unique painting, frequently with special effects or designs, normally designed by owner of vehicle or individual painting the vehicle.
- **Cut:** Refers to both the dissolving of solid material in a solvent and the reducing of the viscosity of a liquid by the addition of a thinner.
- **Cut Through:** The result of sanding or buffing through one layer of paint and into the substrate below. A cut-through is common from clearcoat to basecoat or from primer to metal.
- **Dual Action:** Refers to a power tool used for sanding substrates. A dual action sander both orbits in an oscillating motion for featheredging and sanding, and spins in one direction for stripping finishes and sanding bare metal.





# General Terms & Definitions

- **Degradation:** The gradual or rapid disintegration of a paint film, normally due to weathering.
- **Decreasing:** Cleaning a substrate by removing greases, oils, and other surface contaminants.
- **Delamination:** The loss of adhesion between two layers of paint, causing material to separate from the painted surface or substrate.
- **Density:** An expression of the mass of a substance per a given volume.
- **Detailing:** Careful, in-depth cleaning and polishing of a vehicle's surface finish and or interior surfaces.
- **Diacetone Alcohol:** A slow-evaporating solvent for paint.
- **Die Back:** A condition in which the topcoat appears to sink into the primer coat causing a loss of gloss. Also, a loss of gloss due to improper solvent selection.
- **Diluent:** A liquid which increases the capacity of a solvent for the binder. Diluents cannot dissolve the binder themselves. They are usually used to control viscosity or flash time.
- **Dipentene:** A very slow evaporating hydrocarbon used to control flow and skinning in certain types of finishes.



# General Terms & Definitions

- **Dipping:** To apply paint to an article by immersing the article in a container of the paint and then withdrawing the article and allowing the excess paint to drain from the part.
- **Dirt Nibs:** Small specks of foreign material in a dried paint film. They can be removed by scuff sanding and polishing.
- **Disc Sander:** Power sanding tool used for grinding, sanding, and polishing repaired metal areas.
- **Dispersion Coatings:** A type of paint in which the binder molecules are present as colloidal particles. Characterized by a higher percent sprayable solids than is possible with solution-bases paints.
- **Dissolution:** Metallic particles from the basecoat surface in the clearcoat. If severe, the effect can alter the tone and exaggerate the metallic appearance.
- **Distinctness of Image (DOI):** A measurement of the accuracy of a reflection in a paint film.
- **Downdraft Spray Booth:** A spray booth in which the air movement is drawn from the ceiling filters and travels through the floor filters (top to bottom air movement).



# General Terms & Definitions

- **Drier:** A salt of certain metals, which when added to an enamel, paint, varnish, or oil hastens the drying or hardening of the film through evaporation.
- **Dry:** The change from a liquid to a solid which takes place after a paint is deposited on a surface. This involves both the evaporation of the solvents and any chemical changes that occur.
- **Dry Coat:** A paint having a very low solvent content which produces a gritty film appearance.
- **Dry Film Thickness:** The resultant film thickness of a coating after it has reached its final state of dry or cure.
- **Dry Sanding:** A method of abrading the surface by hand or machine without the aid of any water.
- **Dry Spray:** Sprayed paint which loses so much solvent in the air that it becomes too dry to flow out over the surface. This normally occurs when the chosen reducer is too fast for the atmospheric conditions.
- **Durability:** Refers to the retention of gloss and performance properties in a paint film during use or exposure to sunlight.



# General Terms & Definitions

- **Dust Contamination:** Contamination due to visible dust particles of various sizes and forms which are embedded or form raised spots in the coating.
- **Dust Free:** Condition when a paint film has dried enough that it will no longer allow dust to penetrate and stick to the finish.
- **Electrocoating:** The process by which electrically charge paint is plated on conductive surfaces of the opposite charge.
- **Electrodeposition:** A method by which paint is applied electrically by immersing electrodes and the work to be painted in a water base paint and applying direct current electricity to them.
- **Emulsion:** A suspension of fine particles in a liquid. The dispersed particles may be binder, pigments, or other ingredients.
- **Enamel:** A paint which forms a film by chemical union of its component molecules during cure, a paint having a highly glossy, finished appearance.
- **Epoxy:** A type of paint, adhesive or plastic noted for high mechanical strength, good adhesion and chemical resistance. Epoxy primers typically provide slightly better long term corrosion protection by creating a harder and more chemically resistant coating. Epoxy resins contain oxirane oxygen.



# General Terms & Definitions

- Ester: A type of organic compound used as active solvents.
- Ethyl Acetate: A fast evaporating ester solvent.
- Ethyl Alcohol: An inexpensive, fast evaporating solvent, cosolvent, or diluent.
- Etch Primer: Uses an acid (phosphoric acid) to help etch/adhere to the substrate. They provide corrosion protection and eliminate the need for Metal Conditioners
- Evaporation: The change from liquid to a gas. When solvents leave a wet paint film, they usually do so by evaporation.
- Evaporation Rate: The speed with which any liquid evaporates.
- Extender Pigment: An inert, usually colorless and semi-transparent pigment used in paints to fortify and lower the price of pigment systems.
- Factory Applied Paint: Paint applied to a vehicle at the factory of the original equipment manufacturer or OEM, and usually baked at high temperatures.
- Fading: The gradual loss of color of a paint film due to a chemical/physical change.
- Fan: The spray pattern of a gun.
- Featheredging: Tapering a paint edge from substrate to topcoat or between layers of material by sanding.



