# BIO-GLASS™

100% recycled and recyclable glass

800.720.7814 www.coveringetc.com

## STANDARD

## OVERVIEW

Elevate your environment with Bio-Glass™ Bio-Glass is a Future Friendly™ material made of 100% recycled and recyclable glass with no colorants or additives. A truly “ecologically intelligent product” (MBDC 2008). May help contribute toward LEED credits with USGBC project certification. Cradle-to-Cradle Silver Tier third party certified. Material ConneXion, GreenSpec, and Green Building Pages listed. Recycled Content: 100% Good To See You Again™

## AVAILABLE SIZES

Sheets

110" x 49" x 3/4"

140" x 60" x 3/4"

## FINISHES

Ablated, Brumal, Polish and Matt

## SPECIFICATIONS

| | | |
|---|---|---|
| Dimensional Tolerances | ± 1,20 [mm] | |
| Dimensions | ± 1,00 [mm] polished | |
| Thickness | ± 1,20 [mm] natural finish | |
| Specifi c gravity | Approx. 2,4 [g/cm] | |
| Bending Strength | | |
| Characteristic value | Approx. >22 [kN/mm] | DIN 52112 |
| 5% fractile | Approx. 3,2 [kN] {average value} | |
| Tearing strength | Approx. 57 [kN/mm] average value | |
| Elasticity module | | |
| Hardness | (According to Mohs) 6 | DIN EN 101 |
| Heat expansion | 7,95 [10-6/K] DIN EN 103 | |
| Heat conductivity at 64°C | 1,04 [W/m K] | |
| Water absorption | < 0,1 [Ma.-%] | DIN EN 99 |
| Frost resistance | No trials with visible defects | DIN EN 202 |
| Stain resistance | Class 1 | DIN EN 122 |
| Chemical resistance | Class AA | DIN EN 122 |
| Acid resistance | Class AA | DIN EN 122 |
| Fire class | Class A | DIN 4102 |
| Surface wear | Class II, 300 revolutions | DIN EN 154 |
| Slip resistance | R 10 {with natural fi nished surface} | DIN 51130 |
| | No test for polished | |

## COLLECTION

https://www.coveringsetc.com/BioGlass?pfid=a1050000002aAnW

* Approximate laboratory test values.
* Colors may not print accurately. Please request sample. * Recycled content may cause slight color variation.

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Grey Mist



Frost White

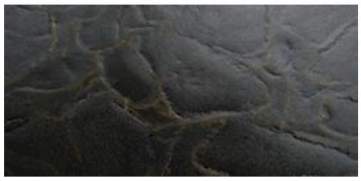
Ice

Oriental Jade

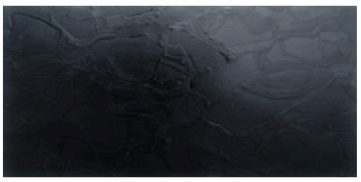
Emerald Forest

Aquamarine

Topaz Blue

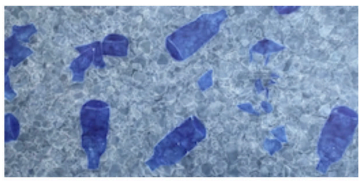


Fossil Amber

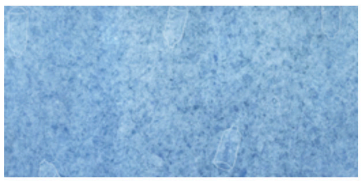


Obsidian Black

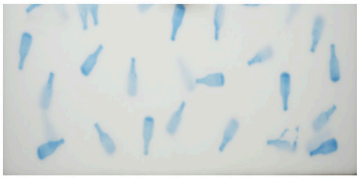
Urban Fossil Aquamarine w/ Aquamarine Bottles



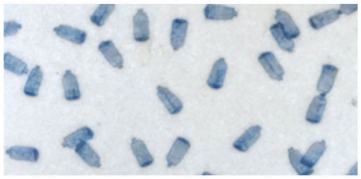
Urban Fossil Aquamarine w/Topaz Bottles



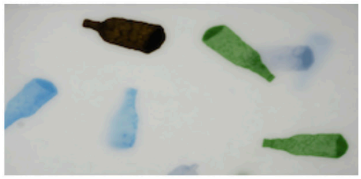
Urban Fossil Topaz w/Topaz Bottles



Urban Fossil Glacier Shards w/Topaz Bottles



Urban Fossil Glacier Shard w/Aquamarine Bottles



Urban Fossil Glacier Shards w/Multi Color Bottles

# BIO-GLASS™

## FABRICATION GUIDELINES

ECOVERINGS "Future Friendly"

U.S. GREEN BUILDING COUNCIL MEMBER

cradle to cradle CERTIFIED SILVER

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## CUTTING

Always pay attention to the cleanness of the base. At all times be certain the support table is level.

