

**Abrasive:** A substance used for wearing away a surface by friction. Powdered pumice, rottenstone, sandpaper, steel wool and rubbing compound are some of the abrasives used for rubbing enamel, varnish and lacquer surfaces.

**Absorption:** The act of taking up, drinking in or assimilating. A surface is absorbent when it takes into itself and holds the finishing material applied over it.

**Accelerate:** To hasten or quicken the natural progress of an event or series of events. The drying of finishing materials is accelerated by an increase of temperature. An accelerated test is one in which more drastic treatment is given the material being tested than it would receive when under actual service conditions, thus determining the resistance or durability in a shorter time.

**Acetates:** A group of organic solvents used in making lacquers derived from the reaction of various alcohols with acetic acid. The acetate usually takes its name from the alcohol, such as ethyl acetate from ethyl alcohol. Some common acetates include amyl acetate, butyl acetate and methyl acetate.

**Acetone:** A low boiling, highly inflammable organic solvent used in paint and varnish removers, lacquers, etc. It is completely miscible with water and practically all organic solvents. It is an excellent solvent for fats, oils, resins and nitro-cellulose. Specific gravity of 0.790. Flash point 15°F.(open cup). Boiling point 133°F.(approx.)

**Acrylic Resin:** A synthetic resin, water white in color, very transparent, and resistant to discoloration, moisture, alcohol acids, alkalis and mineral oils. Usually made by polymerization of acrylic acid and methacrylic acid.

**Acute Toxicity:** Relates to short term, single dose exposure to toxic or potentially toxic materials.

**Adhesion:** The property that causes one material to stick to another. Adhesion is affected by the condition of the surface to be coated and by the closeness of contact, as well as by the molecular forces of the unlike substances. Thus, the surface should allow a certain amount of penetration, should be chemically clean and not too smooth, hard or non-porous for good adhesion.

**Aging:** Allowing to stand undisturbed for an extensive period. Aging improves most clear finishing materials through greater clarity but some varnishes, paints and enamels tend to skim-over, thicken, liver or deteriorate in other ways if their chemical or physical properties are unstable.

**Air Drying:** A finishing material is said to be air drying when it is capable of hardening or curing at ordinary room temperature, i.e., 60° to 80°F.

**Alcohol:** In the finishing material industry the term is generally understood to mean denatured alcohol, or ethyl alcohol which has been rendered unfit for beverage purposes. Chemically, an alcohol is a hydroxide of an organic radical. *Amyl, butyl, ethyl and methyl* alcohols are those most frequently used as solvents for coatings.

**Aliphatic:** A descriptive name applied to petroleum products derived from paraffin base crude oil. Gasoline, mineral spirits, naphtha and kerosene are typical aliphatic or "straight chain" hydrocarbons, as distinguished from coal tar solvents or "cyclic hydrocarbons" such as benzol and toluol.

**Alkyd:** A synthetic resin which is made by the reaction of a polybasic acid, such as phthalic, maleic or succinic acid, with a polyhydric alcohol such as glycerin. Vegetable oils, fatty acids and other resins are often used as modifying agents.

**Alligatoring:** The appearance of a paint, varnish or lacquer film that is cracked into large segments resembling the hide of an alligator. Caused by heavy coats by recoating before bottom coat is completely dry, by the use of thinners that evaporate too quickly or by a less elastic material applied over a more elastic one.

**Amber:** A yellowish translucent resin formerly used in the manufacture of varnish but now very scarce and expensive. The term is also used to refer to the color of a resin or varnish.

**Anhydrous:** A material containing no water, especially water of crystallization.

**Aniline Colors:** Colors made from aniline oil or coal tar derivatives, used in the manufacture of wood stains. Aniline dyes are made in different grades to be soluble in water, alcohol or hydrocarbons and accordingly are called "water colors," "spirit colors" and "oil colors" respectively.

**Anti-Oxidant:** A material which, when added to a varnish or an oil, allows the oxidation to progress to the desired stage and then retards subsequent oxidation, thus extending the life of the film.

**Antique Finish:** A finish that is designed to give the appearance of age to the article being finished, usually achieved by highlighting the parts that would normally receive the greatest wear or by darkening the unworn portions to simulate the accumulation of smoke and dirt.

**Anti-Skinning Agent:** A material which, when added to a varnish or an oil, will tend to prevent a skin of partially oxidized material from forming on the surface of the liquid while in the container or before being applied to the work.

**Application:** The principal methods of applying finishing materials are: brushing, spraying, dipping, roller coating, flowing, tumbling, squeezing, stenciling and printing. When the entire surface to be coated has been covered, an application has been made. When the same surface is recoated, a second application has been made. Two or more applications may be considered as one coat if the normal drying time was not allowed between applications.

**Apron (Wood):** A narrow strip of wood adjoining the base of cabinet bodies, seats and table tops.

**Aromatic:** An aromatic hydrocarbon is one derived from or characterized by the presence of the benzene nucleus, as contrasted to the aliphatic or "straight chain" hydrocarbons. Coal tar solvents, such as benzol (benzene), toluol, solvent naphtha and xylol, are some of the more familiar aromatic or "cyclic" solvents.

**Asphaltum:** A black or brown solid or semi-solid substance used in making asphaltum varnish or black japan. Other names for similar materials are: "asphalt", "bitumen", "gilsonite", "pitch" and "tar".

**Baking:** The process of drying a coating material by the application of artificial heat. A baking enamel, japan, paint or varnish is one that requires elevated temperatures in order to become hard and dry. Forced drying is a mild form of baking, where temperatures of 100° to 150°F. are used as contrasted to 175° to 400°F. for baking. The application of heat greatly reduces the drying time.

**Barrier Coat:** A coat of finishing material applied over another surface or film to protect it from solvent action of succeeding coats.

**Base:** A term having several meanings, according to the context: (1) In color manufacture, a material upon which organic dyes or colors are precipitated to form lakes or toners; (2) In coating materials manufacture, an original concentrated mixture of materials to which other ingredients are added to make a finished product; (3) Chemically, an alkaline material, capable of uniting with an acid to form a salt.

**Beeswax:** A wax secreted by honeybees for making their honeycomb. The melting point is about 150°F.

**Benzine:** Petroleum naphtha, a highly volatile petroleum fraction used for thinning coating materials. Less volatile than petroleum ether but more volatile than mineral spirits. Do not confuse with "benzene", which is pronounced the same but is derived from coal tar and has entirely different solvent properties. Specific gravity 0.720. Flash point 70° F (open cup). Boiling point 194°F.

**Benzol:** Also called "benzene" which is often confused with "benzine", therefore, "benzol" is the preferred term. Derived from the distillation of coal tar, it is an aromatic or cyclic hydrocarbon with powerful solvent properties but its use is somewhat restricted due to its toxicity. Specific gravity 0.868 to 0.882. Flash point 10°F (open cup). Boiling point 176°F.

