HOW TO SOLVE PAINT PROBLEMS

Solutions to revive and protect

ARM YOURSELF WITH KNOWLEDGE

Heat, moisture, old age and environmental stressors can take a toll on your home's protective coatings. Use this guide to diagnose, solve and prevent common paint issues.

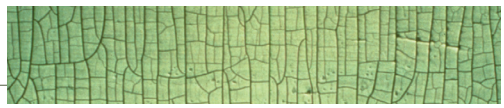
PUT SAFETY FIRST

Your safety and well-being are priceless. Always use protective clothing, goggles and a respirator, and follow basic ladder safety. Before dealing with old paint, have it tested for lead and asbestos, or consult a professional.

THE ALPHABET OF ISSUES

Keep this dictionary of paint issues handy and refer back to it when attempting to diagnose a paint problem. For specific product recommendations, see the back section of this brochure.

Alligatoring



This type of cracked pattern in paint film resembles an alligator's scales. It may begin as slight cracking, and can eventually grow wider and deeper, breaking through top and bottom coats.

Causes

:: Inability of the topcoat to bond smoothly to a glossy finish
:: Applying an extremely hard, rigid coating (e.g., oil-based paint) over a more flexible coating
:: Natural aging of oil-based paints in extreme climates, where continuous freezing and thawing results in loss of paint elasticity
:: Applying a coat before the previous coat has dried
:: Applying too much paint per coat

How to solve it

1 Scrape, sand or remove the paint down to the bare surface.
2 Remove all dust and allow the surface to dry completely.
3 Prime the surface with a high-quality latex primer and let it dry completely.
4 Apply a high-quality paint in the desired finish.

Blistering

Lifting of the paint film from the underlying surface can cause bubbles or blisters. This condition can eventually lead to peeling if not corrected.

Causes

:: Painting in direct sunlight or on a surface that is too hot
:: Application of an oil-based or alkyd paint over a damp, wet surface
:: Expossure of fresh paint to dew, high humidity or rain
:: Moisture passing through interior walls from common household sources, such as bathrooms, kitchens and laundry rooms

How to solve it

:: Determine if blisters were caused by heat or moisture. Break open and examine the substrate and backside of blistered paint. If only the newest coat of paint is blistered, the blister was probably caused by heat. If the peeled blister contains several coats of paint and the bare surface is exposed, the blister was probably caused by moisture.

For blistering caused by heat:

1 Scrape, sand or power-wash down to underlying coats of paint or primer.

2 Prime, then repaint the surface with a high-quality paint (make sure the surface temperature is below 90° F).

For blistering caused by moisture:

1 Repair loose caulking, improve ventilation, and fix moisture issues (e.g., plumbing or roof leaks) to prevent a recurring problem.

2 Remove the blisters by scraping or sanding down to the bare surface.

3 Prime all bare areas with a high-quality primer.

4 Repaint the surface with a high-quality paint.

Blocking

Blocking occurs when 2 freshly painted surfaces stick together when pressed against each other, such as a door sticking to the jamb or window sticking to the sill. Frequently, when one surface 'breaks' free, it leaves paint from its own surface or peels paint from the opposing surface.

Causes

:: Pressing newly painted surfaces together before they have fully dried

:: Use of slow-drying oil-based paints that have been stored for a long period of time

:: Applying a second coat of paint before the first coat is completely dry

:: Applying excessive amounts of paint on a surface

:: Using a low-quality, water-based paint that wasn't designed for block resistance

How to solve it

1 Scrape or sand the surface to remove all loose paint. If the problem area is a door or window, properly adjust it for free and smooth operation.

2 Clean off any dust or dirt, then prime the area with a high-quality primer.

3 Use a high-quality semi-gloss or gloss acrylic latex paint designed for block resistance. Acrylic latex paints generally have better block resistance than vinyl acrylic paints or alkyd and oil-based coatings. However, alkyd paints can be used as well, since alkyds can develop superior block resistance as they harden over time.

Burnishing

Burnishing is an increase in gloss or sheen when rubbed, scrubbed or brushed up against, even more noticeable with darker colors.

Causes

:: Use of a flat paint in high-traffic areas where a higher sheen level should have been used

:: Frequent washing and spot-cleaning

:: Use of abrasive cloths and/or cleaners

:: Use of low-quality paints with poor stain and scrub resistance

How to solve it

:: Repaint high-traffic areas that are prone to burnishing with a high-quality paint.

:: Consider using a higher gloss or sheen level.

