

COMMON PAINT PROBLEMS AND POSSIBLE SOLUTIONS

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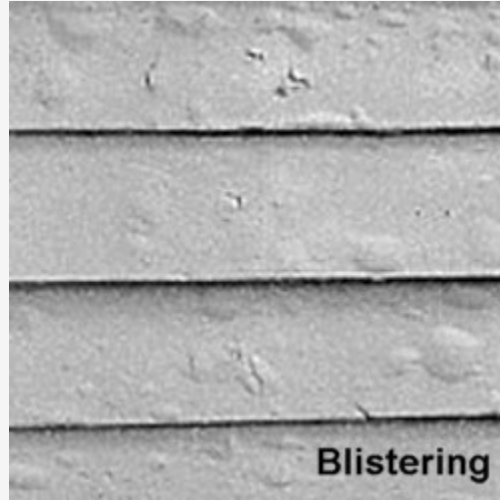
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"Put some colour in your life"

Common Paint Problems and Possible Solutions

1. Blistering Paint



Blistering Paint

Symptoms: Blistering

Blistering paint is identified by small to medium sized bubbles or blisters under the paint film and is most common on wood siding and trim.

Potential Causes:

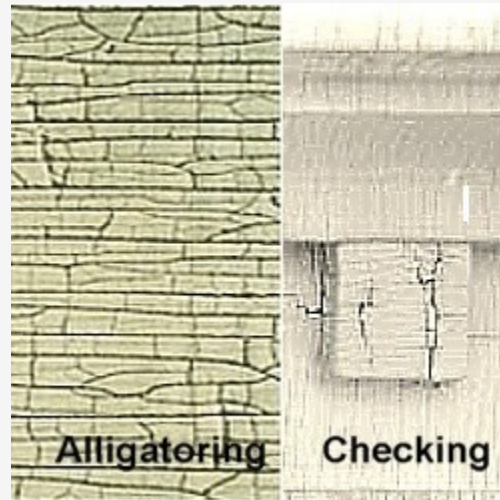
- Painting in direct sunlight on a hot substrate (surface being painted) which traps solvent vapor as the paint dries too quickly.
- Painting when the wood is damp causing trapped moisture to expand the paint film.
- Dew, rain or very high humidity after latex paint has dried if the latex paint is of lower quality or the substrate surface preparation was inadequate.
- House moisture escaping through the walls due to improper house ventilation.

Possible Repairs:

- Scrape away blistered paint and sand to bare wood.
- Let wood completely dry.
- Sand, prime and paint in non-direct sunlight and non-humid conditions.
- Use high quality latex paint.
- If due to lack of home ventilation, corrective repairs must be made to properly ventilate the home's walls, roof and eaves, bathrooms, etc.
- Check and repair any loose or missing caulking around windows and doors.

- Consider providing siding ventilation.

2. Alligatoring and Checking



Alligatoring and Checking Paint

Symptoms: Alligatoring and Checking

"Alligatoring" is a failure in the paint film where it takes on a cracking pattern of deep relief resembling a reptile's skin, such as that of an alligator. "Checking" is a similar failure but is less severe and is characterized by long, fairly evenly spaced cracks in the paint film having shallow relief or depth. Occasionally checking may become severe in some areas and a deeper crack or split in the paint will occur.

Potential Causes (Alligatoring):

- A second coat of paint was applied over a first coat of primer or paint base coat before it dried.
- A second coat of paint was applied over an incompatible paint such as a glossy paint or a hard oil enamel over a latex based paint.
- Oil based paints naturally aging and losing the little elasticity the paint film originally had, therefore it cracks due to fluctuations in temperature.

Potential Causes (Checking):

- Natural aging of several layers of older oil based paint. As the material having been painted shrinks and expands over time (usually wood), the paint has to move and as it loses elasticity, it checks.

Possible Repairs:

- The fix is the same for both problems.
- Remove the old paint, sand, prime and repaint with flexible latex based paint.
- Use high quality latex paint.

3. Efflorescence



Symptoms: Efflorescence

A problem of painted masonry construction, efflorescence is identifiable by crusty white salt deposits that bubble through the paint film from a masonry structure. Salts in the brick or concrete become dissolved with water and then leach to the surface as the water evaporates.

