



## TECHNICAL NOTE

### SEALING CONCRETE, BRICK, TILE, AND NATURAL STONE SURFACES WITH TOP SEAL

All Concrete surfaces begin to deteriorate soon after the concrete is cast, although the better the quality of the concrete the slower is the rate of deterioration; however even high quality concrete deteriorates. The main cause of deterioration is the result of Carbonation. This is a process where Carbon Dioxide gas present in the atmosphere combines with water to form Carbonic Acid.

Concrete is a highly alkaline material with a pH value around 12.5. The action of the Carbonic Acid is to reduce the alkalinity, or pH value as it is known, below 10. When this happens the concrete becomes prone to staining and the formation of Mould and Algae on the surface which turn it into a black colour. In addition, lowering the alkalinity of the concrete causes the embedded steel reinforcement to start corroding, and if left unattended, the resulting corrosion products will expand and cause the concrete surface to spall.

There is therefore a need to seal all exposed concrete surfaces against the ingress of water. This can be achieved by applying a single coat of Evercrete Top Seal to the concrete surface. This is best applied about one month after the concrete has been placed when any initial cracking due to the effects of thermal contraction and drying shrinkage have already taken place.

Application of Top Seal to stone cladding or flooring will prevent differential staining caused by water penetration and algae formation. It is also very effective on brick surfaces in preventing water ingress and staining.

Many buildings in Hong Kong are clad in Mosaic tiles. Water can penetrate behind the tiles and cause the alkalis present in cement to go into solution and react with the back of the glass tile in contact with the cement. The resulting alkali-glass reaction causes the tile firstly to develop fine cracks and eventually, if left unattended to fall from the wall surface. If the problem is noticed at an early stage when a few of the tiles have begun to crack it can be stopped by coating the surface with Top Seal. However we would recommend that tile surfaces are treated at the time of construction to ensure the most effective long term durability.



## **APPLICATION**

1. Make sure the surfaces are clean and free from oil and grease.
2. If necessary clean the concrete surface with Deep Clean 250.
3. The surface should be dry before the Top Seal is applied.
4. Shake the container of Top Seal well before using it.
5. The Top Seal must NOT be diluted or mixed with any other liquid.
6. Spray the Top Seal from the bottom upwards on vertical surfaces and work into the surface with a soft brush, mop or cloth.
7. If the Top Seal is being absorbed rapidly into a permeable surface, apply more material before moving on to the next area to be treated.
8. Top Seal is a one coat operation. Do not apply additional material after the surface has dried.
9. Protect glass surfaces and aluminum from overspray as slight etching of such surfaces might occur.
10. Excess Top Seal will result in white dry powder on the surface and can be removed with a dry cloth.