:: Only clean repainted surfaces with a soft cloth or sponge and nonabrasive cleaners, then rinse with water.

Chalking

The formation of fine powder on the surface of paint is known as chalking. All paints chalk to some degree; it is a normal, desirable way for the paint film to wear. Quality paints may chalk lightly, but still maintain a sound surface for many years. Moderate and heavy chalking can cause color fading. Excessive chalking makes repainting a problem because it does not provide a good surface to which new paint can adhere.

Causes

:: Long-term exposure to moisture and sunlight
:: Use of a low-quality paint
:: Over-thinning the paint or spreading it too thin
:: Not priming and sealing a porous surface

How to solve it

1 Determine the degree of chalking by rubbing the surface with a finger or dark cloth.
2 Remove all chalk residue. Light to moderately chalked surfaces can be wire-brushed or sanded to remove the powder. Excessive chalking requires power-washing or sandblasting. If a power-washer is not available, scrub the surface with a stiff brush and a mild detergent.
3 Rinse thoroughly with a strong stream of water from a garden hose.
4 Allow the surface to dry thoroughly.
5 Check the surface again using your finger or a rag to determine the amount of chalk residue.

If little or no chalk remains and the old paint is in good condition, no priming is necessary.

If light to moderate chalk remains use a penetrating additive to the first coat of water-based paint to help the paint film bond to the chalked surface.

If noticeable chalk remains use a bonding primer as the first coat of paint.

6 Finish using a high-quality topcoat. Note that 100%-acrylic paints provide better chalk resistance than vinyl-acrylic paints.

Corrosion

Corrosion is the deterioration of metal caused by chemical or electrochemical reaction, resulting in rust in iron and steel.

Causes

:: Inadequate or improper surface preparation, including the improper removal of existing rust
:: Improper film thickness upon application
:: Improper cure time of primer before topcoating
:: Improper cure time before exposure to moisture

How to solve it

1 Remove all loose, peeling or chalky paint by sanding, scraping or other appropriate methods.
2 Clean all bare metal using acetone or metal etching liquid to remove rust, oil, grease and/or dirt. Always wear gloves and long sleeves when working with chemical cleaners.
3 Apply the appropriate primer and paint for the substrate. Note that newly cleaned metal must be prime-coated the same day to prevent recontamination.

Cracking

Cracking is the splitting of paint film through at least 1 coat. Hairline cracks may appear initially, but progress to flaking and severe cracks. Complete failure of the paint can occur if left untreated.

Causes

:: Over-thinning of the paint or spreading it too thin

:: Poor surface preparation, especially with bare wood that hasn't been primed

:: Painting under cool or windy conditions, where the paint dries too fast

:: On surfaces that have been painted many times, the bottom layers of paint lose their flexibility and are unable to expand and contract with the surface as it responds to temperature and humidity changes

How to solve it

:: Determine if cracking goes all the way down to the surface.

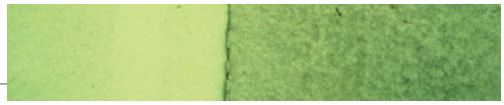
If it does not: Remove loose paint with a scraper or wire brush, sand the area and feather the edges, then prime and repaint with a high-quality paint.

If it does: Remove all of the paint by scraping, sanding and/or using paint remover. Prime wood and masonry surfaces with an appropriate high-quality primer, then repaint with a high-quality paint.

:: If the cracking occurs over plywood, only periodic scraping, repriming and recoating will solve the problem. Note that latex paints fill plywood cracks better than oil-based paints.

:: Pressed composition board should be primed immediately after installation, and an adequate coating should be kept on the surface at all times to seal out moisture.

Dirt Pick-Up



The accumulation of dirt, dust and/or other debris on the paint film; dirt pick-up may resemble mildew.

Causes

:: Use of low-quality paints

:: Soil splashing onto siding

:: Air pollution, car exhaust and airborne dust

How to solve it

1 Conduct a spot-test with household chlorine bleach. If the color bleaches out in a few minutes, the problem is mildew (refer to the Mildew section in this brochure). If the color changes very little, the surface is dirty. Always wear eye protection and gloves when working with bleach.

2 Remove dirt with a scrub brush and detergent solution, followed by thorough rinsing with a garden hose. Heavier dirt may require the use of a power-washer. Stubborn dirt may require the use of a degreaser or cleaner.

