



*C* PAINT

*Techniques and Paint Problem Solver*



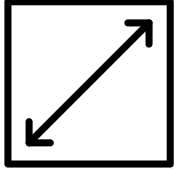





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# HOW MUCH PAINT WILL I NEED?

Equation	Example
 <p>Total Surface Area</p>	375 Square Feet
 <p>Coverage Rate Per Gallon</p>	400 Square Feet Per Gallon
 <p>Number of Coats</p>	2
 <p>Paint Gallons Needed</p>	2



In the bedroom project example, 2 gallons will be enough to do the project and leave some paint for touch ups.

## TIP:

You'll find the coverage rate of products on the back of the paint can. C2 Paint Interior and Exterior Paints cover at 400-450 square feet per gallon. C2 Guard Stain (clear or semi-transparent) covers at 300 square feet per gallon depending on substrate.

# PREPARATION PROCESS



## Preparation

Correct preparation before painting, along with excellent products, is the key to achieving a great finish.

## Patching / Filling

1. Choose a filler designed for the surface you are painting.
2. Apply a layer of filler over the area ensuring to completely cover any hole, cracks or patches.
3. Spread the filler across the area in multiple directions then a single downward stroke to remove any excess product.
4. Once dry, use a fine sandpaper to give it a light sand for a smooth, consistent surface.
5. Wipe down to remove sanding dust from surface.

## Cleaning

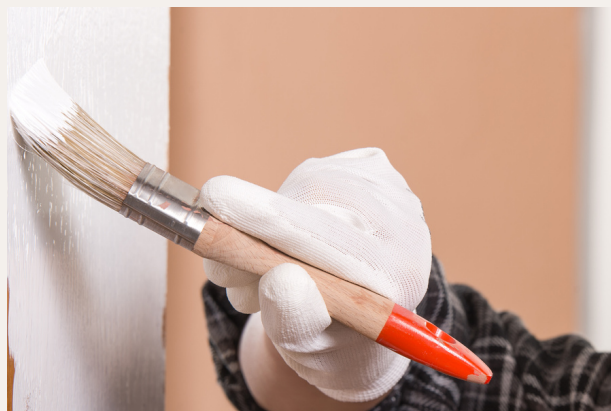
6. Take down any curtains, mirrors and pictures, move furniture out of the room to remove grease and dirt.
7. Brush or vacuum up any dust and thoroughly wash the surface with sugar soap to remove grease and dirt.

## Masking

8. Use a good quality painter's tape along any edges you don't want to paint.
9. Push the edges of the tape down firmly to ensure straight edges. Remove the masking tape at a 45° angle before the paint dries completely.



# HOW TO USE A PAINT BRUSH



## How to Use a Paint Brush

1. Before use, flick the bristles back and forth to remove dust.
2. Moisten the brush with water when using latex paint. Remove any excess liquid.
3. Fill the brush by dipping in up to half the length of the bristles.
4. Tap it gently against the side of the can. Don't wipe the brush hard against the lip.
5. Start at the top and work down, painting with light even strokes.
6. If you are painting a large area by brush, apply paint to an area about 2 ft x 2 ft, then brush the paint with horizontal strokes to even the paint out and finish off with light vertical strokes all in one direction.



# HOW TO USE A PAINT ROLLER



## How to Use a Paint Roller

1. De-fuzz new roller sleeves prior to use by washing them in water.
2. Fit the roller to the frame.
3. Pour paint into the reservoir at the end of the roller tray.
4. Dip the roller lightly into the paint, then roll it backwards and forwards on the ramp of the tray to evenly distribute the paint on the roller cover.
5. Begin by cutting-in the first section with a brush where a roller won't reach.
6. Begin by working in sections, rolling in a large W pattern at first, then filling in the blanks of your W pattern with some extra zigzagging strokes. Start by working from one side of the wall to the other, never start in the middle of your wall.
7. Level the finish by laying-off with long, parallel strokes before the paint has started to dry.
8. Wrap the roller and tray in cling-wrap when you take a short break, and make sure to clean it completely after use.



# HOW TO PAINT CEILINGS



## How to Paint Ceilings

1. Follow the paint preparation guide.
2. Clear your area and lay down a drop sheet.
3. Tape around cornices, edges and any down lights.
4. Begin by cutting-in with a brush where a roller won't reach.
5. Using a roller extension pole, apply the paint with elbows below your shoulders from left to right (never front to back), in a W shape.
6. Paint in sections, to keep your finish even. When you're done with a section, give it a light roll from the left to right to make sure the paint settles evenly.
7. If your ceiling requires two coats, simply wait 2 hours for your first coat to dry then repeat steps 4-6.
8. Clean up using responsible paint disposal methods permissible in your area.



