VOL. 3 2025-09

FABRICATION MANUAL

MEGANITE®
Acrylic Solid Surface

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01 SAFETY RECOMMENDATIONS

Introduction & Overview

This chapter provides basic safety recommendations during the fabrication and installation of Meganite® solid surface.

Meganite® 100% acrylic resin solid surface material is non-toxic. However, some activities during fabrication and installation pose potential safety and health hazards. These activities include but are not limited to:

- Material handling
- The use of hand tools and power tools involved in the cutting and routing of the Meganite® Solid Surface
- The use of flammable components
- The use of adhesives and solvents
- Exposure to dust and chemical vapors

When working with Meganite® solid surface materials, all normal safety precautions must be followed. Please be aware of the following common safe practices:

- For the safest and best performance, always keep tools clean and sharp.
- Never use a tool to do a job for which it was not designed.
- Always keep the work area clean and organized.
- First aid supplies, including eye wash station, must be readily available within quick reach of the work area.

Personal Protective Equipment (PPE)

- Wear suitable apparel. Do not wear loose clothing or jewelry that could get caught in moving parts of tools. This would include long hair.
- Wear suitable shoes. Transporting sheet material may result impact to the feet, therefore the use of steel-toed shoes is recommended.
- Wear appropriate gloves.
- Wear approved eye protection such as safety glasses. Unless prescription eyewear is designed for impact protection, they are not appropriate safety eyewear.
- Wear hearing protection. Most shop tools result in noise levels that exceed permissible levels and protection in the form of earmuffs or earplugs should be worn.
- Wear a dust mask. For comfort from nuisance dusts during the cutting or routing process, a filtering facepiece can be used.

Exposure Control

The work area should be adequately ventilated to prevent any excessive vapor accumulation and inhalation. Under most circumstances, the use of adhesive in the fabrication of Meganite® solid surface

will be below the recommended exposure levels. The same exposure considerations should be made when working with Meganite® solid surface as when working with other solid surfacing materials.

Waste Disposal

Dust generated during fabrication activities is non-hazardous with regards to waste disposal and should be disposed of in accordance with local statutes.

Acrylic resins and hardeners are considered hazardous waste and should not be disposed of in liquid form. Dispose of seaming cartridges by mixing the components, allowing them to solidify, and then disposing of them in accordance with local industrial waste statutes as this would be considered non-hazardous solid waste.

Combustible Dust

Be aware that solid surface fabrication operations may create particles that could be small enough to be combustible under certain conditions. A hazard analysis should be conducted in order to develop a prevention and protection program.

Material Transport & Storage

It is recommended that lifting devices be used when transporting Meganite® solid surface sheets. If manual transport is needed, the sheets should be carried by 2 or more people and transported in a vertical position to prevent flexing that could result in breakage. Be aware that the edges are very sharp, and the use of gloves is recommended.

Store the sheet material inside on a flat horizontal surface to prevent material warping. If the sheet material is stored outside, cover to protect the sheets from constant exposure to water.

02 SUGGESTED TOOLS & ACCESSORIES

Introduction & Overview

This chapter provides a basic list of tools and accessories necessary for Meganite® Solid Surface fabrication.

Meganite® can be fabricated using many conventional woodworking tools and equipment. Additionally, many specialized tools have been developed specifically for solid surface fabrication.

The following tool list is the minimum required for quality fabrication:

Saws and Blades

Any type of saw in combination with the appropriate blade can be used for cutting of Meganite Solid Surface.

Common saw varieties include:

- Table saw
- Vertical panel saw
- Heavy-duty circular saw
- Heavy-duty circular saw in combination with a sliding rail
- Radial arm saw

Vertical Panel Saws

- STRIEBIG AG multiple panel saw models available
- Holz-Her USA multiple panel saw models available

Track Saws

- FESSTOOL TS 55 FEQ-F-Plus Plunge Cut Track Saw
- FESSTOOL TS 75 EQ-F-Plus Plunge Cut Track Saw

The appropriate saw blade would have the following properties:

- Carbide tipped triple chip (TCG) saw blade specifically designed for cutting solid surface material.
- Have a minimum of 6 teeth per inch radius.
- Be described as for “cutting plastics.”

