Too much paint, too little primer, and water in the wrong places are some of the reasons paint jobs don't hold up.

No primer here led to poor adhesion and wholesale peeling to bare wood. One telltale sign was no trace of any white pigment on the wood or the back of the paint chips.

Make sure you prep and paint the butt edges and butt joints—to prevent this type of water penetration and peeling. Also avoid painting when the wood is swollen with moisture—lest it shrink and crack the paint at joints. This is more common with oil-base paint, since it's less flexible than latex.

Backed-up water from ice dams can wreck both interior and exterior finishes—including paint on soffit, facia, and siding.

KEEPING THE PAINT ON

by Henri de Marne

Paint is a marvelous product. It has preserved our buildings from the weather for hundreds of years and enhanced our quality of life by providing us with colorful exteriors.

For a successful and lasting application, however, it must be applied properly—something many people, who enjoy dipping brushes into buckets of paint and slapping it on wood, do not understand, even though they may relish the results.

Paint problems are mostly peeling problems. But there are some other types, including rusting nails and bleeding-through.

Peeling

Peeling problems result from several causes:

- Poor or improper preparation—or none at all.
- Water penetration.
- Moisture pressure.
- Overpainting.
- Other problems.

Peeling can take several forms: the paint can blister, flake, or crack. Examining its condition can give you clues as to what caused the problems, such as:

Poor preparation. Applying top coat on the bare wood without first brushing the dust off and priming is a frequent source of early peeling on new houses. Experienced painters carry a dust brush in their overall back pocket and brush all areas to be painted.

On already-painted buildings, paint failure can be caused by:

- Applying a new coat over chalky, dusty, oily, or dirty paint.
- Painting over mildew.
- Painting over shiny paint.
- Applying oil-base paint on a surface not thoroughly dry.

Some of the remedies should be self-evident, but others aren't. How should a surface be prepared to ensure a longlasting job?

Bare wood should first be brushed dry and then be primed with an oil-base primer; it has a greater penetration of the wood-fiber surface than latex.

It is best to brush the bare wood as you go along and prime only an area you can handle in a day. Try to do only one side of the house or stop at logical spots where picking up later will nor show Then, apply a finish coat over the day's prime coat within 48 hours, if possible. The longer you wait the weaker the bond is going to be, since the surface of the primer is increasingly compromised by dust and-weather.

Any quality finish paint can be used over the primer; it doesn't matter whether it's oil- or water-based.

Previously painted surfaces should also be brushed clean and even washed if dirt, chalk, mildew or other impurities are present. Rub your hand on the wood to determine chalkiness, a self-cleaning feature of many oil paints. Wash a small test area with detergent (tri-sodium phosphate works best) and water to determine if the blotchy look is caused by dirt, mildew or both. Dirt will come off but mildew spores will not be affected.

Mildew, however, will respond immediately to the bleach test; put a small amount of fresh bleach in a glass container, add the same amount of water, and rub the suspected spots with a white cloth dipped in the mixture. Rubber gloves and old clothing are advised as well as eye protection and old clothing. If the spots yellow and disappear before your eyes, mildew is the culprit and must be entirely removed before painting (or staining, for that matter).

A good way to clean a chalky, oily, or dirty surface while killing mildew spores is to wash it with a mixture of one cup tri-sodium phosphate (TSP), one quart fresh bleach, and three quarts of warm water (do not mix any products containing ammonia with bleach as the resulting gas is deadly). Use a scrub brush. Rinse

thoroughly with fresh water.

If mildew is a severe problem, follow the above treatment by scrubbing with a solution of 50 percent fresh bleach and 50 percent water but, this time, do not rinse. Let dry and follow immediately with painting before airborne spores of mildew are deposited again. (Water-based paints can be applied while the surface is damp but not wet.)

Mildew, however, is likely to recur. The spores are everywhere in the air and will take hold and develop wherever the conditions are propitious: warmth, humidity, and lack of sun. A mildewcide added to the paint should delay new growth for awhile.

Before repainting, remove all peeling paint, feather the edges of any paint still adhering, prime the bare wood and apply a new coat over all. A word of caution here. If the remaining coats of paint are thick, adding another on top may create more problems. It would be better to only spot paint the bare, primed areas—even though the house may look like it has a rash or jaundice—unless you want to sand down or remove the areas of thick paint areas. (See "overpainting" for further details.)

If the remaining coats of paint are thick, it would be better to spot paint only the bare, primed areas—even though the house may look like it has a rash.

The only reason to paint over an existing coat in good shape is to change color. If the paint is still shiny, it will have to be roughed up with sandpaper and brushed clean to form a good bond with the new coat.

Water Penetration. Rain water can penetrate though a variety of cracks and joints of materials and cause blistering or peeling. Vulnerable areas are: where siding meets corner boards and door and window casings; where siding butts siding; where siding is covered by unflashed trim boards; where proper head flashing was not installed over doors and windows; or where roof and siding are not properly flashed.

Water can also penetrate through deteriorating or improperly installed roofing, and deteriorating or improper flashings at chimneys, valleys, plumbing stacks, or other penetrations.