Potential Causes:

- Poor paint surface preparation where prior efflorescence was not entirely removed and washed before the surface was repainted.
- Heavy moisture migrating through exterior masonry walls from inside the home.
- Inadequately waterproofed basement walls allowing ground water penetration.
- Painting masonry construction before the concrete or mortar had adequately cured and dried out.
- Cracks in masonry wall or poor [tuckpointing](#) is allowing water to get behind masonry wall.

Possible Repairs:

- If moisture is getting into the masonry wall eliminate source of moisture by properly tuckpointing any cracks or missing mortar in the wall or patching concrete with a latex concrete patch, clean out gutters and downspouts, caulk joints around windows and doors with a butyl rubber caulk.
- If moisture is migrating through the wall from the outside (e.g., basement wall), apply waterproofing to outside of wall.
- Remove all efflorescence and loose flaking, chalking paint with a wire brush, scraping or [power washing](#) before repainting.
- Clean area with a trisodium phosphate cleaning solution and rinse with clean water.
- Let completely dry and paint with a high quality latex house paint

4. Chalking



Chalking Paint and Runoff Onto Brick Wall

Symptoms: Chalking

Chalking is identifiable as a fine chalky powder that forms on the surface of a paint film. Although some chalking is a normal way paints self clean when exposed to the sun and rain, excessive chalking can be a paint failure. In dry arid climates where there is little rain, chalking can become excessive. Chalking is actually the [paint pigment](#) released by the paint binders which have been broken down by exposure to the weather. Chalking is especially typical of very light colored flat paints, especially lesser quality oil based paints containing high levels of [pigment extenders](#). When chalking gets severe it may run off onto and stain surrounding construction as in the above photo.

Potential Causes:

- Use of cheaper quality exterior paint containing high levels of [pigment extenders](#).
- Improper paint was used in an exterior application (such as an interior paint).
- Lower quality factory finished aluminum siding.
- Over-thinning paint.
- Not properly sealing a porous surface before painting.

Possible Repairs:

- Chalking is considered dirt and must be removed before repainting.
- Remove chalking by [power washing](#) or scrubbing with a trisodium phosphate cleaning solution and rinse with clean water.
- Let dry and paint with a high quality latex house paint.
- To clean brick areas stained by chalking runoff the masonry should be scrubbed with a specialized masonry cleaning solution. If staining persists, a professional cleaning contractor may be required to clean the brick.

5. Sagging or Running



Symptoms: Sagging or Running

This paint failure is easily identified as a dripping or drooping look to areas of the paint film.

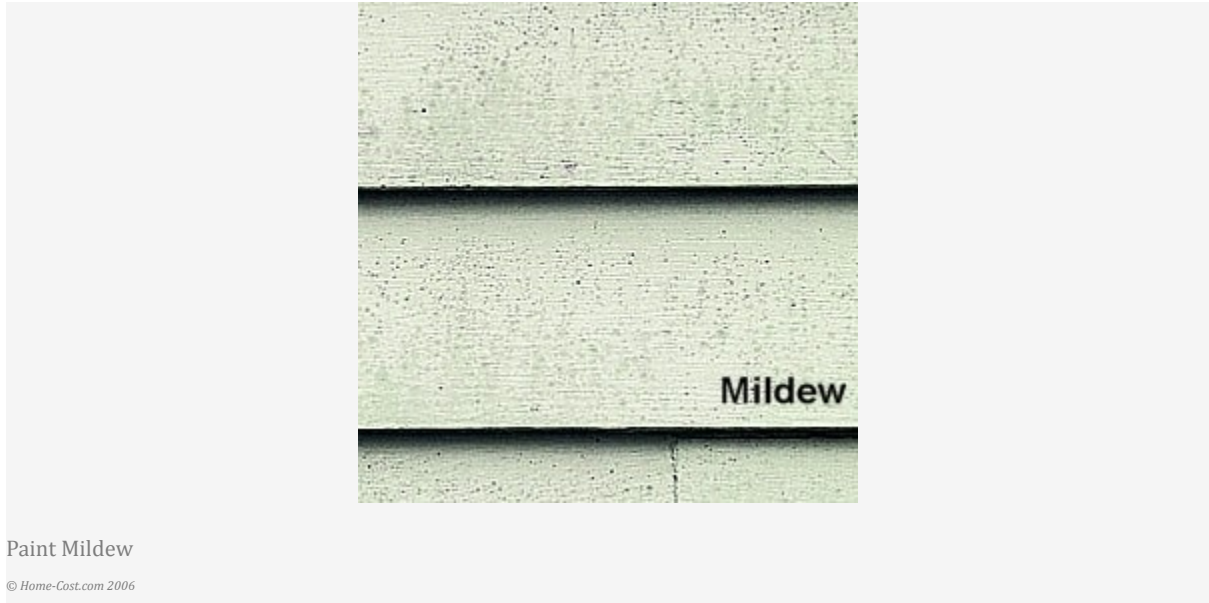
Potential Causes:

- Application of a coat of paint that was too heavy or overloaded.
- Heavy handed paint application.
- Paint thinned too much at time of application.
- Paint was applied in poor environmental conditions such as too cool or when humidity was too high.
- Paint was applied without primer to a high gloss vertical surface preventing the paint substrate from having the "tooth" necessary for the finish coat to adhere.
- Painted surface was not clean or properly prepared at the time of application.

Possible Repairs:

- If you catch the paint while still wet, use a brush or roller to redistribute the excessive paint evenly.
- If the paint is dried, sand the uneven area and lightly reapply paint.
- If paint was applied to a glossy surface, sand the glossy surface to dull it and create a "tooth" for the paint to adhere or apply a primer and repaint.
- Paint using two light coats instead of one very heavy coat.
- Do not overload the paint brush.

6. Mildew



Symptoms: Mildew

Mildew is a fungus feeding and growing on the paint film or caulk and is identifiable by its grey, brown, green or dark black "splotchy" spots.

Potential Causes:

- Combination of moisture, poor ventilation and lack of direct sunlight. Underside of soffits and eaves are especially prone to mildew.
- Painting over a surface or prior paint film that still had mildew.
- Use of lower quality paint having inadequate mildewcide.
- Not priming bare wood before painting.

Possible Repairs:

- Wearing [eye protection \(goggles\)](#) and rubber gloves, scrub vigorously with a trisodium phosphate cleaning solution or a household bleach solution of 1 part bleach to 3 parts water.
- Let the solution set on the cleaned area for 10-15 minutes.
- Rinse with clean water.
- Wash the area with a detergent solution and rinse again.
- Let completely dry and paint with a high quality latex house paint

7. Rust Discoloration



Symptoms: Rust Discoloration

This problem is characterized by rust colored reddish-brown to black stains on the paint surface.

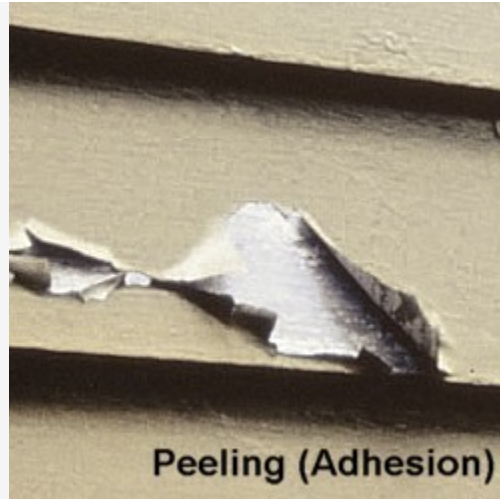
Potential Causes:

- Non-corrosion resistant nails were used instead of galvanized zinc plated or stainless steel nails.
- Steel nails became in contact with the air.
- Steel nails popping from surface.
- Excessive weathering or sanding has worn away galvanized coating on nail heads.
- Tannic acid from moist wood (e.g., oak) has reacted with steel nails creating a black stain.

Possible Repairs:

- If possible, replace steel nails with galvanized or stainless steel nails.
- If rusted nails can't be removed then remove rust by sanding nail heads to bare metal and countersink
- Prime with a stain blocking rust inhibiting primer
- Caulk, fill or patch depressed nail heads and sand smooth.
- Paint with a high quality paint.

