PAINT PROBLEM SOLVER

PROBABLE CAUSES
RECOMMENDED SOLUTIONS
INTERIOR & EXTERIOR

PUBLISHED BY THE PAINT & DECORATING RETAILERS ASSOCIATION
Paint Problem Solver

PUBLISHED BY THE
PAINT & DECORATING RETAILERS
ASSOCIATION

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ALLIGATORING
(Exterior)

DESCRIPTION: Condition of paint film where the surface has many wide patterned cracks and develops an appearance similar to the scales of an alligator.

CAUSES: Often caused by the inability of the topcoat to bond smoothly to a glossy coat underneath. Application of an extremely hard coating over a soft primer can also result in alligatoring, as can allowing insufficient time for the undercoat to dry before topcoating, expansion and contraction of the substrate, causing older and/or more rigid coatings to fail.

SOLUTION: Remove old paint completely by scraping and sanding. Use a power washer for large areas. Avoid future alligatoring by properly preparing the surface, then painting with a high-quality primer followed by a top-quality exterior paint.
BLISTERING
(Exterior)

DESCRIPTION: The formation of bubbles or pimples on the painted surface indicating loss of adhesion.

CAUSES: Can be caused by trapped moisture trying to escape through the paint film, by painting before the previous coat has dried thoroughly or by excessive heat or grease under the paint. Also can be caused by painting in direct sunlight or when painting in hot temperatures (above 90 degrees). In this case, the film dries too rapidly, and the trapped solvents later vaporize, causing pressure against the topcoat. This is more common when using dark colors, since darker colors absorb the heat more rapidly than lighter ones.

SOLUTION: Determine the cause of blistering by breaking upon a bubble. If bare wood shows, the blister was probably caused by moisture. If another layer of paint shows through, it is most likely a heat blister. Remove paint thoroughly by scraping and sanding and/or power washing. If the prime coat is not affected, repaint without priming. Otherwise, prime and topcoat using top-quality exterior products. Control moisture with adequate venting and caulkking to stop leaks, which will allow moisture to evaporate rather than becoming trapped under a new coating. Recoat the surface under moderate (not excessively hot) temperatures and not in direct sunlight.
CHALKING

(Exterior)

DESCRIPTION: The oxidation of paint, usually due to weathering, which causes a powder on the film surface, occurring as a result of the breakdown of the coating binder after prolonged exposure to ultraviolet rays.

CAUSES: Natural weathering due to exposure to sunlight. Happens more quickly and more noticeably with alkyds than with acrylic latex paints. Also more prevalent with paints using excessive clay in place of titanium dioxide. Can also occur when paint is over-thinned or put on too thinly or when the wrong product is used for a given surface. Moderate chalking is actually helpful on most surfaces, since dirt is washed away with the chalk when it rains. It also allows the paint film to wear away in a way that provides a good surface for future repainting. However, if you wipe your hand over the surface and come away with a coating of chalk dust, this is an indication that it is time to repaint. A paint with considerable chalking properties should not be used above masonry or brick, because the chalk wash-down will discolor these surfaces.

SOLUTION: Remove the chalk residue with a power washer, or use a stiff bristle brush (wire on masonry) and mild detergent, then rinse thoroughly with a garden hose. After the surface has dried thoroughly, rub with your finger to see if any chalk residue remains. If so, use a surface conditioner. Use a primer or sealer to seal off any remaining chalk prior to topcoating with a top-quality exterior paint. To remove stains caused by chalk washdown on brick or masonry, scrub with a stiff brush and a detergent solution. Use a strong stream from a garden hose to rinse.
CHECKING
(Exterior)

DESCRIPTION: A kind of paint failure in which many small, hairline cracks appear in the surface of the paint. Eventually can lead to more severe cracking. Characterized by a pattern of short, narrow breaks in the top layer of the paint.

CAUSES: Usually occurs when the paint begins to lose its elasticity. The underlying layers of numerous coats of paint become brittle and no longer expand and contract with changes in temperature and humidity. As the wood swells, stress breaks the bond between layers, which causes the checking. Checking on unprotected wood occurs due to delamination. Poor surface preparation and applying can also lead to checking.

SOLUTION: Remove loose paint with a scraper and wire brush, then smoothing the surface with sandpaper. Level uneven areas that cannot be removed with exterior spackling compound. If multiple layers of coating are involved, remove all the paint to the bare wood to avoid an uneven surface that can cause additional checking. Prime bare wood to achieve a more uniform surface with better adhesion. Topcoat with a quality exterior paint.
CRACKING/FLAKING
(Exterior)

DESCRIPTION: Splitting of a coating usually due to aging paint. It can also be caused by subsurface expansion under a brittle topcoat. A more advanced stage of checking. The breaks in the coating penetrate the film completely to the substrate.

CAUSES: May be caused on surfaces that have received numerous coats of paint, wherein the underlying layers lose their elasticity and are unable to expand and contract with the surface as it responds to temperature and humidity changes. As the wood swells, stress breaks the bond between layers, which first leads to checking and eventually cracking. If the surface is plywood or flat-grain wood, the material itself is likely to crack as well. Failure to adequately prime and protect pressed composition boards and siding can also result in cracking.

SOLUTION: Cracking down to the wood usually requires complete removal of the coating, repriming and repainting. In cases where cracking occurs over plywood, spot-scrapping and sanding prior to priming and recoating will solve the problem. Finish coats for plywood should, at minimum, be 100-percent acrylic latex, but elastomers work best. If cracking at wood joints is severe, caulk the joints with a quality acrylic latex or elastomeric-type caulk to prevent further moisture from penetrating the laminations of the plywood. Pressed composition board should be primed immediately following installation, followed by application of a quality topcoat to seal out moisture.
**CRATERING**  
*(Exterior/Interior)*

**DESCRIPTION:** Small depressions in dried paint film caused by pockets of air or entrapped solvent in the wet paint film.

**CAUSES:** Can occur during application or, in the case of solvent entrapment, shortly after the intermediate coat or topcoat is applied over the primer coat. Craters also can result from top-coating a solvent-based product too quickly, using a new roller cover without proper preparation, over-shaking the paint or painting in excessively high temperatures, excessive rolling or brushing of the paint. Also can be caused by improper use of solvents when thinning the coating, or by using low-quality or old paint.

**SOLUTION:** Craters should be sanded out and the surface reprimed and repainted. If they are not removed before the new coat is applied, they will show through. Before using new roller covers, immerse them in the paint and roll them out a few times to expel air. After a can be been shaken, it should be left to sit until all bubbles and foam disappear. Sometimes when painting on a hot day, the coating will dry too quickly and prevent the bubbles from flowing out during application. If this occurs, try adding a small amount of thinner to the paint. Avoid painting when temperatures exceed 90 degrees F. Always use top-quality paint; avoid using paint that is more than a year old.
PEELING: ASBESTOS SIDING
(Exterior)

DESCRIPTION: A loss of paint adhesion on asbestos siding (also known as asbestos cement siding) that results in paint flaking or peeling from the surface.

CAUSES: Asbestos siding normally holds up very well once painted due to the fact that the substrate does not expand or contract with changing temperatures. After years of wear, however, asbestos siding can develop a surface coating of fine dust that is similar to chalk, causing the paint to peel. Peeling can also occur if the surface was not cleaned properly of oil and dirt prior to painting.

SOLUTION: Wash off any sign of chalking. Remove loose paint with a power washer. Due to the well-documented health hazards associated with inhaling asbestos dust particles, do not scrape or sand the surface. After you have removed the loose paint and the surface is completely dry, use an acrylic primer or a masonry conditioner to seal the surface followed by topcoating with a top-quality latex paint. In the event that you have broken or deteriorating asbestos siding shingles that must be replaced, contact a qualified environmental engineer or technician to assess the danger and remove the material in accordance with your local health department’s rules.
PEELING: CONCRETE FLOORS  

(Interior)

DESCRIPTION: A loss of paint adhesion that results in the paint flaking or peeling from the concrete surface. Often a result of hardeners that have been added to the concrete or alkali in the concrete which are drawn to the surface by water and then remains in a crystallized state (efflorescence) after the water evaporates, thus pushing against the paint film to cause peeling.

CAUSES: Moisture seeping through concrete floors in basements, often the case with floors that are laid on-grade, without a moisture barrier and thus will not hold paint well. Also occurs when a floor finish is applied to a bare, unetched, uncured concrete floor. Another cause is when alkyd resins contained in the floor coating come in contact with the alkaline concrete surface, reacting together to cause saponification, a soap-like film between the concrete surface and alkyd coating and resulting in extremely poor adhesion and softness of the alkyd coating. In addition, grease, oil wax and dirt, if present when the floor is being painted, can lead to peeling.

SOLUTION: Remove the failed paint by scraping and, if necessary chemical strippers. To clean the floor, scrub with hot water and a strong detergent solution. Avoid mild dishwashing detergents, as they contain skin-softening ingredients that interfere with paint adhesion. Rinse thoroughly. Allow the surface to dry for several days. Stubborn grease many continue to rise to the surface, and in that case, you may need to scrub again. Smooth surfaces must be etched in order to accept new paint. Use a concrete etching solution, being sure to follow the directions carefully and use all the protective equipment required (goggles, rubber gloves, protective clothing, etc.) An alternative to using an etching solution is to rent a floor grinder from your local paint store. Again, follow all safety precautions when using such equipment. Clean floor to remove residue. When the floor is properly etched, it should resemble the texture of fine sandpaper. Apply an alkali-resistant primer before repainting. Use a coating specifically formulated for concrete floors in order to achieve the necessary adhesion, durability and abrasion resistance that these surfaces require.
PEELING: GALVANIZED METAL
(Exterior/Interior)

DESCRIPTION: Peeling caused by poor adhesion, most likely due to alkaline deposits present on the surface or failure to remove the oils from the mineral oil “bath” that was applied in the factory.

