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Fabricator Notes for GleenGlass™ Panels

GleenGlass Cobble, Gleen and Journey panels are 100% glass products containing 25% or more recycled glass content. There are no binders, resins or fillers. Stone fabricators can work with GleenGlass panels using the same processes and many of the same tools used to fabricate granite and other natural stone.

Here are some fabrication tips to help you get the best results from cutting, grinding, polishing and edge-laminating GleenGlass Panels.

Cutting

GleenGlass panels are 1 to 1.25 inches thick and can be cut with waterjet, automated or manual wet fabrication saws, and wet powered hand circular saws.

Waterjets

For complex cuts and curves, a waterjet is recommended. Best results come from using the following techniques:

- Waterjet cut the panels on a foam underlayer
- Low pressure initial pierce
- Tape for at least 4 inches around the insertion point to avoid hazing
- With 120 or lesser grit cut slower, especially around inside curves or areas less than 2 inches from the edge of the panel

Gang/Table Saws, Circular Saws and Handheld Blades

GleenGlass panels can be cut and processed on fabrication saws very successfully. Best results come from using the following techniques:

- Cut wet only
- Use a blade designed for marble or crystallized glass
- Cut slower
- Step Cut
- Back cut at least one inch to avoid edge chips

If processing panels using a handheld wet circular saw, GleenGlass recommends the use of a rail or other guide system to ensure straight, clean cuts.

If edge chipping does occur, edges can be milled to an even surface by slow, wafer-thin cuts with the saw or standard C-arm profiling machines.

Inside corners can be but by step cutting two parallel cuts in each direction of the corner, then bisecting the cuts leaving a cube of approximately 1 to two inches in the corner. The cube can be removed with a wet blade and a right angle grinder and the corner finished with the recommended pads or routing products.

Circles and other shapes can be cut in GleenGlass panels using concave blades in wet right angle grinders or wet circular saws. As with all sawing on glass, step cutting is the recommended procedure. Cutting inside the template allows the use of profilers or routers to smooth the cut edge and bring it to true with the templated shape.

CNC Work Centers

Manual and automated CNC work centers do a very good job of fabricating GleenGlass panels using tooling designed for marble and granite. The key to success is moving slower to maximize the edge quality of machined shapes.

CNC machines can be used to insert drain boards and other features that help bring out the beauty of glass and increase the functionality of the surface.

For best results with CNC machinery pierce and move slowly using ample water to remove swarf and keep the glass from overheating.

Profiling and Polishing

GleenGlass panels can be surface or edge ground and polished using diamond tools for granite and marble. All grinding and polishing must be done wet. The use of recycled water in polishing can have an adverse affect in the quality of the final finish if there are any compounds remaining in the water.

As a clear to translucent material, glass will show swirl at much higher grits than stone even if the finished surface feels smooth. An example of a grinding/polishing sequence to edge a GleenGlass panel with router or wet angle grinder would be:

- Profile tool
- 50 grit resin bond



- 100 grit resin bond
- 200 grit resin bond
- 400 grit electroplated bond
- 800 grit electroplated bond
- 1500 grit electroplated bond
- 3000 grit electroplated bond
- +Felt pad with cerium oxide [if necessary]

All grinding/polishing can be done at or below 4,000 rpm with sufficient water to remove swarf and keep the surface cool.

GleenGlass recommends electroplated bond pads at grits 400 and above as they reduce the tendency to show swirl and produce a better honed or polished surface. Fabricators can get satisfactory results using resin bond pads for the entire sequence and GleenGlass encourages fabricators to experiment and discover what works best for their operation.

Surface Grinding and Polishing

GleenGlass ships Pebble™, Cobble™ and Gleen™ panels with three finishes: kiln finish, surface honed to a 400 grit matte finish and a polished surface.

The kiln finish has some variation in height and lends itself well to an antiqued appearance or to honing. Honed surfaces can be further polished to a bright reflective finish to your clients specification. For surface polishing a planetary head polisher or radial arm polisher is recommended. An example of a sequence to grind and surface polish GleenGlass panels would be:

Grind Phase

- Medium cup or segmented wheel
- Fine cup or segmented wheel
- 30-50 grit metal bond
- 100-120 grit metal bond
- 200-220 grit metal bond

Hone Phase

- 50 grit electroplated or resin bond
- 100 grit electroplated or resin bond
- 200 grit electroplated or resin bond
- 400 grit electroplated or resin bond

Polish Phase

- 800 grit electroplated or resin bond
- 1500 grit electroplated or resin bond
- 3000 grit electroplated or resin bond
- Felt pad with cerium oxide for bright polish

The use of light or dark buff pads is not recommended as the resin can get in scratches and degrade the appearance of the finished piece, requiring the use of solvents to obtain an acceptable finished surface. We do not use solvents in the manufacture of GleenGlass products and encourage fabricators to make use of practices where solvents are not needed.

Edge Laminating

GleenGlass panels can be trimmed and edge-matched to create false front countertop edges. Standard laminating tools, resins and processes can be followed to accomplish a quality professional appearance. Best appearances would come from the use of water-clear resins and thin joint lines.

Coating and Finishes

When fully polished GleenGlass panels have a high luster appearance and do not need to be sealed prior to installation. Maintenance coatings can be applied if desired. Fabricators have had good success using products commonly referred to as glass wax, microcrystalline auto wax and similar products that dry or buff to a clear finish.

Matte surface glass can be sealed with coatings such as Armour All or Rain Dance, or oil-based products such as Watco used very lightly.

Recommended Products

The following products have been tested by GleenGlass for the listed applications and have proven to deliver dependable results for quality fabrication and finish.

Company	Product	Grit/Grade	Surface Grinding	Surface Polishing	Edge Profiling/Polishing
Braxton Bragg	Viper® Flexible Diamond Pads 4"	Series		Recommended, especially with multi-head machines	Recommended
Braxton Bragg	Talon® Polishing Pads 4"	Series			Recommended

If you are a stone tools or supplies manufacturer and wish to have your products considered for recommendation by GleenGlass, please contact John Sauer, john@gleenglass.com, 360.882.0629.



Disclaimer: GleenGlass provides these thoughts on fabricating GleenGlass products solely for informational purposes. No warranty is given or implied by these fabrication notes. Recommended products are supplied to GleenGlass for testing. No other promotional consideration is given or granted. Fabrication results are dependant on a number of factors including [but limited to] fabricator experience, quality and type of tooling, and use of clean versus recycled water. GleenGlass products are handmade and as with natural stone, can be subject to damage during fabrication or transportation.

This is a living document. Please share your experiences working with GleenGlass so we can continue to evolve the level of proficiency of fabricators who work with GleenGlass glass products.

Thanks and Best Regards,

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