# General Terms & Definitions

- Featheredge Splitting: Fractures or cracks along the featheredge which occur during drying or shortly after the topcoat has been applied over primer surfacer. This problem occurs due to poor preparation, use of too fast solvents in primer, improper flash time and/or too aggressive solvents in topcoat.
- Ferrous: Describes any metal composed of or containing iron.
- Fatty Acid: An acid derived from natural oil.
- Ferrite Yellow: A commonly used, durable, yellowish-brown pigment. Very durable, lightfast and alkali-resistant Hydrated iron oxide.
- Fiberglass: Very fine staple fibers of glass that are spun together; it is used as insulation, and for parts and repairs on automobile and truck bodies.
- Filiform Corrosion: Lifting and penetration at the paint film-to-substrate border from defects in the paint film.
- Filler: Commonly, a heavily pigmented paint used to fill imperfections and pores in a substrate.
- Film: A very thin continuous sheet of material. Paint forms a film on the surface to which it is applied.



# General Terms & Definitions

- **Film Thickness:** The thickness of a dry paint is important. Thin films may appear to be the wrong color and may have durability issues. Thick films are likely to crack in use. The thickness of paint films on iron or steel surfaces is easily determined with a magnetic gauge.
- **Film Thickness Gauge:** A device used to measure the coating thickness on a substrate. Magnetic units are used to measure the thickness of ferrous metals; electronic units are used on non-ferrous substrates.
- **Finish:** A protective coating of paint; to apply a paint or paint system.
- **Finishing Film:** A fine graded abrasive disc for sanding top coat automotive paints before repainting or compounding.
- **Fisheyes:** A surface depression or crater in the wet paint film. Fish Eyes are caused by repulsion of the wet paint by a surface contaminant such as oil or silicone. The depression may or may not reveal the surface under the paint.
- **Fisheye Eliminator:** Additive used in paint to prevent the occurrence of fish eyes in a freshly painted surface.
- **Flake:** A pigment consisting of flat particles. Usually aluminum or metallic, providing special color effects to the final paint job.



# General Terms & Definitions

- **Flake Orientation:** The appearance of the metallic particles in a paint film during and after dry or cure. Selection of the correct aluminum flakes in the color mixing formula, proper application, will lead to good flake orientation and thus to good color match and appearance.
- **Flaking:** A paint failure characterized by paint film falling off the substrate.
- **Flash:** The first stage of drying where some of the solvent evaporates. This dulls the surface from an exceedingly high gloss to a normal gloss or flat appearance.
- **Flash Point:** The temperature at which the vapor of a liquid will ignite when a spark is struck.
- **Flash Rusting:** A surface rust occurring from improper cleaning or exposing bare metal to the air and moisture for too long of a period.
- **Flash Time:** The time between paint application and consecutive coats.
- **Flat:** Lacking in gloss.
- **Flattener:** An additive used to lower the gloss of topcoat, single-stage colors and clears.
- **Flocculation:** Clumping together of pigment particles within the wet paint.





# General Terms & Definitions

- **Flex Additive:** A substance added to paint to improve its performance characteristics such as impact resistance, flexibility, and elongation over plastic or flexible substrates.
- **Floating:** The tendency of pigment particles in a wet paint film to separate from one another and concentrate in particular areas.
- **Flooding:** The tendency of pigment particle to rise to the surface during cure and produce a changed color at the surface and a lack of uniformity in the color appearance through the film.
- **Flop:** The change in value, hue, and chroma of a metallic or pearl car finish when it is viewed from different angles.
- **Flow:** The leveling characteristics of a wet paint film. The ability of a liquid to run evenly from a surface and to leave a smooth film behind.
- **Flow Coat:** Pouring paint on a part and allowing excess to drain away.
- **Fluid Needle:** Part in a spray gun that opens and closes fluid passages.
- **Fluid Tip:** Part of a spray gun that meters and directs the fluid stream.
- **Force Dry:** A method of accelerating the drying of paint by using heat.



# General Terms & Definitions

- **Front End Solvent:** A fast-evaporating solvent that leaves the paint very soon after application.
- **Frosting:** The formation of a surface haze or defects in a drying paint film.
- **Gloss Color (single stage):** A single stage system combines the color and clear in one coating. Gloss Color is available in 1K (one component - no hardener required) and 2K (two components – clear and hardener).
- **Glaze:** A polish that is safe for use on fresh paints. Some glaze contain a mild abrasive that will remove minor surface imperfections. When a glaze with an abrasive is used, it should be followed by application of wax on cured paint or a hand glaze on fresh paint. A glaze also does not contain silicone.
- **Glazing Putty:** A very fast dry putty used to fill minor surface imperfections not remedied by either Body Filler or Primer Filler.
- **Gloss:** The ability of a surface to reflect light. Measured by determining the percentage of light reflected from a surface at certain angles.
- **Gloss Meter:** An apparatus for measuring the gloss of paint film (and Distinctness of Image or DOI).
- **Gravelometer:** A device that propels rocks at a painted substrate to measure the resistance the finish has to rock chips.