8. Peeling Paint Due to Poor Adhesion



Peeling Paint Due to Poor Adhesion

Symptoms: Peeling Paint Due to Poor Adhesion

Peeling paint is a very common paint problem but can be caused either by moisture or poor adhesion. Peeling due to poor adhesion is characterized by the paint peeling and separating from an earlier paint layer (intercoat peeling) or from the substrate leaving some paint behind. Sometimes portions of earlier paint layers are visible under the curling, peeling paint layer.

Potential Causes:

- Painting over an surface with poor [paint surface preparation](#) such as being dirty, wet or shiny.
- Substrate had poor adhesion prior to being repainted.
- Applying oil based paint over a wet surface.
- Blistering paint allowed to progress in failure.
- Lower quality paint was used.

Possible Repairs:

- Scrape away old peeling paint and feather sand affected areas.
- Spot prime bare area.
- Caulk as required with [appropriate caulking product](#).
- Repaint with a high quality acrylic latex house paint

9. Peeling Paint Due to Exterior Moisture



Peeling Paint Due to Exterior Moisture

Symptoms: Peeling Paint Due to Exterior Moisture Under Paint Film

As mentioned in the previous section, peeling paint is a very common paint problem that can be caused either by moisture or poor adhesion. Peeling due to moisture is recognizable by large peeling sections of paint exposing bare wood underneath. Unlike peeling due to adhesion problems where peeling may be spotty, with moisture related peeling larger areas peel away often around windows, doors and gutters.

Potential Causes:

- Moisture getting behind paint film from failing or missing caulk, leaks in roof or wall systems or being too close to the ground.
- Faulty guttering or missing ventilation causing ice dams or water back up.
- Painting when the surface being painted is wet from condensation or rain.

Possible Repairs:

- Ensure proper drainage of gutters and downspouts flowing away from home.
- Eliminate cause or source of moisture by installing exhaust fans, soffit vents, siding vents, louvers, fans, and dehumidifiers.
- Repair and replace missing or damaged caulk.
- Scrape away old peeling paint and feather sand affected areas.
- Spot prime bare area.
- Caulk as required with [appropriate caulking product](#).
- Repaint with a high quality acrylic latex house paint.

10. Peeling Paint Due to Interior Moisture



Symptoms: Peeling Paint Due to Interior Moisture Under Paint Film

Peeling of interior paint due to moisture is characterized by cracking and gentle peeling away of the paint from the substrate as it loses adhesion due to the moisture. Moisture originating from behind the paint film or in front and forcing its way through the paint film can create this type of paint failure.

Potential Causes:

- High humidity areas such as bathrooms, kitchens, hot tubs, wet basement areas and the like can create humidity that penetrates the paint film from the front.
- Leaking flashing around a chimney or other exterior wall / roof intersection can allow water to seep into the house and wet the plaster from behind the paint film causing the paint to separate from the substrate.

Possible Repairs:

- Ventilate high moisture areas such as bathrooms by providing an exhaust vent fan that removes humidity and discharges to the outside.
- Ensure proper ventilation of the roof and walls and soffits.
- Repair missing or damaged flashing at chimney or other wall / roof connections.
- Scrape away old peeling paint and feather sand affected areas.
- Spot prime bare area.
- Paint with high quality acrylic latex paint.