# HOW TO PAINT DOORS



## How to Paint Doors

1. Follow the paint preparation guide.
2. Remove the door from its hinge and lay it on a flat surface. Then remove all hardware from the door or tape it off with painter's tape.
3. Cut in the edges with an even finish.
4. Roll or brush on the inside of the door, with smooth vertical strokes.
5. Once a section is applied using a 3 inch brush, lightly stroke down the door to create a smoothed finish. Don't brush it too much – a few strokes should be enough to smooth the surface.
6. Allow to dry and lightly sand any imperfections, then repeat steps 3-5.

\* Tip: For moulded doors, always paint the inner recess and moulding first, then move to the outside to finish.

# HOW TO PAINT WINDOWS AND TRIM



## How to Paint Windows and Trim

1. Follow the paint preparation guide.
2. Tape around the window or trim with painter's tape.
3. Start by cutting in at the top and bottom of the edges of the trim, then finish off the middle.
4. Apply paint to the trim using short, horizontal brush strokes. Repeat the motion for about 3 feet.
5. Smooth over the painted section with long brush strokes. Ensure not to add more paint to the brush when you do this. Don't brush it too much – a few strokes should be enough to smooth the surface.
6. Repeat this process until complete. Allow to dry, then give the surface a light sand and clean (see paint preparation), then repeat steps 3-5.
7. Clean up using responsible paint disposal methods permissible in your area.

\* Tip: Paint the inner window sections first then move to the outer trim. Always keep windows open as they dry and ensure to move the constantly to prevent them from sticking together.



# A WORD ABOUT THE PAINT PROBLEM SOLVER

Even seasoned paint professionals run into problems from time to time, but there are solutions for almost all of them.

Browse the pages of this booklet to find a photo that most closely represents your paint issue to discover the most common causes and solutions.

From preparation to application, the painting guides on the back pages of this booklet will help you complete your next project.

Disclaimer: The advice provided in this booklet is generic and may not be applicable in every situation. Always test a small area to confirm the suitability of the solution options.



# ALLIGATORING



## Definition:

Patterned cracking in the paint film resembling an alligator's scales. Cracks may affect only a single layer of paint and may not reach the surface.

### PROGRESSION

May begin as slight cracking or "checking" and can eventually grow wider and deeper, breaking through top and bottom coats. Noticeable wide breaks can appear over the entire surface in the worst cases.

### CAUSES

- Inability of the top coat 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, when subjected to continuous freezing and thawing, which results in loss of paint elasticity
- Applying another coat before the previous coat has dried
- Applying too much paint per coat

### SOLUTIONS

- Scrape or sand the paint down to the bare surface or use a chemical paint remover. Dust masks or respirators and eye protection are recommended for safety. If using liquid removers, be sure to wear long sleeves and gloves.
- Remove all dust and allow the surface to dry completely.
- Prime the surface with a high-quality latex primer and let it dry completely.
- Apply a high-quality paint in the desired finish.



# BLISTERING



## Definition:

Lifting of the paint film from the underlying surface, which appears as paint bubbles or paint blisters in the mixture, usually caused by heat, moisture or a combination of both. This condition can eventually lead to peeling of the paint 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
- Exposing a fresh paint film to dew, high humidity or rain
- Moisture passing through interior walls from common household sources such as bathrooms, kitchens and laundry rooms

## SOLUTIONS

- Determine if blisters were caused by heat or moisture. Break open and examine the substrate and back side 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 PAINT BLISTERING CAUSED BY HEAT:

- Remove blisters by scraping, sanding or pressure-washing down to underlying coats of paint or primer.
- Repaint the surface with a high-quality interior/exterior paint (make sure the surface temperature is below 90° F).
- Find the best paints suited for your project.

## FOR BLISTERING CAUSED BY MOISTURE:

- Repair loose caulking and improve ventilation of the building to prevent a recurring problem.
- Remove the blisters by scraping or sanding down to the bare surface.
- Prime all bare areas with a high-quality primer.
- Repaint the surface with a high-quality paint in the desired finish.

