



New ANSI Standards for Glass Mosaic Tile Installation Published

Larger-Format Glass Requires Manufacturer Recommendations for Best Installation Practices

With industry-wide research on how best to install glass tile still going strong, few recommendations can be considered hard and fast rules that apply to all sizes of glass tile made by all manufacturers. With the range of glass offerings available, the TCNA *Handbook* notes that “not all methods are suitable for glass tile installations” and that glass tile is a “product with special installation guidelines.” Resulting from industry efforts to provide those installation guidelines, three newly-adopted, generic (non-proprietary) mounted glass mosaic installation methods are included in the just-released 2006 ANSI A108 specifications.

Hot-off-the-press, two of the three new recommendations are based on the time-honored ways that installers have set mounted mosaics (not made of glass) for years, and they are peppered with old-school terminology like “wet-set,” “damp-cure” and “cheesecloth.” The third derives from the more modern method of using thin-set on a cured mortar bed or cementitious backer unit (CBU). As a part of the foundation of

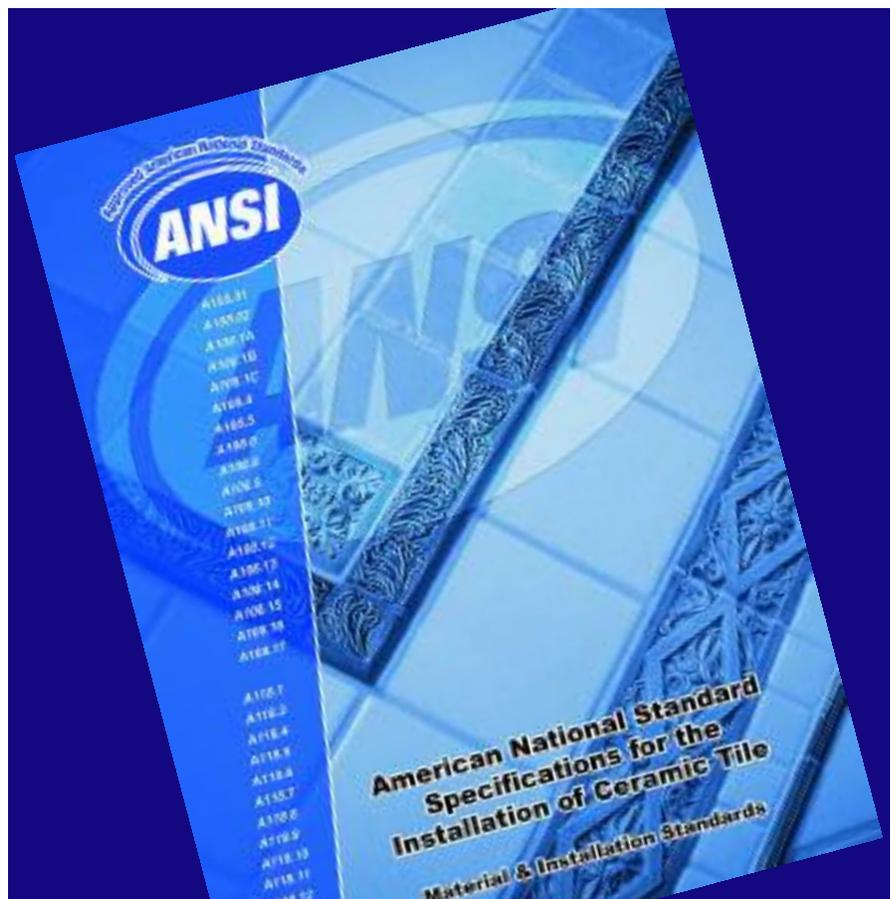
what will eventually be a body of glass tile installation recommendations, the

three new ANSI methods (A108.14, A108.15, and A108.16) will also be referenced in the 2007 TCNA *Handbook*.

What makes installing glass tile different from installing “regular” ceramic tile?

