

INSTALLING SCREWS OR BOLTS IN AVONITE SURFACES PANELS INTERIOR & EXTERIOR APPLICATIONS

Avonite Surfaces realizes there are certain applications that need additional vertical support.

Examples: Avonite Surfaces outdoor signage, elevated wall cladding or ceilings etc., and other similar applications. The proper technique for installing screws or bolts through Avonite Surfaces should be done according to Figure 1.

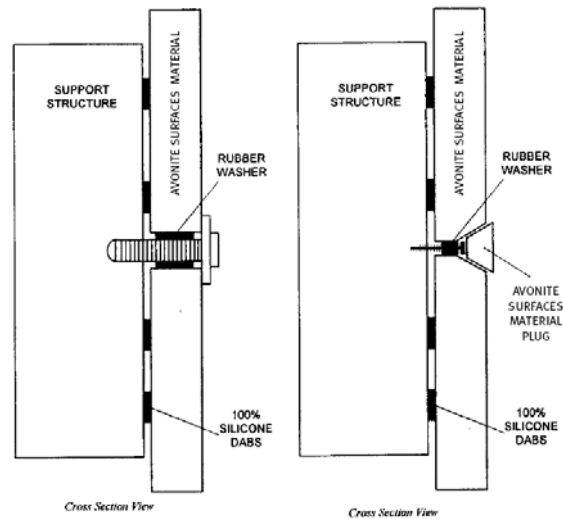
Soft seams should be used for exterior applications

Important facts that you need to remember are:

1. Hole should be 1/4" (7mm) oversize in diameter minimum (for interior applications).
2. Hole should be 1/2" (12.7mm) oversize in diameter (for exterior applications).
3. Rubber grommet/washer needs to be inserted in hole to provide cushion for movement during expansion or contraction.
4. Do not over tighten screen or bolt; snug tight only.

Outdoor Applications

Aristech Acrylics LLC does not warrant exterior applications. **As with any other solid surface products, dark colors must not be located where they will receive direct sunlight.** The sunlight will cause an extreme temperature increase due to dark colors' heat absorption, accompanied by expansion of the material with potential distortion or cracking. A sign must not be located where it will be periodically sprayed with water as from a sprinkler system. Water spots will leave mineral deposits which will buildup on the surface, eventually making it difficult to restore to the original appearance. Three dimensional structures with hard seams are not suitable for outdoor applications in any color for any solid surface products. Stresses are created when the sun warms part of the structure while another part joined to it remains cool. Such stresses are likely to lead to failure of a seam or failure of the material itself.



Not drawn to scale

Figure 1.

Engraving and Sandblasting

Avonite Surfaces material can be engraved by conventional carbide engravers and laser engravers. Letters or logos are easily cut out by computer controlled routers. Avonite Surfaces material can be sandblasted using a monument stencil like anchor Continental #111 or "Buttercut" by 3M. Silicon carbide (80 grit) at 80 psi gives the best results for a sharp edge.



These Thermoforming Parameters are basic guidelines for fabricators to thermoform Avonite Surfaces. The parameters listed below are recommendations, which are a direct result of actual forming of Avonite Surfaces. This testing was conducted by the Avonite Surfaces Technical Service Department, but values are approximate. We suggest re-testing for varying conditions.

Material Preparation

When preparing material to be formed, it is recommended that material be cut to size. Then, remove all chips or gouges on the edge of the material. Any chip or gouge left on an edge may cause the material to tear during forming.

Thermoforming Temperature

Temperatures given here are approximate and represent a starting point to establish the conditions you need for your project. If material is too cool or too hot it may crack or tear while bending.

Avonite Surfaces Studio Collection

When heating material for forming, it is important to uniformly heat the entire thickness of the sheet. Spot heating or surface heating is not adequate to form the sheet stock. To achieve this, it is recommended that an oven designed for solid surface be used. Be aware that heating in an oven may darken the color of light colored Avonite Surfaces material. Avonite Surfaces' Glass series products are very difficult to bend and are not recommended for thermoforming.

Material Heat-Up Times for Avonite Surfaces Studio Collection

For 1/2" thick sheets, preheat the oven for 270° F (132° C). Allow 20-25 minutes heat up time before bending.

Minimum Bending Radius For Avonite Surfaces Studio Collection

Studio Collection	Min. Radius for 90° Bend	Min. Radius for 180° Bend
1/2"(12.7mm)	8"	12"
Class III	(200mm)	(300mm)
1/2"(12.7mm)	14"	18"
Class I	(350mm)	(450mm)

NOTE: These minimums reflect radiuses in which there would be minimum to no breakage.