# BLOCKING



## Definition

Blocking occurs when two 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
- Using slow-drying, oil-based paints that have been stored for long periods
- Applying another coat of paint before the first coat is completely dry Applying excessive amounts of paint on a surface
- Using a low-quality, water-based semi-gloss or gloss paint not designed to have block resistance

### SOLUTIONS

- If the area has never been painted, prime the surface with a high-quality primer.
- If a blocking condition already exists, scrape or sand the surface to remove all loose paint. Clean off any dust or dirt and then prime the area with a high-quality primer.
- Doors and windows should be properly adjusted for free and smooth operation before painting.
- Use a top quality semi-gloss or gloss acrylic latex paint. Low-quality latex paints generally have poor block resistance, especially in warm, damp conditions. Acrylic latex paints generally have better block resistance than vinyl acrylic paints or alkyd and oil-based coatings. Alkyds, however, can develop superior block resistance as the film hardens.



# BURNISHING



## Definition:

Increase in gloss or sheen of the paint film when rubbed, scrubbed or brushed up against; more noticeable in darker colors.

## CAUSES

- Use of a flat paint in high-traffic areas where a finish with a higher sheen level would have better resistance to burnishing
- Frequent washing and spot-cleaning
- Use of abrasive cloth and/or cleaners
- Use of low-quality paints with poor stain and scrub resistance (see Poor Stain Resistance for more information)

## SOLUTIONS

- Paint high-traffic areas with a superior paint.
- Consider using paint with higher gloss or sheen in these areas.
- Clean painted surfaces with a soft cloth or sponge and non-abrasive cleaners; rinse with water.

# CHAULKING



## Definition:

The formation of fine powder on the surface of the paint, due to weathering.

### PROGRESSION

All paints chalk to some degree; it is a normal, desirable way for the paint film to wear. Quality paints may chalk mildly, but still maintain a sound surface for many years. Medium and heavy chalking can cause color fading. Severe 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
- Using a low-quality paint
- Over thinning the paint or spreading it too thin
- Not priming and sealing a porous surface

### SOLUTIONS

- Determine the degree of chalking by rubbing the surface with a finger or dark cloth.
- Remove all chalk residue by one of these methods:
- Excessive chalking requires pressure-washing or sand-blasting. If a pressure washer is not available, scrub the surface with a stiff brush and a mild detergent. Rinse thoroughly with a strong stream of water from a garden hose.
- Light to moderately chalked surfaces may require wire-brushing or sanding to remove the excess surface powder. Spray the surface with a strong stream from a garden hose.
- Allow the surface to dry thoroughly.
- 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. 100% acrylic finishes provide better chalk resistance than vinyl-acrylic paints.
- If noticeable chalk still remains, use an alkyd-based masonry primer as the first coat of paint. Finish using a high-quality topcoat.



# CRACKING



## Definition:

Splitting of the paint film through at least one coat, leading to failure of the paint. Hairline cracks appear initially, but progress to paint chips falling off the surface – or flaking – and severe cracks in the surface will appear. 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 when paint is applied to bare wood without priming
- 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 change

### SOLUTIONS

- Determine if cracking goes all the way to the surface.
- If cracking does not go all the way down to the surface, then:
- Remove loose and flaking paint with a scraper or wire brush.
- Sand the area and feather the edges.
- Repaint, using a high-quality paint.
- If cracking does go to the surface:
- Remove all of the paint by scraping, sanding and/or use paint remover.
- Prime wood and masonry surfaces with an appropriate, high-quality primer.
- Repaint using a high-quality paint

### TIPS

- If the cracking occurs over plywood, only periodic scraping, repriming and recoating will solve the problem. Latex paints fill plywood cracks better than oil-based paints.
- Pressed composition boards should be primed immediately after installation. An adequate coating should be kept on the surface at all times to seal out moisture.

# DIRT PICK-UP



## Definition:

Accumulation of dirt, dust and/or other debris on the paint film; may resemble mildew.

### CAUSES

- Use of low-quality paints
- Soil splashing onto siding
- Air pollution, car exhaust and airborne dust collecting on house body and trim

### SOLUTIONS

- If unsure whether the problem is dirt or mildew, conduct a simple spot-test with bleach.
- Remove dirt with a scrub brush and detergent solution, followed by thorough rinsing with a garden hose. Heavier dirt accumulations may require the use of a power washer. Stubborn dirt may require the use of a degreaser or cleaner.
- Paint with a high-quality paint that is formulated to provide superior dirt pick-up resistance.