Problem Identification and Solutions Table

EXTERIOR		
Problem	Possible Cause	Solution
Alligatoring - patterned cracking resembling the scales of an alligator.	<ul style="list-style-type: none"> • Application of a top coat before the undercoat is dry • Natural aging of oil-based (alkyd) paints due to temperature fluctuation. • Application of a hard coating (enamel) over a softer flexible coating 	<ul style="list-style-type: none"> • remove paint by scraping and sanding the surface. • prime the surface with a high-quality primer • paint with a top-quality exterior latex paint
Blistering - bubbles caused by loss of adhesion and lifting of the paint film from the underlying surface.	<ul style="list-style-type: none"> • painting in direct sunlight on a surface that is too warm • application of paint over a damp or wet surface • moisture seeping into the walls (interior or exterior) • insufficient surface preparation 	<ul style="list-style-type: none"> • If the blisters go down to the substrate then moisture is the problem. You will need to remove the source of moisture by either installing vents, exhaust fans, etc. Once moisture is dealt with sand, scrape and prime any exposed wood, then cover with a top quality exterior paint. • If blisters go down the previous coat, remove all loose paint, sand the surface and smooth out any edges. Allow sufficient drying time before reapplying paint.
Cracking or Flaking - the splitting of dry paint film through at least one coat. In early stages it appears as hairline cracks, in later stages flaking occurs.	<ul style="list-style-type: none"> • use of low-quality paint • spreading paint too thin • poor surface preparation • painting under cool or windy conditions which causes the paint to dry too fast 	<ul style="list-style-type: none"> • If cracking doesn't go down to the substrate remove the loose paint, sand to feather the edges, prime bare spots and repaint. • For cracking that goes down to the substrate, remove all paint. Prime the wood or plaster before repainting. Apply high-quality exterior paint at the recommended spreading rate and recommended thinning rate.
Efflorescence (white crystal deposits) - the formation of	<ul style="list-style-type: none"> • inadequate surface preparation 	<ul style="list-style-type: none"> • if moisture is the cause you will first need to eliminate the source. This could be

crusty white salt deposits, which are leaches to the surface of masonry or mortar as water passes through it.	<ul style="list-style-type: none"> • excess moisture escaping through the walls • insufficient curing time for new cement or mortar 	<p>repairing roofs or gutters, sealing any cracks in the masonry or installing vents or fans.</p> <ul style="list-style-type: none"> • remove all efflorescence from the masonry and rinse the surface. Apply a sealer, allowing it to dry completely, then apply a coat of high-quality paint.
Mildew - black, brown or green blotches that form on the surface or caulk	<ul style="list-style-type: none"> • damp or high-humidity areas that receive little sunlight/ ventilation • painting over a substrate containing mildew 	<ul style="list-style-type: none"> • remove by scrubbing surface with a 1:3 solution of household bleach to water. Allow surface to dry thoroughly. re-painting may not be necessary. If you do need to repaint, use a top-quality acrylic latex paint as it resists mildew better than oil-based or alkyd paints.
Rusting - reddish brown stains on paint surface	<ul style="list-style-type: none"> • use of non-galvanised nails • galvanised nails have begun to rust after excessive sanding or weathering 	<ul style="list-style-type: none"> • countersink the nail heads, then caulk with a top quality caulk. • coat with a rust-preventative primer then topcoat.
Paint incompatibility - loss of paint adhesion	<ul style="list-style-type: none"> • use of latex based paints over alkyd or oil-based paints 	<ul style="list-style-type: none"> • remove the existing paint. Prime and repaint using the right paint.
Peeling - loss of adhesion of a coating to the substrate	<ul style="list-style-type: none"> • excess moisture • inadequate surface preparation • painting over a dirty, wet or glossy surface 	<ul style="list-style-type: none"> • Find and repair any source of water • Remove all loose paint, sand rough surfaces and prime any bare wood. Repaint with a top quality paint.
Wrinkling - crinkled paint surface forming a skin	<ul style="list-style-type: none"> • paint applied too heavily • exposure of uncured paint to rain, dew, fog or high humidity • applying topcoat to undried first coat • painting over an 	<ul style="list-style-type: none"> • remove wrinkled coating by scraping and sanding. • Make sure first coat is dry before applying the top coat. Allow extra time if you are painting in hot, cool or damp weather. • Follow manufacturer's recommendations for spreading rate and environmental conditions.