3 Paint with a high-quality paint that is formulated to provide superior dirt-pick-up resistance. Note that paints with higher gloss or sheen are more resistant to dirt pick-up than flat paints.

Efflorescence

White deposits (that are actually soluble salts) can appear on concrete, brick, block, stucco, mortar and other masonry surfaces when exposed to moisture. In addition to creating an unattractive appearance, efflorescence causes adhesion problems if not properly removed before repainting.

Causes

:: Failure to properly prepare the surface by removing all previous salt deposits

:: Excess moisture escaping through exterior masonry walls from the inside

:: Painting masonry surfaces before they are fully cured

How to solve it

1 Remove efflorescence and all other loose material (dirt, sand, deteriorated paint, etc.) with a wire brush, power brush or power-washer. If a wire brush is used, thoroughly rinse the surface afterward.

2 Wash the surface with a solution of 1 part phosphoric acid to 7 parts water (for safety, always add the acid to the water; never add the water to the acid). Note that citric acid is the safest and easiest to use; however, it is slightly less effective.

CAUTION: Phosphoric acid will burn the eyes and skin. Always wear protective clothing, goggles, rubber gloves and boots when acid-washing.

3 Rinse thoroughly with clean water.

4 Allow the surface to dry completely. If efflorescence still exists, repeat the steps above.

5 Seal the surface with a high-quality primer designed to prevent efflorescence.

6 Repaint with a premium-quality acrylic paint.

Fading/Poor Color Retention

Premature and/or excessive lightening of paint color typically occurs on surfaces with a southern exposure, but it can also be the result of paint film chalking.

Causes

:: Use of a low-quality paint, or interior grade of paint for an exterior application

:: Use of a paint color that is prone to ultraviolet deterioration (e.g., certain bright reds, blues and yellows)

:: Painting masonry surfaces, such as stucco and concrete, that are not cured properly, resulting in alkali 'burn'

:: Tinting a white paint that has not been designed to be tinted, or adding too much colorant to a light or medium paint base

How to solve it

For chalking: Remove as much of the chalk as possible then repaint with a high-quality exterior paint and colors that are recommended for exterior use.

For alkali 'burn': Prime the surface with an alkali-resistant primer before applying a high-quality exterior paint and colors that are recommended for exterior use.

Mildew

Mildew is a fungus (mold) that grows in humid, poorly ventilated, shaded areas. If not corrected, it will eat away at the existing paint, causing a failure in the affected areas. There is no way to absolutely prevent mildew growth, however, it may be controlled if proper precautions are followed.

Causes

:: Failure to prime a bare-wood surface before applying the paint

:: Painting over a surface previously infected with mildew

:: Excess humidity or other moisture problems

How to solve it

1 Conduct a spot-test with household chlorine bleach. If the color bleaches out in a few minutes, the problem is mildew. If the color changes very little, the surface is dirty. Always wear eye protection and gloves when working with bleach.

2 Locate and correct any sources of moisture accumulation or excess humidity.

3 Clean the surface with a commercially prepared mildew remover or use a homemade solution of 1 quart bleach, 3 quarts warm water, and 1/4 cup liquid dishwasher detergent (ammonia-free).

CAUTION: Chlorine bleach must never be mixed with ammonia or with any detergent or cleaners containing ammonia. These mixtures will form vapors that can be harmful, or even lethal.

4 Rinse the surface and surroundings thoroughly with clean water.

5 Allow the surface to dry completely.

6 Use and appropriate primer and high-quality paint. All Dunn-Edwards exterior paints contain mildewcides. Additional fungicide or mildewcide may be added to primer and paint if extra protection is desired. For more information, see the Mildew and Surface Mold brochure available at Dunn-Edwards® stores.

Mud Cracking

Deep, irregular cracks resembling dried mud on painted surfaces is known as mud cracking.

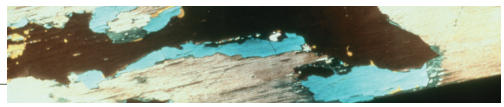
Causes

:: Applying too much paint, usually over a porous surface
:: Allowing paint build-up in corners upon application

How to solve it

1 Sand the area to make it smooth.
2 Prime any bare surface with a high-quality primer and allow it to dry.
3 Repaint with a high-quality paint.

Multiple-Coat Failure



Multiple-coat failure is the loss of adhesion when a topcoat is applied over multiple coats of old paint.

