



THE ART OF GLASS

By Lesley Goddin

Transparency. Brilliance. Iridescence. Depth of color. Reflectance. The illusion of water. A look of sophistication and value.

These are just a few of the valued qualities offered by glass tiles. But tile contractors also told *TileLetter* that the challenges of a glass tile installation are often a match for the luminous qualities that it brings to the project.

Glass has undergone improvements over the years. “It has made installers better-educated from manufacturer and supplier classes and constant updates on any changes,” said Tony Scavo, president of Tile & Marble Works, Inc., from Lake Worth, Fla. “It makes our jobs a lot easier.”

But changes are a mixed bag. “Every manufacturing technique that is used to get a desired look in a glass tile changes the property of the glass itself,” said Jeff Woods, co-owner of the Xtiles contracting business and Xstyles bath design studio in Royal Oak, Mich. “Sometimes it makes the glass more brittle, more soft, more wavy, more



This beautiful, artful and intricate curving spa for the Bruno family in Potomac, Md. is by Holland Tile. PermaBase Flex by National Gypsum allowed Holland Tile to achieve the curves which were covered by 650 square feet of 1 x1 Tiger Eye Pearl iridescent recycled glass mosaics by Stone & Pewter.

chipped, etc.” Only repeat experience with a particular type of glass can predict “how the glass will respond when subjected to cutting, polishing, and drilling,” Woods said; new glass types also call for a more artistic approach to installation.



Klaser Tile uses conventional mortar bed and butter-mix methods to achieve the perfect substrate – this takes tremendous care in floating the mud bed to strict industry standards to get the correct radius dimensions for domes and pools.

Conflicting recommendations

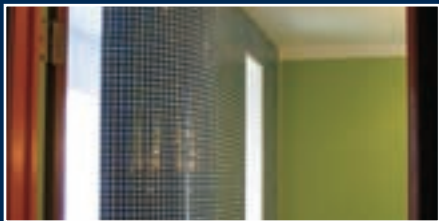
Conflicting manufacturer recommendations create a lot of “agita” for tile contractors. Holland Davis Leichsenring, president of Holland Tile from Rockville, Md., said “Every time I switch to a different manufacturer, they have very different, often conflicting instructions.”

Some manufacturer recommendations run counter to proven experience. Case in point: a glass tile manufacturer insisted large L-shaped tiles could be cut without a wet saw – despite the experience to the contrary of the area’s best fabricators. When the manufacturer’s technical rep attempted to cut the tiles with the tools described in the manufacturer’s literature, Leichsenring

Jeff Woods' top 10 challenges for installing glass tile

Jeffco-owns Xtiles and Xstyles from Royal Oak, Mich., with his wife Tanya. The company won an Honorable Mention, Residential in the 2008 TileLetter Awards for the Woz Master Bath installation in Bloomfield Hills, Mich., featuring mud-set glass mosaic tile.

1. Flat, plumb, true substrate.
2. Cutting glass when the color is an enamel backing so as not to show chipping.
3. Mixing the proper amount of thinset so that it can be used without waste.
4. Cutting hands and fingers on sharp edges/ cutting holes out of the center of large format tiles for outlets, etc.
5. Knowing whether to use a membrane and in what layer of the installation.
6. Softening cut edges with polishing pads on a grinder.
7. Having the proper diamond drill bits for starter holes.
8. Needing extra special blades just for glass.
9. Needing extra-low rpm wet saws just for glass work.
10. Many different types of glass with many different ways of making sheets of mosaic.



Vertical mud allows the Xtiles to create curved walls and perfect substrates for flawless glass mosaic bath installations.

watched him fail his own demonstration. Agita.

Leichsenring has also been frustrated by manufacturers refusing to pay for redos – or offering replacement ceramic tile instead of glass -- even when a manufacturer agrees that their instructions were followed exactly. Agita again.

Woods, chalks up poorly executed installations to “designers who are only concerned with picking pretty things and tile contractors that don’t have enough fear (respect) regarding the outcome of the installation,” he said. He also faults customers not willing to pay for a time-consuming, “knowledge-based, skillfully executed glass installation.”

