



Barnes & Cone
ARCHITECTURAL MASONRY

EFFLORESCENCE & CALCIUM CARBONATE WARNING FOR SEGMENTAL RETAINING WALLS

All Masonry materials, including Brick, Stone, Concrete Pavers and Segmental Retaining Wall units can develop Efflorescence. Your material supplier or Contractor cannot predict when or where it will occur and cannot be responsible for its presence.

The causes of Efflorescence are a combination of circumstances, typically soluble compounds present in the wall or surrounding area are carried to the surface by moisture that is present and forced to the surface by either hydrostatic pressure or evaporation. If any of these conditions are eliminated, then efflorescence will not occur.

Calcium Carbonate is a hard white deposit that can develop on the surface of masonry and is extremely difficult to remove. Effective methods of removal can alter the texture of the block and requires treatment of the entire wall area.

Segmental Retaining Walls (SRW) are more susceptible to Efflorescence as the moisture that is present behind many walls continuously drives the soluble compounds to the surface.

There are many things that you can do to minimize the potential for Efflorescence for a Segmental Retaining Wall, such as:

- 1) Place a minimum of 12" of angular free draining stone behind the SRW.
- 2) Install 4" Perforated Drain Pipe behind the first course of block.
- 3) Divert the moisture from flowing through the wall or divert it to daylight at the end of the wall.
- 4) Install filter fabric between the drainage stone and the retained soil.
- 5) Create a swale at the top of the wall if possible to divert water from the wall.
- 6) Direct gutters and downspouts from any nearby roof away from the wall.

If you have Efflorescence or Calcium Carbonate on your segmental retaining walls, there are methods to clean the surface but the cause of the Efflorescence should be corrected or recurrence will be likely.

Consider hiring a professional contractor who is familiar with cleaning methods for the best results. Whatever cleaning method is selected, the Efflorescence may not be completely removed. Cleaning with EaCo Chem products should only be considered when temperatures will be above 40 degrees.

NMD 80 product literature states: *Biodegrades readily. Generally NMD 80 runoff should be neutral within an hour in exterior cleaning where runoff is not collected.*

Cleaning methods:

For Efflorescence.....NMD 80 from Eaco Chem. Follow the manufacturer's instructions for a "Low Pressure Application". Read the product data sheet for complete instructions of precautionary measures and application instructions.

We always recommend that you try your cleaning method on a small area and allow it to dry completely so you can evaluate the effectiveness of your process.

A summary is as follows:

1. Protect surrounding or adjacent materials. Be especially careful of colored concrete by having someone continuously rinse the surface.
2. Lightly Pre-wet the surface (do not soak) of the retaining wall.
3. Apply NMD 80 with EC Jet to the entire surface to be cleaned. Note: The standard dilution rate is 4 parts water to 1 part NMD 80.
4. Do not brush-apply or scrub the surface.
5. If needed, repeat application to melt remaining residue and extend dwell time. If there is no foaming, the residue is ready to be rinsed.
6. Rinse the wall from the top down using long even strokes that overlap each other.
7. Do not allow the product to dry on the surface.

For Calcium Carbonate Efflorescence.....White Scum Presoak from Eaco Chem will be used prior to using NMD 80. Follow the manufacturer's instructions for "Application". Read the product data sheet for complete instructions of precautionary measures and application instructions.

Note: There is a danger of burning the surface if the product is used undiluted repeatedly.

We always recommend that you try your cleaning method on a small area and allow it to dry completely so you can evaluate the effectiveness of your process.

A summary is as follows:

1. Protect surrounding or adjacent materials. Be especially careful of colored concrete by having someone continuously rinse the surface.
2. Lightly Pre-wet the surface (do not soak) of the retaining wall.
3. Apply White Scum Presoak (undiluted) via sprayer on the areas of white scum or calcite. Allow the White Scum Presoak a 5-10 minute dwell time.
4. Then apply NMD 80 (diluted 4:1 - water to NMD 80) to the entire surface, wet on wet without rinsing in between. Allow the NMD 80 a 5-10 minute dwell time.
5. Rinse the wall from the top down using long even strokes that overlap each other.
6. Do not allow the product to dry on the surface.