	unclean surface	
INTERIOR		
Burnishing - an area that shows an unwanted increase in sheen or gloss of the paint film	<ul style="list-style-type: none"> • frequent washing and spot cleaning • use of a flat paint in an area where a higher sheen level would be better • use of low-quality paint with poor stain and scrub resistance • objects rubbing against the walls 	<ul style="list-style-type: none"> • choose a semi-gloss or gloss finish rather than a flat sheen in high traffic areas. • wait at least two weeks before washing dry paint film to assure maximum washability and durability • clean surfaces with a soft cloth or sponge and non-abrasive cleaners
Cracking or Flaking - the splitting of dry paint film through at least one coat. In early stages it appears as hairline cracks, in later stages flaking occurs.	<ul style="list-style-type: none"> • use of low-quality paint • spreading paint too thin • poor surface preparation • painting under cool conditions which causes the paint to dry too fast 	<ul style="list-style-type: none"> • If cracking doesn't go down to the substrate remove the loose paint, sand to feather the edges, prime bare spots and repaint. • For cracking that goes down to the substrate, remove all paint. Prime the wood or plaster before repainting. Apply high-quality exterior paint at the recommended spreading rate and recommended thinning rate.
Foaming or Cratering - formation of bubbles and resulting in small, round concave depressions.	<ul style="list-style-type: none"> • excessive brushing or rolling • applying a gloss or semi-gloss over a porous or unsealed surface • shaking a partially filled can of paint • use of a roller with the wrong nap length 	<ul style="list-style-type: none"> • All paints foam to some degree during application. Higher quality paints are formulated so that the bubbles break while the paint is still wet. • Sand problem areas before repainting. • gloss paints should be applied with a short-nap roller • apply a sealer or primer over pours or unsealed surfaces before the top coat
Mildew - black, brown or green blotches that form on the	<ul style="list-style-type: none"> • damp or high-humidity areas that receive little 	<ul style="list-style-type: none"> • Remove by scrubbing surface with a 1:3 solution of household bleach to water.

surface or caulk	<p>sunlight/ ventilation</p> <ul style="list-style-type: none"> • painting over a substrate containing mildew 	<p>Allow surface to dry thoroughly. re-painting may not be necessary. If you do need to repaint, use a top-quality acrylic latex paint as it resists mildew better than oil-based or alkyd paints.</p>
Picture framing - non-uniform colour when a wall is painted with a roller but is brushed at the corners.	<ul style="list-style-type: none"> • applying paint at different film builds • not keeping a wet edge while painting • incomplete mixing of the paint 	<ul style="list-style-type: none"> • make sure spread rates of rollers and brushes are similar and apply the coating as uniformly as possible • Don't cut in whole room before rolling. Work in small sections to maintain a wet edge. • all colours should be thoroughly shaken before use.
Poor hiding (Transparent) - failure of paint to fully conceal the underlying colour or surface.	<ul style="list-style-type: none"> • applying too thin of a paint • use of the wrong type of roller or brush • painting over a porous surface • use of a paint that is much lighter or darker than the previous coat 	<ul style="list-style-type: none"> • prime the surface with an appropriate primer before topcoating, especially if the substrate is new, darker or is a patterned wallpaper. • allow proper drying time before recoating • follow the manufacturers directions for spread rate.
Poor stain or scrub resistance	<ul style="list-style-type: none"> • applying paint to an unprimed substrate • use of low-quality paints • choosing wrong sheen or gloss • inadequate drying time 	<ul style="list-style-type: none"> • prime new surfaces for maximum film thickness • choose high-gloss or semi gloss paints for high traffic areas • wash with least abrasive material • allow adequate drying time. Scrub and stain resistance doesn't fully develop until the paint is thoroughly cured.
Roller marks or stippling - textured pattern left in the paint by the roller	<ul style="list-style-type: none"> • use of incorrect roller • use of incorrect rolling technique 	<ul style="list-style-type: none"> • do not let paint build up at roller ends • sand problem areas before repainting or applying additional coats • follow the recommended roller cover and nap size. • only use high quality rollers as these will

		ensure adequate thickness and uniformity
Wrinkling - crinkled paint surface forming a skin	<ul style="list-style-type: none"> • paint applied too heavily • exposure of uncured paint to rain, dew, fog or high humidity • applying topcoat to undried first coat • painting over an unclean surface 	<ul style="list-style-type: none"> • remove wrinkled coating by scraping and sanding. • Make sure first coat is dry before applying the top coat. Allow extra time if you are painting in hot, cool or damp weather. • Follow manufacturer's recommendations for spreading rate and environmental conditions.