# EFFLORESCENCE



## Definition:

White deposits (soluble salts) that appear on concrete, brick, block, stucco, mortar and other masonry surfaces when exposed to moisture. In addition to creating an unattractive appearance, deposits can grow and will cause 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

### SOLUTIONS

- Remove the efflorescence and all other loose material (dirt, unbound sand and deteriorated paint, etc.) with a wire brush, a power brush or power washer; if a wire brush is used, follow by thoroughly rinsing the surface.
- Wash the surface with a solution of one part phosphoric acid to seven parts water (for safety, always add the acid to the water; never add the water to the acid). Citric acid is the safest and easiest to use; however, it is slightly less effective.
- Rinse thoroughly with clean water.
- Allow the surface to dry completely.
- If efflorescence still exists, repeat above steps.
- Seal the surface with a high-quality primer designed to hold back efflorescence.
- Repaint with a premium-quality acrylic finish.

### CAUTION

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

# FADING



## Definition:

Premature and/or excessive lightening of the paint color that typically occurs on surfaces with a southern exposure. Fading/poor color retention can also be a result of chalking of the paint film.

### 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

### SOLUTIONS

- When fading/poor color retention is a result of chalking, it is necessary to remove as much of the chalk as possible.
- When fading/poor color retention is a result of alkali “burn,” the surface should first be primed with an alkali-resistant primer before applying the finish coat.
- When repainting, be sure to use a high-quality exterior paint and colors that are recommended for exterior use.



# MILDEW



## Definition:

Mildew is a fungus (mold) that grows on many exterior painted surfaces, as well as on interior bathroom walls and other humid or poorly ventilated interior areas. If not corrected, mildew will continue eating the existing paint away, causing eventual paint failure in the affected areas. There is no way to absolutely prevent mildew growth, however, it may be controlled if the proper precautions and recommendations 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

### SOLUTIONS

- First, to determine if the problem is mildew, apply a few drops of bleach to the surface. If the dark color bleaches out in a few minutes, it is likely mildew, as dirt or other contamination would not be affected.
- Locate and correct any sources of moisture accumulation or excess humidity.
- Protect all plants and shrubs with dropcloths before cleaning the surface.
- Clean the surface with a commercially prepared mildew remover or use a homemade solution of one quart liquid chlorine bleach, three quarts warm water and 1/4 cup ammonia-free liquid dishwasher detergent.
- Rinse the surface and surroundings thoroughly with clean water.
- Allow the surface to dry completely before painting.
- Use an appropriate primer and then apply a high-quality paint in the desired finish.

### 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. Gloves, goggles and protective clothing should be worn for protection.

# MUD CRACKING

## Definition:

Deep, irregular cracks resembling dried mud in dry paint film.

### CAUSES

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

### SOLUTIONS

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





# PAINT INCOMPATABILITY



## Definition:

Loss of adhesion when a water-based topcoat is applied over many old coats of oil-based paint.

### CAUSE

- Use of water-based paint over multiple coats of old oil-based paint causes the old paint to “lift off” the surface

### SOLUTIONS

- Remove all loose paint down to the bare surface. If you’re using liquid removers, be sure to wear long sleeves and gloves to protect your arms and hands from splashes.
- Prime any bare surface with a high-quality primer and allow it to dry thoroughly.
- Paint with a high-quality paint in the desired finish.

# PEELING – GALVANIZED METAL

Definition:

Paint has lost its adhesion to a galvanized metal surface.

## CAUSES

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

## SOLUTIONS

- Remove all loose, peeling paint down to the bare metal.
- Clean the exposed metal of any contaminants, such as dirt, oil, etc., and treat them with an etching liquid. Be sure to wear long sleeves and gloves to protect your arms and hands.
- Rinse the surface with clean water. Allow to dry.
- Apply a galvanized metal primer.
- Repaint with a high-quality paint.



# PEELING WOOD



## Definition:

Occurs when wet wood expands and contracts from moisture and temperature change, causing the paint film to loosen, crack and roll at exposed edges and fall off.