Avonite Surfaces Foundations

Avonite Surfaces Foundations Heat-Up Times And Bending Radius

Sheet Thickness	Minimum Radius	Oven Temperature	Heat Up Time
1/2" (12.7mm)	6" (50mm)	370°F (187.7°C)	20-25 Minutes
1/4" (6.3mm)	3" (25.4mm)	370°F (187.7°C)	10-15 Minutes

MOLD DESIGN

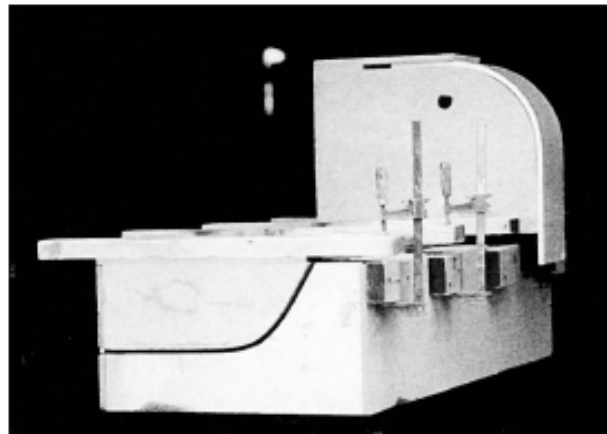
When forming we recommend that male and female molds be made. The molds need to be designed so they can accommodate clamps to hold them together while material is cooling.

COOL DOWN

Allow material to cool for a minimum of two hours to prevent the material from springing back. If material is not allowed to cool adequately, it may spring back as much as 10% which will make any further fabrication of the application difficult.

FABRICATION: FINISHING/SEAMING

Finishing formed sheet stock is no different from standard finishing. However, it is important that any seaming/joining be done after forming. The heat to which the material is subjected will weaken the seamed areas of the pieces, which may result in seam failures.

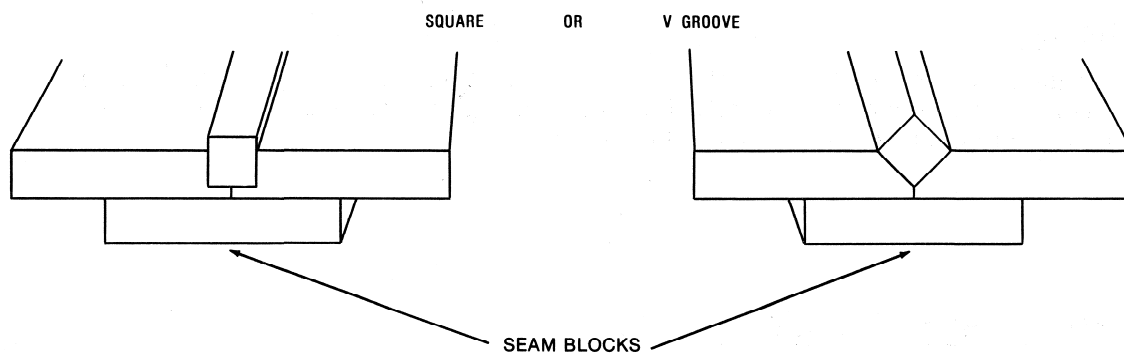


Most Common Reasons For Seam Failures

1. Excessive heat from belt sanding.
2. Too much clamping pressure.
3. Inadequate mixing of catalyst.
4. Insufficient catalyst from cartridge if voids not purged by dispensing small quantity of Ultra Bond G before installing mixer tube.
5. No seam block.
6. Unsupported seams.
7. Seams near heat source such as dishwasher or cook top.
8. Seams placed at points of stress such as inside corners.

Seam and Damage Repair

1. The damaged area must first be bonded back together. When the opening is wide enough, Ultra Bond G can be used. For tight cracks, a very thin cyano acrylate (Super Glue) could be used to fill the void.
2. After the glue has dried, route a groove about 1/4"(6 mm) deep. See drawing.
3. Glue a matching piece of Avonite Surfaces material into the groove. **Always leave a piece of material on the job site for any future damage** (perhaps on the floor beneath a bottom drawer or mounted in the sink cabinet).
4. Material may then be routed level and sanded back to the original finish.



Pie Shape Repairs

The pie shape repair has proven to be one of the best methods of repairing cracks and damaged areas. The principal is to create a template large enough to encompass the damaged area. Clamp on the template and rout out the area to be replaced.

Cut a matching wedge piece to fit using the same template and router. Check the dry fit and adjust until there are no gaps. Glue the repair piece (s) in place with a reinforcing block underneath whenever possible.

The methods and techniques have improved over the years and today there are several companies that offer repair templates and router bits that make repairs very quick and accurate.