Mounting methods

Mounting systems can be another form of agita. Many mesh-mounted mosaics have “two layers of mesh with so much rubbery glue on the backs that I’m quite sure that no thin-set is touching the backs of the tiles,” Woods said. “Sticky clear plastic face-mounted mosaics don’t allow you to adjust and clean out joints until the next day,” so he favors paper face-mounted mosaics. He also noted, “Large format glass tiles should provide for mechanical retention on their backs.”

Bill Klaser, president of Klaser Tile in Chula Vista, Calif., favors the tight grout joints of paper-faced ¾-inch Venetian glass, and the uniform, mosaic look he can achieve over curved dome surfaces that his company specializes in. He laments the trend of the industry towards mesh-mounted glass tiles with wider grout joints that are more suitable for thin-set installa-

Tony Scavo's top 10 challenges for installing glass tile

Tony Scavo is president of Tile & Marble Works, Inc., located in Lake Worth, Fla.

1. Preparing the surface.
2. Laying out the design to eliminate as many cuts as possible.
3. Determining proper setting materials.
4. Choosing the proper type and color of grout.
5. Making sure the installation of glass tile is properly mounted (either paper face or on netting material) from manufacturer prior to installation.
6. Making sure of proper fit when working with pattern that has to meet at all four corners.
7. Using the right type of trowels.
8. Climate.
9. Finding proper cutting blades and/or tools.
10. Cleaning up epoxy grouts.



Tile & Marble Works, Inc. used Bisazza mosaics, Bisazza epoxy grout and LATICRETE's thin-set mortar and thick-bed mortar and liquid additive for this six-story wall at the Latitude on the River condominium complex in Miami, an entry in the 2008 TileLetter Awards competition.

tions. Paper-faced tiles with cleaner backs for "adhesion purposes," are becoming harder to find and take longer to get, he said. And he deemed some of the manufacturer's installation guidelines in boxes of paper-faced glass tile as unrealistic: they recommend using ¼-inch notched trowels, applying latex thin-set, then waiting a day, and washing the paper and grout off. "This cannot be done, and is why we stay with the 'old fashioned' conventional butter-mix," he said.

Methods

Klaser pairs the conventional butter-mix installation with a mud-setting to perfect the substrate. This method presents the challenges of waterproofing, bottom wall waterproof flashings, lath, scratch and float, installing the glass, and caulking of expansion joints, plus strictly complying with industry standards when floating the mud beds to get the radius dimensions correct in pools and domes.

For Woods, learning to do vertical mud, skim coating and sanding it, then adding in the time and expense as well as convincing customers to pay for it have been some of his biggest challenges.

For those in the thin-set camp, setting material manufacturers get high mark for products that cover a wide range of for specific tasks, Woods said. David Aichinger, president of David Aichinger Tile Co., in St. Paul, Minn., uses white thin-set mortar modified with latex instead of water for a better bond to glass. He also skim coats the wallboard or underlayment with white thin-set, letting it dry before applying thin-set for

Project Glass: NTCA Reference Manual

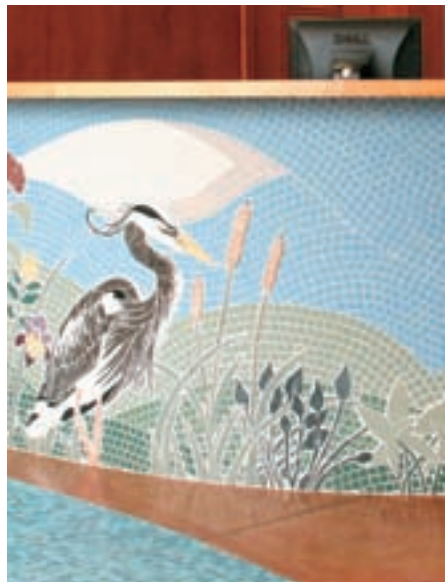
The NTCA Technical Committee recently adopted a number of documents concerning glass tile installation for inclusion in the *NTCA Reference Manual*. This book is one of the exclusive benefits of NTCA membership. The documents include a chart of problem characteristics/causes/prevention for large porcelain and glass bodied tiles and a glass tile description. The description section includes explanations of hot molten, warm and cold/cool glass manufacturing processes as well as cautions, installation recommendations from the 2007 *TCA Handbook*, use and location of membranes and problem characteristics in glass tile.