Cause

:: Use of water-based paint over multiple coats of old paint that causes the old paint to lift off the surface

How to solve it

1 Remove all loose paint down to the bare surface. If using liquid removers, wear long sleeves and gloves.
2 Prime the surface with a high-quality primer and allow it to dry thoroughly.
3 Repaint with a high-quality paint.

Peeling from Galvanized Metal

When paint has lost its adhesion to a galvanized metal surface, it may begin peeling.

Causes

:: Inadequate or improper surface preparation
:: Failure to use a primer before applying an oil-based or water-based vinyl paint
:: Failure to sand baked-on enamel finishes or glossy surfaces before painting

How to solve it

1 Remove all loose, peeling paint down to the bare metal.
2 Clean all bare metal using acetone or a metal etching liquid to remove rust, oil, grease and/or dirt. Always wear gloves and long sleeves when working with chemical cleaners.
3 Rinse the surface with clean water and allow to dry.
4 Apply a galvanized metal primer.
5 Repaint with a high-quality paint.

Peeling from Wood

When wet wood expands and contracts due to moisture and temperature change, paint film can loosen, crack and roll at exposed edges, and fall off. Peeling can widen and continue to loosen the paint film if left untreated.

Causes

:: Moisture or water seeping into the painted wood surface through uncaulked joints, worn-out caulking, or leaks in roofs or walls
:: Interior moisture migrating through to the exterior walls
:: Vegetation giving off moisture too close to wood siding
:: Painting damp wood
:: Power-washing wood, then not allowing sufficient time for the wood to dry
:: Inadequate surface preparation
:: Painting wood boards or siding too close to the ground
:: Using a low-quality paint

How to solve it

:: Identify and eliminate all sources of moisture, especially windows, trim areas and joints. Repair roof leaks and clean the gutters and downspouts. Redirect sprinklers if necessary. Trim nearby vegetation if you suspect it may be contributing to the problem.
:: Consider installing vents or exhaust fans, especially in kitchen, laundry and bathroom areas where peeling occurs.
:: If moisture is rising from the ground through masonry, waterproof the foundation with a specially designed coating.
:: Remove any portion of wood that is touching the ground. Siding should sit no further than 6" above the ground.
:: If it is not possible to eliminate the source of moisture, repaint the stripped wood with a thin coat of latex paint. A water-repellent solution may be applied to exposed wood.
:: Correct peeling caused by moisture on siding:

1 Insert small plastic or aluminum wedges or shims in between the nailheads under each board.
2 Remove all loose paint with a scraper or wire brush, down to the bare wood if necessary.
3 Feather-sand edges and rinse thoroughly with a hose. Power-washing is recommended for larger exterior areas (let wood dry for 3–5 days).
4 Prime bare wood with an appropriate primer and allow it to dry thoroughly.
5 Repaint with 2 coats of a high-quality acrylic latex paint.

Picture Framing

A nonuniform color effect called picture framing can appear when corners are cut in with a brush, and walls are rolled. The brushed areas may appear darker, resembling the ‘frame’ of a picture. Also, sprayed areas may be darker than adjacent sections that are brushed or rolled.

Causes

:: Using more than one method of paint application (brushing will generally result in a thicker film than rolling)
:: Adding colorant to a non-tintable paint or using the wrong type or level of colorant

How to solve it

:: When repainting, make sure that paint is applied evenly, whether it is brushed, rolled or sprayed.
:: With tinted paints, be sure that the correct paint base-colorant combinations are used.

Poor Alkali Resistance

Color loss and overall deterioration of paint film on fresh masonry can occur due to poor alkali resistance.

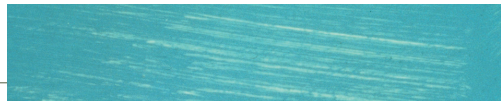
Causes

:: Applying oil-based or water-based vinyl paints to new masonry that has not fully cured
:: Using paint colors that are alkali-sensitive, and are not recommended for masonry

How to solve it

1 Allow fresh masonry surfaces to cure for at least 30 days before painting. If this is not possible, use a high-quality, alkali-resistant primer.
2 Test alkalinity of the surface with a phenolphthalein (pH) pencil.
3 Paint with a high-quality, water-based paint, and avoid colors that are alkali-sensitive.

Poor Flow and Leveling



Failure of paint to dry to a smooth film can result in unsightly brush and roller marks after the paint dries.