CAUSES: Failure to properly prepare or prime galvanized metal is usually the cause of peeling. The factory-applied oil must be removed if the customer paints before a six-month “weathering period.” This is done by solvent wiping or detergent washing, then neutralizing the alkalinity by acid wiping the surface with a phosphoric acid followed by fresh water rinsing. Galvanized metal usually is specially treated to remove chemical deposits on the surface after the galvanizing bath, or peeling may occur. Peeling also may occur when an alkyd or oil-based product is applied over a bare galvanized surface, causing a chemical reaction that leads to saponification, a soap-like film that forms between the galvanized metal and the coating. Galvanized metal might also be covered with “white rust,” which is the appearance of a white haze that dulls the galvanizing after exposure to the elements. Rusting also can cause peeling and is more likely to occur because of failure to paint the surface immediately after cleaning it.

SOLUTION: Remove all loose, flaking paint down to the bare metal. Remove “white rust” by washing the surface with potable water and detergent and then rinsing completely. Make sure the surface is free of alkaline buildup. It’s a good idea to use a zinc phosphate conversion coating to provide better adhesion. Apply a galvanized metal primer and follow with two coats of an acrylic finish. If you must paint galvanized metal that has not weathered for six months, remove surface oil with lacquer thinner before coating with primer and topcoat.
PEELING: MASONRY/BRICK
(Exterior/Interior)

DESCRIPTION: Peeling most commonly caused by efflorescence, crystallized salts that push the paint away from the surface, or due to high alkalinity content of the surface that leads to saponification.

CAUSES: Efflorescence occurs when brick or concrete walls have not been washed thoroughly and such residue as muriatic acid (used to clean off excess mortar) or chloride salts remains on the surface. If the surface is painted in that condition, any salts left on the bricks absorb the moisture, swell and cause peeling. Peeling also can occur when an alkyd or oil-based paint is applied over a surface with high alkalinity content (for example, unetched concrete). Alkyd resins that come in contact with an alkaline surface can lead to saponification, a soap-like film between the concrete surface and the alkyd coating, which results in extremely poor adhesion of the alkyd coating.

SOLUTION: Remove any efflorescence prior to repainting. Remove all flaking or chalking paint by wire brushing, sandblasting or high-pressure water washing. Fill all cracks with a masonry patching compound or a concrete/masonry caulk. If the surface is particularly porous, apply an alkali-resistant primer or block filler. In lieu of a primer and topcoat, use two coats of a high-quality elastomeric masonry coating.
PEELING: METAL DOORS/GARAGE DOORS
(Exterior)

DESCRIPTION: A loss of adhesion on the metal that results in peeling or flaking.

CAUSES: Usually the result of failing to remove rust from the surface or not painting immediately after cleaning. Failure to use a primer when needed also can cause peeling. One other cause could be the failure to lightly sand the factory primer prior to applying the finish coat.

SOLUTION: Use a wire brush to remove as much loose paint and rust as possible. Apply either a rust conversion coating or two coats of rust-inhibitive primer. Allow each coat to dry thoroughly before applying finish coats. Make sure to lightly sand the factory primer so that it is visibly abraded, thus giving the topcoat an acceptable surface with which to develop a mechanical bond.
PEELING: MILL-GLAZED WESTERN RED CEDAR OR REDWOOD SIDING
(Exterior)

DESCRIPTION: A hard, varnish-like glaze on the wood that is reportedly caused by the milling or planing process at the mill, with the overheating of the flat-grained, smooth siding bring water-soluble resins to the surface.

CAUSES: There is some disagreement regarding the exact cause of this condition. Not all blame it on the milling process, with some experts believing that the failures are caused by other problems with the wood such as raised grain or degradation due to UV rays.

SOLUTION: Abrading the surface by sanding would ease surface tension and provide a better surface prior to priming and painting. If the surface is unpainted, the best system is to prime the surface with a primer that seals in tannic acid and prevents extractive bleeding. A second coat of primer may be necessary to seal in stains. Follow this with two coats of a high-quality latex finish. If peeling has occurred, remove the coatings by pressure washing or scraping prior to application of the primer and finish coats. Newly installed siding should be coated as quickly as possible to prevent UV degradation.
PEELING: UNDER EAVES
(Exterior)

DESCRIPTION: Also known as “scaling” or “cornflaking.” Occurs in protected or shaded areas of buildings (e.g., under eaves and covered porches), which are susceptible to condensation and collection of sulfur dioxide deposits from the air.

CAUSES: Because these areas are not out in the open, rain will not wash these deposits away and they remain on the surface in the form of crystalline deposits. These deposits are not noticeable on white paint. If these deposits are not removed prior to repainting, the new paint will peel as the salts draw moisture through the paint film. Salt attracts moisture even after new coats of paint are added to the surface. When freezing temperatures occur, any moisture lingering on the salt layer freezes and expands, forcing the topcoat of paint outward and causing intercoat peeling. Lack of adhesion of a topcoat over a hard shiny surface also can cause peeling.

SOLUTION: Protected surfaces should be washed with detergent to remove dirt from the paint, then rinsed with a strong stream of clean water to remove the salt deposits. When dry, remove all loose paint with a scraper or wire brush. Sand all glossy areas and remove sanding dust. Use a top-quality primer and exterior paint.
PEELING: WOOD DUE TO MOISTURE
(Exterior)

DESCRIPTION: Peeling that results when wet wood swells under the paint, causing the paint film to loosen, crack and fall off.

CAUSES: Moisture can enter the wood in a number of ways, including uncaulked joints or worn-out caulking; clogged gutters causing moisture build-up under the shingles; moisture-laden air trapped inside buildings, which rises to the surface of exterior walls when heated; damp basements; painting boards that are too close to bare ground; vegetation giving off moisture too close to the wood; leaking roofs; painting over wood damp with rain or dew; power washing on bare wood; not allowing sufficient drying time before coating.

SOLUTION: Eliminate the source of moisture. Inspect the outside of the building, paying special attention to window and trim areas and other joints. Remove loose or cracked caulk and repair with a quality product. Install vents to relieve moisture, especially in the kitchen, bathroom and laundry areas. Use attic louvers, exhaust fans and dehumidifiers where appropriate. Check for proper sealing and caulking of woodwork on the inside of home. If moisture is rising from the ground through the masonry, waterproof the foundation with a waterproofing sealer. If wood is touching the ground, remove that portion of the wood. Siding should come down no further than 6 inches above the ground. Repair leaks in roof, clean out gutters and downspouts. Remove troublesome vegetation. Use a water repellent for exposed wood where moisture could be a problem. Remove all loose paint with a scraper or wire brush, down to the bare wood if necessary. Sand rough surfaces. Seal bare wood with a primer; allow to dry one or two days before applying a high-quality acrylic latex topcoat. Peeling from moisture on siding can be corrected by inserting small plastic or aluminum wedges or shims under each board.
PEELING: WOODEN WINDOWSILLS/FRAMES

(Exterior)

DESCRIPTION: Paint that peels due to condensation around windowsills and frames.

CAUSES: Standing water on windowsills eventually penetrates the paint film. When it later evaporates, the pressure from under the film causes peeling.

SOLUTION: Remove paint by scraping and sanding and, if necessary, using a chemical stripper. Caulk where necessary to eliminate the possibility of moisture penetrating into the wood substrate. Coat the sill with an exterior primer and finish coat. When painting frames, leave a 1/16-inch edge of paint on the pane to prevent water from getting behind the film. Open vent holes in aluminum window trim. The use of storm windows and dehumidifiers helps prevent recurrence of peeling.
APPLYING LATEX TOPCOAT OVER HARD, SLICK SURFACES  
(Exterior/Interior)

DESCRIPTION: Difficulty in adhesion when painting over a non-porous surface or a surface that was not cleaned of oil, grease wax or other surface contaminants.

CAUSES: Lack of curing time after painting and poor surface preparation can cause the newly applied paint to peel. A hard or glossy surface will not have good adhesion unless it is dullled down or primed with an appropriate primer. During the curing period, latex paints are very susceptible to damage by abrasion or scratching.

SOLUTION: Prior to painting, wash the surface with a mild detergent and sponge to remove any grease, oil, wax or other surface contaminants. Dull down a glossy surface by sanding, applying a liquid deglosser or using a high-adhesion primer prior to topcoating.
BRUSH/ROLLER MARKS

(Exterior/Interior)

DESCRIPTION: Slight ridges in the dry paint film leaving the impression of the paint applicator (paintbrush or roller cover).

CAUSES: Use of poor-quality applicators, applicators that have not been cleaned properly or applicators that are not appropriate for the paint you are applying. Other causes include: pushing too hard into the surface of the wall with your brush or roller; underloading your applicator or trying to extend the paint too far; excessive brushing or rolling; applying too little paint; too porous a surface that absorbs too much coating; using the wrong type of thinner; or not allowing enough drying time between coats. Brush or roller marks will occur in paint films that dry too rapidly.

SOLUTION: Always use top-quality applicators. Choose brushes with solid, round tapered (SRT) filaments that are appropriate for the type of coating you are applying (read the applicator cover to be sure). Choose a quality roller to ensure that the roller cover will stay firmly on the roller cage. Make sure that it is appropriate for the type of paint you are applying; use a nap size that is appropriate for the surface you are covering. Smooth the surface by sanding before repainting, or else any existing brush/roller marks will show through the new coat. If the surface is too porous, apply a primer to ensure a uniform finish. When thinning paint, be sure to use the thinner recommended by your local independent paint store. Allow the paint to dry completely between coats. To make sure improper painting techniques are not the cause, ask your local independent paint store to demonstrate the correct technique.
LAP MARKS

(Exterior/Interior)

DESCRIPTION: A situation created when wet and dry layers overlap during application of paint or stain, resulting in a non-uniform appearance and inconsistency in film thickness.

CAUSES: Working too long in one area when painting; too much heat or a draft during application leading to a rapid loss of solvent and a faster drying time, resulting in a thicker film wherever overlapping occurs; too porous a surface; the use of the improper thinner. Unless a wet edge is maintained, brushing back into a semi-dry area will double the coat and result in “shiners.”

