

*DISCLAIMER: This document should only be used as a general reference. Consider it supplementary, not to be used as a replacement for actual manufacturer installer instructions or guidelines. When purchasing tile, please ensure you seek out specific installation information based on the exact material purchased or specified, as the manufacturer instructions may include concessions like using special setting materials or using a technique of unknown association.*

## Introduction

Glass requires a more intricate installation process than its ceramic and porcelain counterparts. Even veterans with decades of ceramic installation experience must learn how to work with glass. Glass tile comes in various forms and colors dictated by the manufacturing process. Some tiles are cut and cold-cooled, while others are melted, cast, and cooled. The end result can vary by color, texture, thickness, size, and shape. The varieties of glass tile allow for endless customization options, along with complex installations and tricks of the trade that often elude most homeowners.

This document will include learning about different types of glass tiles and important things to be aware of. For post-installation information on cleaning and maintenance, view our [Glass Care & Maintenance Guide](#) and browse through a handful of important [Case Studies](#) related to glass.

Before we get started, here are a few key things to know about glass tile characteristics

- Glass is often less resistant to **impact and abrasion** than other types of tile.
- Glass is more sensitive to temperature changes & **thermal shock**, and installation may not be recommended in showers, fireplaces, or other areas where rapid temperature changes occur.
- When exposed to a broad range of temperatures, glass tile expands and contracts more than ceramic. Glass has a higher expansion coefficient, making more movement accommodation necessary. This makes soft grout joints important, as well as an experienced installer, as thermal expansion can cause installation failure.
- Glass tiles have high breaking strengths and limited flexibility but require a more rigid substrate.
- Substrates must be very stable and rigid. A waterproof, anti-fracture membrane like Laticrete [Hydroban or Ditra](#) is recommended to cover your substrate.

## Where Can I Install Glass Tile?

Now that you know some technical terms, let's discuss why glass tile size matters when it comes to installation. Anything larger than 3x6 in places with major temperature changes is open to cracking. Therefore, nothing bigger than a 3x6 glass can be placed in wet areas; some exceptions may apply depending on the product manufacturing process. Expansion or caulked joints must be used in wet applications for sizes larger than 3x3 glass tile.

Aside from the above information, the answer is that only the manufacturer or distributor dictates the application usage. Tile is now so technical and advanced that you generally can't look at a glass tile and know if it's safe for shower walls, floors, or exterior installations. Historically, when you purchased cast glass, it was known to be safe for any application, including pools. However, this is not the case anymore, where special finishes may exclude cast glass from those applications. Extensive testing is done on products carried by reputable suppliers, and the application is always dictated by the results of standard industry tests & the TCNA manual, not the type of material you are purchasing.

### Paper Faced Mosaics

Some glass tiles, particularly in mosaic sheets, are adhered to a piece of paper on the FRONT side of the tile. This is done to allow for a 100% bond during installation. It then looks like you're installing it backward, but that's actually not the case. Tile in submerged applications is recommended to be paper-faced, and these installations take extra time and experience.

The paper is removed using a hydrophilic sponge after the tile has been installed but before the thinset has cured so any minor placement adjustments can occur. Manufacturers of paper-faced glass mosaics always have technical documents and often videos to help with the installation of these materials.

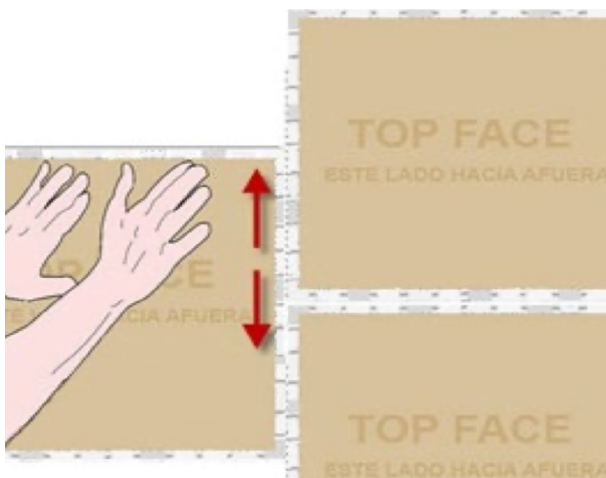


Illustration showing the paper facing side is actually the front of the tile



Muse, shown above, has some fissures on the surface, and on this example, the grout has been partially cleaned from the fissures.