**Binder:** The non-volatile, film-forming solid portion of the vehicle in a coating which binds the pigment particles together after the film is dry.

**Bleaching Agent:** A material which, when properly used, permanently lightens the color of the object on which it is used.

**Bleeding:** When the color of a stain or other coating material works up into succeeding coats, imparting to them a certain amount of color, it is said to bleed. A non-bleeding color is one which is not soluble in materials used over it.

**Blending:** This term is often used as a synonym for the word mixing. That is, when two materials are blended together they are intimately mixed together. The term is also used to denote the gradual shading off from one color to another on a finished surface. Blending stains are shading stains, used to gradually change the depth of color from one part of the work to another. Also, the term is used to denote the partial mixture of two or more colors after application, so there is a gradual change from one color to another.

**Blistering:** The formation of bubbles or pimples on the surface of finished work. Caused by exposure to excessive heat, by grease or other volatile material under the finish, by moisture in the wood or by the too frequent application of coats. Anything that causes a gas or vapor to form under the film may cause blistering.

**Bloom:** A bluish cast that forms on the surface of a dried film of finishing material. May be caused by a deposition of smoke or other foreign material from the atmosphere or by the softening of the film during rubbing operations, thus allowing traces of oil to remain on or in the surface which later sweat out to form a hazy film. "Blooming" should not be used to describe the blushing of a lacquer film, as a bloom develops after the film is dry, whereas a blush develops during the drying operation.

**Blushing:** The formation of a white or grayish cast in a spirit varnish, shellac or lacquer film during the drying period. Caused by the partial or total precipitation of the solid ingredients as a result of condensed moisture in the film because of excessive humidity or by improper solvent balance, resulting in the true solvents evaporating first and the diluent or non-solvent portion evaporating later. In either case, the addition of a quantity of slow evaporating true solvent, known as a "blush retarder" usually corrects the trouble.

**Body:** Often used to describe the consistency or viscosity of a finishing material. Also used to describe the fullness or thickness of film on the work.

**Boiling Point:** The temperature at which the vapor pressure of a liquid equals the air pressure, or the temperature at which a liquid begins to boil.

**Bond:** The adhesion between two dissimilar materials.

**Boxing:** The intimate mixing of a finishing material by repeatedly pouring a portion of the original quantity into a second portion in a partially filled container.

**Bridging:** The ability of a finishing material to cover a crack, void or small gap without a break in the film, usually resulting in an air pocket under the dried film. Bridging is usually a defect that is to be avoided, if possible, although it is a desirable feature in certain special finishes.

**Brightness:** The quantity of light emitted in a direction perpendicular to the surface. The degree of apparent luster in a dried film. The purity of a hue or freedom from darkness of color, as a "bright green". The freedom of turbidity or suspended matter in a transparent material.

**Brilliance:** The relative apparent purity of a color to the eye, corresponding to the loudness of sound. The amount of glitter or surface reflection, as "brilliant luster".

**Brittleness:** The converse of toughness or tenacity. The brittleness of a dried film is its tendency to crack or flake when bent or scratched.

**Brush Marks:** Marks of the brush that remain in the dried film. Caused by working the material after its solvents have evaporated to the point that the flowing power has been lost or by defects in formulation that prevent the material from leveling out after it has been brushed.

**Bubbling:** The appearance of bubbles in the film while a material is being applied. Caused by any condition that causes air, vapors, or gases to be trapped in the film while it is soft but after it has hardened sufficiently to prevent the gas from escaping.

**Burning In:** The process of repairing scratches and damaged spots in a finish by melting stick shellac or similar compounds into the defect by means of a heated knife.

**Butanol:** The more common name for butyl alcohol. Used widely as a constituent of lacquers. Specific gravity 0.810. Flash point about 115°F.(open cup). Boiling point about 243°F.

**Butyl Acetate:** A widely used lacquer solvent. Specific gravity 0.872. Flash point about 100°F.(open cup). Boiling point about 259°F.

**Carbon Black:** A black pigment produced by burning natural gas in an insufficient supply of air.

**Carcinogen:** A substance that is capable of producing cancer.

**Carnauba Wax:** One of the hardest waxes in use, having a melting point of about 185°F. Obtained from the leaves of a species of palm grown in Brazil. Yellow in color.

**Case Hardening:** The condition that occurs when a finishing material dries hard on top and remains more or less soft and mushy underneath instead of drying thoroughly throughout the film. Sometimes caused by relative humidity of the atmosphere being too low. Case hardening may result in checking, cracking and alligatoring when the underneath portion of the film finally becomes hard.

**Castor Oil:** A non-drying oil obtained from the castor bean, used as a plasticizer in lacquers and similar products. When subjected to special treatment it is converted into a drying oil known as dehydrated castor oil, which is used to a great extent in the manufacture of synthetic resin and varnishes.

**Catalyst:** A substance which accelerates a chemical reaction by taking part in the reaction but is formed again as a reaction product. Catalysts are sometimes used in small quantities in certain synthetic resins to speed their hardening processes.

**Cellulose:** The principal constituent of raw cotton and many other fibers obtained from the vegetable kingdom. Of interest to the finishing material industry because nitro-cellulose, ethyl-cellulose and other valuable raw materials are obtained from it by complicated chemical reactions.

**Cellulose Acetate:** The product formed by the reaction of acetic anhydride with cellulose under special controlled conditions. Soluble in acetone and other special solvents. The dried film is not inflammable and for this reason it is preferred to nitro-cellulose for special uses as in finishing airplane fabric surfaces.

**Chalking:** The condition that occurs when a loose powder, derived from the film itself, is formed on the surface of a dried film or just beneath the surface. Caused by a disintegration of the binder portion of the film. Can be detected by rubbing the film with the finger tip or with a piece of cloth of contrasting color.

**Checking:** Similar to alligatoring, except that the finish is broken into smaller segments. Crowfoot checking is the name given to the defect when the breaks in the film form a definite three prong pattern with the breaks running outward from a central point of intersection. When the checks are generally arranged in parallel lines, the defect is known as line checking. Irregular checks without a definite pattern are known as irregular checking.

**China Clay:** An inert pigment, consisting essentially of an aluminum silicate, used to a considerable extent to impart certain desirable properties to paint materials.

**Chipping:** The condition obtained when a dried film of finishing material separates from the underneath surface in the form of flakes or chips. Usually caused by insufficient elasticity or improper adhesion to the base material.

**Chronic Toxicity:** Relates to long term toxic effects of repeated exposure to chemical substances.

**Clear Tone:** A finish is said to have a clear tone when it is transparent and has no sign of turbidity or muddiness.

**Clouding:** Similar to "blooming". A loss of luster with the accompanying appearance of a cloudy film on the surface.

**Cloudy:** When a finishing material is turbid, due to the suspension of finely divided solid particles, it is said to be cloudy. A similar appearance in the dried film is known as cloudiness.