The *NTCA Reference Manual* documents on glass tile contain such useful information as:

When installing transparent and light translucent glass tile, membranes shall be applied between the sub-structure (framing) and substrate (mortar bed or cement board).

If membranes must be used topically (on the face of the substrate) in wet areas, transparent and light translucent glass tile should not be installed.

For more information on the *NTCA Reference Manual* or becoming a member, contact NTCA membership director Bob Brown at bob@tile-assn.com, phone (601) 939-2071.



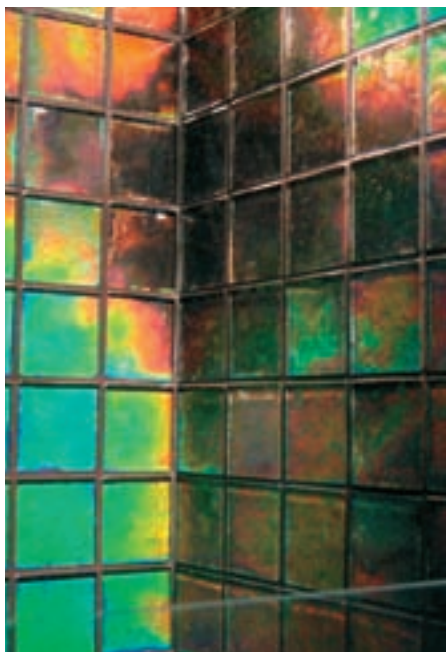
Glass tiles from Hakatai Enterprises were inlaid in a stained concrete floor to simulate a ripple in a pond in the Ramsey Washington Metro Watershed District in Little Canada, Mn. This project by David Aichinger Tile Co., was an entry in the 2008 TileLetter Awards competition.

the tile. “This effectively ‘paints’ the wall-board white so you don’t see any marking on the wall or floor through transparent glass tiles once the job is finished.”

Membranes and caulking

What’s the greater risk: watermarks when using a crack isolation membrane or cracking when using a backer board without a membrane? Tile contractors must decide. It’s not always an easy decision.

“We follow the manufacturer’s instructions specifically but still don’t know the philosophy of membranes in a wet area,” Woods said. “Is it behind the tile? Is it behind the substrate? Do grout joints breathe?” (See the sidebar “Project Glass: *NTCA Reference Manual*” on page 78)



Moving Color is a brand of glass tile that is designed to respond to changing temperatures by changing colors.



Oceanside Glasstile Elevations Extrados field in Cane Iridescent; photo courtesy of Oceanside Glasstile.

Caulking can help, especially the expansion joints. And Leichsenring uses neutral white silicone instead of thin-set, which he said can bond too strongly and contribute to marks and cracks.

He tells of a project using 12 x 12 glass tiles and 3 cm granite as a backer board instead of cement. Though seemingly “overkill,” Leichsenring opted for these conditions due to an earlier failure in a similar project, despite following manufacturer instructions to a “T” including inspection by the technical rep before beginning installation.

“We installed the tiles with neutral cure white silicone, both troweled into the granite rough surface and back buttered,” Leichsenring said. “Finally,

we grouted between tiles but caulked around the perimeter. The only tile that cracked was abused by the plumber when tightening a tub deck faucet in spite of our many pleas.” Ten months later the project is still a success.

Show it off

Despite the woes, glass tile is “second to no other product” in creating a look of sophistication and value when properly installed, Scavo said. “As a tile contractor, my most memorable and praised jobs are the glass mosaics.” Scavo thinks the industry needs to “do a better job of displaying the product, not just on a sample board, but with full size bathroom or pool displays.”