

TECHNICAL BULLETIN

Multiple Coat Peeling

Multiple coat peeling is when more than one coat of paint peels from a substrate. Multiple coat peeling is caused by loss of adhesion of an underlying paint layer. It commonly occurs when a newly applied finish and layers of previously applied paint peel down to the bare surface itself (wood, masonry, metal, etc.) or to a previous coat of paint. Multiple coat peeling is not caused by poor topcoat adhesion since the topcoat is still adhering to the paint film it was applied over.

What factors contribute to multiple coat peeling?

Multiple coat peeling is caused by one (or a combination) of the following factors:

Moisture

Moisture trapped behind the multiple coat paint film can cause it to peel to the bare substrate. If the underside of the peeled paint is stained or discolored, this indicates moisture caused the multiple coat peeling.

Paint Film Buildup

Excessive paint thickness can cause stress within the multiple layers of paint with peeling occurring at the weakest point. Older and more brittle coats of paint under the topcoat cannot withstand the repeated shrinking and swelling of the substrate created by changing temperatures. This can cause the paint film to break and peel. If the peeled paint is brittle, cracked or checked, this indicates paint film buildup caused the peeling.

Previous Coat Applied Over Poorly Prepared Surface

A weak bond is formed if a previous coat of paint was applied over a dirty, mildewed, chalky, slick or glossy surface. If the adhesion is very poor, immediate peeling may occur. If the

adhesion is marginal, the initial adhesion may be satisfactory, but multiple coat peeling may occur at this weak point at some later date after additional coats of paint are applied. If the underside of the peeled paint is dirty, mildewed, chalky, slick or glossy, this indicates the peeling was caused by a previous coat of paint being applied over a poorly or marginally prepared surface.

What should be done before repainting?

1. Inspect and repair any possible sources of moisture intrusion such as leaky roofs, gutters, uncaulked or improperly caulked joints, faulty construction, etc. Install vents if necessary to relieve excessive moisture, especially near kitchen, bathroom and laundry areas.
2. Scrape off all loose, flaking and peeling paint back to the sound surface. If not removed, this may result in future failure. Scuff sand any slick and glossy areas to provide tooth for the new paint.
3. Clean the surface to remove mildew, dirt, chalk, and other contaminants using a cleaning solution of household chlorine bleach, water and liquid dishwasher detergent. See Dunn-Edwards' brochure on Mold & Mildew. Rinse with clean water and allow to dry thoroughly.
4. Scuff sand any bare wood and spot prime exposed substrates with the appropriate Dunn-Edwards primer.

Finish with a Dunn-Edwards topcoat of choice, following all label directions pertaining to your particular surface and its condition. Proper sealing, ventilation and surface preparation followed by the use of quality paints are the most important steps in assuring a good paint job that will protect your investment for years and increase its value.

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4885 East 52ND Place, Los Angeles, CA 90058
(888) DE PAINT (337-2468) | dunnedwards.com

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