**Coal Tar:** A black liquid consisting of a complex mixture of hydrocarbons, obtained from coal during its conversion to coke. Coal tar is the basic raw material for many of the solvents, dyes, chemicals and resins used in the coating industry.

**Coal Tar Solvents:** Aromatic or cyclic hydrocarbons obtained from the distillation of coal during the coking process. See "Benzol", "Toluol" and "Xylo".

**Coat:** When used as a verb, "coat" means to cover or apply; as a noun, the word signifies the amount of finishing material applied to a surface during one or more applications without a drying period between applications. See "heavy coat", "thin coat" and "wash coat".

**Cobwebbing:** A condition where paint forms long silk-like threads when sprayed.

**Cold Checking:** Checks or cracks that appear in the dried film when it is subjected to repeated sudden and appreciable reductions in temperature. In furniture finishes, cold checks usually take the form of parallel lines more or less at right angles to the direction of the grain of the wood. Caused by the force of contraction exceeding the cohesion

of the film. Materials can be formulated with high tensile strength to resist cold checking.

**Cold Color:** A color is said to be cold when it has a bluish or greenish tone or is not suggestive of warmth.

**Color:** A term used to describe the effect produced by various wavelengths of light upon the retina of the eye. An object is black when all wavelengths of light are absorbed and none are reflected; it is white when all wavelengths are reflected and none are absorbed; it is green when only the wavelengths producing the sensation of green are reflected, and so on. Color is divided into three main parts.

- (1) hue is that quality which produces the color sensation, that is red, blue, green, etc.
- (2) tint is the amount of color present, as a pale tint of blue.
- (3) shade expresses the purity or degree of color, as a dark shade of red.

The term color is also used to denote the pigments used to produce colored paints. It is also used to express the act of applying color to an object.

**Color Chip:** A small piece of paper, celluloid or other material, coated with finishing materials and used as a color sample.

**Color Coats:** Those coats of finishing material which give color to the finish.

**Color Float:** When one or more colors, different from the original color, appear on the surface after the finishing material has been applied, it is said to have a color float. Caused by imperfect wetting of the pigment particles, by too great of differences of specific gravity of the individual pigments, imperfect incorporation of the pigments, and by the use of tinting colors ground in a different liquid than that composing the main body of the material.

**Color Standards:** A set of standardized color samples for comparing and classifying the color of oils, resins, varnishes, lacquers, paints or other finishing materials or their ingredients.

**Color Strength:** The intensity of color exhibited by a pigment. Another way of expressing its power to alter the tint or shade of another color to which it may be added.

**Compatibility:** The ability of two or more materials to mix with each other without separation or chemical reaction.

**Complementary Colors:** Contrasting or opposite colors. The mixture of any two primary colors is the complement of the third primary. For example green, the mixture of blue and yellow, is the complement of red. Complementary colors in pigments accentuate each other when placed side by side but tend to neutralize each other when mixed.

**Condensate:** The product that is obtained by cooling and collecting the vapors of a material that is being distilled.

**Consistency:** The relative limpidity, stiffness, or resistance to agitation or resistance to deformation of a coating material. See "Body".

**Core:** The central piece of wood used in the construction of plywood. Its grain is usually at right angles to the grain of the adjacent plies. See "Cross Banding", "Face Veneers" and "Plywood".

**Cotton Linters:** The short fibers of cotton which adhere to the cotton seed when the cotton is ginned. These short fibers are cut from the seed with special machinery and used in the manufacture of nitro-cellulose and for other special purposes.

**Covering Power:** The capacity of any pigmented finishing material to hide the color of the material beneath it and to produce a uniform, opaque surface when applied in one coat. See "Hiding Power".

**Cracking:** An intensified or advanced stage of checking or crazing whereby the breaks in the film are so deep as to expose the underlying surface.

**Crackle Finish:** A novelty finish, usually produced by applying a heavily pigmented, intensely shrinking top coat of lacquer over a longer, more elastic bottom coat of lacquer, by which the top coat cracks and pulls apart in a more or less definite pattern to expose the underlying coat in the cracks.

**Crawling:** Description of the refusal of a finishing material to remain spread in a continuous uniform coating after it has been applied. The finish crawls or creeps away from certain spots and leaves them uncoated. May be due to excessive viscosity, high surface tension, low temperature, glossy surface of undercoat, or the presence of grease, oil or other foreign matter on the undercoat.

**Crazing:** The appearance of minute, interlacing cracks or checks on the surface of a dried film or finishing material.

**Cycle:** Any periodic repetition of a process. The completion of all the steps in a process of testing, for example, to the point where the steps start to be repeated in one cycle of testing.

**Cyclic Hydrocarbon:** An aromatic hydrocarbon or solvent derived from and containing the benzene nucleus. Coal tar solvents, such as benzol, toluol and xylol are cyclic or aromatic solvents.

**Dead Flat:** Having no apparent luster.

**Deadening:** When a finish loses its luster after being applied for sometime or when exposed to outside weather conditions, and appears dead or dull, the condition is described as a deadening of the finish.

**Deep:** A finish is said to be deep when it apparently has great thickness. A color is said to be deep when it is intense or strong with no apparent presence of black. A deep yellow is one approaching the orange hue.

**Degree of Cure:** The extent to which film formation of a coating (or resin) has proceeded toward complete polymerization.

**Delaminate:** Separation of layers by loss of adhesion.

**Denaturant:** A material added to another substance to alter its effectiveness for certain purposes. Denatured alcohol is ethyl alcohol containing small quantities of other materials which render it unfit for beverage purposes. Most alcohol denaturants are poisonous.

**Density:** The comparative weight of a unit volume of matter to that of an equal volume of a standard material, usually chemically pure water. See "Specific Gravity" and "Weight per Gallon". Density is also used to denote strength of color, freedom from voids or to express solidity.

**Depth of Finish:** The apparent thickness of the dried film of finishing material due to its smoothness, clarity, brilliance and luster, as well as the actual film thickness.

**Diacetone Alcohol:** A clear, colorless, almost odorless liquid miscible in all proportions with water and with most other solvents. It is a good solvent for nitro-cellulose. Specific gravity 0.9384. Boiling point about 320°F. Flash point about 120°F.(open cup).

**Diluent:** A non-solvent liquid which is blended with an active solvent to obtain certain properties in a finishing material. A diluent for nitro-cellulose solutions may be a solvent for resin solutions and, therefore, is valuable in providing miscibility and stability of the two solutions when combined with each other.

**Dilution Ratio:** A measure of the amount of non-solvent or diluent that can be added to a solution before precipitation occurs.

