

EFFLORESCENCE: A simple Explanation, A Simple Solution

What is Efflorescence?

Efflorescence is a deposit of soluble salts, usually white in color, which sometimes appears on the surface of masonry or concrete construction. Often efflorescence is apparent just after the structure is completed, when the builder, architect and owner are most concerned with the appearance of the new structure.

There is no need to panic; however this phenomenon has a simple explanation and an equally simple solution. A combination of circumstances causes efflorescence:

1. First, there must be soluble salts in the masonry.
2. Second, moisture must be present to pick up the soluble salts and transfer them to the surface.
3. Third, some force, evaporation or hydrostatic pressure must cause the solution to move.

If any one of these conditions is eliminated, efflorescence will not occur. In most cases, salts that cause efflorescence come from construction materials, masonry units or mortar.

There are occasions when efflorescence occurs from a chemical reaction between the chemicals in the materials and the chemicals in the atmosphere. Efflorescence is particularly affected by temperature, wind and humidity. It is more common in the Western States during the winter months when more rain is present and a slower rate of evaporation allows migration of salts to the surface. Moisture may also enter a masonry wall due to vapor from the interior of a building and accumulate within the wall as it condenses, or rainwater may enter the masonry during construction. Proper protection can help alleviate this problem.

Will Waterproofing Cure Efflorescence?

Waterproofing materials are designed to inhibit efflorescence by preventing rainwater from entering the wall. However, they have no effect on efflorescence caused by construction moisture.

Efflorescence is a normal construction "phenomenon". Once the building is waterproofed we can expect a certain amount of efflorescence caused by residual construction moisture. Once that efflorescence is removed we expect no new efflorescence. In other words no new water is allowed to enter the walls.

