



Glass Tile

It shimmers, it shines,
and it can be used in place of ceramic
on walls, counters, and floors

BY LISA SKOLNIK

Walk into any tile showroom and among the sedate terra-cottas and earth-tone ceramics you'll be dazzled by displays of brightly colored glass tiles. From candy-apple reds to iridescent aquas, tiles made from glass are the hottest thing in the industry. With proper care in selection and installation, these pieces can work anywhere ceramic and stone tiles used to hold sway.

The ancient Romans made mosaics from small pieces of glass called *smalti*. They added all sorts of materials—metallic oxides, copper, bits of marble, and gold or silver leaf—to create various colors, surfaces, finishes, and textures.

Fast forward 2,500 years, and the basics are pretty much the same. Glass tile has survived and remains popular, for good reason: Besides its beauty and decorative potential, it also happens to be functional, versatile, and durable. It can be applied to almost any surface, and stunning results can be achieved using even the most ordinary tiles. The secret to making a striking statement involves the use of pattern and color, and often, using the tile in unexpected ways.

If this makes you want to immediately go out and select glass tiles, take pause. Glass tiles share many characteristics with ceramic ones, but there are differences, too. Though alluring, glass is fragile, and the tiles can expand and contract, scratch, break, chip, and stain. Technical considerations make certain types more appropriate than others, and installation is a complicated process best left to professionals. The options are so broad that picking and choosing which ones to use and where to put them can be daunting. They come in countless colors and incarnations and can be set in any pattern imaginable. Costs vary from reasonable to outrageous.

Bang for the buck

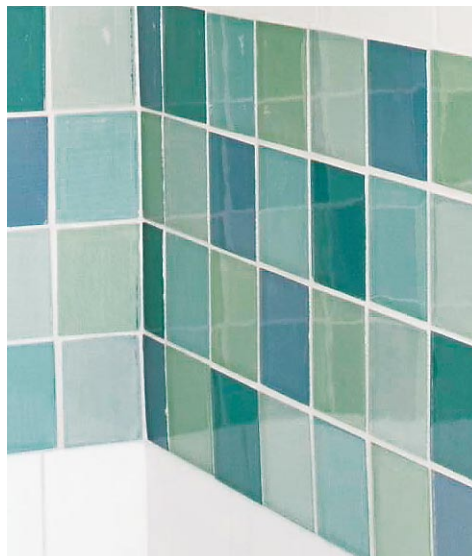
Because glass tiles can be pricey, and not all tiles work in all situations, it's crucial to balance cost and function. You should have a clear idea of how and where you want to use glass tile and know its specific properties.

Photos except where noted: Scott Phillips; facing page, François Dischinger, courtesy of Oceanside Glasstile; top right, courtesy of Walker Zanger; center, Karen Tanaka

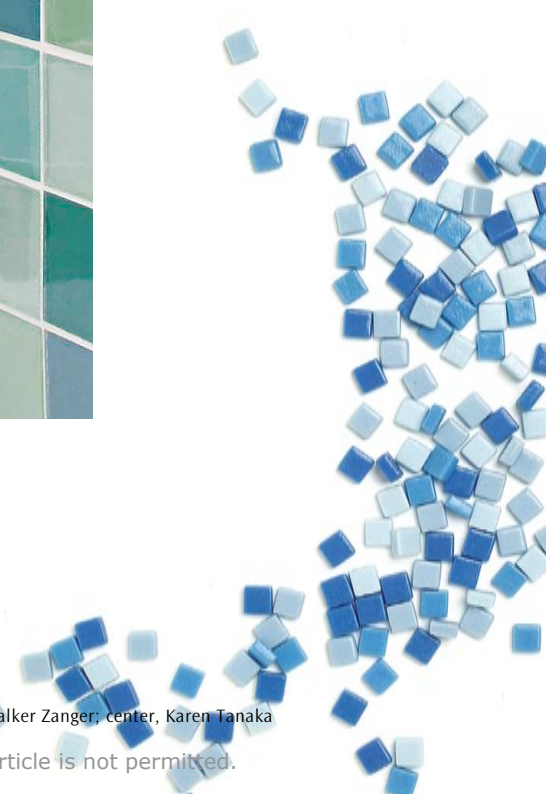
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USE IT ANYWHERE Installation can be tricky, but glass tiles can take the place of stone or ceramic throughout the house.



