PAREXUSA

Efflorescence on Walls

Technical Bulletin

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Efflorescence is defined as a crystalline deposit of soluble salts, usually white in color that appears on the surface of concrete, masonry, or stucco. Efflorescence salts are usually sodium, potassium, magnesium, calcium, and iron (ferrous); carbonates of sodium, and calcium; or sodium bicarbonate or silicate. However, almost any soluble salt that finds its way into the material may appear as efflorescence.

All masonry and concrete materials are susceptible to efflorescence. Water-soluble salts that appear in chemical analysis as only a few tenths of one percent are sufficient to cause efflorescence.

Temperature, humidity, and wind particularly affect efflorescence. In the summer, even after long rainy periods, moisture evaporates so quickly that comparatively small amounts of salt are brought to the surface. Usually efflorescence is more common in the winter when a slower rate of evaporation allows migration of salts to the surface.

1. Efflorescence needs 3 things for it to occur:
   - There must be soluble salts in the material
   - There must be moisture to pick up the soluble salts, and carry them to the surface.
   - Evaporation or hydrostatic pressure must cause the solution to move.
   - Note: If any one of these conditions is not there, efflorescence cannot occur.

2. “Lime Bloom Efflorescence” is a calcium carbonate deposit, which forms in the following way.
   - Portland cement chemically creates calcium hydroxide as it cures.
   - Small amounts of calcium hydroxide migrate to the surface and react with carbon dioxide from the air to form a film of calcium carbonate or “Lime Bloom”

- Instructions state that the finish coat is to be applied to surfaces free of efflorescence. In any material that contains portland cement, efflorescence can to occur, and is more likely under cool damp conditions. Adequate protection of the system from moisture while it is being installed can reduce the likelihood of efflorescence occurring.

The occurrence of efflorescence is not a defect in the Parex products.

How to Remove Efflorescence:

Caution: Test a small area in an inconspicuous location and allow the tested area to dry. Then evaluate the results before proceeding. Several applications on the same area may be needed.

If you are not trained and equipped for the handling of corrosive chemicals hire a qualified contractor who is. Parex USA, Inc accepts no liability for injury or damage that occurs in the course of cleaning or treating efflorescence.

To remove efflorescence, the wall should first be dampened with water to wet the wall. While the wall is wet, try a sponge application of household 5% vinegar diluted 1:1 with water. Allow the vinegar solution to remain on the surface but do not allow it to dry. Rinse the solution off with plenty of water. Evaluate the results after drying and keep in mind that multiple applications are often needed. If a vinegar solution is not effective, use a commercial efflorescence remover.

Before you use efflorescence removal products, read, understand and follow the manufacturer's Safety Data Sheet and take all necessary precautions for personal safety and to prevent damage to the surroundings.

To remove efflorescence with commercial products, the wall is first dampened with water followed by an application of a commercial sulfamic acid based efflorescence remover such as TileLab Sulfamic Acid Cleaner or a muriatic acid based efflorescence remover such as PROSOCO Residential BricKLEAN. These two products are given as examples only. There are other brands available.

Make sure you apply the cleaning solution while the wall is still damp.

Once the wall is dry, evaluate for remaining efflorescence. Several applications may be needed. Rinse thoroughly between applications. A soft nylon brush can aid in removal of the efflorescence but proceed with caution because it can cause removal of color from the finish.

Even when removal is complete, efflorescence can recur in time, although usually more lightly.

Sometimes efflorescence cannot be completely removed without damaging the finish. Do not continue with efflorescence removal to the point that it damages the finish. If desired, light residual efflorescence that remains can be covered by one of the coatings appropriate to the finish type as follows:

For cement based stucco finish, apply Fog Coat or Parex USA Allegro II coating. Unlike paint, if it is ever desired in the future to apply new stucco, these coatings can be stuccoed over without removing them first.

Lime bloom efflorescence on acrylic finishes is uncommon because acrylic finishes typically contain no cement. However, sometimes the stucco basecoat in back of an acrylic finish can be a source of efflorescence that comes to the surface. To cover residual efflorescence on acrylic finishes, apply Parex USA Acrylic Coating.

For satisfactory appearance it is usually necessary to apply the coating to the entire wall area or elevation and not just spot treat the efflorescence.

Parex USA, Inc. makes no warranty of the effectiveness of these efflorescence removal techniques or treatments. The user proceeds at his or her own risk.

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