SOLUTION: Apply another coat of paint, spread uniformly, to block out the lap marks. If the finish coat is relatively transparent or the surface overly porous, a second coat or a primer coat should be applied. To avoid lap marks, work in limited areas to maintain a wet edge. Avoid painting from top to bottom, so that one section will not dry completely before starting in on the adjacent area. An exception is when painting siding shingles with natural breaking points. Avoid painting on hot or windy days. Add thinner sparingly if needed.
PAINTING OVER WALLPAPER

(Interior)

DESCRIPTION: While it is recommended to remove old wallpaper rather than painting over it, in some instances the possibility of severely damaging the wallboard or sheet rock underneath makes painting without removal the only option.

SOLUTION: All surfaces should be clean and stain-free. Re-glue or remove any loose sections of wallpaper. Make sure seams are tight. Spackle and sand any areas in need of repair. Test for dye-bleed with a finish coat. If dye shows through or the surface is stained, a prime coat is necessary. When painting over vinyl or foil wallcovering, the surface should always be primed. When dry, apply a finish coat of latex paint. In the event that bubbles appear on the surface, wait to see if the bubbles “dry back” against the wall. If they do not, slit bubbles with a razor blade, remove loose paper, spackle and sand. Repaint affected areas.
PAINTING AFTER WALLPAPER REMOVAL

(Interior)

DESCRIPTION: Failure to remove paste residue and/or residue of the wallpaper backing, resulting in staining or discoloration of the paint film.

CAUSES: Poor wall cleaning techniques after wallpaper removal can cause a newly applied paint film to not properly cure, due to chemical reactions between the resins in the film and the residual paste on the wall. Delamination of the paint film may occur, especially if a latex product is used.

SOLUTION: Use a wallpaper paste removal product and follow the instructions to ensure that all wallpaper and paste residue are completely removed from the wall and that the surface is clean. If you are unsure of the cleanliness of the surface, use a high-performance primer. If you have some damage to the drywall caused by scraping off the wallpaper, use a high-performance sealer specifically designed for sealing the surface after wallpaper removal.
PICTURE FRAMING
(Interior)

DESCRIPTION: An effect caused when the joining of brushed areas and rolled areas on a wall results in a non-uniform appearance. The darker brushed areas look like a “picture frame” around the wall due to the tendency to lay on paint more thickly with the brush. Also known as “hatbanding.”

CAUSES: Caused by excessive cutting in of the walls, corners, trim and ceiling areas with a brush or by rolling walls with a roller cover that has an extremely long nap. Also can be caused by applying a wet finish coat onto areas that have already dried.

SOLUTION: When cutting in, feather-edge the brushing of the finish coat in order to produce a coat of paint of the approximate same thickness as the coat applied later by roller. Make sure, when rolling on the finish coat, that the finish strokes of the roller meld back into the drying paint. Rather than “cutting in” the room all at once, work in small areas to maintain a wet edge and allow for more seamless blending. When using a roller on a smooth drywall surface, use a roller cover that has a nap ranging from ¼ to ½ of an inch, depending on the sheen of the finish coat being applied.
**POOR HIDING OF COLORS**  
*(Interior)*

**DESCRIPTION:** Failure of a new application of paint to hide the underlying color.

**CAUSES:** Usually caused by a radical color change from one coat to the next or by applying too little paint. Also can be caused by a poor quality paint, too porous a surface, use of a poor-quality applicator, excessive paint thinning or inadequate mixing of the paint.

**SOLUTION:** Usually an additional coat or coats of the same material and color, applied with a quality painting tool at the recommended spreading rate, will provide adequate hide. In the event of radical color change or an extremely porous surface, use a prime coat tinted close to the finish color. Refer to the recommended thinning list of the coating label or ask your local independent dealer and don’t over-thin. Keep in mind that deeper colors do not necessarily hide better than lighter tones. The degree of hiding is due largely to white hiding pigment, some of which must be removed from white bases in order to tint deeper colors. Use a top-quality paint for better hiding performance.
SAGGING
(Exterior/Interior)

DESCRIPTION: Uneven flow or leveling of paint resulting in sags, an elongated dripping pattern that mars the final finish.

CAUSES: Applying paint over a hard or glossy finish, applying too much paint, excessive thinning of paint. Painting cold surfaces also can cause sagging, as can painting in high-humidity situations.

SOLUTION: Sand glossy finishes before painting or use a liquid deglosser. Apply paint at the recommended spreading rate of the paint. Do not over-apply or overthin the paint. If sagging occurs during application, try brushing upward with long, even strokes and wiping the brush after each stroke. Do not paint a surface that feels cold to the touch or in humidity that exceeds 85 percent.
UNEVEN GLOSS  
*(Interior)*

**DESCRIPTION:** A non-uniform sheen appearance. If shiny spots are noticeable, this problem is sometimes referred to as “flashing.”

**CAUSES:** Inadequate sealing of surfaces with varying porosity. Uneven application, which results in varying film thicknesses and uneven gloss. Fog strike, or moisture on the paint film during drying, which can flatten high-gloss finishes. Temperature variations during drying. Painting over a paint film that is not thoroughly dry or that is too soft can cause uneven gloss.

**SOLUTION:** If the surface is extremely porous, a prime coat is necessary; otherwise, another finish coat, spread uniformly, might correct the problem. Some unevenness can be expected on rough surfaces, but additional coats will give better uniformity. If moisture contact has caused flattening, or if temperature variation has occurred, you will have to apply another coat of paint when moisture is not present and/or when changes in temperature are less likely. If the undercoat was not dry, allow the flattened paint to dry hard and apply another finish coat. To make sure the paint is dry, scratch the surface with a thumbnail.
WRINKLING
(Exterior/Interior)

DESCRIPTION: A rough, crinkled painted surface that usually occurs when there is interference with the normal drying time of the paint.

CAUSES: Application of a second coat before the first one is thoroughly dry; application of a hard finish over a softer coat without priming; painting in the hot sun or over too cool a surface; applying too much paint; application over a glossy finish.

SOLUTION: Remove wrinkled layers by scraping or, if necessary, by chemical paint remover. Areas stripped to the bare wood should be primed and allowed to dry completely before the topcoat is applied. To avoid wrinkling, brush out each coat thoroughly and allow it to dry completely. Don’t paint in direct sunlight or when the temperature is below 50 degrees F (40 degrees in the cause of an oil-based or alkyd paint) unless the paint is formulated for cold-weather application.
ALGAE
(Exterior)

DESCRIPTION: An unsightly green discoloration caused by the growth of a diverse group of small autotrophic organisms on the paint film.

CAUSES: Occurs in the presence of water or high humidity. Usually algae forms on the lower portion of north exterior walls, often around faucets. While it requires some indirect sunlight to grow, algae is difficult to prevent.

SOLUTION: You may use a solution of one or two cups bleach to a warm gallon of water to remove the algae, taking proper eye and skin precautions. However, due to environmental and health concerns, alternatives to bleach solutions are now available commercially to clean dirt, algae, mildew and other surface contaminants from wood and other surfaces. See your local independent paint store for a recommendation. Follow instructions carefully and be mindful of product precautions. Power-wash the surface to remove residue. Allow surface to redry thoroughly before repainting. Most exterior paints do not contain an algaecide. Keep in mind that a paint that warrantees against mildew may not contain an algaecide. Check with your independent paint store regarding the algae-resistant nature of the paint you intend to use or the availability of an algaecide paint additive.
TANNIC ACID BLEED

(Exterior)

DESCRIPTION: Stains coming from knots in soft woods such as cedar, redwood and mahogany, caused mainly by moisture and insufficient priming. Certain types of cedar and redwood “bleed” through the paint. Moisture carries water-soluble color extractives (tannic acid) contained in the wood through the film. Staining is more visible when light or medium colors are used.

CAUSES: Rain, dew, humidity or faulty roof drainage, which causes water to penetrate the paint film from the front of the siding and consequently creates diffused discoloration. Water-based house paints also can leach out tannic acid and cause diffused discoloration. Rundown or streaky discoloration occurs when water finds its way behind the siding.

SOLUTION: Locate the source of moisture and take corrective action to eliminate it. Remove loose or cracked caulking and repair with a quality caulk that does not crack, shrink or lose adhesion. Clean out clogged gutters and downspouts. Use a commercial-grade product that is recommended for removing tannin/tannic acid stains from exterior wood. Ask your independent paint store for a recommendation. Make sure the surface is clean and dry (wait at least 48 hours) before coating. Prime the dry wood with an exterior primer that is formulated to seal in stains. In case of severe staining, you may need to use two primer coats. Most tannic acid stains will penetrate the first coat of the primer in seven days. If stains do recur, reprime the stained spot, allow to dry thoroughly and then apply the finish coat. Prime the board or siding shingle edges and ends to forestall moisture from entering the wood. If staining occurs during application, sand lightly and reprime before applying the final finish. In spite of all precautions, a certain amount of bleeding is likely to occur during the first year. It is worth waiting through this period before painting, giving time for surface deposits to weather away or be washed off with detergent and water.
DISCOLORATION/APPEARANCE PROBLEMS

**FADING/POOR COLOR RETENTION**

*(Exterior)*

**DESCRIPTION:** The failure of paint to keep its original color after exposure to ultraviolet radiation and abrasion by weather or repeated cleaning.

**CAUSES:** All color pigments will fade after prolonged exposure to ultraviolet light, but certain conditions speed up the process, such as use of a poor quality paint; use of a colorant designed for interior use on an exterior surface; tinting a white paint not intended for tinting; or use of a tinting base made with chalking-type pigments. Moisture behind the paint film can eventually leach pigment from the film. Alkali burns on masonry surfaces can contribute to fading.

**SOLUTION:** Use a quality acrylic latex paint that has superior color retention. Latex finishes generally retain color better than oils or alkyds. Be sure that your paint retailer uses colorants formulated for exterior use only; an experienced independent paint store will know to do this. Correct any possible sources of moisture such as cracked caulking or clogged gutters and downspouts. Keep in mind that lighter or muted colors will last longer than darker or bright ones. On unpainted masonry, use an alkali-resistant primer that is compatible with the finish coat. On burnt surfaces, scrape away as much of the paint as possible and spot prime the bare spots with an alkali-resistant latex primer. Apply a full coat of primer after this and finish with a latex masonry paint finish coat.
MILDEW  
(Exterior/Interior)

DESCRIPTION: A microscopic fungus that grows on organic surfaces, including painted ones. Mildew discoloration, which resembles dirt, is caused by fungi feeding on the oil contained in paints or on thickeners in latex coatings. Fungi also feed on nutrients in the substrate material, under the paint film.