**Cutting with Bridge Saw**

In general our Bio-Glass® can be processed in the same way as large size natural stone and porcelain slabs

**Please note when cutting:**

- A full and straight support of the slab. Make sure that the slab is fully supported beneath.

Our recommendation: Use a hard styrofoam board.

- Must trim all edges as 3/4" relaxing cut.
- Assure that as much water as possible is used during the cutting.
- When cutting with an accurate blade you will get a clean cut, otherwise the underside will break.
- Mind the feed rate, if it is too fast the slab may break.
- Use reduced speed when cutting in and out of the slab.
- The slab should be under room temperature, similar to that of the water.

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We recommend cutting blades from **Alpha** for crystallized glass.
Type: SLW1410P
Material: Crystallized glass
Circular speed: 2,425 RPM

**It is important that the circular cutting speed corresponds to the technical data of the diamond blade manufacturer.**

Use only the **ALPHA SLW1410P Blade** by **ALPHA Professional Tools.**
We recommend:
Use this blade with a feed rate of 20”/min.

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## WATERJET CUTTING

Cutting with the waterjet is similar to the bridge saw

**PLEASE MIND:**

- Remove any debris on the metal support table when water jet cutting.

A styrofoam board of 3/4" thickness offers scratch and vibration reduction.

- The full support of the slab without hollows is important.
- Must trim all edges 3/4" to release any slab tension.
- Important too is the role of heat building up during cutting with water jet equipment. In this way cracking as a result of tension can be reduced as the heat builds up.
- With small pieces it is enough to use a foamed padding material under the

Bio-Glass®. With the underlay it reduces, in both cases, any damage to the underside of the Bio-Glass® afforded by the carborundum. This is essential for platters that are polished on both sides.

- The feed rate should be set for proper edge quality.
- 20"/min is possible for just cut edges. For polished or ground edges you should choose less speed i.e. 15"/min.
- The dose of cutting sand can be reduced to around 20% below that used with granite cutting.
- The slab should be at room temperature, similar to the water temperature.

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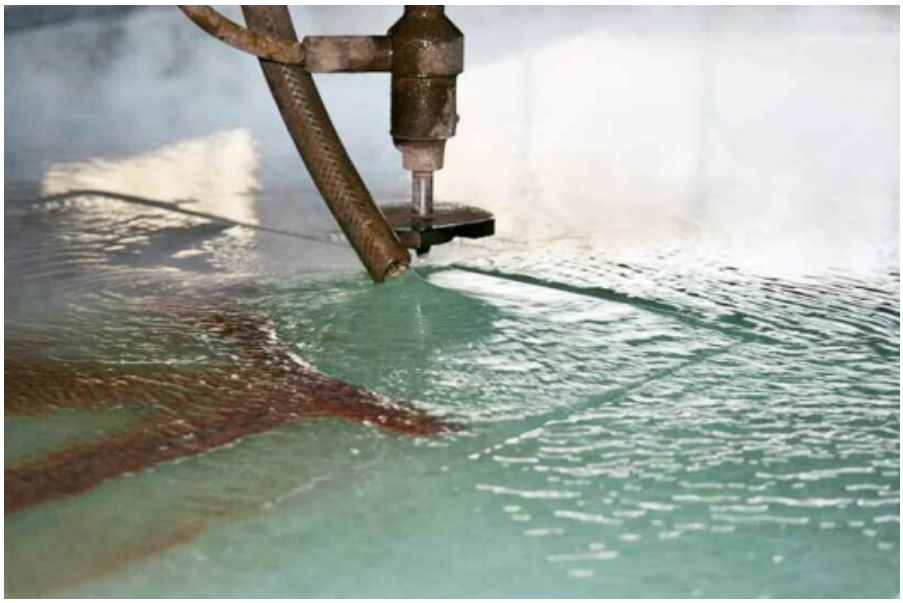
## CUTOUTS AND MILLING



**Note:**
We recommend water jet work in making cutouts, it is there that we and our wholesale customer base have had their best experience.
Special caution should go to the distances of cut to size for interior cuts.
Any interior cut must be a minimum of 2 3/4" from the exterior edge of the slab.
The smaller the distance to the exterior side the more risk of cracking exists.

**Cutouts:**

- We recommend to do release cuts on all four edges before cutting.
- For cutouts, first drill 3/8" holes in the corners prior to starting the cuts. If necessary, the final radius can be reduced to a smaller size radius.
- It is necessary to support the entire slab fully, even the cut-out.

**We recommend:**

- Any interior cut must be at least 2 3/4" in from the exterior edge.
- Larger cutouts into smaller sections for ease of removal.