### PROGRESSION

- Affected surface area 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
- Exterior moisture escaping through exterior walls (more likely if the paint is oil-based)
- Vegetation giving off moisture too close to wood siding
- Painting damp wood
- Power-washing wood and 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

### SOLUTIONS

- Inspect the outside of the building to identify and eliminate all sources of moisture, especially windows, trim areas and other joints.
- Repair leaks in the roof, clean out gutters and downspouts. Re-direct sprinklers if necessary. Trim nearby vegetation if you suspect it may cause peeling.
- If moist air is originating from inside the building, consider installing vents or exhaust fans, especially in kitchen, laundry and bathroom areas.
- If moisture is rising from the ground through the masonry, waterproof the foundation with a specially designed coating. Remove the portion of the wood that is touching the ground. Siding should come down no further than six inches above the ground.
- You can correct peeling from moisture on siding by inserting small plastic or aluminum wedges or shims in between the nail heads under each board.
- Remove all loose paint with a scraper or wire brush, down to the bare wood if necessary.
- Feather-sand rough edges for a smooth appearance and rinse thoroughly with a hose. Power-washing is recommended for larger areas (let wood dry for three to five days before priming).
- Prime bare wood with the appropriate primer. Read the label to determine how long the primer should dry before applying the top coat of paint.
- Repaint with two coats of a high-quality acrylic latex paint.

### NOTE:

- 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.



# PICTURE FRAMING

## Definition:

A non-uniform color effect that can appear when the corners are first cut in with a brush, and then the walls are rolled. The brushed areas generally appear darker, resembling the “frame” of a picture. Also, sprayed areas may be darker than adjacent sections that are brushed or rolled.

### CAUSES

- Usually a coverage effect (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

### SOLUTIONS

- Make sure that the paint is applied evenly when brushing and rolling.
- With tinted paints, be sure that the correct paint base-colorant combinations are used.

# POOR ALKALI RESISTANCE



## Definition:

Color loss and overall deterioration of paint film on fresh masonry.

### CAUSE

- Applying oil-based or vinyl water-based paints to new masonry that has not fully cured

### SOLUTIONS

- 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.
- Test alkalinity of the surface with phenolphthalein or a pH pencil.
- Paint with a high-quality water-based paint and avoid colors that are alkali-sensitive.

# POOR FLOW AND LEVELING



## Definition:

Failure of paint to dry to a smooth film, resulting 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 re-rolling areas that are partially dried
- Too much heat – usually above 90 °F – or too little humidity, which causes rapid drying of the paint, preventing the film from flowing out properly
- Use of paint not specifically made with good flow and leveling properties

### SOLUTIONS

- When using a roller, be sure to use a cover with the correct nap length for the type of paint being used. Use of a high-quality brush is important – a poor brush can result in brush marks and uneven appearance.
- Avoid painting under conditions that cause rapid drying of the paint.
- Use a high-quality paint formulated with ingredients that enhance flow and leveling.



# POOR GLOSS RETENTION



Definition:

Deterioration of the paint, resulting in 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

## SOLUTIONS

- Surface preparation for a paint showing poor gloss retention should be similar to that for chalking. See Chalking for more information.
- Use a high-quality, exterior, water-based latex paint, formulated to resist ultraviolet deterioration.

# POOR HIDE



## Definition:

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

### SOLUTIONS

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

# POOR SHEEN UNIFORMITY

## Definition:

Shiny spots or dull spots (also known as “flashing”) on a painted surface; uneven gloss.

### CAUSES

- Applying paint unevenly
- Failure to prime a porous surface, or a surface with varying degrees of porosity
- Over-thinning of the paint
- Poor application resulting in lapping
- Use of low-quality paint

### SOLUTIONS

- New surfaces should be primed/sealed before applying the topcoat to ensure a uniform surface.
- Often another coat of paint will even out the sheen irregularities. Make sure to apply paint from “wet to dry” to prevent lapping.
- Use a high-quality water-based enamel paint.



# POOR STAIN RESISTANCE



Definition:

Failure of the paint to resist absorption of dirt and stains.

## CAUSES

- Application of paint to unprimed surfaces
- Use of low-quality paints

## SOLUTIONS

- 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.
- Consider using paint with higher gloss or sheen in high-traffic areas.

# SAGGING



## Definition:

Downward “drooping” movement of the paint film immediately after application, resulting in an uneven coating.

### 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

### SOLUTIONS

- If the paint is still wet, immediately brush out or re-roll to even out the paint film.
- If the paint has dried, sand and re-apply a new coat of paint.
- Correct any unfavorable conditions: Do not thin the paint, avoid painting under cool or humid conditions, sand glossy surfaces.

# SURFACTANT LEACHING



## Definition:

Surfactant leaching appears as blotchy, sometimes glossy, tan or brownish spots on the surface of latex paints. Surfactants are a necessary ingredient in making paint. They evaporate and are not part of the paint film; their appearance does not harm it any way. In most cases, the leaching occurs slowly and is washed away by weathering before even being noticed.

