

EFFLORESCENCE

What is Efflorescence?

Efflorescence is a calcium or alkaline salt that forms as a white deposit on the surface of products containing cement. It is caused by moisture entering the surface and combining with the calcium hydroxide in the cement. This brings the hydroxide to the surface in a solution which forms crystals when it combines with carbon dioxide in the air to form calcium carbonate.

Occurrence

Efflorescence is temporary and will with time disappear naturally as a result of normal weathering. The length of time this will take depends on a number of factors including the amount of rainfall, atmospheric pollutions present, etc. It is not always possible to predict whether efflorescence will occur, but soluble salts and water must be present.

When the crystals are wet they become invisible to the eye only reappearing when the product dries out. Efflorescence is more

likely to occur when there are damp conditions as this encourages the movement of the salts.

Efflorescence does not affect the structural integrity of the affected items.

Prevention

To reduce the risk of efflorescence occurring, good protection for the cast stone elements before and during construction is essential. Poor installation of moisture barriers and hard mortar joints can also contribute to the problem.

Treatment

Most efflorescence is temporary and as it will eventually disappear over time, MDL Precast recommends that no treatment is undertaken as this can sometimes make the phenomenon worse. However, if it is essential that the deposits are removed then we suggest using a proprietary acid washing agent (e.g., dilute hydrochloric acid). Due respect must be taken of Health & Safety and the manufacturers guidelines for using the product and it is recom-

mended that a trial area is undertaken prior to any major application.

Occasionally manual washing can often draw additional salts to the surface and repeat washing may be necessary. However, when all the salts have come to the surface naturally the phenomenon will disappear.

Advice offered by MDL Meadowstone Ltd is given in good faith and it is to the best of our knowledge accurate and true, but is offered without guarantee.