# General Terms & Definitions

- Gravity Feed Spray Gun: A paint gun with the paint reservoir on the top of the gun, which allows the paint to flow into the spray area by gravity.
- Grinding: Using very coarse grit grinding discs to either strip a metal surface of rust or for coating removal. Also used to describe the dispersion of pigment through ball milling, roller milling, etc.
- Grit: Refers to the abrasive size used in sandpaper.
- Gritty: A product is said to be gritty when it contains large particles, from insufficient dispersion or when it contains large hard particles of foreign materials.
- Grounding: A safety practice where two objects are interconnected with clamps and bare wire. This equalizes the electrical potential between the objects and helps prevent static sparks that could ignite flammable materials.
- Gum: A solid resinous material which can be dissolved and which will form a film when the solution is spread on a surface and the solvent is allowed to evaporate.
- Gun Body: Part of the spray gun to which all required parts are bolted or attached.



# General Terms & Definitions

- **Hardener:** A necessary component specifically designed to ensure cure of an enamel finish. Also, another name for an activator.
- **Hardness:** That quality of dry paint film which gives resistance to surface damage or deformation.
- **Haze:** The development of a cloudy area in the paint film or in clear liquid.
- **Head-On:** Viewing the repaired area from an angle that is perpendicular to the car.
- **Hiding / Hiding Power:** The ability of a paint film to mask the color or pattern of a surface. Hiding power is measured by determining the minimum thickness at which a film will completely obscure a black and white pattern.
- **High Boilers:** Solvents with boiling points above 100 degrees Celsius. Often called tail solvents.
- **High Solids:** Paints are described as having high solids when they contain more than 50-60% solids. High solids paints have lower VOC's.
- **Holdout:** The ability of a surface to keep the topcoat from sinking in and causing a decrease in appearance or gloss.



# General Terms & Definitions

- **Hot Melt:** A polymer applied to a surface in its molten state, which then dries to a solid when it cools.
- **Hot Spray:** The technique of applying paint at elevated temperatures. The elevated temperature reduces the viscosity so that higher solids materials can be sprayed, and allows application with less solvent.
- **Hue:** The color we see: red, blue, green, and yellow, and all shades in between.
- **HVLP (High Volume, Low Pressure):** Describes a paint gun that uses a high volume and low pressure of atomizing air to apply material to a surface. This provides high transfer efficiency and lower overspray.
- **Hydrocarbon:** A compound which contains only carbon and hydrogen, which are distillate byproducts of petroleum, natural gas and coal.
- **Humidity:** The amount of water vapor in the atmosphere. Relative humidity is the % of water vapor in the air at a temperature compared to the total which would be held by the atmosphere at that temperature. Humidity has a very large impact on dry times of water based coatings.
- **Hydroscopic:** A paint film that readily absorbs water.



# General Terms & Definitions

- **Hydrolysis:** Reaction with water. Usually refers to a decomposition process leading to paint failure.
- **Immiscible:** Incapable of mixing in or blending.
- **Induction Period:** An allotted amount of time upon mixing of components for compatibilization. The process is common among the use of epoxy/polyamide coatings.
- **Induction Heating:** The development of heat in a substrate by the application of an electromagnetic field to that substrate.
- **Industrial Fallout:** Chemical compounds present in the air which are deposited on the horizontal surfaces of vehicles and which may damage the finish.
- **Infrared:** Light energy used for curing paint.
- **Infrared Light:** That portion of the spectrum responsible for most of the heating effects of the sun's light. Not visible to the human eye.
- **Inhibitor:** A chemical added to retard some particular reaction.
- **Initiator:** A chemical added to help start a chemical reaction such as polymerization or curing.



# General Terms & Definitions

- Iridescent: All colors that contain aluminum, mica, or other particles that impart a metallic appearance to the color.
- Isocyanate: A hardening agent used with acrylic urethane and other two component reaction type paints.
- Iron Blue: A widely used blue pigment.
- Iron Oxide Red: A widely used red pigment.
- Isophorone: A very slow evaporating solvent.
- Isopropyl Alcohol: A solvent, cosolvent or diluent. Fast evaporating. Used in lacquers and rubbing alcohol.
- Kick Out: The precipitation of dissolved binder or additive from solution as a result of solvent incompatibility.
- Lacquers: Paints that dry by evaporative loss of solvent. The film remains susceptible to attack by the same or similar solvents.
- Low Boilers: Solvents with low boiling points, usually less than 50 degrees Celsius. Also called front end solvents.
- Luster: Gloss or sheen of a finish.



# General Terms & Definitions

- **Latex:** An emulsion; usually a dispersion of a polymer in water.
- **Let Down Panel:** Panel made by a paint technician with different methods of application and amounts of material, resulting in different shades of the same color.
- **Leveling:** Elongation of paint film occurring from the time the paint particles form a wet film on the surface to the time the film hardens and dries.
- **Lifting:** The attack by the solvent in a paint on the substrate which results in distortion or wrinkling of the preceding dried or partially cured layers.
- **Lightness:** The whiteness of a paint. Measured by the amount of light reflected by a surface. A perfect white is one which reflects 100% of the light in the visible spectrum.
- **Line Checking:** A paint film failure similar to cracking, lines or cracks are parallel and range from very short up to about 18 inches.
- **Latent Solvents:** A liquid which will not ordinarily dissolve a solid, but which develops solvency when it is mixed with another solvent.
- **Lead:** A metal commonly used in the manufacture of driers and pigments.





