



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 were therefore floated true, plumb, or level, but left soft 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 substrate is 1/4" in 10 ft (6 mm in 3 m).

For thin-bed ceramic tile installations using cementitious bonding materials, including medium-bed mortar:

- For tiles with edges shorter than 15" (375 mm): maximum allowable variation is 1/4" in 10 ft (6 mm in 3 m) from the required plane, with no more than 1/16" variation in 12" (1.5 mm in 300 mm) when measured from high points.
- For tiles with at least one edge 15" (375 mm) or longer: maximum allowable variation is 1/8" in 10 ft (3 mm in 3 m), with no more than 1/16" variation in 24" (1.5 mm in 600 mm) when measured from high points.

For modular substrate units (e.g., exterior glue plywood panels or adjacent concrete masonry units), adjacent edges shall not exceed 1/32" (0.8 mm) difference in height.

If more stringent tolerances are required (e.g., 1/8" in 10 ft [3 mm in 3 m]), the subsurface specification must reflect that requirement, or the tile specification must include a separate provision to bring the substrate into compliance.

Systems, including framing and panels over which tile or stone will be installed, shall conform to the International Residential Code (IRC) for residential applications, the International Building Code (IBC) for commercial applications, or other applicable building codes. The project design shall account for the intended use and include allowances for expected live loads, concentrated loads, impact loads, and dead loads, including the weight of finish materials.

In addition to deflection considerations, above-ground installations are more susceptible to vibration. Consult grout, mortar, and membrane manufacturers to determine appropriate installation materials. The use of crack isolation membranes and higher-performance setting materials can improve performance; however, these materials cannot compensate for structural deficiencies, code noncompliance, overloading, or misuse beyond 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 semi-dry floor screeds or mortar beds requires that the sand/cement mixture be well compacted, screeded or rodded to a level surface, pitched where required, and then steel troweled.

Steel troweling is necessary to bring cement fines to the surface, filling voids and encapsulating the sand to create a dense, durable surface. Troweling should produce a visible moisture film ("water sheen"), indicating

sufficient moisture is present for proper curing. If the bed is installed as a “pre-float” for future thin-set tile installation, it should be wet cured or covered to retain moisture and ensure proper curing.

Wall renders or float coats should be allowed to reach an initial set and then be steel troweled to compact the mortar. This process brings part of the latex/cement matrix to the surface, filling voids and encapsulating the sand, resulting in a dense and sound surface. The mortar bed or screed is then suitable for thin-bed tile installation or application of a LATICRETE® membrane (e.g., HYDRO BAN®, HYDRO BAN Cementitious Waterproofing, HYDRO BAN 1 or 9235 Waterproofing Membrane).

RENDERS OR FLOAT COATS

Float coats should be evaluated by rubbing the surface with the palm of the hand. If sand grains or loose material easily dust off, additional surface preparation is required. Wall renders or float coats that have hardened but exhibit a dusty or sandy surface must receive a skim coat of latex/cement/fine sand mortar, troweled onto the surface prior to any thin-bed installation. This treatment provides a dense, smooth, and strong substrate suitable for the application of LATICRETE membranes and thin-set mortars.

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