Cutting Blades

- Amana Tool 10" Circular Saw Blade - 72 Teeth - 5/8" Arbor - 0.126 Kerf
- Amana Tool 10" Circular Saw Blade - 80 Teeth - 5/8" Arbor - 0.1 Kerf
- Amana Tool 00612841 12" Circular Saw Blade - 96 Teeth - 1" Arbor - 0.125 Kerf

- Freud LU95R010 10" x 72T Solid Surface Blade - Kerf 0.125"

Routers and Router Bits

Routers should have the appropriate power necessary for the task performed. The following routers can be used for Meganite Solid Surface fabrication:

- Laminate trim router for seam and cutout cleanup
- 1 1/2 HP router with 1/2" collet for edge detail
- 2 HP plunge or fixed base router with 1/2" collet for general purpose work
- 3 HP plunge or fixed base router with 1/2" collet for heavy duty work

Routers

1400-1900W (1.8 - 2.5 HP) - General Routing for cutouts, trimming, seaming preparation

- FESSTOOL Router OF 1400 1.8HP Plunger Router
- Makita RF1101 2 1/4 HP Router
- Makita RD1101 2 1/4 HP D Handle Router

2200-2300W (3 HP) - Heavy duty and general routing for cutouts, trimming, edge profiling

- FESSTOOL Router OF 2200 3HP Plunge Router
- Makita RP1800 3 1/4 HP Plunge Router
- Makita RP2301FC 3 1/4 HP Plunge Router, with Variable Speed

Router Bits

Any carbide tipped router bit can be used with Meganite®.

Note: Make sure router bits are kept sharp and clean and regularly inspected for damage. Dull bits will cause additional labor in finishing and could result in conspicuous seams.

Typical router bits needed for fabrication include the following:

- 3/8" carbide-tipped single flute bit with 1/2" shank for general fabrication which includes seaming, cutouts, and edge trimming.
- 1/2" carbide-tipped single or double flute bit with 1/2" shank for general fabrication which includes seaming and edge trimming.
- Carbide-tipped decorative bit with 1/2" shank for edge details.
- Carbide-tipped undermount bowl bit with 1/2" shank for undermount bowl details.

Specialized work including repairs, drainboard, etc. would require additional bits suitable for these tasks.

Sanding & Finishing

For typical fabrication the following sanders can be used:

- Orbital sanders available in various diameters either air-powered or electric

- Belt sanders either portable or stationary
- Disc sanders
- Finishing sanders

Most finishing paper or films designed for wood are suitable for use with Meganite®.

Sander

- Dynabrade 59020 5" Air Powered Spirit Random Orbital Sander - No Vacuum
- 3M 5" Air Powered Random Orbital Sander - No Vacuum
- Ingersoll-Rand 5" Air Powered Random Orbital Sander - No Vacuum

Finishing Paper

- None P150 5" or 6" P150 Sandpaper
- None P240 5" or 6" P240 Sandpaper
- None P400 5" or 6" P400 Sandpaper
- None P600 5" or 6" P600 Sandpaper

- 3M 7448 Scotch-Brite (Gray)
- 3M Grade Extra Fine Finesse-It Finishing Compound
- 3M 100 Micron 5" or 6" PSA or Hook-it with or w/o holes finishing pad
- 3M 80 Micron 5" or 6" PSA or Hook-it with or w/o holes finishing pad
- 3M 60 Micron 5" or 6" PSA or Hook-it with or w/o holes finishing pad
- 3M 30 Micron 5" or 6" PSA or Hook-it with or w/o holes finishing pad
- 3M 15 Micron 5" or 6" PSA or Hook-it with or w/o holes finishing pad

- Mirka A9A241120 A9A241120 (6” Disc) 120
- Mirka A9A241180 A9A241180 (6” Disc) 180
- Mirka A9A241240 A9A241240 (6” Disc) 240
- Mirka Abralon A8A241360 Abralon A8A241360 (MATTE) (6” Disc) 360
- Mirka Abralon A8A2411000 Abralon A8A2411000 (SATIN) (6” Disc) 1000
- Mirka Abralon A8A2414000 Abralon A8A2414000 (6” Disc) 4000
- Mirka Polarshine A12 (AMMA121L) Polarshine 12 Medium Compound

- 3M 268XA A35 Green Trizact® film
- 3M 268XA A10 Blue Trizact® film
- 3M 268XA A5 Orange Trizact® film
- 3M 268XA CeO White Trizact® film

Straightedges

Straightedges are necessary for truing Meganite edges for buildup and/or seaming as well as installation. The following are commonly used items:

- Metal or phenolic straight edge

- Self manufactured straight edge

Clamp

Many types of clamps can be used with Meganite® Solid Surface depending upon the task. Common tasks used during fabrication include:

- Spring clamps for buildup clamping or seaming
- C-clamps for bowl clamping
- Bar clamps for seaming
- PVC ring clamps for buildup clamping
- Commercially available vacuum clamping systems for seaming

Clamp

- Jorgensen 3202-HT 2" Protected Tip Spring Clamp
- Jorgensen 3203-HT 3" Protected Tip Spring Clamp
- Jorgensen 3204-HT 4" Protected Tip Spring Clamp
- Jorgensen 3706-LD 6" Light Duty Steel Bar Clamp

Other Tools & Accessories

- Hot melt glue gun
- Hot melt glue sticks/cartridges
- Clear packing tape
- Meganite® approved seam adhesive gun & tips
- 4 Mil thick heat reflective aluminum tape

- Monument Toolworks SP4 Parallign Seam Setter For Solid Surface without Pump
- Monument Toolworks IP4 Parallign Seam Setter For Solid Surface with Pump
- Pinske Edge 8083 Rigid Clamp Set with Venturi
- Pinske Edge 8084 Rigid Clamp Set w/Venturi & Vac Pump
- Integra X-Stream Static Mixer 10:1
- Integra 250ml Dispensing Gun

NOTE: The following types of tools / equipment are NOT recommended for working with Meganite Solid Surface:

- *Auger Bits*
- *Sabre saws / Jigsaws*
- *Ripping or combo saw blades*

Thermoforming Ovens

Schultz Forming Products

- Full Sheet Solid Surface Oven SS012 Infrared & Convection Heating - Heating Area - 34" x 140"
- Solid Surface Oven SS08 Infrared & Convection Heating - Heating Area - 34" x 100"
- Strip Solid Surface Oven SS0612 Infrared & Convection Heating - Heating Area - 7" x 150"
- Shower Pan Solid Surface Oven SS0PAN Infrared & Convection Heating - Heating Area - 72" x 100"
- Solid Surface Vacuum Former SSVF12 Full Sheet Vacuum Table

Safety Equipment

Refer to the Safety Recommendation Section for suggested safety equipment.

03 MATERIAL HANDLING & STORAGE

Introduction & Overview

This chapter provides information on proper storage and handling of Meganite® solid surface and accessories such as sinks, bowls and adhesive.

Storage

Sheet Material

Meganite® solid surface sheets should be stored flat on racks or pallets that provide adequate support. The Sheets require full underlayment support or rack support at intervals of 24 inches (610mm) to prevent warping. It is recommended to store a maximum of one pallet per rack unit.

For optimal storage in a warehouse, ensure the area is enclosed and protected from rain, snow, cold, and direct sunlight. Sheets must remain dry and should not be exposed to moisture. The ideal storage temperature ranges between 60-75˚F (16-24˚C), in a well-ventilated environment.

Sinks and Bowls

Keep sinks in their original boxes until ready to use and stack according to box instructions.

Adhesive

Consult cartridge labeling to ensure that the adhesive does not exceed its shelf life. Adhesive will lose its reactivity over time, and it is recommended to be used within 6 months of manufacturing to ensure a complete and rapid cure. The manufacturing date is printed on the label. Elevated temperatures will reduce the shelf life of any adhesive, so refrigeration is an acceptable means of storage. For optimum shelf life and performance, store adhesive upright away from direct sunlight in a cool area or refrigerator. Store between 50-70 ˚F (10-18 ˚C) degrees for best results. Never allow seam adhesive kits to freeze.

NOTE: Adhesive stored in the fridge or a cold shop, should be allowed to return to room temperature before use. Some adhesive components become thicker at low temperatures and may not mix as well.

Handling

Sheet Material

- Full pallets should be unloaded from the delivery vehicle using a forklift. Pallets of 1/2" x 30" x 144" (12 x 760 x 3660 mm) sheets weigh approximately 2,700 lbs. (1,200 kgs). The forklift should be capable of lifting this weight.
- Individual sheets should be carried vertically (on edge) by two people, keeping bending and flexing of the sheet to a minimum. Proper lifting techniques and appropriate safety gloves should be worn as a full sheet of Meganite® solid surface will weigh approximately 132 lbs. (60 kgs) with very sharp edges.