# General Terms & Definitions

- **Leafing:** The orientation of metal flake pigments in a paint film which results in a bright metallic appearance and a concentration of the particles at the surface of the film.
- **Lightness:** The whiteness of paint measured by the amount of light reflected by a surface. A perfect white is one that reflects 100% of the light in the visible spectrum.
- **Light Fastness:** The ability of a paint to resist color changes caused by light.
- **Linseed Oil:** A vegetable oil widely used in the manufacture of alkyd resins, and also used as a binder by itself.
- **Loading:** The build-up of sanding debris between the abrasive particles on sandpaper or sanding discs during use. Loading reduces the cutting effectiveness of the abrasive.
- **Low Film Build:** The condition of a paint film when it is too thin to provide protection to the substrate or withstand environmental conditions.
- **Make Up Air:** A system that brings and heats air from the outside to a desired air flow and temperature.



# General Terms & Definitions

- **Masking:** Application of paper or other material and tape to cover an object that must be protected from overspray.
- **Masking Paper:** Paper designed to prevent paint from bleeding through.
- **Matching:** In painting, to make colors look the same.
- **Matte:** A surface with minimal reflection.
- **Melamine:** Used as a hardener in OEM finishes, a hard resin used to modify alkyd resins and other film formers used in baking finishes. High quality, durable and lightfast.
- **Manganese:** A metal component of driers. Manganese driers are used mainly for baking products.
- **Masstone:** The predominant or undiluted color a pigment produces.
- **Metal Conditioner:** An acid-type cleaner which removes small amounts of rust and corrosion left from mechanical metal cleaning. Metal conditioners etch bare metal to create better adhesion for primers, and leave behind a film which can inhibit further corrosion.
- **Methacrylate:** A class of acrylic polymers.



# General Terms & Definitions

- **Metallic Paint:** Paint which contains metallic pigment usually in the form of tiny metal flakes.
- **Metamerism:** A term used to describe colors that match under a specific light source, but do not match under all light sources. It is primarily caused by the use of different pigments to achieve the colors.
- **Methyl Ethyl Ketone (MEK):** A fast-evaporating solvent. Almost the solvent power of acetone but with a slower evaporation rate.
- **Methyl Alcohol:** A very low boiling, toxic alcohol.
- **Methyl Isobutyl Ketone (MIBK):** A good solvent used in a variety of resins. Medium fast evaporation rate.
- **Mica:** An extender pigment. Essentially silicates of aluminum.
- **Micro Checking:** A condition which appears as severe dulling of film, but when viewed under magnification are many small cracks in the paint surface.
- **Milori Blue:** An iron blue pigment.
- **Middle Solvent:** A solvent that evaporates at a medium rate, leaving the paint primarily during flash-off.



# General Terms & Definitions

- **Mil:** A measure of paint film thickness, equal to one one-thousandth of an inch.
- **Mil Base:** A colored paint containing a very large amount of pigment. Used to tint paint or to make paint.
- **Mil Gauge:** A device that measures the thickness of paint film applied to the surface.
- **Mist Coat:** A light spray coat of high solvent content material for blending and/or gloss enhancement and metallic control in single-stage color.
- **Mix ratio:** The proportion of ingredients to be blended together to make a ready-to-spray paint.
- **Mixing Stick:** Instrument used to gauge the correct ratio of paint material being mixed for ready-to-spray configuration.
- **Mold Release Agents:** Chemical compounds which must be removed by a pretreatment prior to refinishing plastic parts to insure adhesion. Failure to remove mold release agents may lead to delamination.
- **Molecule:** The smallest possible unit or amount of any substance which retains the characteristics of that substance.



# General Terms & Definitions

- **Monomer:** A chemical compound capable of reacting with itself, or with other monomers to form polymers.
- **Monastral:** Blue, green or red. Very durable, lightfast and alkali resistant Phthalocyanine pigments.
- **Mottling:** A film defect appearing as blotches or surface imperfections, normally due to metallic or pearl not being properly oriented in the paint film.
- **MSDS:** Material Safety Data Sheets. Replaced in some cases by SDS (Safety Data Sheets, with are in a globally harmonized format).
- **Near Specular:** Describes an angle of less than 45 degrees; used to evaluate color match of a repaired area.
- **Non Ferrous:** Describes metals which contain no iron.
- **Non Sparking Tools:** Tools which are made from beryllium-copper, aluminum or bronze greatly reduce the possibility of igniting dusts, gases, or flammable liquid vapors.
- **Nitrocellulose:** (Cellulose Nitrate) A common ingredient in lacquers. A useful binder. Tough, durable and easy to polish.



# General Terms & Definitions

- OEM: Original Equipment Manufacturer.
- Oil Based Paint: Paints which form solid films by the air-induced cross linking of certain plant oils known as drying oils.
- Opaque: Impervious to light or not transparent.
- Open Coat: A type of sandpaper coating in which abrasive particles are scattered in a low density to prevent it from clogging up.
- Orange Peel: An irregularity in the surface of a paint film resulting from the inability of the wet film to "level out" after being applied. Orange peel appears as a characteristically uneven or dimpled surface to the eye, but usually feels smooth to the touch.
- Orbital Sander: Type of sander that uses a circular motion to accomplish the sanding of different materials.
- Organic Material: Compounds composed of carbon, hydrogen, and other elements with chain or ring structures.
- Oven: A piece of equipment used to bake finishes. Typically uses at OEM manufacturers, whose applied finishes may require high temperatures to cure.



