

Alkali Burn

Over the years, 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. To make a long story short, if you paint concrete, stucco, or any cementitious substrates, too early, you have a good chance you will experience pH burn. In most cases, spotty fading or burning of color will occur. Worst cases, delamination and complete failure of the coating. A simple solution to this is to wait before you paint and perform multiple pH tests before painting. We provide this service free or you can purchase a pH pencil from us and perform your own tests on your own schedule. Who needs more headaches? Help us, help you! **PERFORM pH TESTS BEFORE YOU PAINT! PLEASE!**

What is Alkali Burn?

Alkali or pH burn is a condition that occurs when fresh mortar, cement mixes and/or concrete is too fresh (New), been improperly hydrated, or an improper formulation was used. This causes the breakdown of oil-based or vinyl-acrylic 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.

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.

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 colorants (AX, D, E, M, R, or T) are more sensitive to alkali burn than inorganic colorants. The use of alkali resistant primers like Coronado 43-11 Elast-O-Meric Masonry Primer-Sealer Pigmented (Non OTC Compliant), 48-10 Elast-O-Meric Acrylic Masonry Sealer Clear or 48-11 Elast-O-Meric Acrylic Masonry Sealer can also help in the elimination of the phenomenon.

What must I do if Alkali Burn occurs?

1. The source of the moisture must be repaired by removing all failed coatings, caulk, etc and replacing caulking and patching compounds as required
2. Remove all efflorescence and allow the surface to dry thoroughly.
3. Apply one of the Coronado alkali resistant primers listed above.
4. The application of a flat coating will allow for best performance due to its ability to allow for vapor transmission through the cured coating film. Non permeable coatings are more likely to blister and peel due to their lower permeability.