

TECHNICAL BULLETIN

Surfactant Leaching

What is Surfactant Leaching?

The phenomenon known as surfactant leaching is described by several names: streaking, surfactant staining, exudation and weeping. These stains (glossy, tan or brown) can occur with any exterior latex paint when certain environmental conditions exist, or occasionally with interior latex paint exposed to intermittent (e.g., bathroom) or continuous (e.g., saunas) high moisture and/or high humidity.

What are Surfactants?

Surfactants are a necessary ingredient in all latex paints. They are commonly referred to as specialized soaps. Their purpose is to stabilize the paint so that it will not separate or become too thick to use. They also keep the pigments dispersed and help wet the substrate so that the paint won't crawl (move or slide) when it is applied. Surfactants are also an ingredient in colorants. They help to provide compatibility when colorants are added to the paint. This helps ensure that the correct color is developed as well as help prevent the color from changing when different application methods (brush, roll or spray) are employed.

What causes Surfactant Leaching?

Surfactants will slowly migrate to the surface of the paint film during the curing process. The rate and amount of surfactant leaching will depend on the conditions under which the paint is applied and dried. When latex paints are applied in cool, damp and humid conditions or the freshly painted surface is exposed to dew or light rain, the surfactants are extracted rapidly out of the paint film. Leaching can also occur if paint is

applied when the air and/or surface temperatures are below 50° Fahrenheit. When these conditions exist, as the paint dries, the surfactants can remain on the surface of the paint film causing discoloration or streaking. Darker colors, which contain more surfactant as result of the addition of colorant, are more prone to surfactant leaching.

How do I correct and prevent Surfactant Leaching?

If leaching has occurred in the first few days after the paint has been applied, the surfactants can usually be cleaned or rinsed off using a strong stream of water from a garden hose. On surfaces such as concrete tilt-up and smooth plaster, a soft nylon brush may be used to remove the more difficult stains. Once the surface has been rinsed and cleaned, any remaining surfactants will be removed by weathering. In milder cases of staining, it may be best to allow the stains to self-correct with subsequent rain and weathering. The surfactants pose no threat to the durability or integrity of the paint film.

To help prevent or minimize the occurrence of surfactant leaching, it is important to follow these guidelines:

1. Do not paint when conditions are cool, damp or humid.
2. Do not paint shortly before or after cool, damp or humid conditions.
3. Do not paint a day before or after a rainfall is forecasted, when the air is moisture-laden.
4. Do not paint late in the day when mist, dew or other moisture may be present on the substrate.
5. Do not paint when the air and/or air surface temperatures are below 50° Fahrenheit.

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