# General Terms & Definitions

- **Oven Bake:** The result of curing paint film at too high a combination of time and temperature. The film often becomes too hard and may brittle.
- **Overall Painting:** A type of refinish in which the entire car is completely repainted.
- **Overlap:** That specific area of coverage in which one spray pattern application is extended over and partly covered by the next application.
- **Over Reduce:** To add more thinner or reducer to a paint than is normally necessary for application. This is sometimes done in order to lower the paint viscosity, to aid in blending, or to achieve a special color effect.
- **Overspray:** An overlap of dry spray particles on areas that were not mean to be painted, or on previously painted areas where they do not melt in.
- **Oxidation:** The chemical combination of oxygen and the vehicle of a paint which leads to drying; the destructive combination of oxygen with a dry paint film leading to degradation or the destructive combination of oxygen and a metal.
- **Oxygenated Solvent:** An organic solvent containing oxygen as part of the molecular structure. Alcohols and ketones are oxygenated compounds often used as paint solvents.



# General Terms & Definitions

- **Paint:** A material which, when applied as a liquid to a surface, forms a solid film for the purpose of decoration and/or protection. Generally a paint contains a binder, solvent, and pigment.
- **Paint Remover:** A chemical that breaks down an old finish by liquefying it.
- **Paint Repair:** A type of refinish repair job in which a complete section (door, hand, rear deck, etc.) is repainted.
- **Paint Strainer:** A filter used to clean paint as it is poured into the gun cup.
- **Particle Size:** The size of the pigment particle in a dispersion.
- **P/B Ratio:** Pigment to Binder Ratio. The ratio of the weight of the pigment to the weight of the binder in paint.
- **Passivation:** The conversion of a metal surface to a less reactive state. A process used to reduce the corrosion rate of a metal surface.
- **Pearls:** Finishes which include mica flakes in addition to the pigment and binder.
- **PH:** A measure of the acidity or basicity of a substance in aqueous solution. 7 is neutral. Below 7 is acid and above 7 is basic. The scale is from 0 (strong acid) to 14 (strong base).





# General Terms & Definitions

- **Peeling:** The failure of paint film to adhere to its substrate. Peeling results when contaminated surfaces are painted, when there is an excessive difference between paint and surface polarity or thermal expansion, or when there is solvent incompatibility.
- **Phosphating:** The formation of a layer of zinc, iron, or manganese phosphate crystals on the surface of the part to be painted.
- **Phosphoric Acid:** An acid commonly used as a catalyst to speed up the cure of some baking finishes, usually alkyd/nitrogen resin combinations. Also a cleaner for ferrous metals.
- **Pickling:** The use of a chemical solution to prepare a surface for painting or bonding by dissolving away surface oxides and other impurities.
- **Pigment:** Small particles added to paint to influence properties such as color, corrosion, resistance, mechanical strength, etc. Pigments may be colored, semitransparent, black, white, or colorless. They must be incorporated into a paint system by some dispersion process.
- **Pitting:** The appearance of hole or pits in a paint film while it is wet.



# General Terms & Definitions

- **Phenolic:** A class of resins, characterized by very good chemical resistance.
- **Pinholing:** A defect consisting of tiny holes in the paint. Defects such as pinholing, popping, bubbling, and cratering are caused by solvent vapors forming from the substrate or the paint and rising to the surface.
- **Plastic Filler:** A compound of resin and fiberglass used to fill dents on car bodies.
- **Plasticizer:** A low molecular weight substance added to polymeric materials such as paints to improve their flexibility.
- **Poise:** A measure of viscosity equal to one dyne-second per square centimeter.
- **Polish:** A specially formulated blend of components designed to remove minor paint surface imperfections, such as fine scratches, light oxidation, water spots, and swirl marks left by the use of rubbing compounds.
- **Polymer:** A chain or network of repeating units combined chemically.
- **Polar:** Solvents or other organic materials which have strongly electronegative and electropositive areas in a molecule.



# General Terms & Definitions

- **Polishing:** The use of polishes, either by hand or machine, to level and provide more gloss to a finish.
- **Polyester:** A polymer formed from a reaction between many pairs of polycarboxylic acid and alcohol molecules.
- **Polyester Putty:** A plastic filler material used to fill imperfections prior to painting.
- **Polyolefin:** A class of plastic materials used to make flexible bumper covers, etc.
- **Polyurethane:** A chemical linkage in finishes that is characterized by durability and high gloss. Also, used for some plastic and flexible parts.
- **Polymerization:** The formation of a polymer from monomers.
- **Prep Coat:** This is a coating category that exists in many automobile refinishing regulations. It typically refers to a coating that is applied directly to bare metal to deactivate the metal surface prior to the application of a waterborne or low VOC primer. The purpose of the precoat in a coating system is to improve the adhesion and corrosion performance of the undercoat system.



# General Terms & Definitions

- **Popping:** A paint defect characterized by raised bumps in the surface caused by solvent vapor forming within the paint after it has begun to "skin over."
- **Powder Coating:** Any coating which is applied to the surface as a dry, finely ground powder and then heated above its melting point so that the powder particles flow together to form a film.
- **Polyoxithane:** A polymer with an oxide ring that reacts with a polymer having a nitrogen group.
- **Polyurea:** Thick film coating materials for substrate protection and corrosion prevention. Used often as a spray on truck bed coating.
- **Pressure Feed Spray Gun:** A spray gun equipped with a separate paint container that is pressurized and connected to the spray gun by means of hoses.
- **Primer:** The first coat of paint applied to a substrate, designed to provide adhesion and corrosion resistance.
- **Primer Sealer:** An undercoat which improves adhesion of the topcoat, and which seals old painted surfaces that have been sanded; does not require sanding.
- **Primer Surfacer (Primer Filler):** A high solids primer which fills small surface imperfections in the substrate, and usually must be sanded.