CAUSES: Mildew grows most rapidly in warm, humid areas with poor air circulation and little direct sunlight. Thick shrubbery planted in front of a painted surface can hinder air circulation and block out sunlight, making a perfect environment for mildew to grow.

SOLUTION: Mildew must be removed before painting in order to prevent its return. You may remove mildew from the surface by scrubbing with a solution of one to cups of household bleach per gallon of warm water shortly before painting. When working with bleach, wear rubber gloves and use eye protection. Cover plants and vegetation to protect from bleach. Allow the solution to remain on the surface for 45 minutes, then rinse thoroughly with potable water. There are an increasing number of eco-friendly commercial products on the market that remove mold, mildew and algae without the use of bleach. Ask your independent paint store for a recommendation if you would rather not use bleach. Once the surface is cleaned, allow it to dry thoroughly. Repaint with a paint that contains a mildewcide.
NAIL HEAD RUSTING  
(Exterior)

DESCRIPTION: Dark vertical lines at the bottom of siding shingles caused by rusting nail heads used to attach the siding to the exterior wall.

CAUSES: Typically occurs due to the presence of excessive moisture. Can be avoided if nail heads are coated with a rust-inhibitive primer before house paint is applied.

SOLUTION: If rust has already developed, it must be removed from each nail head with sandpaper and then a rust-inhibitive primer should be applied. If possible, countersink each nail head 1/8th of an inch below the surface and immediately spot prime. Fill primed, countersunk holes with caulk or putty. Removing the stains is almost impossible, but they usually can be hidden by another coat or two of paint. Cover the stains with a rust-inhibitive primer before applying the topcoat. The most effective preventative is the use of non-rusting nails (galvanized, aluminum or stainless steel) in construction.
STAINING FROM FLASHING
(Exterior)

DESCRIPTION: Chemical extractives in wood react with metal flashing and produce a stain below the flashing.

CAUSES: Stains also can occur in other areas where the wood surface is in contact with metal, such as outdoor faucets, air conditioners or conduits.

SOLUTION: Chemical-extractive stains normally can be removed by washing with a mild household detergent and water. To prevent the stain from recurring, fill any cracks between the flashing and wood surface with a top-quality caulk that is formulated for flashing. Let dry, then recoat.
**SURFACTANT LEACHING**

*(Exterior)*

**DESCRIPTION:** A leaching process that occurs with latex paints under certain curing conditions, resulting in a build-up of surfactants on the surface of the paint film that leave blotchy and unsightly tan-colored spots.

**CAUSES:** Painting in cool humid conditions or just prior to their arrival, such as in the late afternoon or right before a rain. If moisture collects on fresh paint before it has thoroughly dried, leaching can occur.

**SOLUTION:** Avoid painting in cool, wet conditions, in the late afternoon or when rain is in the forecast. In the event that surfactant leaching does occur, weathering removes the visible effects in most situations. If washing is necessary (most especially if areas are protected from the weather) do so only after the surface has cured and before condensation in the evening occurs. To hasten the washing process, spray with a fine mist from a garden hose. In many cases, the best solution is to do nothing and let nature take its course. The surfactant will do no harm, and time will correct the problem.
WAX BLEEDING ON HARDBOARD SIDING

(Exterior)

DESCRIPTION: Discoloration on the hardboard siding from wax or petrolatum that is used in the manufacture of hardboard siding to make it moisture-resistant.

CAUSES: Under certain conditions, the wax can migrate to the surface of the painted board, changing the appearance with a “wetting” effect. Surface wax also can retain dirt, thereby affecting the appearance of the painted surface. At high temperatures, dark color paints tend to exhibit more discoloration because of their tendency to absorb heat. Areas with inadequate coats of paint are more likely to stain because wax bleeding is seen more readily in the thin areas of the brushed or rolled surface. Paints containing low levels of binder or a nonvolatile vehicle are more porous and therefore more likely to allow wax migration from the hardboard. Southern and western exposures are often subjected to direct sunlight so a surface becomes hot and accelerates wax bleeding.

SOLUTION: Early painting prevents discoloration. Unprimed boards should be primed or painted within 30 days. Factory-primed boards should be painted within 90 days of installation. The proper amount of paint will minimize problems. On unprimed hardboard, apply a primer and two topcoats. Factory-primed hardboard should have two topcoats applied. Paints should be applied at the spreading rate recommended by the manufacturer. On unprimed hardboard, use a good-quality primer and two coats of a top-quality exterior paint.
Abrasion Resistance: Resistance to being worn away by rubbing or friction; related to both toughness and gloss.

Abrasive: A material such as sandpaper, emery paper, powdered pumice or rotten-stone that is used to wear away a surface by friction.

Absorption: Usually refers to resins penetrating (being absorbed by) a porous substrate.

Acetone: A volatile, flammable, water-soluble solvent used for clean-up.

Acid Resistance: The ability of a dry film coat to maintain its integrity and not break down when exposed to acids.

Acid Stain: A liquid stain made from organic acids that are soluble in water.

Acrylic: A synthetic resin used in high-performance water-based coatings. A coating in which the binder contains acrylic resins.

Adhesion: The ability of dry paint to attach to and remain fixed on the surface without blistering, flaking, cracking or being removed by tape. Also called Bonding.

Aerosol: A product that uses compressed gas to spray the coating from its container.

Air Cure: One method by which liquid coatings cure to a dry film. Oxygen from the air enters the film and cross-links the resin molecules. Also called Air Dry and Oxidizing.

Air Dry: See Air Cure.

Air Entrapment: Air bubbles trapped in the paint films.

Airless Sprayer: Power spray equipment that uses a pump to atomize the liquid paint and force it on to a surface.

Alcohol: A fast-evaporating, flammable solvent. The most commonly used is denatured alcohol.

Algae: An unsightly green discoloration caused by the growth of a diverse group of small autotrophic organisms on the paint film.

Algaecide: A chemical that kills algae.

Alkali: A chemical (lye, soda, lime, etc) that will neutralize an acid. Oil-based paint films can be destroyed by alkalies.

Alkali Resistance: The ability of a dry film coating to resist damage by alkalies. Especially important when coating masonry substrates.

Alkyd: Synthetic resin modified with oil. Coating that contains alkyd resins in the binder.

Alkyd–modified Urethane: See Urethane-modified Alkyd.

Alligatoring: Condition of paint film where the surface is cracked and develops an appearance similar to the hide of an alligator.

Aluminum Paint: A paint that includes aluminum particles and gives a metallic finish when dried.

Amalgamate: A chemical that reconditions old paint or lacquer. Also used to remove white rings from lacquer that were caused by heat, water or alcohol (amalgamator fluid).

Amide: A functional group that can act as an epoxy resin curing agent.

Anatase Titanium: A pigment used in alkyd paints to produce self-cleaning films that renew themselves by chalking. Rarely used today.

Anchoring: Mechanical bonding of a coating to a rough surface, as contrasted with adhesion (which is chemical bonding).

Aniline Dye: A dye, bluish in color, poisonous, made from aniline.

Anti–Corrosive Paint: Metal paint designed to inhibit corrosion. Applied directly to metal.

Anti–fouling Paint: Paints formulated especially for boat decks and hulls, docks and other below-water line surfaces and structures. Contains additives which kill the marine plants and animals that attach to and “foul” marine structures.

Antimony Oxide: An ingredient in many fire-retardant paints.

Antique Finish: A finish usually applied to furniture or woodwork to give the appearance of age.

Asphalt: Hydrocarbon product used as a protective coating, used for waterproofing road and roof surfaces. By-product of petroleum refining.

Asphaltum: Very thin asphalt.

Atomize: To break a liquid into a mist or droplets. Spray guns atomize paint by forcing the paint through a small orifice under high pressure and through air stream interaction.

Back-Prime: The process of painting the back or unexposed side of material, such as the back side of exterior window shutters.

Barrier: One of the methods whereby a corrosion-resistant primer inhibits the formation of rust on a painted metal surface. Barrier paints contain pigments that prevent air and water from penetrating the dry coating film and reaching the metal underneath.

Binder: Solid ingredients in a coating that hold the pigment particles in suspension and attach them to the substrate. Consists of resins (e.g., oils, alkyd, latex). The nature and amount of binder determine many of the paint’s performance properties—washability, toughness, adhesion, color retention, etc.

Biocide: An additive to coatings that kills plants (e.g., algae, fungus, mildew, mold) growing in or on the surface of the coating.

Bituminous Coating: A thick waterproof coating made of either coal tar or asphalt. Used on roofs and submerged metal.

Bleaching: The use of oxalic acid or other bleaching agents to lighten or restore discolored or stained wood to its original color. Loss of color, usually caused by exposure to sunlight.

Bleeding: Paint discoloration caused by leaching of subsurface dyes, acids, stains, or rust.

Blistering: The formation of bubbles or pimples on the painted surface indicating loss of adhesion.

Block Filler: Thick material used to seal rough, porous,
masonry materials and serve as an undercoat for paint.

**Bloom:** A rainbow-like surface caused by excessive humidity before the painted surface is completely dry. Will disappear on drying.

**Blushing:** White discoloration due to excessive humidity; usually affects shellac.

**Body:** The thickness or viscosity of a fluid.

**Boiled Oil:** Linseed oil which will dry faster. Formerly it was heated to make it a drying oil. Today it has chemical driers added.

**Bonding:** See Adhesion.

**Boxing:** Act of combining two or more cans or batches of paint. This ensures a consistent mix of vehicle and pigments.

**Breathe:** The ability of a dry coating film to permit the passage of moisture and vapors without damaging the film.

**Bridging:** Ability of paint to span small gaps or cracks through its cohesion and elastic qualities.

**Bristle:** The working part of a brush that carries the paint or coating. Made of natural fibers (usually animal hair) or synthetic material (nylon or polyester).

**Brushability:** Term given to a paint or other coating that indicates the ease or difficulty with which it is applied to a surface by brushing.