**Dipping:** The process of applying finishing materials by immersing the object to be coated into the liquid.

**Dispersed:** Finely divided or colloidal in nature.

**Distillation:** The act of applying heat to drive off certain portions of a material by vaporization. The vapors are usually cooled and condensed. This is a frequent method used to separate two or more materials with different boiling points.

**Drier:** A catalytic material which improves the drying or hardening properties of oils or varnishes when added in small amounts. They are usually organic salts of lead, cobalt, manganese, zinc and iron, such as naphthenates, resinates and linoleates.

**Drop Black:** A black pigment made by calcining animal bones. Also known as "bone black" or "animal charcoal".

**Dry:** Free from liquid, containing no water. Raw materials, such as pigments, are dry when they contain no water. Finishing materials are dry when they have solidified or are no longer in a liquid state.

**Dry Dust Free:** The stage of solidification of an applied film or finishing material when particles of dust which settle upon the surface do not become imbedded in the film.

**Drying:** The act of changing from a liquid film to a solid film by the evaporation of solvents, oxidation, polymerization or by a combination of these phenomena.

**Drying Time:** The time required for an applied film of a coating material to reach the desired stages of hardness or non-stickiness. The various stages of drying are: "dust free", "to touch", "tack free", "to handle", "hard", "to sand", "to rub" and "to pack". See these terms for more detailed description.

**Dry Tack Free:** That stage of solidification of an applied film of finishing material when it does not feel sticky or tacky when the finger is drawn lightly across the film in a quick continuous motion.

**Dry to Handle:** That stage of solidification of a film of finishing material when the coated article may be picked up or moved without the finish coming off on the hands or being seriously damaged.

**Dry to Pack:** That stage of solidification of an applied film of finishing material when it is sufficiently hard that the coated article can be packaged for shipment.

**Dry to Rub:** That stage of solidification of an applied film of finishing material when it can be rubbed with an abrasive and a lubricant without softening appreciably or "picking up" on the rubbing pad.

**Dry to Sand:** That stage of solidification of an applied film of finishing material when it can be sanded without undue softening, sticking or clogging of the sand paper.

**Dry to Touch:** That stage of drying of a film of finishing material when it has solidified sufficiently that it can be touched lightly without any of the finishing material adhering to the fingers.

**Dull:** Lacking brightness, clearness or luster.

**Durability:** The ability of a finishing material to withstand the conditions or destructive agents with which it comes in contact in actual usage without an appreciable change in appearance or other important properties.

**Dust:** Small particles of solid matter. Also a grading or size of natural resin.

**Dust Free:** That stage of solidification of an applied film of finishing material when dust that settles on the coated surface will not penetrate or stick to the film.

**Earth Pigments:** Those colored pigments that are mined directly from the earth. They are also known as natural or mineral pigments. They are quite stable and not easily affected by alkali, heat, light or moisture. They are usually of a yellow, brown or red hue. Inert natural pigments are not usually classed as earth pigments.

**Eggshell:** An indefinite term used to describe the appearance of a film that has little or no luster. The term is also used to describe an off-white color. It was no doubt derived from the similarity of appearance of such films to that of an egg.

**Elasticity:** That property of a film that allows it to stretch or to change size or shape and to return to its original condition without braking or rupturing. Do not confuse with "toughness", "tensile strength" or "elongation", which have different meanings.

**Emulsion:** A suspension of fine particles of a liquid within another liquid which ordinarily is not miscible with the first liquid. Usually, an emulsifying or dispersing agent is used to promote this intimate and more or less permanent intermixing of the dissimilar liquids.

**Enamel:** A broad classification of free flowing pigmented finishing materials which dry to a smooth, hard, glossy or semi-glossy finish. Generally, the liquid portion consists of varnish or lacquer and the pigment portion is ground to a very small particle size. Paints, on the other hand, usually have raw or treated oils as the vehicle and the pigments may not be so finely ground.

**Ester:** A compound that is formed when the hydrogen ion of an acid is replaced by a hydrocarbon radical. Some of the more familiar esters used as solvents in the industry are ethyl acetate, butyl acetate, amyl acetate, and other esters of acetic acid.

**Ester Gum:** A modified natural resin produced by the reaction of an alcohol such as glycerin with the acids in a natural resin, such as rosin. Ester gum is very insoluble in water and, therefore, adds properties to a varnish that cannot be obtained with natural rosin.

**Ethyl Acetate:** A colorless liquid produced by the reaction of ethyl alcohol and acetic acid. A good nitro-cellulose solvent. Specific gravity about 0.885. Flash point about 41°F.(open cup). Boiling point about 171°F.

**Ethyl Alcohol:** A colorless and inflammable liquid derived by the distillation of fermented liquors. Second only to water in being the oldest and most widely used solvent. It is also the active ingredient in alcoholic beverages. Specific gravity of 0.810. Flash point about 70° F (open cup). Boiling point about 172°F. It forms a constant boiling point mixture with water - consisting of 4.4% water and 95.6% alcohol - which boils at between 172° and 173°F.

**Evaporate:** The act of driving off a liquid by the application of heat, vacuum or similar conditions.

**Extender:** An inert pigment used to increase the bulk of a paint or enamel or to dilute the color strength of a pigment. An extender often improves a paint or enamel.

**Face Veneer:** The outside piece of wood used in the construction of plywood. Its grain is usually at right angles to the grain of adjacent plies.

**Fading:** The loss of color due to exposure to light, heat or other destructive agents.

**False Body:** An abnormally heavy consistency that gives the false impression that the material contains a high solid content and, therefore, will deposit a heavy film.

**Fast to Light:** A color that does not fade or change appreciably in hue, tint or tone upon exposure to light over a considerable period of time is fast to light.

**Feather Edge:** The tapering of the edge of a film of dried material either by the method of application or by sanding or rubbing the dried film, resulting in a gradual progression of the film thickness from little or no material at the edge to a normal coating at the center.

**Filler:** A finishing material, usually containing considerable quantities of pigment, used to build up or fill depressions and imperfections in the surface.

**Filter:** To remove solid particles from a liquid by passing the liquid through a paper, cloth or other membrane containing openings that are too small to allow the solid particles to pass through.

**Fineness:** The degree of subdivision of pigments or the extent to which they are dispersed in the vehicle upon grinding.

**Fingernail Test:** A physical test upon the dried film of a finishing material to denote the ease with which it can be marred, scratched, flaked or broken. The test is often performed by picking at the finish with the edge of the nail of the thumb or index finger.

**Flaking:** The phenomenon of the detachment of small pieces of dried film from the underneath surface.

**Flammability Classification:** Classification of liquids by flash point and boiling point into two categories for fire protection purposes.

**Flamespread Rating:** Classification of materials according to Underwriters testing method for rating fire retardant quality relative to a predetermined standard.