**Surface Sink Cutouts and Interior Edge Polishing:**
Due to the material characteristics during this process air bubbles inside of the material can be opened. They can be closed using the technology see 0.5 PORE FILLING

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## DRILLING

Generally we use two different methods of drilling holes. The first one is to drill through using waterjet, whereby you can vary the diameter.
The second one is the diamond drill bit.

**Important:**

- Use a thin-walled hollow drill bit, that is made for glass and ceramics.
- It is necessary to support the entire slab fully, if the area under the drilling is hollow, then this will develop cutouts underneath.
- Optimal result is with double side drilling but a one plunge drilling is also possible.

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## SURFACE AND EDGE PROCESSING

### Automated Edge Working

Bio-Glass® as a material is well suited to grinding and polishing finishing.
In general every machine that is used for marble and granite can be used for Bio-Glass® too.

### We recommend:

- Use plenty of water.
- Exert little pressure.
- Without oscillation, otherwise a lot of material will get removed.
- Pay attention that the pressure roller doesn't make scratches
- If possible use plastic-bound diamond pads e.g. from Nozar or Weha.
- Use the same type of tools for the arising units.

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**Manual Edge Processing:**

For manual working of the edge we recommend the use of ALPHA CERAMICA EX POLISHING PADS and the ALPHA AIR-680 POLISHER.

**Please note:**

These progressively increase the grit sizes from 200 during grinding, to 3000 for a polished edge. Watch out that the head turning speed is at approx. 2000 rpm. Also an even and slow movement is imperative. Do not hold the grinding head too long in one position, because the friction creates heat. The grinding results can get affected and the ease of working is helped through heat removal.

**We recommend:**

- The edge is processed like natural stone, use up to 3000 for a polished finish.
- The applications for the pads are the same as for marble and granite.
- Mind the heat, the local heating should not be too high.
- The quality depends on the processor.

You can choose between the wet and the dry edge processing.
We recommend the wet procedure because the result is better.
Bio-Glass® does not just allow straight edges and arises. These must be achieved however through manual working.
Bullnose edge details can be produced with the right milling and polishing tools either by machine or by hand work. Also keep in mind that pores inside of the material will appear and have to be closed.

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## PORE FILLING:

In making Bio-Glass® slabs, with our current techniques, there are always some air bubbles found present in the slab. When the slabs are cut there may be bubble holes exposed. This is normal and these holes can easily be filled, if needed.

**If the natural edge is not desired please follow the instructions below:**
At first the pores should be cleaned out of any residues with acetone and compressed air. We recommend two possibilities to close the holes. Firstly with an adhesive type AKEMI AKEPOX.

We differentiate the AKEMI AKEPOX 5010 (2 part adhesive, colorfast and polishable, minimal shrinkage, ability to take a dye, mixing relationship of 4:1 and with a 12 hour curing time) and AKEMI AKEPOX 1005 (less viscous, 2-part adhesive, polishable, minimal shrinkage, solvent free, ability to take a dye, a mixing relationship of 2:1 and curing time of 24 hours).

Then following this choice is LOCTITE AA3491. This is a transparent and thin flowing fill material which requires UV light hardening afterwards. This one offers the advantage of a short hardening time.

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After the adhesive fully cures, clean away excess material with a razor blade, then polish the area to match the factory finish. This process can also be used for filling random surface bubble holes.

**Filling surface bubbles:**

Open pinholes and little bubbles can occur due to the natural recycled characteristic of the material with the polished and honed surface.
Filling the holes is a very easy 4 step process using a UV filling technique.

**Step 1:**

Cleaning Clean the open holes with acetone then blow them out with pressured air.

**Step 2:**

Filling the Holes Fill the holes using a cartridge press with the recommended filler, Loctite AA 3494. When applying, be certain the fill material is bubble free and a little bit above the surface edge of the hole being filled.

UV Curing with the recommended 97053 Lamp takes 1-2 minutes and may vary with other lamps.

For holes larger and deeper than 1/8" fill and cure only half of the depth, then repeat to complete the top half, again leaving the fill material a bit above the slab's surface plane.

**Step 3:**

Remove/plane away surface excess until flush with surface using box cutter type razor blade.

**Step 4:**

Final Finish Finish with a polishing sponge and Akemi polishing paste. Use light pressure for approximately ten seconds, then clean with acetone.

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## EDGE AND MATERIAL BONDING

Before put material together towards bonding you first need to prepare the surfaces to bond using a diamond grinder to achieve a raw surface. Always mind the speed of the tools if you cut miters. Depending on the tools we suggest a miter cut speed of around 15“/min.

Clean the contact areas using Acetone before you apply the binder. This reduces the chance of small particles and dust affecting the glue and assists in the bonding.