Note: 1/4-inch (6mm) thick material will have more flexibility and must always be carried vertically to prevent excessive flexing of the material.

Sinks & Bowls

- Sinks and vanity bowls should be carried facing right side up as indicated by package printing. While packaging is durable, these items should be treated as fragile.

04 MATERIAL QUALITY INSPECTION

Introduction & Overview

This chapter provides information on conducting a product quality inspection of Meganite® solid surface sheet material and accessory items.

Inspection of material for defects and color matching prior to fabrication is essential and is an industry best practice. ***This inspection should be conducted prior to cutting the sheet material.***

Sheet Inspection

Inspect the sheet for defects from the following list:

- Cracks or chips
- Color consistency within each sheet
- Particulate distribution
- Flatness of sheets
- Sanding qualities

Color Matching Inspection

A critical step in the fabrication of Meganite® solid surface is to verify color match. Due to manufacturing methods, slight color variations can exist between production runs because of the blending processes.

This is a characteristic of the material and therefore the fabricator should ensure that sheets seamed together are from the same lot number.

Meganite® sheets are matched by lot numbers printed on or adhered to each sheet. Always pay close attention to lot numbers to ensure color matching if sheets are to be seamed together.

Product code Lot Number Sheet Number

Lot Number Illustration

Color match from sheet to sheet can be verified by inspecting the sheets placed next to each other and viewing from a distance of 3 feet (91 centimeters).

Product Inspection

Here are some of the items to look for when making a visual inspection of the product prior to fabrication:

Cracks, Chips, or Breaks
Inspect for any shipping damage that would prevent the use of the sheet.

Color Consistency Within Each Sheet
Inspect solid colors for any inconsistency throughout the sheet from edge to edge.

Material Thickness
Inspect the sheet for uniform thickness of 1/2 inch (12 mm) throughout the sheet.

Warping
Inspect the sheet for any warping across the length of the sheet as well as across the width.

Foreign Particles in Solid Colors
Inspect the sheet for any foreign particles that would detract from the sheet appearance.

Pinholes
Inspect the face side sheet for any visible pinholes – sanding may resolve the problem.

Sheet Finish Issues
Remove the plastic peel coat and inspect for uniform consistent finish that is approximately finished to 220 grit.

05 SITE PREPARATION & TEMPLATING

Introduction & Overview

This chapter provides information necessary for site preparation and templating.

The job only begins with the sale. Successful job completion requires forethought and planning. The use of written contracts with diagrams for all orders and change orders is recommended. They will reduce errors and misunderstandings.

Critical Information

A standardized order form should include at least:

- Customer name and phone numbers
- Job site address
- Contact name and phone number
- Material color selection (use both color name and number)
- Edge treatment
- Finish selection
- Sink selection
- Cooktop (manufacturer and model number)
- Type and location of all cutouts
- Any special items/conditions or upgrades (inlays, radius corners, additional support required, etc.).
- Jobsite access and workspace
- Availability of power
- Dust control and cleanup requirements

Ensure Accessibility

Evaluate the job site and conditions prior to fabrication. Pay special attention to potential trouble spots such as doors, stairs, elevators, low ceilings, cabinetry and corners that are to be negotiated. Adjust the fabrication sizes accordingly to accommodate these conditions.

Inspect Installation Area

A common cause of solid surface failure is cabinetry not installed flat with sufficient structural support. For that reason, always inspect the cabinets to be sure they are flat, secure, and structurally sound to ensure they can properly support the weight of the countertops (including water filled sinks) and anything that will be placed on them. Pay special attention to cabinets supporting sinks, slide-in appliances and corner units. Correct any unsatisfactory conditions before installation.

Measuring And Templating

Most jobs will require a template for a professional fit. Templates must follow cabinet outlines and walls very accurately. The most common method of templating is the use of plywood or hardboard strips joined with hot melt adhesive. Cardboard can also be used but is sometimes less accurate and more difficult to work with.

Mark all important layout positions such as sink center, stove/cooktop, dishwasher, points of support etc. It is recommended that all jobs that incorporate cove backsplashes be templated.

Digital Templating

There are several types of commercial digital templating methods available than can be used.

06 CUTTING & CUTOUTS

Introduction & Overview

This chapter addresses required procedures when cutting or making cutouts in Meganite® solid surface. Proper cutting and placement and support of cutouts are critical to fabrication.

