

TECHNICAL INFORMATION - EFFLORESCENCE SITE PRACTICE



What Is Efflorescence?

Efflorescence is the appearance of salt deposits on the surface of roof tiles. They can derive from the tile body, mortar, or contamination from other materials.

Cause & Effect

Salts within roof tiles are dissolved by water which is introduced during construction or from rain. Shrink-wrapped packs of tiles can develop efflorescence if in direct contact with damp ground (i.e. not on a pallet) and condensation forms within packs. As the tiles begin to dry the solution of salts will be drawn to the surface where the salts become more concentrated as moisture evaporates. This tends to be most prevalent when temperatures reach optimum levels for drying, i.e. Spring onwards.

Efflorescence is more prevalent in the early life of the building, particularly the first year. In many areas it will not reappear after the first year, and in those situations where it does, it will be less evident than the initial occurrence.

It commonly occurs in spring, following wet winter working conditions, when the building dries out for the first time.

Visible as a harmless deposit of soluble material on the surface of tiles, its texture may vary from light and fluffy to hard and glassy depending upon its composition. The deposits consist of naturally occurring soluble salts which vary considerably throughout the country.

Apart from the salts derived from the tiles and mortar, almost any salt can form efflorescence if it is introduced as a contamination from external sources. The quantities of salts involved are small and a tiny percentage of soluble sulphates in the tiles or the mortar is sufficient to account for the amount of efflorescence seen.

Site Practice

Tiles should be stacked onto a clean, firm level surface, and not in direct contact with damp ground. They should be protected from rain, mud splashes etc. by covering with a waterproof sheet.

As efflorescence is only superficial, the strength and durability of the product is unaffected.

Remediation

The natural weathering process will reduce the effects of efflorescence on tiles. It is difficult to ascertain how long the effects last and this depends on the amount of deposit, local weather, and atmospheric conditions. As rain water is slightly acidic it dissolves the deposits on the roof tile surface therefore they will disappear over time.