**Flash Point:** The temperature at which a material will momentarily take fire when exposed to a small flame.

**Flat:** Having no gloss or luster.

**Flattening Agent:** A material added to a normally glossy coating to reduce the luster and produce a flat appearance.

**Flocculation:** Formation of clusters of particles separated by relatively weak mechanical forces or by change in physical forces at the interface between liquid and solid particles. May cause loss of tinting strength, hiding power or change flow properties.

**Flow:** The characteristic of a coating which allows it to level or spread into a smooth film of uniform thickness before hardening.

**Flow Coat:** A coat of finishing material applied to a vertical surface in an excessive amount, the surplus being allowed to flow down over the surface and drip off the bottom edge.

**Fluid:** Any material (gas, a liquid or a semi-solid) that is capable of flowing or changing its shape under normal conditions.

**Fluting:** Channeling or grooving on a flat surface.

**Ford Cup:** A type of viscosimeter originally used by the Ford Motor Company, but now used extensively in testing laboratories. It consists of a cup with an overflow device to insure a standardized volume, in the bottom of which is a standardized orifice. The number of seconds required for the cup to empty itself at a standardized temperature gives a numerical expression of the viscosity of the material.

**Formaldehyde:** A colorless gas with a sharp odor formed by the partial combustion of methanol. A preservative and disinfectant and ingredient used in phenolic and urea resins.

**Gilsonite:** An asphaltum found naturally in Utah. Used in black asphaltum varnished and similar compounds.

**Glaze:** A term used to describe several types of finishing materials. (1) a glazing putty is a creamy consistency surfacing material, usually applied with a knife to fill imperfections in the surface. (2) a glazing stain is a pigmented stain applied over a stained, filled or painted surface to soften or blend the original color without obscuring it. (3) A glaze coat of clear nature is sometimes applied over painted wall surfaces to give them a peculiar appearance and to permit easier cleaning when the walls become soiled.

**Gloss:** The luster, shininess or reflecting ability of a surface.

**Glossmeter:** An instrument for measuring the luster of gloss of a finished surface.

**Grain (Wood):** Term applied to vertical elements of wood as they occur in the living tree. Grain is delineated by the presence of annual layers of more densely aggregated cells, or in groups of prominent vessels that form the growth rings.

**Graining:** The process of printing a natural wood grain pattern onto another surface that may or may not be wood product.

**Grain Raising:** The objectionable roughness of wood caused by the swelling and stiffening of the short, broken fibers on the surface.

**Grain Showing:** The objectionable appearance when a pigmented, supposedly opaque finish fails to completely obscure the grain of the wood over which it is applied.

**Grinding:** The process of incorporating pigments into oils, varnishes or other vehicles by passing the mixture of pigments and vehicle between two closely adjacent moving surfaces or by similar means to insure complete wetting of the pigment particles and their uniform dispersal throughout the vehicle.

**Ground Coat:** The coat of colored material, usually opaque, applied before the graining ink, in producing imitation wood or marble effects, or before the glazing coat in obtaining antique glazed effects.

**Hardboard:** Manufacture material made of reconstituted wood converted into sheets or boards.

**Hardness:** The opposite of softness. That property of a dried film of finishing material that causes it to withstand denting or being marked when pressure is exerted on its surface by an outside object or force.

**Hardwood:** Designates lumber produced from broad-leafed or deciduous trees in contrast to softwood produced from evergreen or coniferous trees.

**Haze:** The dullness of a surface that prevents a clear reflection of light. Usually caused by partial precipitation of one or more ingredients during the drying period. Often removed by polishing or cleaning.

**Heartwood:** Wood extending from the pith to the sapwood, cells of which no longer participate in the life process of a tree.

**Hiding Power:** The ability of a colored finishing material to obscure or cover up the surface that has been coated with it.

**Highlight:** The lighter colored or more transparent portions of a finish, such as on furniture, that have been purposely made uneven in color to simulate worn spots caused by frequent use over a period of years.

Usually obtained by wiping off a portion of the stain while wet or by using steel wool or sandpaper after it is dry.

**High Solids:** A general term used to denote the presence of a higher than average percentage of solid ingredients.

**Hot Spray:** Application using equipment which heats the finish material to lower viscosity to spray consistency.

**Hue:** The quality of a color responsible for its name by which it is distinguished from other colors, as red, green or blue.

**Humidity:** The amount of water vapor in the air. Also see "Relative Humidity".

**Immiscible:** Not miscible; not capable of being mixed together intimately without the formation of separate layers or without developing cloudiness or turbidity. Usually applied to liquids.

**Impact Test:** A test for determining the resistance to shattering of a dried film by dropping a weight on to the finish.

**Incompatible:** Not capable of being mixed together without impairing the original properties of the materials being mixed. Usually results in a separation of solid particles, cloudiness or turbidity.

**Inerts:** Those inactive, extender pigments which have little or no hiding or tinting properties when wet with oil, varnish or similar materials, and which are chemically stable or inert.

**Infrared:** A group of long wavelength rays generated by heat from a hot body. They have the property of raising the temperature of the receiving body and this fact is utilized to accelerate the baking of finishing materials by use of infrared lamps or infrared gas burners, through the development of heat in the surface to which the coating has been applied.

**Iron Oxide:** A red, brown or yellow pigment consisting of the oxides of iron.

**Isopropyl Alcohol:** A colorless stable liquid intermediate in its properties between ethyl and butyl alcohol, used in lacquers and spirit varnishes. Specific gravity of 0.7848. Flash point of 54°F (closed cup). Boiling point about 179.6°F.

**Jell:** The act of taking on body or becoming gelatinous or jelly-like.

**Joint:** Line or intersection between edges or ends of two adjacent sheets or strip in the same plane.

**Kerosene:** A high boiling distillate of petroleum, also known as "coal oil". Formerly derived from the distillation of bituminous shale. Used extensively as a light-producing medium before the advent of illuminating gas and electricity. Used also as a slow evaporating solvent.

**Ketone:** An organic compound that contains the bivalent ketone groups. Usually a colorless volatile liquid, such as acetone or dimethyl ketone, but may also be a crystalline solid, such as camphor.

**Knit:** A coat of finishing material knits to another when the two coats cannot be separated or peeled apart after drying.

**Lacquer:** A thin-bodied, quick drying coating material that forms a hard film. Originally the term referred to solutions of shellac and other resins that dried by evaporation alone. The term was next applied to products derived from the sap of certain trees in China, Burma and Japan. Later the term was applied to thin, hard baking varnishes used for coating food cans made from tin plate and similar metal articles. More recently the term applies to mixtures of solutions of nitro-cellulose, ethyl-cellulose, natural and synthetic resins which dry by evaporation alone.