**Brushing Lacquer:** Lacquer formulated with slow-drying solvents to allow time for brushing without showing brush marks.

**Brush Marks:** Indentations made by brush bristles that remain in the dried paint film.

**Bubbles:** Air bubbles in a drying paint film caused by excessive brushing during application, by overvigorous mixing or poor formulation that results in air entrapment.

**Build or Build-Up:** The thickness of the coating caused by successive application of coats.

**Burning In:** Repairing a finish by melting stick shellac into the damaged places, using a heated knife blade or iron.

**Burnishing:** Glossy or shiny spots on a painted surface caused by rubbing, washing, wiping and scrubbing.

**Caking:** When pigment settles and cakes hard in the bottom of the paint can.

**Calcimine:** A water-thinned paint composed essentially of calcium carbonate (chalk) and glue.

**Calcium Carbonate:** A natural mineral used in lime, cement and paints as a colorant and a pigment extender. Its common name is chalk.

**Camel Hair:** Trade name for tail hair from various types of Russian squirrels. Used for sign writer, lacquering brushes and lettering quills.

**Carbolic Acid:** See Phenol.

**Casein:** A protein derived from souring of milk, used to make cheeses, and as an additive to paints, adhesives and plastics.

**Cat Eye:** Also called “cat face” or “fish eye.” See Holiday.

**Catalytic Coating:** A coating that cures as the result of a chemical reaction. For example, a two-part epoxy where a hardener must be added to obtain the required results.

**Caulk:** A pliable, elastic material that can withstand expansion and contraction. Used to fill voids, cracks and seams to prevent air or water infiltration. May be called a sealant. May or may not be paintable.

**Cellulose:** Short cotton fibers. When bathed in nitric acid, the resin nitrocellulose results. Nitrocellulose is the resin used most often in lacquers.

**Cellulose Nitrate:** See Nitrocellulose.

**Chalk:** Powdery substance on the surface of a coating: actually the coating itself disintegrating.

**Chalking:** The oxidation of paint, usually due to weathering, causing a powder on the film surface.

**Checking:** A kind of paint failure in which many small, hairline cracks appear in the surface of the paint. Eventually can lead to more severe cracking.

**Chemical Resistance:** The ability of a coating to resist damage by chemicals.

**China Clay:** Fine clay pigment used as an extender. It aids in abrasion resistance.

**Chinese Bristle:** Bristles from the coats of wild boars living in China and Russia, used in the highest quality natural-bristle paint brushes.

**Clay:** A common pigment extender.

**Cleanability:** The ability of a dry film coat to maintain its original appearance after repeated washing with soap and water.

**Clear Coating:** A transparent protective and/or decorative film.

**Close-grained Wood:** Hardwoods that when fully dry do not show pores. Cherry, birch and maple fall into this group.

**Clouding:** Murky, dull, or uneven luster or color in clear coats. Generally caused by precipitation of insoluble matter or resin seeding.

**Coal Tar Solvent:** Solvents made from distillation of coal tar such as benzene, toluene, xylene and naphtha.

**Coalescent Aid:** The small amount of solvent contained in latex coatings. The coalescent aid simply helps the latex resins to flow together (coalesce) after the water evaporates.

**Coalescing:** The film formation step of an emulsion paint after the water evaporates. Latex particles coming together to form a continuous film.

**Coating:** A paint, varnish, lacquer or other finish used to form a continuous film.

**Cohesion:** A bonding together of a single substance to itself. Internal adhesion.

**Cold–checking:** Checking caused by hot and cold temperatures cycling of lacquers.

**Cold Cracking:** Cracking caused by hot and cold tempera-
tures or cold/ambient cycling.

**Colorant:** Concentrated color that can be added to paints to make specific colors.

**Colorfast:** Non-fading in prolonged exposure to ultraviolet radiation.

**Color Retention:** The ability of paint to keep its original color. Major threats to color retention are exposure to ultraviolet radiation and abrasion by weather or repeated cleaning.

**Color Uniformity:** Ability of a coating to maintain consistent color across an entire surface, particularly during the weathering process.

**Combustible:** Any liquid with a flash point at or above 100°F.

**Conditioner:** A coating additive that increases flow, adhesion and coverage without altering the color or durability of the coating. Used especially when spraying. Sometimes called slip.

**Consistency:** See Viscosity.

**Conventional Sprayer:** A power paint sprayer that uses compressed air (produced by an air compressor) to force paint onto a surface.

**Copper Staining:** Usually caused by corrosion of copper screens, gutters or downspouts washing down on painted surfaces. Can be prevented by painting or varnishing the copper.

**Corrosion-Inhibitive:** A type of metal paint or primer that prevents rust by preventing moisture from reaching the metal.

**Corrosion-Resistant:** A paint or primer that aids in the prevention of corrosion. Commonly applied to metals.

**Coverage:** The area over which a given amount of paint will spread and hide the underlying surface. Also called Spread Rate. Usually expressed in square feet per gallon.

**Cracking:** Splitting of a coating usually due to aging paint. It can also be caused by subsurface expansion under a brittle topcoat.

**Cratering:** Small depressions in dried paint film caused by pockets of air or entrapped solvent in the wet paint film.

**Crawling:** Uneven paint film caused by the wet paint receding from small areas during the drying process, leaving it virtually uncoated.

**Crazing:** A network of very fine shallow cracks on the surface of a coating film. Also a condition of plaster, concrete, ceramic, etc. where cracks form under the surface to produce a micro-fissure effect like a cobweb.

**Creeping:** Spontaneous spreading of a liquid on a surface. In the case of an applied paint or other coating, it refers to the spread of the wet film beyond the area to which it was applied.

**Creosote:** A liquid coating made from coal tar that was used as a wood preservative. It has been banned because of potential health risks.

**Cure, Curing:** The process whereby a liquid coating becomes a hard film.

**Custom Color:** Special colors made by adding colorant to paint or by intermixing colors, which permits the retailer to match a color selected by the consumer.

**Cutting In:** Carefully painting an edge or border, such as where a wall meets the ceiling or at the edge of woodwork.

**Dead Flat:** No gloss or sheen.

**Deglosser:** A liquid chemical used to remove the gloss from a coated surface and give it “tooth” so that a coating applied to it will adhere better. Also called Liquid Sander and Liquid Sandpaper.

**Degreaser:** Cleaning product used to remove grease, oil and dirt from asphalt and concrete surfaces.

**Density:** Weight per unit volume (pounds per gallon).

**Diluent:** A liquid used in coatings to reduce the consistency and make a coating flow more easily. The water in latex coatings is a diluent. A diluent may also be called a Reducer, Thinner, Reducing Agent or Reducing Solvent.

**Drag:** The failure of a paint or coating to slide off the brush or roller evenly and smoothly.

**Driers:** Various compounds added to coatings to speed the drying.

**Dry Colors:** Powder-type colors to be mixed with water, alcohol or mineral spirits and resin to form a paint or stain.

**Dry Dust-Free:** Stage of drying when particles of dust that land on the surface do not stick to the paint film.

**Dry Tack-Free:** That stage of drying when the paint no longer feels sticky or tacky when lightly touched.

**Dry to Handle:** Paint that has dried sufficiently to be handled without being marred.

**Dry to Recoat:** Paint that is dry enough to receive the next application.

**Dry to Sand:** That stage of drying when a paint film can be sanded without the sandpaper sticking or clogging.

**Dry to Touch:** Paint that has dried enough that light touching will not leave paint on fingers.

**Drying Oil:** An oil that when exposed to air will dry to a solid through chemical reaction with air. Examples include linseed oil, tung oil, perilla, fish oil and soybean oil.

**Drying Time:** Time required for a coating to dry once it’s been applied.

**Drywall Compound:** A paste used to repair plaster and drywall.

**Drywall Tape:** See Joint Tape.

**Dull Finish:** Just a little gloss, almost dead flat.

**Durability:** The ability of coating to last or hold up well against destructive agents such as weather, sunlight, detergents, air pollution, abrasion or marring and continue to look attractive.

**Dye, Dyestuff:** A colored material used just to change color, with little or no hiding of the underlying surface.

**Dye Colors:** Colors that are dissolved, not mixed with water,
alcohol or mineral spirits, to form a transparent coating or stain. **Ease of Application**: Features of the coating which, in combination, determine how easy it is for customers to apply the coating.

**Ease of Clean-up**: Characteristics of the coating that determine how easy and convenient it will be for customers to clean tools and hands after applying the coating.

**Edger**: A pad applicator designed for applying paint at edges, e.g., at ceiling lines, where walls meet, at the junction of walls and molding.

**Edging**: Act of stripping in or painting near the edge of a surface, such as the wall intersection at ceiling, doorway or window.

**Efflorescence**: Salt rising to the surface of masonry or plaster or cement. Paint will not adhere.

**Eggshell**: The sheen or luster of a painted finished surface that resembles that of an eggshell. The degree of gloss between a flat and semi-gloss finish.

**Elasticity**: The ability of paint to expand and contract with the substrate without suffering damage.

**Emulsion Paint**: Coating in which resins are suspended in water, then flow together with the aid of a coalescent aid, as in latex paint.

**Enamel**: Broad classification of paints that dry to a hard, usually glossy finish.

**Environmental Protection Agency (EPA)**: A branch of the federal government responsible for protecting the physical environment.

**Epoxy**: Extremely tough and durable synthetic resin used in some of the catalytic coatings. Epoxy coatings are highly resistant to chemicals, abrasion, moisture and alcohol. Also a two-part adhesive.

**Erosion**: The wearing away of a coating film caused by exposure to the weather.

**Ester**: The organic compound group that results when an alcohol and an organic acid react, usually as water is eliminated.

**Ester Gum**: A synthetic resin made from rosin or rosin acids and a polyhydric alcohol.

**Etch**: Surface preparation by chemical means to improve the adhesion of coatings. Usually an acid etch.

**Evaporation**: The process of a liquid becoming a gas.

**Extender**: Ingredients added to paint to increase coverage. Less expensive than prime hiding pigments such as titanium dioxide. Examples: Calcium carbonate, clay, gypsum, silica and talc. May also improve coating performance.