Cutting

It is important to determine all required cuts required for the fabricated tops by considering design, support requirements, aesthetics for directional material if applicable, and sheet yield.

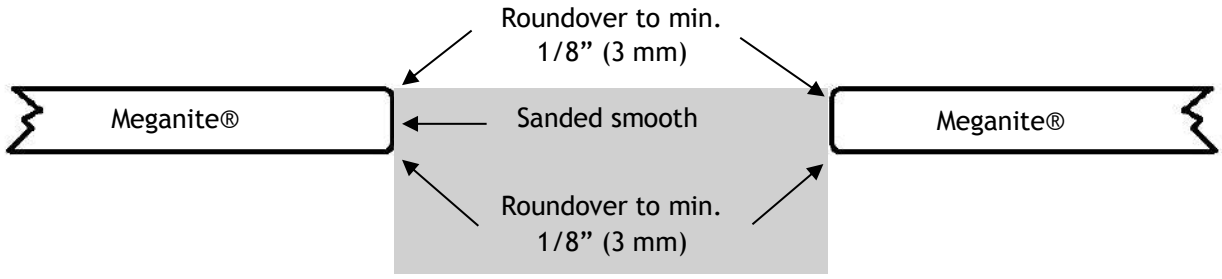
Steps required:

- Obtain job plans or templates that will allow sheet layout calculations.
- Determine the required number of sheets allowing for saw cuts and expansion gaps.
- Determine all individual pieces needed.
- Label all parts once cut.

Cutouts

Critical elements of ALL cutouts involve the following principles:

- smooth – the cutout must be smooth with no sharp edges or kerf marks. This would include sanding the cutout and removing sharp edges on top and bottom of sheet.
- support – the cutout must be supported within 3 inches (76 mm) but no closer than 1 inch (25 mm).
- spacing – allow for 1/8-inch (3 mm) gaps.



Cutout Illustration

FAUCET HOLES

Faucet and accessory holes can be made by using a router or hole saw. After completing the cut, sand the opening with minimum 150 grit sandpaper and roundover top and bottom of the cutout to a minimum 1/8-inch (3mm).

COOKTOP INSTALLATION INSTRUCTIONS

Measure the actual cooktop for exact dimensions. Specification sheets have been known to be incorrect, and such an error is costly to the fabricator.

Mark the cooktop center so that it lines up with the cabinet below.

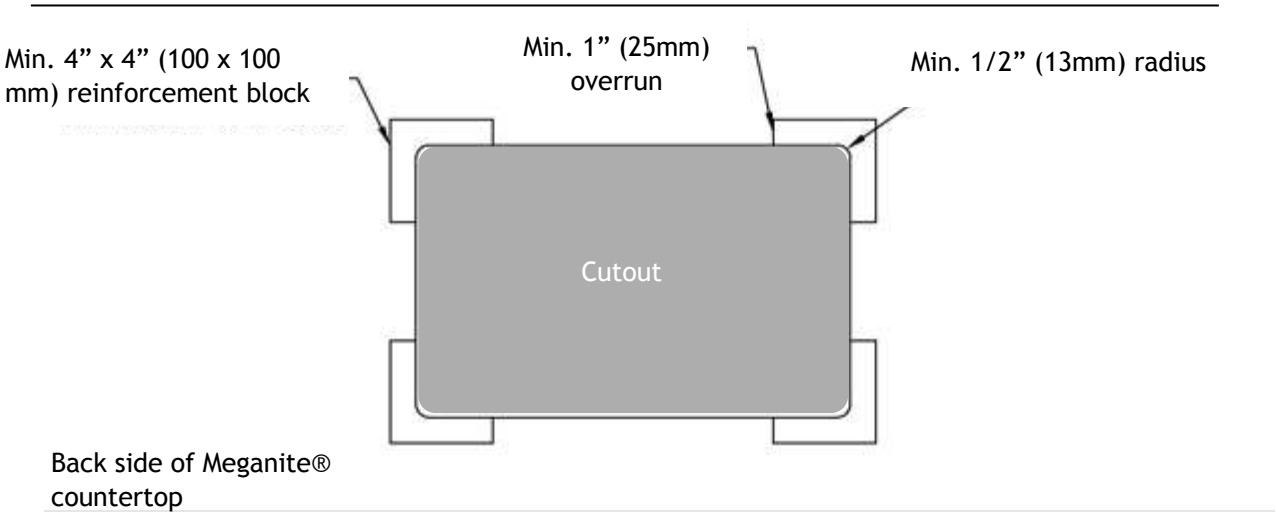
Lay out the cooktop cutout lines allowing a minimum 1/8-inch (3mm) gap between the cooktop and the Meganite® countertop.