VIBRANTLY COLORFUL From pastels to Popsicle shades and even iridescents, glass tiles come in many hues and lots of finishes.





MIX AND MATCH GLASS AND CERAMIC Glass tiles can be pricey. Use them with less-expensive ceramic subway tiles and still get a dramatic look.

Some tile may be too slick to use on a floor but perfect for a wall. Vibrantly colored glass tiles are so beautiful and so commanding of attention that often a few can go a long way. Consider using the most-expensive glass as an accent amid a larger field of less-expensive ceramic tiles. Hand-cut glass tiles have an organic look, which you may either love or find too irregular to suit you.

Though any reputable tile dealer should be able to guide you through this process, some retail salespeople are not well versed in all the technical and design factors you should consider. In general, the same rules that apply to any decorative surface in your home apply here. These are a few to keep in mind:

Give tiles a trial run. Just as you would with paint, try out a large sample of a tile you want to use before making any commitments, because it will change under different lighting conditions throughout the day. It's a good idea to buy or borrow a few square feet of the tile—some

DIFFERENT DEGREES OF LIGHT

Glass tiles can be transparent (left), translucent (right), or opaque (center). Transparent tiles show a real depth as light passes through them, while opaque ones look like colored milk glass.



HIGH-TRACTION FLOOR TILES

A special process that coats molten glass with powdered metal and glass provides a nonslip surface when the tiles solidify.



retailers may lend you a premade sample board—and set it out for a few days to see what impact it has on everything else in the room. If you're using it in a big way, it will also affect and reflect everything else in the room. For instance, light reflecting off a wall of blue glass tile can cast a blue hue on the white walls in a room.

Experiment with scale. Along with color, glass tiles impart pattern and texture to a space, which can have a huge impact on the way it will feel. Small, light tiles can make a surface or space seem larger, while large, colorful tiles can make a room seem small and intimate. Long, narrow spaces can be broadened with a horizontal pattern, and vice versa.

Be cautious before you jump in. If a tile you like is colorful or trendy, give careful thought to whether you could live with it for a long time or if you're merely

smitten for the moment. You might want to try using particularly wild colors or crazy patterns in a small way, such as in a powder room or on a small countertop. If you wouldn't paint a whole wall of your bathroom an audacious hot pink, you might not want a glass-tile wall of that color either.

A wide variety of looks and finishes

Some glass tiles are opaque, similar to ceramic or stone ones, but it's the transparent and translucent ones that really shine (center photo, facing page). Bottle-clear transparent tiles, called cathedral glass, show a real depth as light refracts through them, but they are the hardest to install because any imperfections in the installation will show through once the tiles are set. Translucent tiles, while not crystal-clear like the transparent ones, reflect light and have a shimmery effect. Opaque tiles—think of colored milk glass—come in a variety of wild colors, and while they are bright and shiny, they don't display the depth that transparent and translucent glass tiles do.

Finishes range from shiny to flat to textured. In general, shiny finishes are referred to as glossy, satiny, or luminous, and flat finishes are called matte, grainy, or etched. Metallic finishes are also popular; though they're lustrous, they can also be rendered in different surface finishes by dusting the molten glass with tin during the manufacturing. While most people consider finishes a decorative element, they are also there for function. Slick, glossy tiles could be dangerous on a bathroom floor because they're too slippery, or unsuitable for a countertop because they scratch easily.

There is also a category of tiles with deeply textured surfaces that are used for specific decorative motifs (top photo). With scalloped and ridged surfaces, sometimes bearing imprints of shells and flowers, these tiles tend to be very thick, and because of their irregular surfaces, they are not suitable for countertops or floors.

Currently, there are no industry standards for glass tile, but most manufacturers abide by the ones set up for ceramic tiles. One test, the coefficient of friction, indicates a tile's resistance to slipping. The numbers typically go from 0.2 to over 1.0 as tile becomes more slip-resistant, but "the higher its score, the harder it can be to keep clean," says Eric Astrachan, executive director of the Tile Council of North America. He advises looking for a value of 0.5 or higher for floors. Some floor tiles have pulverized



TILES WITH TEXTURE
Embossed glass tiles add a band of decorative texture when used in a field of flat tiles.