### Fissures & Imperfections on Handmade Products

Handmade products always contain fissures and imperfections. These features are inherent, and what makes them unique compared to glass tile produced in large masses. After tiles are installed & grouted, these features will come into focus, where they may not have been visible as a sample, photo, or even a showroom sample board. Glass tile, which has texture, may contain fissures, which are tiny organic surface cracks. These fissures are similar to an unfilled travertine stone in that when they are grouted, they, too, are filled with grout. This makes the handmade feature of the tile stand out and should be considered if imperfect perfection (wabi-sabi) is not

your cup of tea. Handmade tile must be embraced, and a timeworn look may not suit your design aesthetic. See our related [Case Study](#) on grouting handmade glass.

### Translucent Glass

Installing translucent glass can result in visible moisture and bubbles behind the tile, or even trowel marks, which will appear as a pattern in the tile, sometimes swirly or linear. White (glass-tile) thin-set must be used, and trowel marks must be flattened to avoid adding any unexpected patterns, like the horizontal ridges shown below.



### Cutting

Use a glass blade to cut glass tile. Experienced installers will use tricks to prevent breakage during cutting, such as taping the front and back or applying silicone beads (although messy) over the area right before cutting.

Custom glass murals or specialty products may be available to be “cut-to-size,” which can neatly be placed in an area pre-measured. These custom orders have no cutting involved but may have detailed installation instructions to help guide the layout of each piece on the wall, almost like a puzzle genie permitting you to cheat.

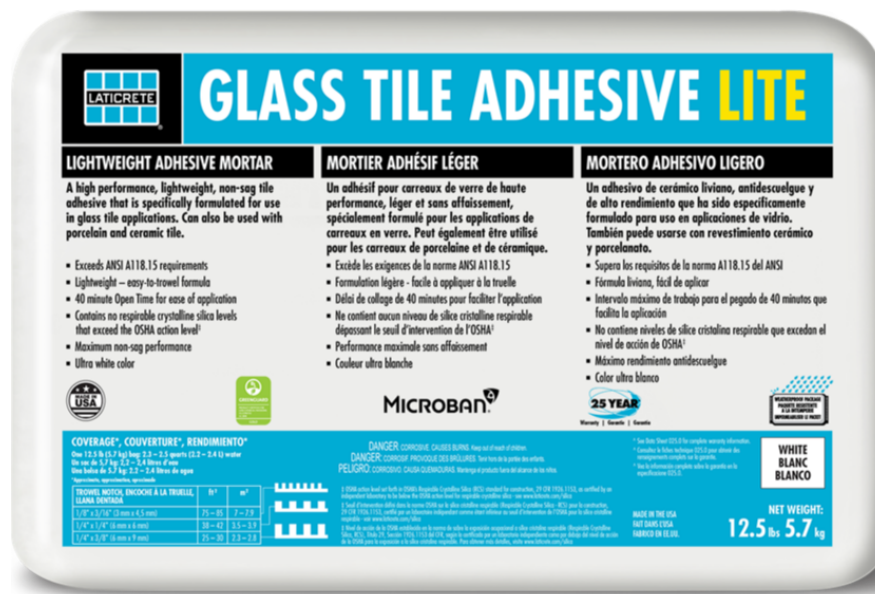
### Thinset

[Glass tile thinset](#) has been formulated specifically to account for the technical properties of glass tile. Using the wrong thinset can lead to an installation failure, whether instant or over an extended period.

# GLASS TILE INSTALLATION GUIDE

Glass tile should never be bonded to wood substrates, and any organic adhesive is not typically recommended for use with glass. Some manufacturers even recommend mortar bends cure for 7 days prior to installation due to the waterproof nature of glass tile.

Specialty glass with metallic backing or other unusual features may require an epoxy thinset, as specified by the manufacturer.



## Grout

Glass with a glossy finish may require unsanded thinset, similar to any other polished material. Float glass, also called back-painted glass, must be installed with unsanded thinset because sanded grout can scratch the surface. Read more about grout in our [Expert Guide on Grout](#).

## Project Success!

Now that you are equipped with comprehensive information on installing glass tile, you can ensure the success of your project. Always remember that when purchasing, please ensure you seek out specific installation information based on the exact material purchased or specified.