# General Terms & Definitions

- Putty: A high viscosity, heavily pigmented material used to fill holes or to smooth out a rough surface.
- Quarter Panel: Side Panel which is generally a quarter of the total length of the vehicle and extends from the rear door to the end of the car.
- Ready-to-Spray: Describes paint which has been properly mixed with all necessary components and is ready to apply to the substrate.
- Recoating: The application of fresh paint material over a recently painted material.
- Reduce: To lower the viscosity of a paint by the addition of solvent or thinner.
- Reducer: A solvent used to reduce or thin enamels to sprayable viscosity.
- Refinish: Repair of an OEM or previously painted substrate.
- Resin: A solid or semisolid material, usually polymeric, which deposits a film and is the actual film forming ingredient in paint. Solutions of polymers are often called resins, but the term actually applies only to the film forming solids, not to the solution.
- Respirator: A device worn over the face to filter particles and fumes out of the air being breathed.



# General Terms & Definitions

- **Retarder:** A slow-evaporating solvent added to a paint to prolong the drying time. Typically used to reduce orange peel or blushing.
- **Ransburg:** A method of applying paint electrostatically.
- **Reflow:** A heat process by which lacquers are melted to produce better flow and leveling.
- **Rubbing Compound:** An abrasive that smoothes and polishes the paint film. Also called polishing compound.
- **Rust:** The corrosion product which forms on iron or steel when it is exposed to oxygen and water. Also called oxidation.
- **Runs & Sags:** Excessive flow on a vertical surface resulting in drips and other imperfections on the painted surface. Occurs not only when the paint is wet, but also during baking in certain types of paints.
- **Sand:** To smooth a surface with an abrasive paper or cloth.
- **Sand Blasting:** A method of cleaning metal, usually steel, by applying an abrasive with pressurized air.
- **Sander:** A power tool used with abrasives to sand or polish surfaces quickly.



# General Terms & Definitions

- **Sanding Block:** A hard, flexible block to provide a smooth, consistent backing for hand sanding.
- **Sand Scratch Swelling:** Exaggerated distortion of sanding marks in the underlying surface, usually caused by solvents in the topcoat attacking the substrate.
- **Sand Scratch:** Tracking in the topcoat of sanding marks in the substrate.
- **Saturation:** A term referring to a color's purity or richness. The more chroma in a color, the more saturated that color is.
- **Scuff Pad:** An abrasive pad used to lightly sand a surface.
- **Sealer:** An undercoat that enhances adhesion. Provides uniform color holdout and an even, level surface for topcoat application.
- **Seeding:** The development of tiny insoluble particles in paint which results in a rough or gritty film.
- **Semi Gloss:** An intermediate gloss level between high and low gloss.
- **Settling:** Gravity separation of one or more components from a paint and the resulting layer of material on the bottom of a container.



# General Terms & Definitions

- **Shade:** Variation of a color. A color that is basically blue can have a red shade or yellow shade as well as being blue. Shade is also called tone or undertone, since it describes the subtle tone of a color.
- **Sheen:** The gloss or flatness of a film when viewed at a low angle.
- **Sheet Molded Compound (SMC):** Fiber plastic material molded to a certain form and used as an outer panel on a vehicle.
- **Shrinkage:** Loss of solvent during the drying/curing process of a paint film.
- **Side Draft Spray Booth:** A spray booth in which air movement is from the front to back.
- **Side Tone:** Viewing the repaired area from an angle just past the reflection of the light source.
- **Silicone:** A chemical compound with excellent water repellency and a slippery feel. Silicones are commonly used in automotive waxes to enhance application and ease of removal, and to increase gloss and durability.
- **Silicone Oils:** Oil liquids containing polymers of alternating silicone and oxygen atoms. They have a surface tension lowering effect when mixed with paints.





# General Terms & Definitions

- Shellac: A natural gum useful in the manufacture of certain types of paint.
- Silking: Lines in a paint film resulting from the draining off of excess paint in a dip or flow process (the result of poor flow).
- Sink In: Term applied when one coat of paint is partially absorbed by the previous one.
- Siphon Feed Spray Gun: A spray gun that has the paint container connected directly below it. Air flowing across the feed creates a vacuum and draws the paint from the container.
- Skinning: The formation of a thin, tough film on the surface of a liquid paint film, usually due to oxidation, hardening, or drying of the paint.
- Soft Interface Pad: A support pad to which a finishing film abrasive disc can be attached. A soft interface pad reduces the pressure transmitted to the surface to be finished and moderates the cutting effect of the abrasive.
- Solids: The part of the paint that does not evaporate but stays on the surface to form a film. Usually measured on a weight or volume basis.
- Solution: Homogeneous liquid or mixture of two or more chemical substances.



# General Terms & Definitions

- **Solvation:** The phenomenon in which the molecules of a solvent surround and are attached to a particle of the material dissolved.
- **Solvency:** The ability of a liquid to dissolve a solid. Measured by the viscosity of a solution at a certain concentration of solid resin. The same solvent may have different solvency for different resins.
- **Solvent:** A liquid which will dissolve something, usually resins or other binder components. Commonly an organic liquid.
- **Solvent Blend:** The particular mixture of liquids that gives a paint the desired flow or evaporation properties.
- **Solvent Density:** The weight per unit volume of a solvent or solvent mixture.
- **Solvent Popping:** Bumps or small craters that form on the paint film, which are caused by trapped solvent.
- **Solventborne:** Describes a paint which contains organic solvents rather than water as its primary liquid component.
- **Spot Repair:** A type of refinish job in which a section of the car smaller than a panel is refinished. The paint is usually blended into the surrounding area.



