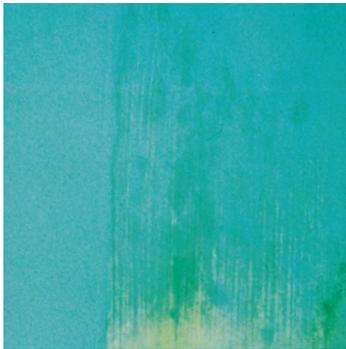


TECHNICAL BULLETIN

Alkali Burn

What is Alkali Burn?

Alkali, or pH burn, is a condition that occurs when high alkalinity in fresh masonry substrates break down the paint's binder (resin) resulting in eventual deterioration of the paint film. This deterioration is seen as a loss of color and blotchy appearance,



and in cases where the alkalinity is very high, the paint film will actually begin to deteriorate, resulting in premature chipping, flaking or peeling from the substrate. This is most common with oil based and vinyl acrylic paints. Even 100% acrylic paints

can also be affected if alkali sensitive organic colors (such as QTC-01 & 09) are used. The color loss occurs because the high alkalinity (lime in concrete and masonry mix) reacts with the organic colorants in the paint and "burn" the color out.

How to determine pH in masonry substrates?

The pH value is the measurement, or number, on a scale from 0-14 with 7 being neutral. As a reference, water has a pH of 7 and is therefore neutral. A measurement of 0-6 indicates acidity and values from 8-14 indicate alkalinity. There are various ways you can determine the pH level in masonry surfaces. The simplest method is to use a pH pencil, available for purchase in Dunn-Edwards stores (stock # PH-290102). To determine the pH, the masonry should be dampened with distilled water. This can be done with a "pump-squirt" bottle. Once the surface

is damp, scratch the pencil across the surface and then check the color against the color scale provided in the kit. If the pH is higher than 10, the masonry surface should be allowed to continue to cure.

What must I do if Alkali Burn occurs?

If alkali burn has occurred, the area(s) must be repaired by removing all affected coating through scraping, or other mechanical means. Once the affected coating is removed, the substrate should be clean and free of any residual lime deposits or efflorescence (white, fuzzy salt deposits) before painting. A suitable high-quality alkali resistant primer should be used to prime the area, such as EFF-STOP® Premium (ESPR00) or SUPER-LOC® Premium (SLPRA00A/SLPRB00). Once primed, the area may be top coated with a high-quality water-based finish.

How can I prevent Alkali Burn?

Most masonry surfaces need to cure for at least 30 days before painting. Periodic rinsing of the surface will also help to reduce and rinse away the lime deposits as they come to the surface of the masonry during the curing process. If it is not possible to allow for a full 30 day cure, then a high-quality, alkali resistant primer should be used. Additionally, a high-quality water-based paint should be used as a top coat, and avoid using colors that are alkali-sensitive. Dunn-Edwards' Perfect Palette® color system uses unique symbols to assist customers when choosing colors that may be susceptible to alkali burn. It is recommended to avoid using any colors that include this symbol:



Alkali-Sensitive—may fade on highly alkaline masonry surfaces

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