**Exterior**: The outside surface of a structure.

**Fade Resistance**: See Color Retention.

**Fading**: The loss of color due to exposure to light, heat or weathering.

**Fat Edge**: A term used to describe a buildup of paint on the edge of an object, caused by poor painting techniques.

**Feathering**: Blending the edges of a finished area by lifting the brush at the end of the stroke so that the edge becomes indefinite. Also, sanding a dry film, tapering the edge smooth with the underlying substrate.

**Ferrous Metal**: A metal that contains iron. Because iron is subject to rust, special primers are required.

**Ferrule**: The metal band that connects the handle of a paint brush to the bristle portion of the brush.

**Filler**: An ingredient added to a coating to provide certain qualities. Also, a material used to fill holes, pores and cracks in a surface before the application of paint. See Wood Filler and Block Filler

**Filler Strips**: Strips made from specially treated wood, metal, fiber or plastic built in the center of a paint brush, creating a reservoir for paint, there by greatly increasing the paint-carrying capacity of the brush.

**Film**: Layer or coat of paint or other coating applied to a surface.

**Film Build**: Amount of thickness produced in an application. Thousandths of an inch of dry film per mills of applied wet film. (1 mil = 0.001 inch)

**Film Formation**: The process whereby a liquid coating forms a continuous dry film. Common film-forming methods include emulsion (latex) and oxidation (alkyds).

**Film Integrity**: Integrity or continuity of the paint film, i.e. no holes or holidays.

**Film Thickness**: Depth or thickness of the dry coating in thousandths of an inch (mils).

**Finishing Oil**: A natural oil usually used in finishing furniture. Examples: Danish oil, linseed oil, tung oil, Swedish oil.

**Filter**: Cloth or other media used to remove particles from a liquid substance. Paint should always be filtered before being used in spray equipment.

**Finish Coat**: Last coat of paint or other finish.

**Fire Resistance**: The ability of a coating to withstand fire or to protect the substrate to which it is applied from fire damage.

**Fire Retardant**: A coating that will (1) reduce flame spread, (2) resist ignition when exposed to high temperature and/or (3) insulate the substrate and delay damage to the substrate.

**Flagged**: Paint brush bristle tips which are split.

**Flaking**: The detachment of pieces of paint from the substrate, caused by a loss of adhesion and elasticity. Also known as Cracking or Scaling.

**Flammability**: Any liquid with a flash point below 100° F. Also, many mixtures which have ingredients with a flash point at or above 100°.

**Flash**: Color or gloss variation. Paint is sucked into the surface at different rates. Usually caused by inadequate priming/sealing.

**Flash Point**: The measurement of a liquid’s ability to ignite. The temperature at which the vapor above a coating or
solvent will ignite.

**Flat**: A paint, usually interior type, that dries to a lusterless finish. Best for hiding surface imperfections. Ideal as a topcoat or as an undercoat for translucent semi-gloss and full gloss paints.

**Flat Applicator**: A rectangular-shaped flat pad with an attached handle. Used to paint shingles, shakes and other special surfaces and areas. Also called a Pad Applicator.

**Flattening Agent**: Pigment added to reduce gloss or give a “rubbed” look. Some flattening agents are zinc stearate, silica and talc.

**Flexibility**: Degree to which a coating, after drying, is able to conform to movement or deformation of its supporting surface, without cracking or flaking.

**Floating**: Separation of pigment colors on the surface of applied paint.

**Floor Varnish**: Varnish formulated to produce an abrasion-resistant, smooth, lustrous finish for floors.

**Flow**: The ability of a coating to spread into a smooth film. Paints that have good flow level out uniformly and show few brush or roller marks.

**Forced Dry**: Baking the paint between room temperature and 150° F to speed the drying process.

**Fungicide**: An agent that helps prevent fungus and spore growth on paint.

**Fungus**: Plants that grow in or on a coating and cause discoloration. Mildew and mold are both fungi.

**Galvanization**: Process in which a thin coating of zinc is applied to iron or steel to prevent rust.

**Ghosting**: Nonuniform sheen of paint resulting in a shadowed effect. Usually caused by lack of a primer or sealer or poor quality ones.

**Gilsonite**: A natural, hard asphaltum sometimes used in stains, baking enamels and electrical insulating varnishes.

**Glaze**: A term used to describe several types of finishing materials. (1) A thin, transparent solvent-based coating that dries to a flat finish. (2) A glazing stain is a pigmented stain applied over a stained, filled or painted surface to soften or mask or cover the surface. (3) A glaze coat is a clear finish applied over previously coated surfaces to create a glossy finish.

**Glazing Compound**: A putty used to set glass in window frames and to fill nail holes and cracks.

**Gloss**: The luster or shininess of paints and coatings, generally classified as flat, eggshell, satin, semi-gloss or gloss; the latter has the highest reflective ability.

**Gloss Meter**: A device for measuring the light reflectance of coatings. Different brands with the same description (such as semi-gloss or flat) may have quite different ratings on the gloss meter.

**Gloss Oil**: Varnish composed of limed rosin and petroleum thinner. Dries to a high shine.

**Gloss Retention**: The degree to which a coating retains its original shininess.

**Glossy Finish**: Coatings that do not contain flattening agents and dry to a hard, glass-like gloss.

**Grain Raising**: The swelling of wood fibers when they absorb water or solvents.

**Graininess**: Paint film that does not dry smooth. It looks as if sand were mixed in.

**Ground Coat**: First or prime coat used as a base for all other coats of paint.

**Gypsum**: Calcium sulfate, used as a pigment extender and in the manufacture of wallboard and plaster of Paris.

**Hard Oil Finish**: Any interior varnish that dries to an extremely hard film with a moderate or high luster, as if rubbed with oil.

**Hardness**: The ability of a paint film to resist denting, scratching or color.

**Hardboard**: Reconstituted natural wood, fabricated by reducing natural wood to fibers and then pressing the fibers together into panels of various thicknesses.

**Heat Resistance**: The ability of a coating to remain intact and undamaged after exposure to a predetermined elevated temperature.

**Hide, Hiding Power**: The ability of the paint or coating to mask or cover the surface.

**High-pressure Washer**: See Power Washer.

**Hold–Out**: The ability of a paint film to dry to its normal finish on a somewhat absorptive surface.

**Holiday**: Application defect that leaves voids in the dried paint film.

**Hot Spots**: Lime spots that are not completely cured and bleed through the coating on a plastered wall.

**House Paint**: Exterior paint formulated to withstand the elements. It is primarily used on houses, barns, fences and other outbuildings.

**Humidity**: Moisture content of the air relative to the temperature.

**Hydrolysis**: See Saponification.

**Ignitable, Ignitability**: Able to burn; the ability of a substance to burn.

**Impact Resistance**: The ability of a coating to resist being deformed by a blow or impact.

**Inert**: A material that will not react chemically with other...
Inorganic: Composed of matter other than plant or animal; not arising from natural growth.
Insoluble: Not soluble; cannot be dissolved.
Intercoat Adhesion: How well primer and topcoat attach to each other.
Interior: The inside surfaces of a structure.
Intermediate Coat: The coating between the primer and topcoat, often called a barrier coat.
Intumescence: A mechanism whereby fire-retardant paint protects the substrates to which they are applied.
Iron Oxide: A common paint pigment.
Joint Cement: Paste-like metal used for drywall construction, as a bedding compound for joint tape, and as a filler for nail holes. Also called Joint Compound.
Joint Compound: See Joint Cement.
Joint Tape: Special paper, or paper/cotton or fiberglass tape used over joints between wallboard to conceal the joint and provide a smooth painting surface.
Kalsomine: See Calcimine.
Ketone: Organic compound or solvent; highly flammable. Acetone is one example.
Knot Sealer: Liquid coating designed to seal the tannic acids in wood knotholes and keep them from discoloring a coating.
Lacquer: A fast-drying clear or pigmented coating that dries by solvent evaporation.
Laitance: Milky-white deposit on new concrete, caused by lime and salts rising to the surface with the evaporating water. Paint will not stick to it.
Lap: To apply or place one coat so its edge extends over and covers the edge of a previous coat, causing an increased film thickness.
Latex: General term used for water-based emulsion paints made with synthetic binders. A stable emulsion of polymers and pigment in water.
Latex Putty: See Water Putty.
Lead: A metal, previously used as a pigment in paints. Discontinued as a pigment because of its toxicity. Now used in limited amounts in commercial coatings as a pigment.
Lead Oxide: Lead monoxide and red lead; basically, lead combined with oxygen, used as a pigment and rust-preventer.
Length: Usually oil length. Another term for oil content.
Leveling: Ability of a film to flow out, free from ripples, pockmarks and brush marks.
Lifting: The softening and penetration of a previous film by solvents in the paint being applied over it. Results in raising and wrinkling.
Lightfastness: No loss of color due to exposure to sunlight.
Light Reflectance Value (LRV): The numerical value associated with the amount of light reflected off a dry film coat; the measurement is obtained by using a gloss meter.
Linoleum Varnish: Varnish formulated to be highly elastic and flexible.
Linseed Oil: A drying oil used as a solvent in many oil-based paints.
Liquid Driers: Solution of soluble driers in organic solvents.
Liquid Sander, Liquid Sandpaper: A liquid chemical used to remove the gloss from a coated surface and give it “tooth” to attach to a new coating. Also called Deglosser.
Long Oil: Term used to describe a resin that contains more than 60-percent oil.
Long–oil Varnish: A high oil-content varnish with a slower drying time and a more elastic dry film than short-oil varnish.
Marine Paint: Coating specially designed for immersion in water and exposure to marine atmosphere. Also called Spar Varnish.
Masking: Covering an area that will not be painted.
Masking Tape: A strip of tape, used to temporarily cover areas that are not to be painted.
Masonry: Building materials such as brick and stone.
Mastic: A heavy-bodied, paste-like coating often applied with a trowel.
Medium Oil: Resin that contains 40- to 60-percent oil.
Metals: Paints that contain metal particles or flakes.
Metamerism: The phenomenon in which two colors appear to match under one type of light and may not match under another.
Mil: 0.001 inch.
Mildew: Microscopic plant growth on damp surfaces in warm climates.
Mildew Resistance: The ability of a coating to resist the growth of molds and mildew.
Mildewcide: Chemical agent added to a coating that destroys mildew.
Mineral Spirits: Paint thinner with solvent distilled from petroleum.
Misses: Voids or skips in a painted surface.
Mist Coat: Very thin spray coat.
Mobility: Ease with which the paint flows.
Moisture Meter: Device used to measure the water content in wood, plaster and concrete.
Moisture Resistance: The ability of a coating to resist being damaged by moisture.
Mottling: Spotty round marks producing a blotchy or patchy effect.
Mud–cracking: Paint or plaster applied too thick; cracks like dried mud.
Nail Head Rusting: Rust from iron nails that penetrates or bleeds through the coating and stains the surrounding area. Sometimes referred to as flash rusting when it occurs with prime or first coats.
Nap: The length of fibers in a paint roller cover.
Naphtha: A petroleum distillate used mostly by professionals...
for clean-up and to thin solvent-based coatings. A volatile organic compound.