Always use a router to make cutouts. Never use a jigsaw.

Cutout corners must be a minimum 1/2-inch (12mm) radius and reinforced with reinforcement block with an approximate 1 inch (25 mm) overrun into the deck.

Reinforcement block must be a minimum 4 inches x 4 inches (100mm x 100mm). Adhere the reinforcement block using only approved seam adhesive.

Rout a 1/8-inch (3mm) radius on the top and bottom edges of the cutout and reinforcing blocks and sand smooth.



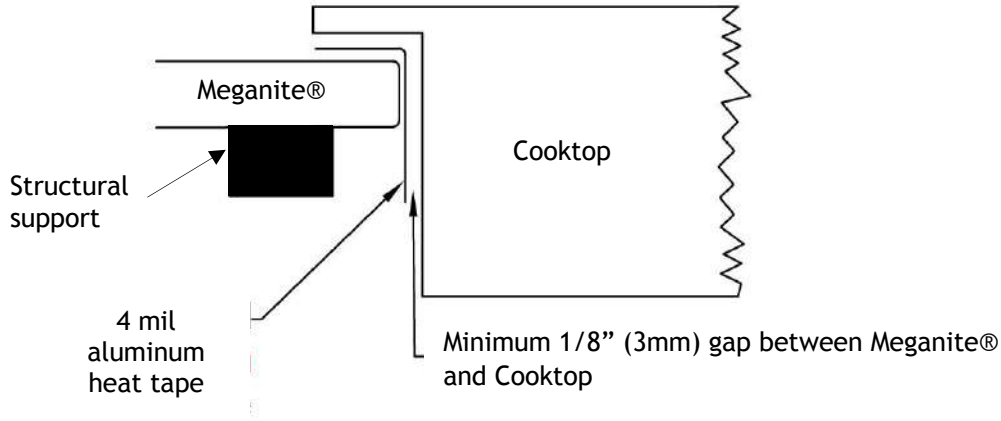
Cooktop Cutout Illustration

Line the entire cooktop opening with two layers of 4 mil thickness heat reflective tape. High heat producing units may require additional layers. Use only 3M #433 heat reflective tape. Other tapes may not meet the specifications required by the Meganite® warranty.

Place the tape so that the cooktop flange rests on the tape. The excess tape is cut away using a razor knife after the cooktop is installed. Do not fold the excess tape under the cutout, the excess must be left hanging vertically to allow for heat shielding properties.

Never fasten cooktops to Meganite® countertops with metal fasteners. If necessary, attach a wooden block for the fastening screws.

Maintain at least 1/8-inch (3mm) gap on all sides between the cooktop and the countertop.



Heat Reflective Tape Illustration

Failure to follow all these steps will void the Meganite® warranty.

07 RECOMMENDED ADHESIVES

Introduction & Overview

This chapter discusses approved adhesives for use with Meganite® solid surface and instructions for use.

Approved Seam Kits

The following manufacturer products can be used that would support the Residential Installed Warranty and are also recommended for Commercial Installations. Use of any non-approved seam adhesive would void the Residential Installed Warranty.

- Integra Surface Bonder XI
- Ninja HY Hybrid adhesive by American Acrylic Adhesives

Using And Storing Seam Adhesive

Always store adhesive in an upright position. Adhesive should be stored in the cooler areas of the shop, with temperatures 40 - 60 ˚F (5 - 15 ˚C). Storing the adhesive in a separate refrigerator (from lunches, snacks, drinks), will prolong the life of the adhesive. Do not freeze the adhesive.

When using a fresh, unopened tube, dispense a small amount of material into a trashcan or onto a piece of paper without attaching the tip. This ensures that both adhesive and catalyst flow properly. Then, attach the tip, dispense a small amount of adhesive into the trash, and you are ready to begin seaming or building up.

After you have finished using the adhesive, you can leave the tip attached to the tube. The material will set up in the mixing tip but will not set up in the cartridge or feed chamber. Stand the tube upright with the tip attached. When you need to reuse the tube of adhesive, simply remove the set-up tip and follow the same procedure as mentioned in the previous paragraph.