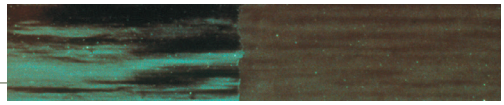
Causes

:: Use of low-quality paint
:: Use of low-quality tools/wrong roller cover
:: Re-brushing or rerolling areas that are partially dried
:: Too much heat (usually above 90° F) or too little humidity, leading to rapid drying, which prevents the film from flowing out properly

How to solve it

:: Be sure to use a roller cover with the correct nap length for the type of paint being used.
:: Pay attention to brush quality; a poor-quality brush can result in brush marks and an uneven appearance.
:: Avoid painting under conditions that cause the paint to dry rapidly.
:: Use a high-quality paint formulated for excellent flow and leveling.

Poor Gloss Retention



When paint deteriorates, it can result in the premature and/or excessive loss of gloss.

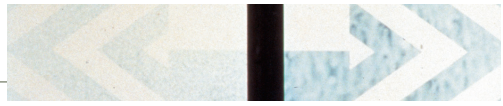
Causes

:: Use of an interior paint for an exterior application
:: Use of an oil-based paint in areas exposed to ultraviolet light, especially on a southern exposure

How to solve it

1 Prepare the surface by wire-brushing, sanding and/or cleaning with a mild detergent to remove any excess paint or debris on the surface.
2 Rinse with water and allow the surface to dry thoroughly.
3 Prime and repaint with a high-quality, exterior, water-based latex paint formulated to resist ultraviolet deterioration.

Poor Hide



Poor hide refers to the failure of dried paint to obscure or ‘hide’ the surface to which it is applied.

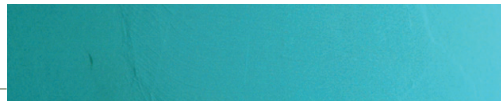
Causes

:: Over-thinning the paint or spreading it too thin
:: Use of low-quality tools/wrong roller cover
:: Use of low-quality paint

How to solve it

:: Apply another coat of paint (not over-thinned) at the recommended spread rate using quality tools and a roller cover with the correct nap (if rolling).

Poor Sheen Uniformity



Shiny or dull spots on a painted surface or uneven gloss levels are considered poor sheen uniformity.

Causes

:: Applying paint unevenly
:: Failure to prime a porous or unevenly porous surface
:: Over-thinning of the paint
:: Poor application, resulting in lapping (denser color or increased gloss where paint layers overlap during application)
:: Use of low-quality paint

How to solve it

:: Prime/seal new surfaces before applying the topcoat to ensure a uniform surface.
:: For previously painted surfaces, a fresh coat of paint will often even out sheen irregularities. Roll or brush paint in the direction of going from 'wet to dry' areas to prevent the lapping effect.
:: Use a high-quality, water-based enamel paint.

Poor Stain Resistance

Failure of paint to resist absorption of dirt and stains is considered poor stain resistance.

Causes

:: Application of paint to unprimed surfaces
:: Use of low-quality paints
:: Use of lower-gloss sheen in high-traffic areas

How to solve it

:: Prime new surfaces before applying the topcoat.
:: Use a high-quality paint that contains more binder to help prevent stains from penetrating the painted surface.

Sagging

The downward 'drooping' movement of paint film immediately after application, resulting in a sagging effect.

Causes

:: Applying too much paint per coat
:: Painting under cool, humid conditions
:: Over-thinning the paint
:: Applying paint over a glossy surface that doesn't provide sufficient 'tooth' for the paint to bond
:: Airless spraying with the gun too close to the surface being painted

How to solve it

:: If the paint is still wet, immediately brush out or reroll to even out the paint film.
:: If the paint has dried, sand the area and reapply a fresh coat of paint.
:: Be sure to correct any unfavorable conditions before repainting: Do not thin the paint, avoid painting under cool or humid conditions, and sand glossy surfaces.

Stain Bleed

When a paint film does not have the appropriate performance properties to properly seal in a stain, the stain can bleed through the coating and become visible on the surface of the film. Stains can include water damage, pen marks, wood tannins, smoke damage and grease.

Causes

:: Failure to clean stains prior to painting
:: Failure to apply the proper primer to the stain before painting

How to solve it

1 Clean and remove stains prior to painting.
2 Use a top-quality, stain-blocking primer, then finish with a premium paint.

Surfactant Leaching

Surfactant leaching appears as blotchy, sometimes glossy, tan or brownish spots on the surface of latex paints.

