

Technical Bulletin

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Technical: 800-760-2861•FAX 706-569-6704

MW# 170-080111

Topic: Efflorescence Considerations

Related Bulletins

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What is Efflorescence?

There are more technical explanations, but [efflorescence](#) at its most basic level is the depositing of salts on the surface of a material. It's common in any material that contains Portland cement and seems to be more common during application in cooler weather and/or on shaded walls. It can happen under rainy conditions as well – it's unpredictable.

What causes Efflorescence?

Water and Portland cement. That's the short answer but in traditional and One Coat Stucco the materials are hydrating and as part of their normal curing process can have efflorescence. Water on the surface and cool, damp conditions can cause it to form, and water behind the wall can definitely cause long-term efflorescence issues – that's why it's important to keep water from getting behind the wall during construction.

Remember all that water you used mixing the base coat or stucco? It's got to go somewhere. Initially a lot of that water goes away during the initial set, but it's generally considered not fully cured until 28 days. During that time the water is still passing through the wall and it can leave deposits on the finish given the right conditions.

Thinly applied finishes can also make efflorescence more visible.



This home had "fading finish". It's not fading, it's efflorescence. Original color at downspout.

..and you thought waiting 7-14 days for stucco curing was just to slow the job down

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Is Efflorescence a Problem?

It's a job-related nuisance. Common concerns include the following:

- ❑ It will need to be removed from approved concrete, masonry and brick prior to application of our products.
- ❑ It can form on traditional stucco, Master Wall Cemplaster and One Coat Stucco as well as our cement type base coats and can prevent bond of the finishes.
- ❑ It can form on the surface of the finish, as the base material is still curing.
- ❑ It can be misinterpreted as a "fading finish".
- ❑ It can cause streaks or visual stripes in the building if conditions are right.
- ❑ It can appear to come back to the original color when wet.
- ❑ It can be more visible on dark colors compared to light ones. See our [bulletin](#) for dark color strategies.



Uncapped wall lead to a streaky appearance on this dark color

The typical field check for efflorescence is to rub your finger over the surface. If you remove white deposits it's most likely efflorescence.



How do you avoid Efflorescence?

Under some conditions it's nearly impossible to avoid getting some efflorescence, but there are some good strategies that have helped reduce the occurrence:

- ❑ Prime the base coat or stucco with Primecoat or Sanded Primecoat Primer. This equalizes finish absorption and the dried coating helps to keep from excessively re-hydrating the base coat. This is especially true for dark colors, as they tend to show efflorescence more.
- ❑ Keep your wall dry. Take care to make sure water can't run down the wall surface or get behind the surface. If the schedule allows, avoid working during damp, high humidity or cool conditions.
- ❑ Make sure the timing is right. Both stucco and EIFS base coats take longer to dry during cooler temperatures and higher humidity. Make sure they're ready. Take a little more time if darker colors are used.
- ❑ Use only clean, potable water, as we require.

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Removing Efflorescence

Efflorescence is normally an easily removed powder if you're quick to recognize its occurrence. With the proper precautions, the following methods have been successful at its removal:

- ❑ Dry Brush & Water: scrubbing the surface with a soft bristle brush, then rinsing is a quick and easy way to remove light efflorescence.
- ❑ White Vinegar: clean, green and not too smelly, white vinegar is a mild acid and can be used and it can be used either 1:1 with water for light efflorescence or full strength for more stubborn conditions. Pre-wet the wall with water prior to lightly spraying on the vinegar solution.
- ❑ Wind-Lock/Sentry Chemical Efflorescence & Scale Remover: Apply per their recommendations.
- ❑ Sure Klean 600 (hydrochloric acid): Dilute 1:20 with water and follow ProSoCo's recommendations.
- ❑ Muriatic Acid: Safety precautions are definitely necessary and extreme care is needed if you're applying it over finishes (it can damage it and it won't be warranted). Dilute 1:20 and don't leave it on the surface long to avoid damage. Pre-wet the wall before application and rinse thoroughly.



Top: Test Wall
Middle: Muriatic acid
fizzes on wall
Bottom: Dried and
restored finish

Always pre-test cleaners in a small inconspicuous area. In all cases don't use a pressure washer, just a low-pressure pump. Work from top to bottom of the wall surface. At most leave the cleaners on the surface no more than 5 minutes or until fizzing stops. Allow to dry thoroughly before application of any additional products.

Efflorescence is a common occurrence in any Portland cement based material and is more common in cooler temperatures and especially over dark colors. Proper curing and priming helps reduce efflorescence. It is not a product defect nor is it an indicator of poor application practices. Luckily it's easily removed.

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