



Globally Proven
Construction Solutions

Installation of Ceramic or Stone Tile over Concrete with Crystalline Waterproofing

TDS-1142

Recently we have seen an increase in the amount of ceramic and stone tile installed over concrete or concrete masonry units that have been treated with a crystalline waterproofing. These waterproofing materials are designed to fill the concrete pores and capillaries with crystals that form when the treated concrete is exposed to moisture. In design and principle, they do a very good job of significantly lowering the permeability of the concrete, reducing shrinkage, crack healing (i.e. potentially sealing hairline cracks), improving freeze/thaw resistance and improving concrete durability. These facts mean that crystalline waterproofing materials are a boon to the concrete industry.

Crystalline waterproofing can be used in three ways:

- 1) It can be applied to the surface of new or existing concrete as slurry.
- 2) Dry shake application onto fresh concrete and incorporated into the concrete during the finishing process, or,
- 3) Mixed into the concrete as an admixture.

It should be noted that crystalline waterproofing products may or may not be compatible with a ceramic or stone tile installation directly applied to the treated concrete. It is important to refer to the manufacturer of the crystalline waterproofing for more information on this topic, and to follow their guidelines for surface preparation or other treatments/procedures to make the surface ready for a tiled installation system.

Treatment of concrete with crystalline waterproofing may have an effect on the adhesion properties of the cementitious tile setting materials, plaster or a liquid applied waterproofing membrane. It would be recommended to conduct in-situ tests on the waterproofed surfaces to determine if additional surface preparation is necessary to ensure adhesion. This preparation can include mechanical abrasion, bead-blasting, high pressure water blasting, or shot-blasting.

There are 3 methods for the installation of ceramic or stone tile over crystalline waterproofed concrete:

- 1) Use of Tile Council of North America (TCNA) Handbook method P602. Confirm with the crystalline waterproofing manufacturer that their product can be used as the primary waterproofing membrane in TCNA Method P602 and that a bonded mortar bed can be properly adhered to their product and will function in this method;
- 2) Direct bond of the tile or membrane to a nominal 3mm skim coat of LATICRETE® 254 Adhesive applied over cured concrete batched with low to medium levels of integral crystalline additive. Prior to skim coating, exfoliate or scarify the concrete surface, by whatever means deemed suitable, to present with a concrete surface profile between CSP-4 or CSP-5. Wash down with high pressure water to remove weakened layers, loose material and clean.
- 3) When a waterproofing membrane is specified directly onto the crystalline treated concrete, please refer to the crystalline waterproofing product manufacturer for recommendations and surface preparation.

Application of a HYDRO BAN® System may be made to areas skim coated with LATICRETE 254 Adhesive after suitable surface preparation.

LATAPOXY® Moisture Shield and HYDRO BAN Waterproofing Membrane liquid applied waterproofing membrane are manufactured to be used as a component of the LATICRETE System. HYDRO BAN Waterproofing Membrane also acts as anti-fracture membranes which can accommodate upto 3mm of lateral movement. Crystalline waterproofing is a component of the concrete and will not accommodate any type of movement or provide any anti-fracture capabilities. LATICRETE HYDRO BAN System shall be installed to surfaces that have been skimmed with LATICRETE 254 Adhesive. It should also be noted that concrete treated with crystalline waterproofing admixture requires similar cure time as concrete which has not been protected with crystalline waterproofing.

LATICRETE can provide you with superior installation materials, single source responsibility, knowledge gained from over 65 years of quality installations around the world, and the LATICRETE System Warranties when using a full LATICRETE System. Visit www.laticrete.com.au for information on warranties.

LATICRETE Australia Pty Ltd • 29 Telford Street, Virginia, QLD 4014 Australia
1800 331 012 | technicalsupport@laticrete.com.au | www.laticrete.com.au

©2022 LATICRETE Australia Pty Ltd All trademarks shown are the intellectual properties of their respective owners