Circle Template Repairs

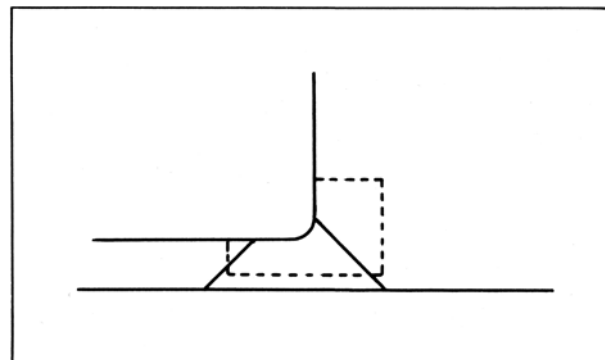
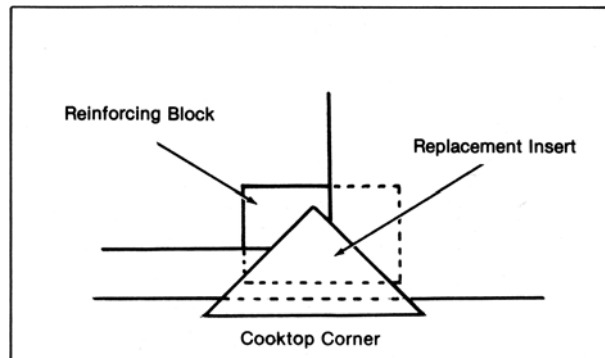
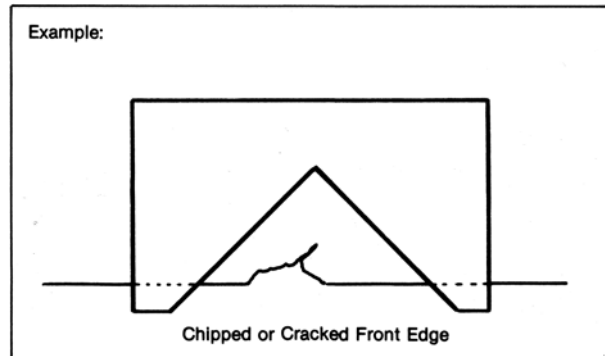
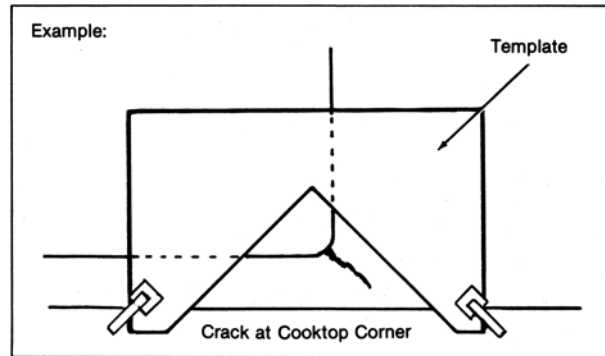
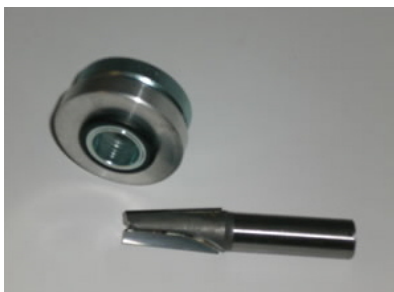
The circle template repair is recommended for damages from heat producing appliances or hot pots that occur in the center of the counter.

Templates By Andreas offers a selection solid surface repair templates and tools.

www.andreascustomdesigns.com



Below is the 10 Degree Repair Kit available at www.specialtytools.com



General

When choosing solid surface for partitions, allowances for expansion and contraction must be considered. Avoid rigid fasteners that will not move. Rubber or nylon sleeves should be used for bolts going through the partition.

Toilet Partitions

Choose only Foundations 1/2" acrylic or Studio Collection Class I 1/2" thickness to be used.

It is recommended that all hardware should have rubber or nylon grommets between the hardware and Avonite surface.

1" thick pilasters are recommended for support post running floor to ceiling.

For added strength, construct a 1" x 4" build-up with a 1/2" channel for top and bottom rails.

Place no seams in stall doors.

Wall panels should be secured to back to walls with a full length "U" channel.

Partition hardware available at:

Bommer Industries 803-457-3301

Decolam 418-527-2544

Jacknob 888-231-9333

AVONITE SURFACES WAINSCOTING SYSTEM

This system utilizes our wide sheet Foundations 1/4" product with 1/2" base and trim. The Avonite Wainscoting system provides stylish and durable wall protection. The panels can be custom sized to fit the application design.

The panels are adhered directly to dry wall. The wall surfaces and backsides of sheets need to be clean and free of dust. Panels and trim can be adhered with silicone. Allow 1/8" gap between panels and fill with color matched silicone for an inconspicuous soft seam.

Avonite Surfaces Wainscot System

