



Installation of Large Format Glass Tile

TDS 190

Installation of large format glass type tiles requires skillful installation technique. The following instructions are provided as a general guideline to cover most installations with large format glass tile. Always check with the glass tile manufacturer for their installation instructions. The owner or end user is responsible for determining the acceptability of the product. Due to the manufacturing process of most glass tile products, variations in tone, shade, color, and size should be expected. Please inspect each tile before installation begins. There are many types of glass tiles available; including transparent cathedral glass and many types of opaque or translucent glass. Some of these tiles may have special color backings. Due to their uniqueness, the glass tile manufacturer may have special instructions on their installation.

Prior to installation:

Most glass tile manufacturers require that their tile be scrubbed and rinsed with clean water to ensure proper adhesion. Allow the tile to dry completely prior to installation.

General installation for Floors and Walls

The installation of a pre-construction, on-site mock-up is strongly recommended to verify appearance and performance. The surface to be covered with glass tiles should be smooth and level to allow for 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 cement backer board 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. If wall or floor surface is uneven, level the surface using LATICRETE® 3701 Fortified Mortar; or, 226 Thick Bed Mortar gauged with 3701 Mortar Admix. Allow leveling coat to cure 24-72 hours at 70°F (21°C).

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 glass tile manufacturer as well as the 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.

Once the substrate is prepared, an optional membrane can be installed prior to the tile installation. Use either HYDRO BAN® or Blue 92 Anti-Fracture Membrane if a crack isolation membrane is required. Use either HYDRO BAN or 9235 Waterproofing Membrane if a waterproofing/crack isolation membrane is required. Install and allow the membranes to cure in accord with their respective installation instructions.

NOTE: Some glass tile manufacturers prohibit the use of a waterproofing or crack isolation membrane under the tile. Consult with the glass tile manufacturer for specific installation instructions.

Use 254 Platinum (white); 254 Platinum Rapid (white); 257 TITANIUM™ (white); Glass Tile Adhesive; or, 211 Powder (white) gauged with 4237 Latex Additive to install the glass tile. At times an epoxy adhesive may need to be used (e.g. resin back, back-coated, or epoxy painted back, or as recommended by the glass manufacturer); for these applications use LATAPOXY® 300 Adhesive, or LATAPOXY BIOGREEN™ 300.

Use the flat side of a 1/4" x 1/4" (6mm x 6mm) square notch trowel to initiate a bond coat, firmly apply the thin-set material onto the substrate. Then, comb additional thin-set mortar in a horizontal direction using a 1/4" x 1/4" (6mm x 6mm) square notch trowel. Use the flat side of the trowel to knock down the ridges and create a smooth setting bed. Check for voids and fill in where necessary.

Next, back butter each clean and dry tile using additional setting material. Verify that 100% coverage has been achieved by removing a tile while the mortar is still fresh. You can also check the face of a glass tile before setting to verify coverage. Tiles must be dry prior to installation to avoid water spots on back of tile.

Apply glass tile into the wet thin-set using firm, even pressure to establish contact and eliminate any voids. Remove any excess setting material from in between tile edges. If voids or water spots in the adhesive are visible through the tile, then remove the tile and correct the installation at this point.

Allow the tile application to cure a minimum of 48 hours prior to grouting.

Once the tiles have cured, use PERMACOLOR® Select[^], or PERMACOLOR Grout to grout the installation. Conduct a small test area to verify results and compatibility with glass surface. Some glass surfaces may scratch when a sanded grout is used. If an unsanded grout is necessary use PERMACOLOR Select NS, or 1600 Unsanded Grout mixed with 1776 Grout Enhancer.

NOTE: Some glass tile manufacturers will allow the use of an epoxy grout. In these instances, use SPECTRALOCK® PRO Premium Grout* or SPECTRALOCK PRO Grout.

Expansion Joints:

Expansion joints must be installed in accord with Tile Council of North America (TCNA) Handbook for Ceramic Tile, Glass, and Stone Tile Installation detail EJ-171. The expansion joints need to be brought through to the tile surface and treated with a flexible sealant. Use LATASIL™ to treat the joints. Expansion joint requirements will vary due to application types and locations. An architect and engineer should be consulted when specifying expansion joint placement, construction and materials.

Cleaning and Maintenance:

Check with the glass tile manufacturer for their recommendations on routine cleaning and maintenance requirements.

NOTE: For more information on the installation of glass mosaic tiles consult LATICRETE TDS 145 "Installation of Glass Mosaic Tile."

* United States Patent No.: 6,881,768 (and other Patents)

[^] United States Patent No.: 6,784,229 (and other Patents)

Technical Data Sheets are subject to change without notice. For latest revision, check our website at www.laticrete.com
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