Water, whether rain or condensation, can be absorbed by wood sitting on flashing such as over a window and at the foundation. The wood should' be painted prior to installation. In addition, it is always best to have the flashing slope slightly away from the building and to keep the wood 1/4 inch above the "horizontal" of the flashing.

Butts of siding not properly painted, split boards, knots, headed nails driven too hard, and finish nails not puttied will also allow water absorption by the wood fibers and result in paint peeling and staining.

Water splashing from a lower roof, a sidewalk, driveway, or stoop, and water backing up behind ice dams and running inside soffits and walls can also cause paint failure.

Caulking is essential wherever water can penetrate despite what you may have read by those who insist that all these joints must be left open so the house can breathe. And the choice of caulking makes a difference. This writer's prejudice, after 30 years in the construction business, is strongly in favor of polyurethane caulking. Like other materials, it must be properly applied to benefit from its superior qualities.

Moisture pressure. Excessive interior moisture is also responsible for many paint problems. The greatest contributors are bare earth and leaky crawl spaces, cellars, and basements. To insure a lasting paint job, steps should be taken to resolve these problems first.

The tightness of the construction, the size of the house, the number of people living in the house, their habits, and the number of potted plants they keep all have considerable influence on the exterior paint job.

And so does the attic! Its size, the amount and effectiveness of ventilation, and the presence and effectiveness of a vapor retarder below the insulation contribute greatly to the moisture pressure in the house.

Painting over alligatoring is a waste of energy and money. With this paint condition, remove all paint down to bare wood by scraping, sanding, or heat gun (never a torch).

If paint problems can be legitimately attributed to interior moisture, the whole gamut of possible sources should be examined and brought under control.

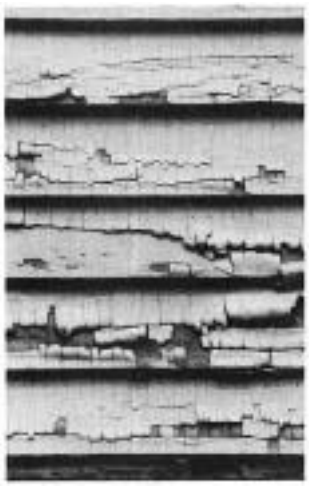
Overpainting, alligatoring. Cross-grain cracking and alligatoring are frequently found on older houses that have been painted many times over the years, and often before a new coat of paint was due. These problems occur because the paint becomes too thick to flex with the seasonal movement of the wood. This problem is most common in areas that are sheltered from the weather—such as porch ceilings, and walls protected by porches or overhangs. In these areas, the paint does not have an opportunity to wear thin between paintings. If paint is in good shape, and not worn thin from the weather—it should be washed, not painted (unless a change of color is desired),

The paint principally cracks perpendicular to the brush strokes, which generally follow the grain of the wood. Hence the term "cross-grain cracking." The phenomenon is also known as "alligatoring" because the cracking paint mimics the pattern of the skin of that amphibian.

If this is the paint condition, all paint should be removed down to bare wood by scraping, sanding, or heat gun (never a torch). Painting over alligatoring is a waste of energy and money.

Other paint problems. Blistering can also occur when a second coat of oil-base paint is applied before the first one is thoroughly dry. In this case, paint thinner instead of water vaporizes under the influence of the sun and causes the paint to blister.

Bleed-through can be caused by certain natural wood products. Redwood and cedar contain a pigment which is dissolved by moisture and leaches out onto painted surfaces through cracks in the paint surface. Resolving the moisture problem, whether it is through leaks from the outside or from internal moisture pressure, then letting the wood dry over several months of summer and fall, is the solution.



People paint too often—causing alligatoring and cross-grain cracking. These problems are most common on areas sheltered from the weather where the paint is put on but never wears off. Painting every 5 to 10 years is best.

The remaining stains can be washed off with a mixture of 50 percent denatured alcohol and 50 percent water after the failed paint has been removed. The edges of the sound paint should be feathered and the wood primed as explained above.

Hardboard siding has similar problems. Bleed-through is caused by some of the products used in its manufacture—including wax. The treatment is similar to that for redwood and cedar; the composition siding must be allowed to dry and the reason for its wetness removed. Hardboard siding is more prone to problems caused by internal moisture pressure because it does not have the moisture storage ability that wood has.

Some species of wood exude resin at knots. This may be a tricky problem to resolve. The excess resin should be removed with a sharp knife or chisel and the knot treated with a stain killer such as B.I.N. This treatment may not be successful at first. It may have to be repeated until most of the resin has oozed out.

Nailhead staining is caused by rusting nails. Hot-dipped galvanized nails should prevent this. Where encountered, the rust should be removed by sanding, wirebrushing, or the application of a liquid rust remover. The coated nail should be slightly countersunk and primed. The hole should be filled with caulking which can be painted when dry.

Obtaining a successful and lasting paint job requires proper preparation of the surface, good application procedures and quality products. Where failures occurred in the past, you'll need to find and resolve the underlying problems if you want the new coat to last. ■

Henri de Marne was a remodeling contractor and custom builder for 25 years in Washington, D.C., and Vermont. He now consults, does home inspections, and writes a nationally syndicated column.