Transparency

While still falling under the umbrella definition of ceramic, glass is a category of ceramic with certain characteristics that, when compared to the other ceramics used for a tile body, present greater challenges to the installer. Perhaps the most obvious characteristic of some glass tile is its translucency. For these, of course, care must be taken to ensure that 100 percent adhesive coverage is achieved



Right: The 2006 ANSI A108 specifications

between the tile and the substrate.

This concept is incorporated into the new standards through two techniques. When using the “conventional wet-set” method (A108.14), in which the float coat of the mortar bed and the tile are installed at the same time, the mosaic sheets are to be completely back-buttered with thin-set before being embedded in the bond coat of thin-set or pure cement. When using the “alternate” method (A108.15), the sheets are back-buttered with the desired grout, but the backs of the tile are left clean by pulling off the excess grout with a float. Therefore, this method requires that the thin-set ridges that are combed on get flattened, so that trowel ridges cannot be seen through the glass. The “direct bond” method (A108.16) requires the same flattening out of the trowel ridges, as the sheets are not back-buttered at all with this method.

Expansion and Contraction

Introductory paragraphs for each of the new ANSI methods include the mention that “glass tile has a high degree of expansion and contraction requiring the installation of expansion joints.” While all tile installations should have movement accommodation per ANSI and TCNA *Handbook* guidelines, this is especially critical for glass tile installations. Occurring at specific intervals within the field of the installation, and at every change-in-plane, glass tile requires compressible joints, especially exterior installations or others that will be subjected to extreme temperature variations. Adhere to ANSI and TCNA *Handbook* guidelines, and contact the tile manufacturer for input.

Very Low Porosity

Under a microscope, glass tile is easily differentiated from other ceramics used for tile body; it looks like a wavy, but unified surface. By comparison, a wall tile reveals an intricate labyrinth of tunnels—the more voids in the tile body, the better the mechanical bond that can be achieved. Therefore, with glass tile, the degree of mechanical bond that can be achieved is rather low, and glass tile installed with the “direct bond” method (A108.16) or the “alternate” method (A108.15) relies on a chemical bond, requiring the use of an appropriate thin-set. This

is similar to the bonding considerations associated with porcelain tile, however again, the glass installer must do a little legwork, with the methods stating that “not all ANSI A118.4 latex modified thin-sets, whether spray-dried polymer or two-part bonding mortar systems, are suitable for installing glass tile. It is the responsi-

bility of the specification writer and the installer to confirm with the glass tile and the setting material manufacturers the use of required setting materials, method, and cure times.”

It may be interesting to note, however, that in the “conventional wet-set” method, the glass mosaics are, to a large extent, held in their places by the fact

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that the mortar bed and the bond coat/grout have all bonded together to form custom-made capsules for each tile to set in, a modified tongue-and-groove assembly. The “alternate” method is somewhat of a hybrid, utilizing this same principle, but to a lesser extent, along with the chemical bond achieved by the thin-set.

Can I use epoxy to set/grout glass tile?

Some within the industry recommend only using cement-based mortars and grouts, as they have coefficients of expansion closer to that of glass, which allows the materials to move together harmoniously. This school of thought rejects the use of epoxy as too rigid and unforgiving

of the movement accommodation glass requires. However, some epoxy and glass tile manufacturers do consider epoxy suitable for adhering and grouting glass, so again, the installer should “confirm with the glass tile and the setting material manufacturers.” The new ANSI document only addresses cement-based adhesives and grouts at this time.

What about installing larger glass tile?

For now, specifiers and installers must rely solely on recommendations made by the manufacturers of larger-than-mosaic glass tile. Because these instructions tend to vary more than for glass mosaics, industry consensus on generic guidelines has been somewhat more difficult to achieve. The main differences in their recommendations are whether or not to use a crack isolation membrane and/or rapid-curing thin-set when setting the larger glass tiles. It should be noted that the support and opposition to the use of these products is based on performance testing and field research done by the manufacturers themselves. Therefore, the newly-adopted 2007 TCNA *Handbook* recommendation to consult them should be taken as sound advice. **TILE**

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Stephanie Samulski is an instructor at the Ceramic Tile Education Foundation

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