# General Terms & Definitions

- **Spray:** Paint is atomized in a spray gun and the stream of atomized paint is directed at the part to be painted. Atomization may be high pressure air, by high pressure stream, by high fluid pressure, or by electrical means in an electrostatic process.
- **Spray Booth:** An enclosure used to paint a vehicle. It has controlled air flow and occasionally temperature control or baking capacity.
- **Spray Gun:** A device that mixes paint and compressed air to atomize and control the spray pattern as the paint leaves the fluid needle and cap.
- **Sprä Tool:** An aerosol assisted spray device that can atomize and spray paints, clears, primers and other coatings.
- **Spreader Adjuster Valve:** The adjustment valve on a compressed air spray gun which directs an air stream against the sides of an atomized paint cloud to adjust the spray pattern.
- **Squeegee:** A rubber block used to wipe off wet sanded areas and to apply filler or putty.
- **Stabilizer:** Something added to paint to prevent degradation.



# General Terms & Definitions

- **Steel:** A ferrous metal commonly used as a substrate for paint, which must be painted to prevent corrosion.
- **Straight Line Sander:** Sander that uses a back-and-forth movement to sand a surface using sandpaper on its shoe.
- **Strength:** The opacity and/or tinting power of the pigment. The measure of the ability of a pigment to hide or color.
- **Strippable Coating:** Also called booth coating. A coating which is easily peeled from booth walls, floors, or other areas needed protection from overspray. When the coating becomes sufficiently covered, it is peeled or scraped away and replaced by a new layer of strippable material.
- **Styrene:** A low cost, colorless monomer which polymerizes readily. Widely used to make plastic articles and polyester finishes.
- **Specific Gravity:** The ratio of the weight of a specific volume of a substance compared to the weight of an equal amount of water.
- **Spectrophotometer:** An instrument to measure color. Compares the reflectance of a test sample to the reflectance of an MGO standard at all points of the visible light spectrum.



# General Terms & Definitions

- **Substrate:** The object or material to be painted. It may be bare metal or and old finish.
- **Suction Feed Spray Gun:** A spray gun that has the paint container connected directly below it. Air flowing across the feed creates a vacuum and, thus, draws the paint from the container.
- **Surfacer:** A heavily-pigmented paint designed to be applied to a substrate for the purpose of smoothing or uniforming the surface for the subsequent coats of paint. Usually sanding is required.
- **Supplied Air Respirator:** A respirator that provides safe breathing air to a painter while working with paints. The air supply provides not only breathing air but positive pressure on the edges of the mask to eliminate any contaminants from the outside air.
- **Tack:** The stickiness of a paint film or an adhesive. The time it takes for an air drying paint to reach a tack-free state.
- **Tack Cloth or Rag:** A cloth coated with a sticky substance used to remove dirt and lint prior to painting.



# General Terms & Definitions

- **Tack Coat:** The first enamel coat, applied full and allowed to flash only until it is quite sticky.
- **Tack Free Time:** An indicator of a coating's hardness development. The surface of the film will not finger print, yet the film is not dry and hard throughout.
- **Tail Solvent:** A slow-evaporating solvent that leaves the paint at a slow rate and allows the film to continue to resist pressure marks.
- **Tape Tracking:** Markings left behind on a paint film when material was taped before it was hard enough to resist pressure marks.
- **Tempering:** Baking of plastic parts to drive off internal mold release agents prior to painting.
- **Theoretical Coverage:** Describes a paint's film thickness or hiding power. Defined as the number of square feet a coating will cover at 1 mil film thickness.
- **Thermal Cycle:** Alternately heating and cooling a painted object to determine what effect this variation has on the paint's properties.
- **Thermoplastic:** A type of polymer paint or plastic which softens and melts when heated and then resolidifies upon cooling. An example is acrylic lacquer paint.



# General Terms & Definitions

- Thinner: Solvent added to a lacquer to reduce its viscosity to sprayable consistency.
- Through Cure: The completion of the curing process point at which no further chemical reaction can occur to aid in film formation.
- Tint: An individual pigment from a family of pigments used on a mixing machine to produce a color match to the vehicle to be painted.
- Tinting Strength: The ability of a pigment to change the color of a paint to which it is added. Some pigments have high tinting strength and only a small amount is necessary to make a large change in color.
- Titanium Dioxide: A non-toxic, non-reactive, white pigment. Has the greatest hiding power of all white pigments.
- Toluene: A widely used solvent or diluent or a cosolvent. A fast-evaporating, high solvency, aromatic hydrocarbon.
- Top Coat: The final layer of paint applied to a substrate. Several coats of topcoat may be applied in some cases.
- Transparent: Allowing light to pass through; not opaque.



# General Terms & Definitions

- **Thixotropy:** The development of high viscosity or apparent gelation in a standing liquid, which is reversible by the application of a shearing force.
- **Touch Up:** A method of repainting performed on a new or used vehicle for any reason. Also refers to correcting minor scratches by a brush, etc.
- **Transfer Efficiency:** The measure of materials applied vs. amount of material originally sprayed.
- **Trichlorethylene:** A solvent used to degrease and clean metal substrate for painting.
- **Tri Coat (Three Stage):** A basecoat, followed by a transparent midcoat, followed by clearcoat; to provide a special color effect on the vehicle.
- **Two Component System:** Materials such as some paints, fillers, and adhesives which require the addition of a hardener or activator to accomplish a chemical reaction, causing them to cure.
- **Two Tone:** Two different colors on a single paint job.
- **Turpentine:** A solvent obtained from the distillate of the exudation of pine trees.
- **Undercoat:** A first coat (such as a primer) to be followed by color, clear, etc.