Causes

:: Painting in cool, humid conditions, or just before or after rain, which causes longer drying time, allowing the paint's water-soluble ingredients to rise to the surface before the paint thoroughly dries
:: Exposing a freshly painted surface to mist, dew, fog or other moisture

How to solve it

:: Do not paint if temperatures are below 50° F in the late afternoon and if cool, damp conditions are expected in the evening or overnight.
:: If the surfactant leaching occurs in the first few days after the paint is applied, the blotches or stains can usually be rinsed off with a strong stream of water from a garden hose.
:: A month of normal weathering will remove even stubborn cases of leaching. Note that surfactant leaching does not affect the ultimate durability of the coating.

Tannin Staining

Tannins exist in many woods—most notably cedar and redwood—and can bleed through paint, leaving a yellowish-brown stain on the surface. These stains are more noticeable on lighter paint colors.

Causes

:: Failure to adequately prime and seal a wood surface before painting
:: Using a primer that is not tannin-stain-resistant
:: Excess humidity or other moisture problems

How to solve it

1 Locate and correct any excess moisture sources.
2 Remove all loose paint with a scraper or wire brush.
3 Remove stains with oxalic acid or an oxalic-based solution. Wear protective glasses and gloves when working with oxalic acid.
4 Rinse with a power washer and allow the surface to dry thoroughly for at least 48 hours.
5 Prime the stained area with a top-quality, stain-blocking wood primer. If severe staining exists, apply 2 coats of primer. Always prime edges and ends of shingles. If possible, prime the backs of shingles prior to installation. Note that tannin bleed is a surface problem, not a paint failure. Tannic acid will prolong the drying of oil-based primers and, in some cases, you will need to wait 3–5 days for the primer to fully cure before repainting.

6 Repaint using high-quality paint.

7 If staining occurs during the application of the new coat of paint, sand lightly and reprime the area before applying the second coat.

8 Despite all precautions, a certain amount of bleeding will probably occur within 1 year after the wood is first painted. It is best to wait 1 year before repainting. This allows the tannins to surface and weather away normally.

Vinyl Siding Warp

When vinyl siding panels have been repainted improperly, they sometimes warp or buckle.

Causes

:: Repainting vinyl siding with a darker color than the original color (dark colors tend to absorb heat, transferring it to the surface). once the vinyl siding has expanded, it is not able to contract to its original form

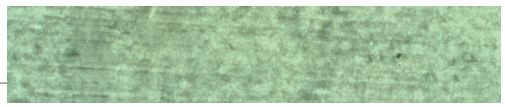
How to solve it

:: Do not use paint that is a darker color than the original color.

:: Always repaint vinyl siding with a high-quality paint that is formulated for superior flexibility.

:: Siding that is already warped or buckled should be assessed by a siding or home-repair contractor to determine the best solution. Unfortunately, the siding may need to be replaced.

Wax Bleed



The unsightly discoloration or 'wetting effect' on hardboard siding that comes from additives used to make it more moisture-resistant is known as wax bleed.

Causes

:: Failure to apply the proper primer to hardboard before painting

:: Allowing hardboard siding to weather before painting

:: Use of dark paint colors, which absorb heat and can accelerate wax bleed

:: Too little paint, and thinly painted areas

:: Applying a hard finish over a softer coat without priming, or painting over a glossy surface without sanding

:: Using low-quality paints that do not contain enough resin to prevent wax from bleeding through

How to solve it

Prevention:

:: Unprimed boards should be primed or painted within 30 days of installation. Factory-primed boards should be painted within 90 days of installation.

:: For unprimed hardboards, select top-quality oxidative primers and topcoats to help prevent wax bleeding. Apply the recommended primer and 2 topcoats. Follow the recommended film thickness application on the paint label.

Eliminating existing wax bleed stains:

1 Determine if wax bleeding is the problem by rubbing the area with your finger. In severe cases, the wax will feel like an oily substance. Then, place a few drops of water on both normal and discolored areas. If the water beads up and runs off, a wax film probably exists. Next, place a few drops of bleach on the discolored area. Household bleach does not affect wax, so if there is no whitening or bleaching, the stain is likely wax. Always wear eye protection and gloves when working with bleach.

For light or moderate wax bleeding: Clean the area with a detergent solution.

For severe wax bleeding: Clean the area thoroughly with mineral spirits. Take safety precautions and dispose of all waste materials in accordance with local regulations.

2 Allow the surface to dry thoroughly.

3 Use a high-quality primer, then finish with a high-quality topcoat.

Wrinkling

A rough, wrinkled paint surface can occur when the top layer dries before the bottom layer.

