LATICRETE®

For The Builders of A Better World

Preparation of Concrete for the Direct Application of Mortars, Membranes & Adhesives

TDS-1118

Before any ceramic tile, stone or membrane can be installed by a direct bond or for that matter thick bed method, the surface must be; Prepared to receive the proposed finish, and clean and free of any grease, wax, oil, dust, dirt or any other material that can act as a bond breaker. After all, the best ceramic tile, stone or membrane installation is only as good as its adhesion to the substrate. Therefore, it is very important that the substrate be carefully cleaned and prepared to assure maximum bonding properties and finished tolerances.

Concrete substrates shall comply with LATICRETE guidelines and AS3958. In particular Clause 4.1.3. The surface should be true, flat and pitched to drains where required. Concrete sealers or curing compounds should not be applied to the surface of concrete slabs that are to receive finished flooring. Any cotamination shall be removed by the contractor who applied that material. Aged concrete or concrete with very smooth burnished finishes due to over-trowelling, should be prepared with the correct Concrete Surface Profile (CSP), appropriate to the installation. Prior to the application of the installation system, the concrete surfaces should be thoroughly cleaned to remove any loose particles of plaster, soil, preparation residuals and other foreign material.

Where possible concrete surfaces should be trowel finished and particular attention should be paid to ensuring the finishing process eliminates the incidence of laitance on the surface of the concrete. Off form concrete surfaces should have weak powdery surfaces mechanically removed during the preparation process.

Oil, grease and wax must be removed from old concrete slabs to insure a good bond. The concrete substrate shall be prepared/processed by whatever WorkSafe methods the contractor deems suitable to present with a suitable Concrete Surface Profile (see table below): to expose the fine aggregates; and to present with a sound, clean open pored surface, prior to installing mortars, waterproofing or adhesives. Information on CSP profiles can be found at the International Concrete Repair Institute (ICRI) www.icri.org

Mechanical scarification can be by means of grinding, grit blasting, sand blasting, scabbling, hydro blasting or by whatever means produces a sound, open pored surface that exposes the fine aggregates of the concrete. Ensure WorkSafe meaures are in place at the time of works being carried out.

If a mechanical scarifier is not used it will be necessary to remove oil, grease, or paint by chemical means. This can be accomplished by using a strong detergent solution such as tri-sodium phosphate or a solution of lye and hot water. The solution is mopped on the surface and allowed to stand 10 or 15 minutes or until it loosens the paint or grease. The solution is then squeegeed or mopped off and the treatment repeated. When all of the material has been removed from the floor, the surface should be flushed thoroughly with water to remove any remaining cleaning solution, and then vacuumed to remove any residual water.

Whether the concrete surface is new or old, the following table and additional guideline for subsurface tolerance should be met for thin-set, thick bed (mortar bed) ceramic and stone tile installation.

AS3958 Table 4.1.3 (A) and (B)

Fixing method	Flatness
Wet mortar bed fixing	20mm in 3m
Adhesive (Tile length < = 380mm)	6mm in 3m and 1.5mm in 0.3m
Adhesive (Tile length > 380mm)	3mm in 3m and 1.5mm in 0.6m

Table 4.1.3(A)

Fixing method	CSP No.
Wet mortar bed fixing	1–10
Adhesive (Tile length < = 380mm)	1–4
Adhesive (Tile length > 380mm)	1–5

Table 4.1.3(B)

Additionally for thin-bed ceramic tile installations when a direct cementitious bonding material will be used, including medium bed mortar: consideration should be given to the maximum allowable variation in the tile substrate being – for tiles with edges shorter than 380mm, maximum allowable variation is 6mm in 3m from the required plane, with no more than 1.5mm variation in 300mm when measured from the high points in the surface. For tiles with at least one edge 380mm in length, maximum allowable variation is 3mm in 3m from the required plane, with no more than 1.5mm variation in 600mm when measured from the high points in the surface. For modular substrate units, such as exterior compressed cement sheet or adjacent concrete masonry units, adjacent edges should not exceed 0.8mm difference in height. Should the architect/designer require a more stringent finish tolerance than 3mm in 3m, the subsurface specification must reflect that tolerance, or the tile specification must include a specific and separate requirement to bring the subsurface tolerance into compliance with the desired tolerance.

CRACKS: Non-structural cracks that occur in slabs can transmit through any thin bed tile work. It is possible to prevent these cracks from coming through the finished flooring by applying LATICRETE HYDRO BAN® over these cracks. Tile can also be installed over STRATA_MAT™ or with LATICRETE 125 TRIMAX™ Adhesive to provide excellent crack isolation.

CAUTION: STRONG DETERGENT SOLUTIONS, SUCH AS TRISODIUM PHOSPHATE OR LYE, MAY IRRITATE EYES AND SKIN. WEAR PROTECTIVE CLOTHING AND GOGGLES WHEN PREPARING OR USING SUCH MATERIALS. ALWAYS READ MANUFACTURER'S INSTRUCTIONS BEFORE USING.

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