**Lamp Black:** A black organic pigment made by burning oils, fats, greases or other organic matter in an insufficient supply of oxygen to produce a dense smoke containing particles of carbon. When this carbon is separated it forms lampblack, which is used as a black pigment for coloring and tinting paints and enamels.

**Latent Solvent:** A volatile liquid that is not an active solvent within itself but attains solvent properties when mixed with a true solvent.

**Latex:** Any of several milky saps that occur in vegetable life, containing hydrocarbons that tend to congeal into plastic masses upon exposure to air.

**Lead Drier:** A compound of lead and an organic acid used for hastening the drying of coatings.

**Let Down:** To dilute the color strength of a colored pigment by mixing it with a colorless, translucent mineral pigment. Also to thin or reduce a liquid coating.

**Leveling:** Ability of a film to flow out free from ripples, pock marks, orange-peel, brush marks, runs, sags, or other surface defects after application.

**Lifting:** The softening and penetration of a dried film by the solvent action of a second film applied over it in such a manner as to cause rising and wrinkling of the previously dried first coat.

**Light Fastness:** The ability of a color or of a dried film to remain unchanged when exposed to brilliant light.

**Linseed Oil:** A yellowish oil obtained by crushing the seeds of flax. Contains a mixture of glycerides of several fatty acids. Has the ability to absorb oxygen from the air and gradually form a tough hardened coating when exposed in a thin film. Used as a vehicle in paints and as the softening agent for resins in the manufacture of varnishes.

**Lithol Red:** A red like pigment made by precipitating a complex red dye on a blanc fixed base. It is non-bleeding.

**Livering:** An increase in the consistency of a coating material while in the package to form a viscous, rubbery, liver-like mass; due to a chemical reaction between various ingredients or to a change in the colloidal nature of the product.

**Long Oil Varnish:** Varnish relatively low in resin content and high in oil content. Usually contains more than 25 gallons of oil per 100 pounds of resin.

**Luminescence:** That property of glowing in the dark after exposure to visible or ultraviolet light. Luminous paints are of two varieties, depending upon the ingredients used: (1) Fluorescent paints which glow only as long as exposed to the activating rays. (2) Phosphorescent paints which continue to glow for hours after exposure to light.

**Luster:** The gloss, shine or brightness of a finished surface. See "Gloss" also.

**Maleic Resin:** Synthetic resins made by polymerizing maleic acid or maleic anhydride with a polyhydric alcohol resin or some similar substance.

**Melamine Resins:** Synthetic resins made from melamine and formaldehyde. They cure quickly at relatively low temperatures and are quite stable in color, even when exposed to high temperatures.

**Methyl Alcohol:** The chemical term for wood alcohol, obtained by the destructive distillation of wood or synthetically by combining carbon monoxide and hydrogen under pressure by the aid of a catalyst. Specific gravity of 0.792. Flash point about 60°F. Boiling point about 148°F.

**Milky:** Having the appearance of milk or showing some whiteness, as when water is mixed with varnish or when a dried transparent film starts to turn white from moisture.

**Mineral Oil:** Any oil derived from a petroleum base. Also known as "paraffin oil" and "liquid paraffin". The boiling point is usually above 675°F.

**Mineral Spirits:** A medium boiling fraction of petroleum naphtha having a boiling range between 300°F. and 400°F. The flash point is usually slightly above 100°F. and weight is about 6.5 pounds per gallon.

**Mistcoat:** A coat of thinner, or of thinner and a small amount of lacquer, applied as a final coat to increase smoothness.

**MSDS (Material Safety Data Sheet):** Document that outlines potential hazards associated with a particular chemical product.

**Muddy:** Lacking a bright, clear, transparent appearance, when speaking of clear materials. A muddy color is one having a trace of brown in it which takes away the purity or brightness of the color.

**Naphtha:** An indefinite term denoting hydrocarbons such as the lighter fractions of petroleum and coal tar. Usually used in conjunction with adjectives that signify the fraction, as V.M. & P Naphtha, "coal tar naphtha", solvent naphtha", "cleaners' naphtha", etc.

**Natural Resins:** The hardened sap of trees, used in the manufacture of varnish, as distinguished from synthetic resins.

**N.G.R. Stains (Non Grain Raising):** A solution of transparent dye powders and alcohol used in shading and staining of wood products.

**Nitro-Cellulose:** The product obtained by nitrating cellulose, in the form of linters, cotton waste, wood pulp, etc., by treatment with a mixture of nitric and sulphuric acid. For different purposes the cellulose is nitrated to various degrees. That used for manufacturing lacquers contains about 12% nitrogen.

**Non-bleeding:** The opposite of "bleeding". Not soluble in succeeding coats.

**Nondrying:** Lacking the ability to absorb oxygen from the air or to change from a liquid to a solid state when spread out in a thin film. Mineral oils, castor oil, peanut oil and coconut oil are examples of nondrying oils.

**Non-Volatile:** That portion of a material which does not evaporate at ordinary temperatures; the solid substances left behind after the volatiles have evaporated.

**Oil:** A smooth, greasy feeling; liquid. Oils are classified as vegetable, animal or mineral, according to their origin, and as fixed or fatty and volatile or essential, according to their behavior upon being heated.

**Oil Absorption:** The quantity of oil required to wet a definite amount of pigment to form a stiff paste during the grinding process. Affects consistency, hiding power and other qualities of the finished material.

**Oil Colors:** Colors that have been ground to a paste or semi-paste consistency in a vegetable oil.

**Oil Stains:** Those stains that (1) contain oil or (2) are made from oil colors.

**Opacity:** The degree of obstruction to the transmission of visible light. Another expression for "hiding power."

**Opaque:** Opposed to "transparent". Having the property to hide or obliterate an underlying material.

**Orange-Peel:** A pebbled surface similar to that of an orange skin. Caused by the coating not leveling out completely after application by spraying.

**Organic Colors:** Pigments of animal, vegetable or dyestuff origin; those containing carbon, hydrogen and oxygen but no minerals.

**Oxidize:** To unite with oxygen.

**Particleboard:** Composition board consisting of distinct particles of wood bonded together with a synthetic resin or other added binder.

**Peeling:** A defect in a dried film made manifest by rather large pieces becoming detached from the underneath surface and coming loose in sheets or large flakes.

**Penetrating Stains:** Those stains which penetrate into the surface of the wood. Usually made of dyes dissolved into liquids which easily penetrate the wood.

**Phenol:** Another name for carbolic acid. Used as a reaction product with formaldehyde and other materials in the manufacture of synthetic resins.

**Phenolic Resins:** Synthetic resins made by condensing phenol with formaldehyde or similar aldehydes.

**Photo Initiator:** Compound capable of absorbing light and initiating a polymerization reaction through unimolecular or bimolecular chemical activity.

**Photosensitizer:** Compound capable of absorbing light and transferring its energy to a second molecule that may then undergo photochemical activity.