Causes

:: Painting during extremely hot weather, which causes the paint film to dry faster on the top layer than the bottom layer
:: Painting when humidity levels are high
:: Applying too thick a film of alkyd or oil-based paints
:: Applying a topcoat before the primer or first coat has dried thoroughly
:: Applying a hard finish over a softer coat without priming, or painting over a glossy surface without sanding

How to solve it

1 Remove the wrinkled layers. If the layers underneath are soft, they can be removed by scraping; if they are aged, you may need to use a chemical paint remover (wear safety gear as directed).
2 Sand until smooth, then remove dust.
3 Areas stripped to the bare wood should be primed with a high-quality primer, then allowed to dry thoroughly.
4 Apply a high-quality paint, brushing out each coat thoroughly and allowing them to dry completely before applying the next coat. Avoid painting in high humidity or extreme temperatures (below 50° F or above 100° F).

Yellowing

The development of a yellow cast in aging paint is most noticeable with white paints and clear varnishes.

Causes

:: Normal oxidation of oil-based paint or varnish
:: Exposure to heat from stoves, radiators and heating ducts
:: Exposure of oil-based paints to household cleaners that contain ammonia
:: Lack of light (e.g., behind pictures or appliances, inside closets, etc.)

How to solve it

:: When repainting, use a high-quality latex paint (oil-based paints have a tendency to yellow, particularly in areas that are protected from sunlight and/or are exposed to ammoniated cleaning products).

PRIMER RECOMMENDATIONS

Surface	Recommended Primers	Alligatoring	Blistering	Blocking	Burnishing	Chalking	Corrosion
Drywall	**BLOCK-IT**® Interior/Exterior Stain-Blocking Primer (BIPR00)						
Natural Wood	**EZ-PRIME**® **Premium** Exterior Wood Primer (EZPR00)	•	•	•			
Synthetic Wood	**BLOCK-IT**® Interior/Exterior Stain-Blocking Primer (BIPR00)						
	ULTRA-GRIP® **Premium** Interior/Exterior Multi-Surface Primer (UGPR00)	•	•	•			
Masonry	**EFF-STOP**® **Premium** Interior/Exterior Masonry Primer/Sealer (ESPR00)	•	•	•		•	
	SUPER-LOC® Interior/Exterior Alkali-Resistant Masonry Primer (SLPR00)					•	
Ferrous Metal	**BLOC-RUST**® **Premium** Interior/Exterior Rust Preventative Metal Primer (BRPR00)	•	•	•			•
Nonferrous Metal	**ULTRA-GRIP**® **Premium** Interior/Exterior Multi-Surface Primer (UGPR00)	•	•	•			
	ULTRASHIELD® Interior/Exterior Galvanized Metal Primer (ULGM00)	•	•	•			•
Undercoaters	**DECOPRIME**® Interior Cabinet, Door & Trim Primer (DCPR00)			•	•		

PAINT AND GLOSS RECOMMENDATIONS

Exterior Substates

Desired Finish	Recommended Paints	Aluminum & Vinyl Siding	Doors & Windows	Garage Doors & Gutters
Flat	**EVERSHIELD**® Exterior Paint (EVSH10)	•		•
Velvet	**EVERSHIELD**® Exterior Paint (EVSH20)	•		•
Eggshell	**ARISTOSHIELD**® Interior/Exterior Paint (ASHL30)			•
	EVERSHIELD® Exterior Paint (EVSH30)	•	•	•
Satin/Low Sheen	**ARISTOSHIELD**® Interior/Exterior Paint (ASHL40)			•
	EVERSHIELD® Exterior Paint (EVSH40)		•	•
Semi-Gloss	**ARISTOSHIELD**® Interior/Exterior Paint (ASHL50)			•
	EVERSHIELD® Exterior Paint (EVSH50)		•	•
Gloss	**EVERSHIELD**® Exterior Paint (EVSH60)		•	•
High Gloss	**ARISTOSHIELD**® Interior/Exterior Paint (ASHL70)			•