**Natural Resins**: Resins from trees, plants, fish and insects. Examples: damars and copals.

**Nitrocellulose**: A resin used in the binder of a coating. Made by bathing cotton fibers (cellulose) in nitric acid. The most important ingredient in lacquers. Also called Cellulose Nitrate and Pyroxylin.

**Nonvolatile**: The portion of a coating left after the solvent evaporates; sometimes called the solids content.

**Oil-modified Urethane**: Air-drying type of urethane that contains no hardeners.

**Oil Resistance**: The ability of a coating to resist damage by oils.

**Oil Stain**: There are two types of oil stains, penetrating and non-penetrating. Penetrating oil stains contain dyes and resins that penetrate the surface; non-penetrating oil stains contain larger amounts of pigments and are usually opaque or translucent.

**Opacity**: Ability of a coating to hide or conceal the underlying surface. Light cannot penetrate an opaque coating.

**Opaque**: See Opacity.

**Open-grained Wood**: Wood in which the pores are easily seen (e.g., walnut, oak, mahogany).

**Orange Peel**: Film having the roughness of an orange due to poor roller or spray application.

**Organic**: Derived from living matter, either plants or animals.

**Overcoat**: The top or finish coat.

**Overlap**: What happens when each pass of the roller, brush, or spray overlaps or covers a portion of the previously applied coating.

**Overspray**: Sprayed paint that doesn’t land on the targeted areas of the item being painted.

**Overspreading**: When a painter covers more square footage with a coating than is intended by coating manufacturer.

**Oxidation**: Chemical reaction upon exposure to oxygen. Some coatings cure by oxidation, when oxygen enters the liquid coating and cross-links the resin molecules. This film-forming method is also called Air Cure and Air Dry. Oxidation also causes rust on metals and chalking paint.

**Oxidizing**: A method of film-formation. See Air Cure.

**Pad Applicator**: See Flat Applicator.

**Padding**: Act of applying stain, lacquer, or polish to a surface with a padding pad, using a pendulum motion to wipe material on a surface.

**Paint**: A coating including resin, a solvent, additives, pigments and, in some products, a diluent. Paints are in general opaque.

**Paint Mitt**: A paint applicator shaped and worn like a mitten, used most commonly to coat tubular objects like pipes.

**Paint Remover**: A chemical that softens old paint or varnish and permits it to be easily scraped off.

**Paint Thinner**: See Mineral Spirits.

**Patching Compound**: Material used to repair damaged plaster walls.

**Patching Plaster**: A special plaster made for repairing plaster walls. Dries hard, is inflexible. Will not attach to alkyd or oil-based coating.

**Peeling**: Paint film that peels off in large segments.

**Pentaerythritol**: A polyhydric alcohol used in the manufacture of epoxies, phenol-formaldehyde resins, plasticizers, plastics and wood preservatives. Also known as Carbolic Acid.

**Phenolic**: A type of varnish that contains phenolic resins.

**Pigment**: Insoluble, finely ground materials that give the paint its properties of color and hide.

**Pigment Extender**: See Extender.

**Pigment Volume Concentration (PVC)**: Pigment as a percentage of total nonvolatile ingredients.

**Pigmented Wiping Stain**: Oil-based stains that contain pigments.

**Pinholing**: Also call “pitting.” Small holes in the paint film. May be caused by changes in atmospheric conditions during drying cycle, mixing noncompatible materials or poor surface preparation.

**Plaster of Paris**: A quick-setting, white powder that is mixed with water. Used to fill holes and cracks in interior walls and to set bathroom wall fixtures such as towel racks.

**Plastic Finish**: The appearance given to articles coated with varnish, lacquers, vinyls, acrylics, and polyurethanes.

**Plugs**: See Filler Strips.

**Pockmarks**: Depressions in the paint.

**Polishing**: Shiny spots on surfaces that have been rubbed or scrubbed to a shine. The act of rubbing or scrubbing.

**Polymer**: Substance, the molecules of which consist of one or more structural units repeated any number of times; Vinyl resins are examples of true polymers.

**Polymerization**: The interlocking of molecules by chemical reaction to produce very large molecules. The process of making plastics and plastic-based resins.

**Polyurethane Finish**: An exceptionally hard and wear-resistant coating made by the reaction of polyols with a
multifunctional isocyanate.

**Polyvinyl Acetate**: A synthetic resin used in the binders of many latex coatings. Commonly abbreviated PVA.

**Polyvinyl Butyral**: Synthetic resin, usually abbreviated PVB.

**Polyvinyl Chloride**: A synthetic resin used in the binders of coatings. Tends to discolor under exposure to ultraviolet radiation. Commonly called vinyl or vinyl chloride resins.

**Porous**: A surface that contains small pores or holes and will readily absorb gases or liquids.

**Powdering**: Term usually refers to varnish that through age and exposure, crumbles into a powder or dust. It can also be synonymous with chalking.

**Power Washer**: Machine that converts low pressure water to high pressure. Used to clean or remove paint from a surface prior to painting. Also called a Water Blaster, Spray Cleaner, Spray Washer and High Pressure Washer.

**Preservative**: A protective coating designed for use on wood substrates. According to the Environmental Protection Agency, a product must contain a fungicide in order to be labeled a preservative.

**Primer**: The first coat or undercoat applied to the substrate. Usually contains some pigments.

**Primer–Sealer**: A coating that combines the features of a primer and the characteristics of a sealer.

**Primer–Topcoat System**: The primer and topcoat which a particular coatings manufacturer recommends for use together.

** Priming**: The act of applying primer.

**Propellant**: The gas used to expel materials from aerosol containers.

**Protective Life**: Time interval from application of a coating to the point when the coating no longer protects the surface.

**Pryroxylin**: See Nitrocellulose.

**Pumice**: Fine abrasive for varnish or enameled surfaces.

**Putty**: See Wood Putty.

**Putty Coat**: One of the terms given to the final smooth coat of plaster.

**Raw Oil**: Oil separated from solvent in solvent extraction process.

**Reactivity**: Usually refers to a reaction when two or more chemicals are mixed. Also, in reference to pigments: pigments that react to drying oils to form zinc and lead soaps; pigments (such as red lead) that react with acids formed at a metal surface to prevent rust.

**Re–coat Time**: Minimum waiting time before the next coat of paint may be applied. The time is usually specified on the label of the coating being used.

**Reducer**: See Thinners.

**Refined Shellac**: Orange or white shellac from which the wax has been removed.

**Reflectance**: See Light Reflectance.

**Remover**: A liquid or paste formulated to attack and destroy the paint or paint-to-surface bond so that the paint can be removed.

**Resin**: Synthetic or natural material used as the binder in coatings. Examples: Acrylic, alkyd, epoxy, polyurethane, polyvinyl chloride and silicone.

**Retarder**: A chemical added to a coating to slow down the curing process.

**Ropey**: Dry paint film that contains brush marks or ridges.

**Rubbed Finish**: Film of varnish, lacquer or other clear coating, rubbed to smoothness and a low luster by careful rubbing with pumice or with extremely fine waterproof sandpaper.

**Runs**: Uneven flow or leveling of paint resulting in sags. Caused by applying too much paint at one spot or spray painting too close to surface.

**Rust**: The corrosion product formed when ferrous metals, mainly iron, oxidize. Must be removed before painting because paint won’t adhere to it.

**Sags**: Excessive flow, causing runs or sagging in paint film during application. Usually caused by applying too heavy a coat of paint or thinning the paint too much.

**Sal Soda**: Crystallized sodium carbonate, used for making cleaning solutions to remove grease and grime from old painted surfaces.

**Sand Down**: Act of removing gloss from a surface via chemicals or abrasives. It cleans and abrades the surface so that new paint adheres.

**Sand Finish**: Pebble or sand-like texture applied to wall surface. Usually plaster but can be textured paint.

**Sandblast**: Abrasive cleaning of a surface by blowing sand against it at high velocity.

**Sand Sealer**: Sealer formulated to make sanding easier. It hardens wood fibers so they cut off rather than bending out of the way.

**Sap–streak**: Pockets of pure pitch often found in coniferous trees, frequently exposed when sanding and planing. The pitch must be sealed off (usually with shellac) before applying most finishes.

**Saponification**: Chemical reaction between alkali and oil that produces a type of soap. Because of saponification, oil-based and alkyd coatings will not adhere to masonry substrates, galvanized metals or zinc-rich primers.

**Satin Finish**: Having a luster between flat and semi-gloss.

**Scale**: Thin layers of flaking rust. Must be removed before prime or other coating is applied.

**Scrub Resistance**: See Scrubbability.

**Scrubbability**: The ability of a coating to maintain its original hide, gloss and color after being scrubbed or washed with an abrasive soap.

**Scuff Sand**: Very light sanding of surface.

**Sealant**: See Caulk.
Sealer: A thin liquid applied to seal a surface, to prevent previous paint from bleeding through from the surface or to prevent undue absorption of the topcoat into the substrate.

Seeds: Small undersized particles or granules other than dust found in a paint, varnish or lacquer.

Self-cleaning: A feature of certain exterior paints, whereby the dry film coats restore themselves.

Self-leveling: The ability of a coating to flow into the indentations left by brushes and rollers and dry to a smooth finish.