**pH Value:** The concentration of the hydrogen ion in a material. A pH value of 7 is considered neutral. Lower values are acidic; higher values are alkaline in nature.

**Pigment:** The fine, solid particles used for color or other properties in the manufacture of paint and enamel.

**Pigment Stains:** Those stains which get their color primarily from pigments mixed with binder and volatile thinners.

**Pinholing:** The appearance of fine pimply defects in a dried film, due to bubbles or other causes, which result in small holes in the film after the tops have been removed by rubbing or sanding.

**Plasticizer:** A softening material added to lacquers or other compounds to impart elongation, elasticity and flexibility.

**Plywood:** Wood that is built up by gluing thin pieces of wood together in three or more laminations. The grains of adjacent piles are usually at right angles to each other.

**Polish:** The act of increasing the luster of the dried film of a finishing material by friction, or the material used for producing the high luster, or the result and brilliantly glossy finish produced by polishing.

**Porous:** Not dense or having the presence of small voids or holes which absorb top coats of finishing material.

**Primary Colors:** In pigments the primary colors are yellow, crimson-red and blue. In the spectrum the primary colors are scarlet-red, green and violet. The basic colors from which all other colors are made.

**Primer:** That coat of material that is applied directly over the uncoated surface.

**Printing:** The impression left in a film of dried finishing material after pressure has been removed.

**Puddling:** The application of excessive heavy, uneven coats of finishing material.

**Putty:** A pasty material consisting of pigment and binder, used for filling imperfections in the surface to be coated or for holding window panes in place.

**Raw Sienna:** One of the brown earth colors used in the manufacturing of pigmented stains and fillers. A mixture of ferric oxide and silica or silicates.

**Raw Umber:** A brown earth color, consisting of iron oxide, manganese oxide and silica or silicates, used in the manufacture of pigmented stains and fillers.

**Reduce:** To lower the viscosity of a material or to thin it by the addition of a solvent, thinner, varnish, oil, etc.

**Reducer:** The volatile materials included in a paint, varnish or lacquer to reduce its viscosity, or the volatile materials added to the coating by the user.

**Relative Humidity:** An expression in terms of percentage of the amount of water vapor in air at a given temperature as compared to the total amount of water vapor the air could hold at that temperature. The percentage of saturation of air with water vapor at a given temperature.

**Resin:** A solid or semi-solid organic substance, usually derived from the sap of trees or by chemical synthesis. Used in the manufacture of varnishes, lacquers and similar coatings.

**Retarder:** A slowly evaporating solvent that decreases the evaporation rate or slows up the drying of lacquers and similar materials

**Roller Coating:** A method of applying finishing materials to flat surfaces by passing the surface between rollers, one or both of which are coated with the material.

**Rottenstone:** A soft, siliceous limestone in pulverized form used as an abrasive and polishing agent for dried films of finishing materials. Also known as "tripoli."

**Rubbing:** The act of applying mechanical friction, usually in conjunction with an abrasive and a lubricant, to a film of finishing material to bring it to a level, smooth surface, to deaden the luster, to remove specks of dirt or for similar purposes.

**Rubbing Oil:** A pale, medium heavy mineral oil used with pumice stone or other abrasives as a lubricant for rubbing the dried film of finishing materials.

**Runs:** Defects in a dried film caused by an excessive amount of material being applied, usually in an uneven manner, so that a portion of the material flows down in an irregular or curtailed effect.

**Sags:** Irregularity of film thickness due to uneven flow.

**Sandpaper:** A paper coated with an abrasive material which is used for surfacing wood, metal or finishing materials.

**Sapwood:** Light colored wood substance occurring in the outer portion of a tree.

**Satin Finish:** A finish with a luster similar to that of satin - between a full gloss and a semi-gloss luster.



**Schedule:** A statement of the sequence of operations, the types of finishing materials, amounts of reduction, methods of application, drying times and temperatures, sanding and rubbing operations, etc., used in obtaining the finish on the work.

**Scratches:** Slight incision, breaks, tears or indentations on the surface caused by abrasive friction.

**Sealer:** Any finishing material that is applied with the primary purpose of stopping the absorption of succeeding coats.

**Secondary Colors:** A mixture of any two primary colors. For example, the primary colors blue and yellow, when mixed, produce the secondary color green.

**Seeding:** The formation of grains of undissolved resins in a varnish or lacquer or the formation of pigment aggregates from small individual particles in a paint caused by severe chilling or improper thinners.

**Semi-Gloss:** A luster about halfway between a full gloss and a dead flat.

**Separation:** The breaking up or segregation of two or more integral parts of a mixture into its component parts. In a varnish this may take the form of the resin, becoming insoluble in the other ingredients; in a paint or enamel, it may mean that a clear liquid portion forms above the pigmented portion; in liquid, there may be a segregation of layers of component liquids.

**Settling:** The separation of a pigment or other solid ingredient from a coating material upon standing.

**Set To Touch:** The initial stage of drying when sufficient solvents have evaporated to allow the film to harden to where it can be touched lightly without adhering to the finger.

**Shade:** The degree of a color, as a dark green; also the act of changing the tone or degree of a color by adding small quantities of other colors to it.

**Sheen:** The degree of luster of the dried film of a finishing material. Usually used to describe the luster of rubbed surfaces or of flat drying materials.

**Shellac:** The resinous material secreted by an insect that feeds upon the twigs of certain trees in India. It is soluble in alcohol to form liquid shellac which is used as a sealer and finishing material for wood.

**Shrinkage:** The disruption of the level plane of a finished surface with age, whereby the thickness of film appears to diminish or the luster dies away. Usually caused by repeated slight movements of the wood or of underneath coats of material.

**Sienna:** An earth pigment of a yellowish-brown, or reddish-brown color, used in paints, stains and fillers. The color is derived from the presence of oxides of iron and manganese.

**Silica:** An inert pigment used as an extender in paints and in paste wood fillers.

**Softwood:** Wood derived from a coniferous tree, the term has no reference to the actual hardness of the wood.

**Solid:** A body of matter which will not yield or flow except under extreme force.

**Solvent Naphtha:** A volatile thinner obtained from the distillation of coal tar or from similar sources. Similar to benzol, toluol and xylol except it is not a pure chemical compound but is a mixture of two or more of these compounds.

**Soybean Oil:** A semi-drying oil obtained from the soya bean, which is grown extensively in Asia and in the United States. When properly combined with resins or other chemicals it produces good quality synthetic varnishes.

**Spar Varnish:** A very elastic waterproof varnish, originally used for coating masts and spars on sailing vessels.

**Species:** A distinct kind.

**Specific Gravity:** The ratio of the weight of a given volume of a substance to the weight of an equal volume of distilled water at a temperature of 62°F.

**Spraying:** The act of applying a material by means of compressed air through a spray gun in such a manner as to break up the material into a fine mist and to blow it onto the work.