ALL-WEATHER GLASS Only some glass tiles pass a freeze-and-thaw test, which determines whether they are suitable for use outdoors.



Bottom photo: courtesy of Walker Zanger

PROS

- Can be used wherever you'd use ceramic or stone tiles.
- Available in an endless variety of brilliant colors and surface textures.
- Many are resistant to frost, staining, discoloration, abrasion, and chemical damage.
- Easy to clean, colorfast, impervious to water, and resistant to fading.

CONS

- Harder but less flexible than ceramics; some are more susceptible to chipping and cracking.
- Requires exacting installation, best done by an experienced contractor.

COSTS

Generally more expensive than ceramic tiles. Machine-made ones are least expensive, starting at \$5 per square foot. Those made partly by hand run from \$20 to \$50 per square foot. And hand-cut and assembled pictorial mosaics can quickly climb above \$200 per square foot.



MACHINE MADE OR HAND-CUT
Glass tiles made entirely by machine (above) are more uniform than hand-cut ones, which, when installed, have a rougher, textured look.

metal and glass, called frit, applied to the molten glass during the manufacturing process. When cool, this coating adds some variation in color and a gritty, nonslip surface to the tile (bottom photo, p. 66).

Another test, the Porcelain Enamel Institute's standard test method for determining visible abrasion resistance of glazed ceramic tile, also known as a PEI rating, will tell you a tile's glaze resistance to abrasion, which can come in handy if you live in a sandy area and are planning to put a smooth tile on your floor. It is scored on a scale of one to five, with higher scores preferable. "A four is sufficient for every area of a person's home, and in many cases so is a three," says Astrachan.

All sorts of shapes and sizes

Glass tiles come in regular geometric shapes, such as squares, rectangles, and hexagons, and in irregular shapes, which are often cast or molded and then finished by hand. For instance, Oceanside Glasstile, which uses 85 percent recycled glass in its tiles, has ones shaped like different species of fish, and Hakatai,



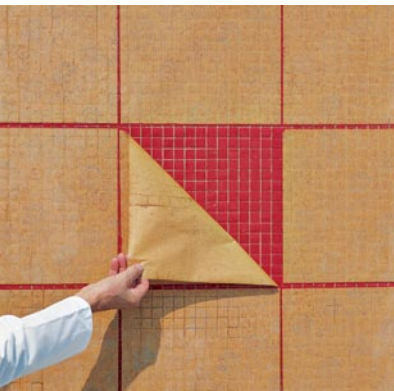
Top photo: courtesy of Walker Zanger

WHAT YOUR CONTRACTOR SHOULD KNOW ABOUT GLASS TILE

Glass tiles have installation idiosyncrasies. They require exacting procedures, mainly because most tiles are translucent, and any imperfections in the bed of mortar beneath the tiles will show through. Thinset mortar is a must, and it has to be mixed to a specif-

SOLD BY THE SQUARE FOOT

Although some tiles are sold individually, many come attached to paper or mesh backing, which speeds installation.



ic consistency and applied to an exacting depth so that the tiles bond properly. Also, cracks are more visible on glass tiles, necessitating special cutting techniques and sometimes requiring a crack-suppression membrane, which prevents shrinkage and movement of the substrate.

"There always seems to be some problem with glass tile that makes installation slower, harder, or more complicated," admits Chicago tile contractor Dave Nicholas of Nicholas Tile & Clay, which explains why today's glass tile manufacturers provide installation manuals, often available online. And when they don't, be sure to ask.

These detailed manuals address technical requirements for the tile and the site where it is being installed,

setting surfaces, materials, edge protection, timing, and setting methods. Currently there are no industry standards for glass tile, but most manufacturers voluntarily abide by the specifications for ceramic tiles, including ratings for slip, abrasion, weather-resistance, strengths, and hardnesses. A comprehensive retailer or an experienced installer should be familiar with the standards and be able to advise you about the appropriateness of a particular tile.

