Reichert & Sons Painting

pH Burn: *An uncommonly common problem*

Over the years, alkali or pH burn has been creating headaches for painters, builders, homeowners, and paint suppliers alike. It's what I call an uncommonly common problem. What I mean by that is that it occurs often, but not to the same person or company. For example, a painting contractor that's been painting for 20 years may only come across this two, three, maybe four times in his or her career. However, most everyone in our field will run into a pH burn problem. It is becoming more common today with the new cementitious lap siding dominating the housing industry. To make a long story short, if you paint concrete, stucco, or any cementitious lap siding substrates, to early, you have a good chance you will experience pH burn. In most cases, spotty fading or burning of color will occur. Worst case would be complete failure of the coating. A simple solution to this is to wait before you paint and perform multiple pH tests before painting. If you cannot wait, certain primers must be used to guarantee the acceptable pH level needed for painting.

What is pH?

PH is the measurement of acidity or alkalinity. A pH of 7 is neutral. The pH values from 0-6 Indicates acidity and from 8-14 alkalinity. The value of water is 7, thus regarded as neutral.

What is Alkali Burn?

Alkali or pH burn is a condition that occurs when fresh mortar, cement mixes and/or cementius lap siding is too fresh. This causes the breakdown of vinylacrylic based coatings binders. When using. 100% Acrylic coatings tinted with organic colorants, it will result in color loss due to the colorants reaction with the lime in the concrete mix. Color loss and deterioration of the coating film is most likely to occur when coatings are prematurely applied to masonry surfaces that are less than one year old. After the above have cured, any moisture being introduced into these substrates may cause efflorescence, blistering and peeling of the coating film due to the reactivation of the high alkalinity. A pH reading of 7-10 will allow for improved coating success.

How can I eliminate or prevent Alkali Burn?

All masonry surfaces should be allowed to cure a minimum of 28 days and ideally for one (1) year prior to the application of any type of coating and even then the pH should be checked. Proper surface preparation and testing can help avoid alkali burn. Coronado makes available a pH pencil (IMA.1220) to perform this pH test. Always try to use inorganic colorants when tinting a color. Organic are more sensitive to alkali burn than inorganic colorants. The use of alkali resistant primers like

Sherwin Williams Loxon/Loxon conditioner masonry primer
Elastomeric Masonry Primer Sealer
Acrylic Masonry Sealer can also help in the elimination of the phenomenon.

What must I do if Alkali Burn occurs?

1. **Remove all efflorescence and allow the surface to dry thoroughly.**
2. **Apply one of the Sherwin Williams alkali resistant primers listed above.**
3. **Follow all manufacturer requirements when finishing cementitious lap siding**

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