# General Terms & Definitions

- **Ultra Violet (UV) Light:** That portion of the spectrum which is largely responsible for the degradation of paints. It is invisible to the eye and is also called "black light." It also can be used to cure some paints. 2000 – 3000 angstrom units (angstrom units are used to express wavelengths of visible light, ultraviolet (UV) light, X rays, and gamma rays).
- **Underbake:** The result of curing a paint film at too low a combination of time and temperature. The film may be too soft for good durability.
- **Undertone:** The color of a pigment which shows up when the pigment is mixed with a lot of white pigment. For example, blues may be red toned, green toned, or dirty.
- **Urea-Formaldehyde:** A commonly used, hard, colorless polymer used mainly to modify alkyd resins. A Nitrogen based resin.
- **Urethane:** A type of paint or polymer which results from the reaction of an isocyanate with a hydroxyl containing component. Urethanes are noted for their toughness and abrasion resistance.



# General Terms & Definitions

- **UV Stabilizers:** Chemicals added to paint to absorb the ultraviolet radiation present in sunlight. Ultraviolet radiation decomposes the polymer molecules in a paint film and thus UV stabilizers are used to prolong paint life.
- **Value:** The degree of darkness or lightness of a color.
- **Varnish:** A clear resin solution made by the application of heat to a mixture of a hard gum and vegetable oil and then dissolved with a suitable organic solvent.
- **Vehicle:** All of a paint except the pigment. This includes solvents, diluents, resins, gums, driers, etc. The liquid portion of a paint.
- **Veiling:** The formation of a web or strings in a paint as it emerges from a spray gun.
- **Velometer:** A device that measures air flow. Often found on spray booths.
- **Vehicle Identification Number (VIN):** Assigned to each automobile by its manufacturer to identify the model, year, production sequence and other vehicle specific information.
- **Viscosity:** The flow rate of a liquid. Solvents affect the fluidity of the paint. Paint viscosity must allow proper atomization and flow-out.



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# General Terms & Definitions

- **VOC Content:** The measure of volatile organic compounds (VOC's) in coatings. Usually expressed both in “pounds per gallon” and “grams per liter”.
- **Volatility:** The tendency of a liquid to evaporate. Liquids with high boiling points have low volatility and vice versa. Volatility affects flash-off time and fire hazard consideration.
- **Volume Solids:** The %, on a volume basis, of the non-volatile material in a paint.
- **Wash Primer:** A primer that forms an anti-corrosive chemical film when applied on a sheet of metal. Also called an etching primer.
- **Water Spotting:** A condition caused by water evaporating on a finish before it has thoroughly dried or cured, which results in a dulling of the gloss in spots.
- **Waterborne (Waterbased):** A type of paint which uses water as its primary carrier rather than typical organic solvents.
- **Water White:** A term used for Clear Coats that have no yellow or amber cast.
- **Wax:** A uniquely formulated blend that protects and produces a durable, high-gloss finish on a painted surface. Waxes make it easier to clean a painted surface. Some also serve as polishes and are capable of removing minor paint imperfections.



# General Terms & Definitions

- **Weathering:** The change in a paint film by exposure to natural forces, such as sunlight, rain, dust, wind.
- **Weatherometer:** A machine designed to simulate the effects of weathering.
- **Weight Solids:** The percent on a weight basis, of non-volatile material in a paint.
- **Wet Film Gauge:** A device used to determine wet film thickness of paint after application.
- **Wet Sand:** A technique involving the sanding of a surface while it is being flushed with water. This permits smoothing surface defects before subsequent coats are applied.
- **Wet Spots:** Discoloration caused where the paint fails to dry and adhere uniformly.
- **Wet-on-Wet Application:** A painting method by which a second coat of paint is applied over the first before it hardens and dries.
- **Wetting:** The process by which a liquid forms intimate contact with the substrate to which it is applied.
- **Whiting:** Calcium carbonate.



# General Terms & Definitions

- **Wrinkling:** Surface distortion that occurs in a thick coat of enamel due to uneven cure or recoating an uncured paint film.
- **Wheel Mark:** A pattern of small scratches left in a finished surface by the wheel of a buffer or sander during the sanding and/or compounding operation.
- **Wrap Around:** The phenomenon by which electrically charged paint droplets curve around to the rear side of the object being painted.
- **Xylene:** A high solvency, medium evaporating, aromatic hydrocarbon solvent.
- **Yellowing:** A yellow discoloration to the paint color. Commonly caused by sunlight, but also caused by chemical exposure, smoke, grease and certain gases.
- **Zahn Cup:** A device to measure viscosity. Calibrated in different sizes for different liquids.
- **Zinc:** A difficult metal substrate to paint due to its reactivity. Also, a constituent of a drier or a pigment.
- **Zinc Chromate:** A yellow, corrosion resistant pigment useful on steel.
- **Zinc Oxide:** White pigment, useful to prevent mold or mildew on paint films.



# General Terms & Definitions

## Tech Tips

Please email any questions that you may have to  
[info@touchupzone.com](mailto:info@touchupzone.com)