It's a good idea to have an experienced glass-tile contractor in on your tile-buying decisions. Because of the installation procedures with this material, "they often take issues into consideration that salespeople aren't aware of," points out Nantucket, Mass.,

tile contractor David Goodman, such as the following:

Even though tiles of certain sizes should be compatible, they often aren't if they are made by different manufacturers. One company's 4-inch-square tile may be just that, while another's may be $3\frac{3}{8}$ inches square. The same issue is also critical when pairing tiles. For instance two of one manufacturer's 2-inch tiles may not equal the height of another's 4-inch tile.

Just like textiles, some glass tiles have different "dye lots," especially those made of recycled glass, since the raw materials aren't uniform. Some companies, like Bisazza, use the same raw materials and formula for all their tiles to maintain color uniformity should you decide to add to a project later. —L.S.

a tile distributor in Ashland, Ore., offers smooth, rounded glass tiles in the shapes of small river stones. Regular shapes can easily be used to cover large expanses, to create visually arresting mosaic patterns and pictures, or as decorative borders or inserts.

There are industry standards for sizes, similar to those for ceramic or stone, but the exact dimensions of a tile vary by manufacturer. "Some European tiles are made to metric dimensions and converted to the nearest inch," explains Nantucket, Mass., tile setter David Goodman, pointing out that a 4-inch-square tile may really measure $3\frac{7}{8}$ inches or $4\frac{1}{4}$ inches. Because of this, tiles from different manufacturers often don't go together because their measurements are incompatible.

Mosaic tiles come in standard $\frac{1}{4}$ -, $\frac{3}{8}$ -, and $\frac{3}{4}$ -inch squares, while larger sizes typically come in 1-, 2-, 4-, 6-, and 8-inch squares. Even larger sizes can be 12 inches and 24 inches. Though smaller glass tiles can be bought loose, especially smalti, both monochromatic tiles and variegated mosaics are typically sold by the square foot, mounted on mesh or paper, which speeds installation because each tile doesn't

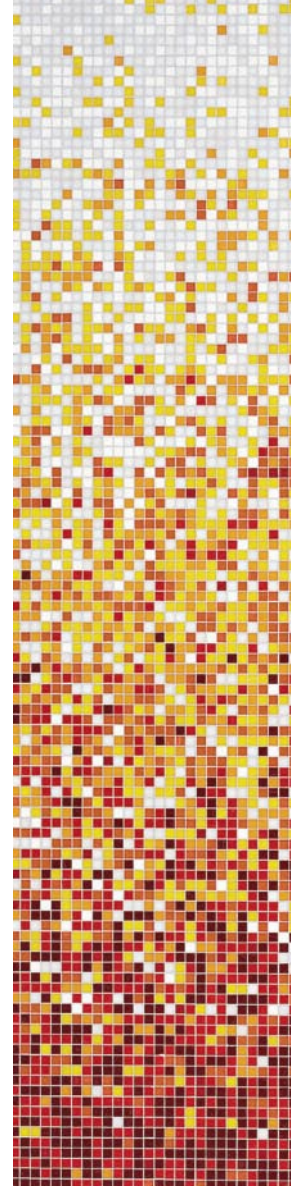
have to be set individually (photo left). Larger tiles are usually packed individually in boxes and have to be set one by one.

Premade mosaic patterns are available by the square foot (photo right) from most manufacturers, and several, notably Bisazza and Hakatai, have online tools that enable you to mix and match colored tiles into your own custom-made mosaics.

The kind of tile you choose can make a big difference in the look and feel of a room. Set on a wall, countertop, or floor, identical machine-made tiles become a perfect plane of brilliant color. On the other hand, inexact squares of hand-cut tiles in the same location will have a more distinctive, rustic look whose effect is as much textural as colorful. Whichever kind of glass tile you select, it will bring an elegance and depth to your room that ceramic tile can't match. **H**

Lisa Skolnik writes on a variety of home and design topics from her home in Chicago.

For more information, see Resources, page 86.



PRE-MADE MOSAICS Many manufacturers sell their tiles in already-designed patterns, and there are some Web sites that allow you to lay out your own designs.