



Got Glass? Installing Glass Tile Requires Special Methods and Products

Photo courtesy of Oceanside Glass Tile

Glass tile has become a desirable option for designers and homeowners who are looking for a clean, vibrant look. Today, the industry is seeing more and more glass tile installed in areas where ceramic tile was the norm. In fact, the Tile Council of North America (TCNA), with the assistance of the manufacturers of glass tile, has developed a new standard specifically for glass tile, ANSI A137.2.

For years, glass tile was used for accent and trim pieces with ceramic tile filling the field. There was not much thought given to the installation materials, and these were generally the same as those used to install the ceramic tile. Design trends continue to push the envelope with glass tile. Moving beyond the traditional accent pieces, glass tile is now being used as field tile with sizes 12" x 12" or larger. To install these larger glass tiles, the industry called for new bonding mortars and modified installation methods.

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A NEW THIN-SET MORTAR, EXCLUSIVELY FOR GLASS TILE.

With the introduction of Glass Tile Premium Thin-Set Mortar, Custom Building Products has filled the need for a new bonding mortar that's ideal for use with glass tile. In most cases, the color of the thin-set mortar was not an issue when installing opaque ceramic tile. However, with clear and translucent glass, the mortar appears through the tile and if the color varies in the mortar, so does the shade of the glass tile. To eliminate variations across a glass tile installation, Custom Building Products developed Glass Tile Premium Thin-Set Mortar in bright white that is controlled to a consistent standard color. Now, even in large installations that require multiple batches of mortar, no variations will be seen through the face of the glass tile. In many cases, the mortar's bright white color actually enhances the color of the clear or translucent glass tile.

A typical ceramic tile installation involves spreading a thin-set mortar on the surface with a notched trowel, then pressing the ceramic tile into the mortar with a back-and-forth action. This sliding motion helps to collapse the ridges and to improve the contact between the tile and the thin-set mortar. The industry standard is to achieve contact to at least 80% of the back of the tile. Unfortunately, this can leave many voids in the mortar behind the tile. While this has not been a problem with opaque ceramic tile, it may be visible through clear or translucent glass tile. These air pockets or voids in the mortar are randomly distributed throughout the installation and can distract from the beauty of the glass.

To solve this problem, CUSTOM's Glass Tile Premium Thin-Set Mortar is formulated for easy spreading. To avoid air spaces behind the tile, the proper installation is to trowel the thin-set mortar on the substrate with a notched trowel and then spread (back-butter) an even, thin film (1/16") onto the back of the clear or translucent glass tile. The two mortared surfaces are pressed together with a back-and-forth motion to collapse the ridges. Since the back of the tile is already covered with thin-set mortar, any remaining voids in the trowel-applied mortar are hidden and do not show through the glass tile. CUSTOM's Glass Tile Premium Thin-Set Mortar has also been formulated to resist shrinkage. With standard thin-set mortar, the mortar can shrink and pull away from the tile, leaving unsightly voids behind the glass. CUSTOM's Glass Tile Premium Thin-Set Mortar will not shrink away from the tile.





THREE TYPES OF GLASS TILE; ONE THIN-SET MORTAR SOLUTION

The ANSI A137.2 standard identifies three different types of glass tile: cast glass tile, fused glass tile, and low-temperature-coated glass tile. It also defines large format glass tile as any tile with dimensions greater than 3" x 3". TCNA recommends the use of a high-performing thin-set mortar meeting the requirements of ANSI A118.4 and with bond strength greater than 400 psi per section 5.2.4. Because of the smooth surface of the glass tile, it is important to use a premium, high-performance thin-set mortar with higher polymer content. The polymer enhances the bonding to the smooth glass. CUSTOM's Glass Tile Premium Thin-Set Mortar meets this requirement with high polymer content and a polymer compound that was selected for its higher bond strength to glass surfaces.

Be aware that there are also a large number of glass tile products available through small boutique glass tile manufacturers that do not meet the requirements of the ANSI A137.2 standard. It is important that each of these be assessed for suitability. Backings, either metallic or painted, are not compatible with cement-based thin-set mortars. The alkali in the cement can react with the backing in wet environments and loosen the mortar's bond to the glass tile. Any glass tile that does not conform to ANSI A137.2 should be tested with the thin-set mortar prior to installation. Also, some mosaic glass tiles are mounted on a mesh to simplify their installation. It is important that the adhesive used to hold the mesh on the back of the tiles resists water and will be compatible with the cement mortar used. Many times the mesh is not bonded well, which can result in loose tiles in the installation. If there is doubt about a glass tile, the Custom Building Products Technical Service department is available by phone to answer any questions (800-282-8786).



CUSTOM's Glass Tile Premium Thin-Set Mortar meets the TCNA (A137.2) requirement for a high-performing thin-set mortar.

While installation failures with glass tile installations are uncommon, when they do happen they are usually related to exposure to sunlight or other forms of heat. The coefficient of thermo expansion and durability of glass tile is quite different than that of the cement based thin-set mortar and ceramic tile. The polymer in the flexible thin-set mortar will absorb some of this movement, but it is more critical with glass than with ceramic tile to incorporate soft movement joints in the glass tile assembly. This will allow the tile to expand as it is heated and prevent cracking of the glass from compression. The TCNA movement



joint placement guidelines in EJ171 in the TCNA Handbook should be followed. Movement joints should be placed every eight feet with a caulk meeting the requirements of ASTM C920. Custom Building Products Commercial 100% Silicone Caulk meets this requirement.

When glass tiles are installed properly, they make a beautiful statement. With CUSTOM's new Glass Tile Premium Thin-Set Mortar and high performance grout selections, it is now easier than ever to achieve the perfect installation. To maintain the elegance of glass tile, the surface should be cleaned regularly with a neutral pH cleaner that will not dull the glass surface. Aqua Mix® brand cleaners offer a variety of choices that are safe for routine maintenance of glass tile.



ABOUT THE AUTHOR

Steve Taylor is Director of Architecture and Technical Marketing for Custom Building Products and has more than 30 years of experience developing products for the construction industry. Steve is a member of the Tile Council of North America (TCNA), helping to determine proper tile installation methods and standards, including the simplification of tile installation processes which enables tile professionals to save time and money.



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