**Spreading Rate:** The number of square feet of surface that can be covered with a gallon of a given finishing material by a given method of application, one coat.

**Staining:** The act of changing the color of wood without disturbing the texture of markings, through the application of transparent or semi-transparent liquids made from dyes, finely divided pigments or chemicals.

**Stearate Bloom:** Bloom that may form when an acid catalyzed coating is used over a coating containing zinc stearate. A catalyzed coating should never be used over a stearate containing sealer.

**Strength:** The relative tinting or hiding power of a colored finish material.

**Substrate:** A material upon the surface of which a coating or adhesive is applied for any purpose such as finishing or bonding.

**Surface Drying:** When a coating dries on top but remains relatively soft on the bottom, it is said to surface dry.

**Surface Tension:** The inherent molecular attraction in liquids which causes them to try to diminish their surface area and thereby exhibit properties resembling those of a stretched elastic membrane.

**Tack Free:** The condition when a film of finishing material has reached the point that the surface can be touched lightly without a sensation of stickiness.

**Tack Rag:** A piece of loosely woven cotton cloth that has been dipped into varnish and wrung out. It soon becomes tacky and sticky and is used to wipe a surface to remove small particles of dust.

**Talc:** Also known as soapstone. An inert pigment used in paints. It is a flaky or fibrous form of hydrated aluminum silicate.

**Texture:** The impression created by a surface structure of the general physical appearance of a surface.

**Thermoplastic:** The property of softening when heated and hardening upon cooling, as contrasted to thermosetting.

**Thermosetting:** The property of becoming hard when heated and cannot be re-softened with heat.

**Thickness of Film:** The body on the work after the film of finishing material has thoroughly dried.

**Thin Coat:** A coat of finishing material that is less heavy than usual.

**Thinner:** A volatile material used to thin or reduce finishing materials.

**Tint:** A color produced by the addition of another color to white paint or enamel. The act of adding the color to the white material is known as tinting.

**Tinting Strength:** The ability of a colored pigment to color a white paint.

**Toluol:** A solvent usually obtained from the distillation of coal tar. Specific gravity about 0.865. Boiling point about 232°F. Flash point about 55°F.

**Tone:** A modification of a full color.

**Toughness:** The ability of a dried film to be bent, indented or distorted without cracking. The opposite of brittleness.

**Toxicity:** General capacity of a substance to cause injury to a living organism but which must be defined with reference to exposure dose, method of exposure, frequency of exposure, specific type of severity of injury and time needed to produce the injury.

**Transfer Efficiency:** The comparison between the amount of material that is sprayed on the product to the amount that is lost.

**Tung Oil:** An oil obtained by pressing the nut of the tung tree which grows in China and neighboring lands. Hardly ever used in the raw state because it dries to a flat non-lustrous film. When heat-treated it dries with a glossy finish. Very valuable in making quick drying, water-resistant varnishes and wrinkle finishes.

**Turbidity:** A cloudiness in transparent coating caused by finely suspended matter.

**Turpentine:** A volatile thinner produced by the distillation of the sap of pine trees. Specific gravity about 0.870. Boiling point about 302°F. Flash point about 118°F.

**Ultraviolet:** Those light rays which are outside the visible spectrum at its violet end. These rays have a chemical effect upon the dried films of finishing materials.

**Umber:** A hydrated iron-manganese oxide pigment of a brownish or greenish brown color. Used in paints, pigment stains and paste wood fillers.

**Under Baked:** Not baked hard, due to insufficient time or temperature or both.

**Undercoats:** Those coats which are applied prior to the finishing or final coats.

**Undertone:** The color that is seen through another color.

**Urea Formaldehyde Resins:** Synthetic resins obtained by the chemical reaction of urea and formaldehyde in the presence of a catalyst.

**Varnish:** Any homogenous transparent or translucent liquid which when applied as a thin film hardens upon exposure to air or heat, by evaporation, oxidation, polymerization or a combination of these to form a continuous film that imparts protective or decorative properties.

**Vehicle:** The liquid portion of a finishing material consisting of the binder and volatile thinners as contrasted to the pigment or solid matter.

**Veiling:** The formation of a cobweb pattern when applied with a spray gun, due to the rapid evaporation of the solvents.

**Veneer:** Thin sheet of wood rotary cut, sliced or sawn from a log, bolt or flitch. Veneer may be referred to as a ply when assembled into a panel.

**Vinyl Resins:** Synthetic resins resulting from the polymerization of vinyl compounds.

**Vinyl Sealers:** Specially formulated solvent sealers designed for maximum holdout moisture resistance, for re-coating with conventional lacquers and catalyzed systems.

**Viscosity:** The resistance of flowing exhibited by fluids. It is the internal friction of the movement of molecules against each other.

**VOC:** Volatile organic compound, ref. emission control.

**V.M. and P. Naphtha:** The abbreviation for Varnish Makers' and Painters' Naphtha. A petroleum distillate with a boiling point of about 197°F. and an end point of about 250°F. Flash point of 70°F.

**Warm Color:** Any color in which red or orange predominates.

**Wash Coat:** A thin solution of shellac, lacquer or other material applied over the stain to enrich it and to stiffen the fibers of the wood so they may be easily sanded. In special cases a wash coat is applied to the bare wood to prevent succeeding coats from discoloring it, or over a filler to enable a glaze to be wiped off easily.

**Water White:** As colorless as water.

**Wax:** Any of a number of resinous, pliable substances, of plant or animal origin, which are insoluble in water, partially soluble in alcohol, ether, etc., and miscible in all proportions with oils. Used for making polishes and for similar purposes.

**Wetting Agents:** Products that are added to protective coatings to aid the dispersion of the pigment in the vehicle, the penetration of the coating into the surface being treated, and for similar purposes.

**Whitening:** A condition brought about in the dried film of a coating material by the absorption of moisture.

**Wiping Stains:** Those stains, usually pigmented, which are applied and wiped with a cloth to remove the excess stain.

**Wood Filler:** A pasty material used for filling and coloring the pores of wood. It is usually thinned with naphtha, applied to the surface, and then wiped off across the grain of the wood, allowing it to remain only in the pores.

**Wrinkle Finish:** A varnish or enamel film which forms fine wrinkles or an irregular surface as it dries. This is also a defect that sometimes occurs when regular varnish is applied too heavily.

**Xylo:** A coal tar distillate having a specific gravity of about 0.860. Boiling point about 275°F. Flash point about 108°F.

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

**Zahn Cup:** An efflux viscometer consisting of a small cup with a hole in the bottom and a handle to that it can be dipped into the liquid to be measured. The viscosity is recorded as the time required for the cup to empty through the hole.

**Zinc Stearate:** The zinc soap of stearic acid, used as a drier and as a flattening agent.