



# Thin Bed Installations Over Wall or Floor Mortars TDS 129

Traditionally wall renders and floor screeds were prepared for installing ceramic tile or stone within a few hours and consequently were floated true, plumb or level but left soft and with a coarse textured surface. THESE SURFACES ARE NOT SUITABLE FOR THIN BED INSTALLATIONS OR THE APPLICATION OF LATICRETE® MEMBRANES.

## SUBSURFACE TOLERANCES AND DEFLECTION

For thick bed (mortar bed) ceramic and stone tile installations, and self-leveling methods, the maximum allowable variation in the installation substrate to be ¼" in 10' (6mm in 3m).

For thin-bed ceramic tile installations when a cementitious bonding material will be used, including medium bed mortar: maximum allowable variation in the tile substrate – for tiles with edges shorter than 15" (375mm), maximum allowable variation is ¼" in 10' (6mm in 3m) from the required plane, with no more than 1/16" variation in 12" (1.5mm variation in 300mm) when measured from the high points in the surface. For tiles with at least one edge 15" (375mm) in length, maximum allowable variation is 1/8" in 10' (3mm in 3m) from the required plane, with no more than 1/16" variation in 24" (1.5mm variation in 600mm) when measured from the high points in the surface. For modular substrate units, such as exterior glue plywood panels or adjacent concrete masonry units, adjacent edges cannot exceed 1/32" (0.8mm) difference in height. Should the architect/designer require a more stringent finish tolerance (e.g. 1/8" in 10' [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.

Systems, including the framing system and panels, over which tile or stone will be installed shall be in conformance with the International Residential Code (IRC) for residential applications, the International Building Code (IBC) for commercial applications, or applicable building codes. The project design should include the intended use and necessary allowances for the expected live load, concentrated load, impact load, and dead load including the weight of the finish and installation materials. In addition to deflection considerations, above-ground installations are inherently more susceptible to vibration. Consult grout, mortar, and membrane manufacturer to determine appropriate installation materials for above-ground installations. A crack isolation and higher quality setting materials can increase the performance capabilities of above-ground applications. However, the upgraded materials cannot mitigate structural deficiencies including floors not meeting code requirements and/or over loading or other abuse of the installation in excess of design parameters;

## MORTAR BEDS OR SCREEDS

These surfaces must be hard, dense and compacted with a steel trowel to provide a uniformly strong and smooth surface. Proper placement of floor screeds or beds, which are of the semi-dry nature, requires that the sand/cement mixture be well compacted, screeded or rodded to a level surface, pitched where necessary, and then compacted and troweled with a steel trowel. The steel trowelling is necessary to bring up some cement fines to fill the voids and encapsulate the sand, providing a strong dense surface. Trowelling should bring up to the surface a wet water-web, which is evidence that there is sufficient moisture in the bed to properly cure. If the bed is installed as a "pre-float", for future thin set application of tile, it should be wet cured or covered to retain moisture for proper cure.

Wall renders or float coats should be allowed to take an initial set and then be steel troweled to compact the mortar. This brings some of the latex/cement matrix to the surface which will then fill the voids and encapsulate the sand making a sound, tight surface. The mortar bed or screed is then ready to accept thin bed method installations of tile or application of a LATICRETE membrane (e.g. HYDRO BAN® XP, HYDRO BAN®, HYDRO BAN Cementitious Waterproofing or 9235 Waterproofing Membrane).

## RENDERS OR FLOAT COATS

Float coats should be tested by rubbing the palm of the hand across the surface. If sand grains or loose material easily dusts from the surface, precautions must be taken to properly prepare the surface. Wall renders or float coats that have been allowed to harden and show a dusty or sandy surface when rubbed by hand, must have a skim coat of latex/cement/fine sand applied and troweled onto the surface before any thin bed application. This will provide a dense, smooth and strong surface for the later application of a LATICRETE membrane and thin-set mortar.

Technical Data Sheets are subject to change without notice. For latest revision, check our website at <https://laticrete.com>  
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