## CAUSES

- Painting in cool, humid conditions, or just before or after rain. The longer drying time caused by these conditions allows the paint's water-soluble ingredients to rise to the surface before the paint thoroughly dries.
- Exposing the freshly painted surface to mist, dew, fog or other moisture.

## SOLUTIONS

- 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. Surfactant leaching does not affect the ultimate durability of the coating.



# TANNIN STAINING



## Definition:

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

### CAUSES

- Failure to adequately prime and seal the surface before painting
- Using a primer that is not tannin-stain-resistant
- Excess humidity or other moisture problems that can cause tannins to rise to the paint surface

### SOLUTIONS

- Locate and correct any moisture sources.
- Remove all loose paint with a scraper or wire brush.
- Remove the stains with oxalic acid or an oxalic-based solution.
- Rinse with a pressure washer.
- Allow the surface to dry thoroughly for at least 48 hours (depending on the existing weather conditions).
- Prime the stained area with a top-quality, stain-blocking wood primer.
- If severe staining exists, apply two coats of primer. Always prime edges and ends of shingles. If possible, prime the backs of shingles prior to installation.
- Repaint using high-quality paint.

### NOTES

- 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 have to wait three to five days for the primer to fully cure before repainting. If staining occurs during the application of the new coat of paint, sand lightly and re-prime the area before applying the final finish.
- In spite of all precautions, a certain amount of bleeding will probably occur within one year after the wood is first painted. It is best to wait one year before repainting. This allows the tannins to surface and weather away normally.

# VINYL SIDING WARP



## Definition:

Warping or buckling of vinyl siding panels that have been repainted.

### CAUSE

- 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.

### SOLUTIONS

- Avoid painting vinyl siding with a darker color than the original color.
- Use a high-quality paint, which is generally formulated with superior flexibility.
- Siding that is warped or buckled should be assessed by a siding or home-repair contractor to determine the best solution. The siding may have to be replaced.

# WAX BLEED



## Definition:

Unsightly discoloration or a “wetting effect” on hardboard siding. The wax comes from the additives used to make the board more moisture-resistant.

## CAUSES

- Failure to apply the proper primer to the 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; wax bleeding is more likely in 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, whose low levels of resin allow wax to bleed through the paint film

## SOLUTIONS

- Unprimed boards should be primed or painted within 30 days. Factory-primed boards should be painted within 90 days of installation.
- On unprimed boards, apply the recommended primer and two topcoats. Follow the recommended film thickness application on the label.
- Select top-quality, oxidative primers and topcoats for unprimed hardboard to help prevent wax bleeding.
- First determine if wax bleeding is the problem:
- 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.
- 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.
- Rub the area with your finger. In severe cases, the wax feels like an oily substance. 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.
- 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.
- Rub the area with your finger. In severe cases, the wax feels like an oily substance.
- If the wax is light or moderate, the area can be cleaned with a detergent solution. In cases of severe bleeding, the surface must be cleaned thoroughly with mineral spirits. Dispose of all waste materials in accordance with local regulations.
- Allow the surface to dry thoroughly before priming. Prime the surface with a high-quality primer and finish with the recommended Dunn-Edwards top coat.

# WRINKLING



## Definition:

A rough, wrinkled paint surface that occurs when the topcoat dries before the bottom layer.

### CAUSES

- Painting during extremely hot weather, which causes the paint film to dry faster on the top than the bottom
- Painting when humidity levels are high
- Applying too thick a film of alkyd or oil-based paints
- Applying a top coat 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

### SOLUTIONS

- First, 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 chemical paint removers (wear safety gear as directed).
- Sand until smooth and remove dust.
- Avoid painting in high humidity or extreme temperatures (below 50° F and above 100° F).
- Areas stripped to the bare wood should be primed with a high-quality primer and allowed to dry thoroughly.
- Apply a high-quality paint. Avoid wrinkling by brushing out each coat thoroughly and allowing it to dry completely before applying the next coat.



# YELLOWING



## Definition:

Development of a yellow cast in aging paint; most noticeable in the dried films of white paints or 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.)

### SOLUTION

- Use a high-quality latex paint, which does not tend to yellow. Oil-based paints have a tendency to yellow, particularly in areas that are protected from sunlight and/or exposed to ammoniated cleaning products.



*let's get in touch*

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