Semi-gloss Finish: Finish that has a low luster sheen.

Set: The initial hardening of a finishing material sometimes called “dust-free” after which settling dust will not cling.

Setting: A compound or adhesive used to bond the bristles of a paintbrush to the ferrule of the brush.

Settling: A process by which pigment separates from other coating ingredients and cakes or settles at the bottom of the can.

Set-up: A paint film that has set or filmed over and hardened.

Shadowing: Also called “show-through,” prior coating showing through the new coating due to the low pigment content of high-gloss coatings or inexpensive paints. May also be due to applying a light color over a darker color. Can also be caused by oil, grease or a previous stain bleeding through.

Shine: See Gloss.

Shelf Life: Usable life of product before it deteriorates. Applies to both unopened and opened cans of paint and other coatings or bags of dry coating mix.

Shellac: A coating made from purified lac dissolved in alcohol, often bleached white.

Shiner: A glossy spot on an otherwise non-glossy surface. Can be caused by spot-priming patched areas, poor wet-edge lapping or spot-painting with poorly mixed or unmatched paint.

Short Oil: Resin which contains less than 40-percent oil.

Silica: Ground sand or ground quartz used as a pigment extender.

Silicone: A resin used in the binders of coatings. Also used as an additive to provide specific properties, e.g., defoamer. Paints containing silicone are very slick and resist dirt, graffiti and bacterial growth.

Size: A sealer, usually applied before applying wallpaper.

Skin: The film or top layer that forms when paint dries.

Skippity: A paint that is too thick and heavy, making it skip on some surface areas while piling up on others.

Slip: The opposite of friction. The term given to a coating which appears to be lubricated. Such coatings may, in fact, contain lubricants (as additives), which rise to the surface of the dry film.

Slip Under The Brush: A paint that is slippery or acts too lubricated to apply, making it difficult to control application.

Slow-dry: A paint or coating that takes more than 24 hours to dry before it can be repainted, sanded, etc.

Softwood: Wood from coniferous trees. Also, the softer areas of woods which are notably less dense in some areas than in others. Examples: Fir plywood or rotary cut veneers.

Solids: The part of the same coating that remains on the surface after the vehicle has evaporated. The dried paint film. Also called Nonvolatile.

Soluble: Able to be dissolved.

Solvent: Any liquid that can dissolve a resin.

Spackling Compound: A material used as a crack filler for preparing surfaces before painting.

Spall: Paint that breaks up into small chips.

Spar Varnish: See Marine Paint.

Spattering: Droplets of paint that spin or mist off the roller as paint is being applied.

Spectacular Gloss: Mirror-like finish.

Spirit Stain: A solvent-based stain containing alcohol as the solvent.

Splitting: A defect in a painted surface that results when the solvents contained in a fresh coat of paint penetrate into the old paint. Likely to occur when the old layer has been sanded too much.

Spot-prime: To apply primer to those areas where the surface has been stripped by physical or chemical means.

Spray: Application method that uses an aerosol, an airless power sprayer or a conventional power sprayer.

Spray Cleaner: See Power Washer.

Spray Washer: See Power Washer.

Spread Rate: The amount of surface a given quantity of paint will cover. Usually measured in square feet per gallon.

Spreadability: See Flow.

Stain: A coating usually used to change the natural color of wood; absorbed into the substrate rather than resting on the surface (like paint).

Stain Resistance: The ability of a coating to survive exposure to stains without incurring damage.

Stearate: A soap that can prevent a coating from adhering to a surface. Some wood fillers contain stearates.

Strip: To completely remove old finish from the surface by mechanical or chemical means.

Styrene: A chemical used to make synthetic resins and elastomers. One of the ingredients is styrene-butadiene, a latex resin.

Substrate: Any surface to which a coating is applied.

Surface Tension: The property of a coating that makes it tent to shrink when applied.
Synthetic: Man-made.
Tack: Slight stickiness on the surface of the paint before it is set.
Tack Cloth, Tack Rag: A piece of fabric impregnated with varnish, oil or a solvent so that it remains permanently sticky under proper storage, and can be used to remove minute dust particles from a surface to be finished.
Tacky: A paint film that has dried to the point where dust will not stick, but it is not yet set hard.
Talc: Extender pigment, white in color, with a slippery feel. Magnesium silicate.
Tar: Residue from distillation of coal, wood, shale or peat. It’s used as waterproofing below-ground on walls, pools and lumber.
Thinner: Solvents used to thin coatings.
Thixotropy: Property of a material that causes it to change from a thick, pasty consistency to a fluid consistency upon agitation, brushing or rolling.
Through Drying: Term used to denote that the paint has dried completely, usually several hours to weeks after application.
Tie Coat: A coating formulated to be an intermediate coat between two non-bonding coatings. An intermediate bond coat.
Tint: A lighter hue variation, created by adding white.
Tint Base: The basic paint in a custom color system to which colorants are added.
Tinting: Act of changing the intensity of a color that is not saturated by adding white.
Titanium Dioxide (TiO2): White pigment in virtually all white paints. Prime hiding pigment in most paints.
Toluene, Toluol: A solvent used most often by professional painters to thin lacquers. A volatile organic compound.
Tooth: The holding power of a substrate, surface or primer due to a slight roughness.
Topcoat: The last or final coating of a paint or varnish, sometimes referred to as “overcoat.”
Touch up: Applying paint to small sections of a surface to obtain an even, unbroken coating film.
Translucent: A coating that admits some light; between opaque and transparent.
Transparent: A coating that light can penetrate; one which shows the surface underneath.
Trisodium Phosphate (TSP): An alkaline substance used as a cleaning compound. Environmental laws prohibit its sale in some regions. Because it contains phosphate, a fertilizer, it encourages the growth of mildew and mold.
TSP: See Trisodium Phosphate.
Tung Oil: Oil of the tung tree, used as a drying oil in fine wood-finishing coatings.
Turpentine: Distilled pine oil, used as a cleaner, solvent, or thinner for oil-based and alkyd coatings.

Ultraviolet Radiation (UV): an invisible form of solar energy that causes degradation to wood and other surfaces.
Undercoat, Undercoater: A coating that is not the top or final coating of paint.
Undertone: A subdued color; a color that modifies another color. The color of paint viewed through transmitted (reflected) light. It may be caused by using a topcoat that’s too thin or that’s lacking in solids.
Urethane: A resin used in the coatings industry. A true urethane coating is a two-component product that cures when an isocyanate (the catalyst) prompts a chemical reaction that unites the components. Also see Urethane-modified Alkyd.
Urethane-modified Alkyd: Not to be confused with a true urethane, an alkyd molecule that has been chemically modified by the incorporation of a urethane. A coating, often a varnish, which uses a urethane-modified alkyd resin in the binder.
U.S. Gallon: Four liquid quarts, eight liquid pints or 128 ounces. The Canadian, or Imperial gallon, is comprised of eight 20-ounce pints, or 160 ounces.
Useful Life: Life expectancy of a coating before refinishing is required.
UV: See Ultraviolet Radiation.
UV Inhibitor: Coating additives that absorb or reflect UV radiation and prevent it from damaging the substrate under the coating.
UV Resistance: The ability of a coating film to endure prolonged exposure to ultraviolet radiation without suffering damage.
Varnish: A large class of coatings, most of which dry to a hard and very durable film, usually clear or amber. Usually applied to wood. May be solvent-based or water-based.
Varnish Stain: Varnish in which dyes are dissolved to provide color along with a protection.
Vegetable Oil: Oil obtained from vegetable products such as linseed, soybean, hemp seed, tung, castor or perilla. Used as drying oils and solvents.
Vehicle: Portion of a coating that includes all liquids and the binder. The vehicle and the pigment are the two basic components of paint.
Vinyl: See Polyvinyl Chloride or Polyvinyl Acetate.
Viscosity: The thickness or resistance to flow of a paint. Also called Consistency.
VOC: See Volatile Organic Compound.
Volatile Organic Compound: Organic chemicals that are emitted as gases from solids or liquids. Measured in grams per liter and controlled by the EPA or other government agencies.
Volume Solids: Solid ingredients as a percentage of total ingredients. The volume of pigment plus binder divided by the total volume, expressed as a percent. High volume solids...
mean a thicker dry film with improved durability.

**Washability**: Ease with which washing will remove dirt from the paint’s surface without causing damage.

**Water-based**: Coatings in which the majority of the liquid content is water.

**Water Blaster**: See Power Washer.

**Waterborne**: See Water-based.

**Water Putty**: A water-based material that is used to repair damaged wood and concrete.

**Water-reducible**: A method of film formation. Water-based coatings which use this film-forming method.

**Water Resistance**: The ability of a coating to remain a solid, protective film after exposure to water.

**Water Spotting**: Spots left behind when water evaporates. Most likely white or brown in color. Caused by dissolved minerals remaining on the surface.

**Weather Etch**: Leaving a new metal exposed to weather for several months, allowing the environment to naturally roughen the surface, thus preparing it to adhere to a coating.

**Weather Resistance**: The ability of a coating to remain intact and attractive after prolonged exposure to weather, e.g., extreme temperatures, temperature changes, UV radiation, rain, moisture, etc.

**Wet Edge Retention**: The state of a coating remaining wet long enough so that an adjoining section can be smoothly blended into the previously painted section.

**Wet Film Thickness**: Thickness of film in millimeters while coating is still wet.

**Wire Brushing**: Hand process for removal of loose rust, paint, and other contaminants.

**Wood Filler**: Paste or liquid material used to fill the pores of open-grained woods and new wood substrates. Prevents wood from absorbing paint. Dries to a hard film.

**Wood Putty**: A repair material made of actual wood fibers. Used to fill holes, cracks and dents in interior wood surfaces and to fill joints between pieces of wood.

**Workability**: See Flow.

**Wrinkling**: A rough, crinkled painted surface that usually occurs when there is interference with the normal drying time of the paint.

**Zinc Oxide**: A commonly used pigment capable of killing mildew.

**Zinc Phosphate**: A pigment used in corrosion-inhibitive coatings.

**Zinc-Rich Primer**: A type of metal primer which contains zinc dust and inhibits corrosion of the metal substrate.