Interior Substrates

Desired Finish	Recommended Paints	Bedrooms	Ceilings or Offices	Dining Rooms
Matte	**EXQUISITE**® Interior Paint (EXQT10)	•	•	•
Flat	**EVEREST**® Interior Paint (EVER10)	•	•	•
	SUPREMA® Interior Paint (SPMA10)	•	•	•
Velvet	**EVEREST**® Interior Paint (EVER20)	•	•	•
	SUPREMA® Interior Paint (SPMA20)	•	•	•
Eggshell	**EXQUISITE**® Interior Paint (EXQT30)	•		•
	ARISTOSHIELD® Interior/Exterior Paint (ASHL30)			
	DECOGLO® Interior Paint (DGLO30)			
	EVEREST® Interior Paint (EVER30)	•	•	•
	SUPREMA® Interior Paint (SPMA30)	•	•	•
Satin/Low Sheen	**ARISTOSHIELD**® Interior/Exterior Paint (ASHL40)			
	SUPREMA® Interior Paint (SPMA40)			•
Semi-Gloss	**EXQUISITE**® Interior Paint (EXQT50)			
	ARISTOSHIELD® Interior/Exterior Paint (ASHL50)			
	DECOGLO® Interior Paint (DGLO50)			
	EVEREST® Interior Paint (EVER50)			
	SUPREMA® Interior Paint (SPMA50)			
High Gloss	**ARISTOSHIELD**® Interior/Exterior Paint (ASHL70)			

Cracking	Efflorescence	Fading/ Poor Color Retention	Mud Cracking	Multiple Coat Failure	Peeling from Galvanized Metal	Peeling from Wood	Poor Alkali Resistance	Poor Sheen Uniformity	Poor Stain Resistance	Stain Bleed	Tannin Staining	Wax Bleed
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Metal Gates	Shutters	Soffit, Fascia & Eaves	Stucco, Masonry & Brick Walls	Wood Fences	Wood Siding
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Cabinets, Doors, Windows & Shutters	Family Rooms & Living Rooms	Hallways	Kids' Rooms	Kitchens & Baths	Molding & Trim
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Please note that these suggestions are provided as a service to you. We are unable to guarantee or be responsible for the results obtained by these procedures. Before attempting any of these methods, test them on an inconspicuous area. If you have questions, please contact or visit a Dunn-Edwards store.

PROTECT WHAT MATTERS

The success of your projects depends on the performance and durability of the products you use. Safeguard your work with coatings engineered to last. You'll be doing your part to protect the planet, too. Made in the world's first and only LEED® Gold-certified paint manufacturing facility, Dunn-Edwards products meet or exceed most environmental standards.

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Products bearing this logo are EG-FREE™ and TAC/HAP-FREE. Ethylene glycol (EG), a solvent often used in water-based paints, is listed as a Toxic Air Contaminant (TAC) and Hazardous Air Pollutant (HAP). In 1983, Dunn-Edwards was the first in the industry to voluntarily replace EG with propylene glycol, a nontoxic alternative "generally regarded as safe" by the FDA. Also, every Dunn-Edwards product with the EG-FREE logo is formulated without any other TAC or HAP.

A GREEN LEGACY, A GREENER FUTURE.

Dunn-Edwards has a green legacy that makes us proud and inspires us to do more. We are firmly dedicated to the principle of eco-efficiency, which we define as the ability to satisfy human needs in ways that minimize adverse impacts on energy and material resources, environmental quality, and human health and safety.

HEALTH & SAFETY when using water-based paints:

CAUTION! INHALATION OF SPRAY MIST OR SANDING DUST MAY BE HARMFUL. Use only with adequate ventilation. Avoid breathing vapors, spray mist and sanding dust. Wear a NIOSH-approved N100 filter mask (particulate type) when spraying or sanding. Avoid contact with skin and eyes. Do not ingest. Close container after use.

FIRST AID: If swallowed, immediately give 1 or 2 glasses of water to drink—for emergency information, call 1-800-222-1222. If having difficulty breathing, move to fresh air. For eye contact, immediately flush with water for 15 minutes. For skin contact, wash thoroughly with soap and water.

KEEP OUT OF REACH OF CHILDREN. For more information, see the appropriate Product Data Sheet(s) and Safety Data Sheet(s) available at dunnedwards.com

CAUTION! Scraping or sanding surfaces of older buildings (especially pre-1978) may release dust containing lead or asbestos. EXPOSURE TO LEAD OR ASBESTOS CAN BE VERY HAZARDOUS TO YOUR HEALTH. Wear a NIOSH-approved N100 particulate filter mask to avoid breathing dust. Use a HEPA vacuum for cleanup, and finish by water-washing all surfaces. For more information, see Dunn-Edwards 'Surface Preparation Safety' guide or call U.S. EPA's lead hotline at 1-800-424-LEAD, or visit epa.gov/lead or epa.gov/asbestos—or contact your state or local Health Agency.

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