Helpful hints when using acrylic adhesive to make seams or buildups.

- Always use mirror cutting techniques to cut the seam. Routed mirror cut seams provide the cleanest seams and often help reduce gaps due to router chatter.
- Always dry fit seams. If you can’t see the seam when it’s dry fitted, you will probably not see the seam once it is finished.
- Optional Suggestion: For best bonding strength, use an 80 grit or 100 grit paper to “rough up” the seamed areas. Be careful not to round off the top edges of the edges to be seamed.
- It is always best to wipe the seam with denatured alcohol immediately prior to seaming to remove dust or oily films left by your hand.
- It is recommended to use some type of spring clamp when making seams or buildups. This will provide consistent pressure with no need to check the clamps during the curing process. Use extreme care when using any type of screw clamps, which can put too much pressure on the seam forcing the adhesive out of the joint.
- It is always best to lay two small beads down, rather than one large thick bead. Having two smaller beads ensures that you have sufficient catalyzation.

08 SEAMING & LOCATIONS

Introduction & Overview

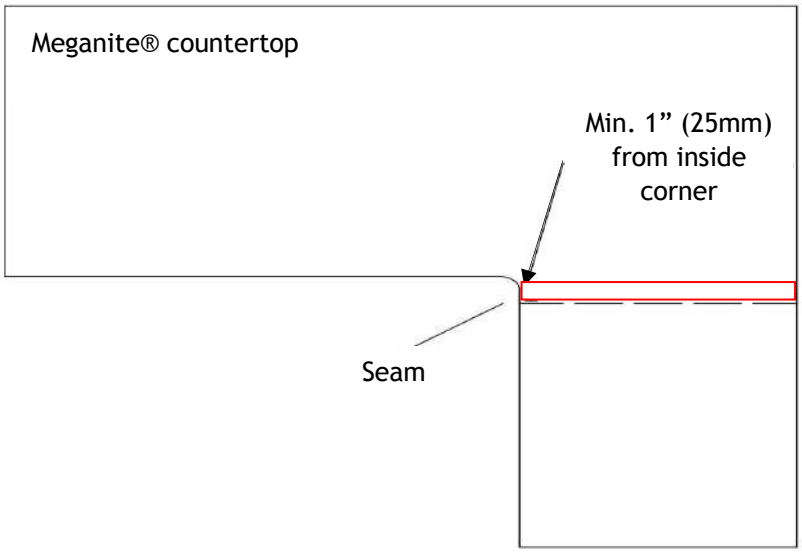
This chapter addresses seaming Meganite® solid surface to provide durable and inconspicuous seams.

Seam Placement

All seam locations must be chosen with great care and coincide with fabrication guidelines. Seams weaken the overall top structure and should be limited in number and placed only in low stress locations.

Seam Requirements

Deck seams must be offset a minimum of 1 inch (25mm) from inside corners.



Seam Position Illustration

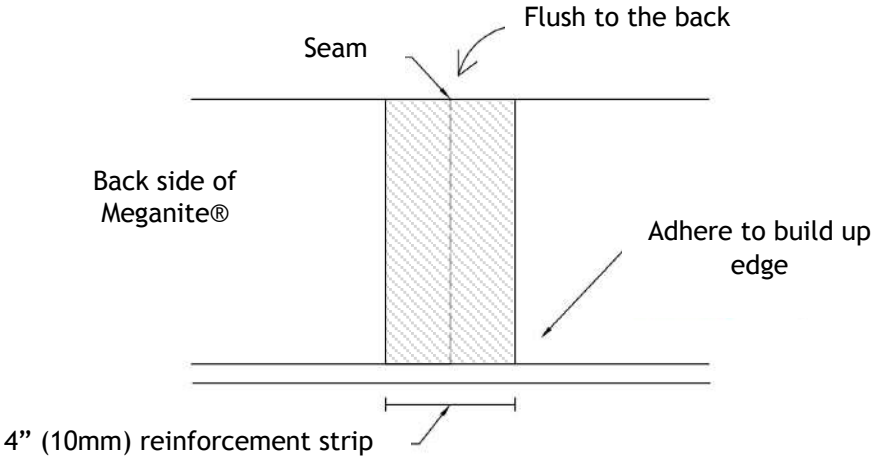
Never miter seams at inside or outside corner locations.

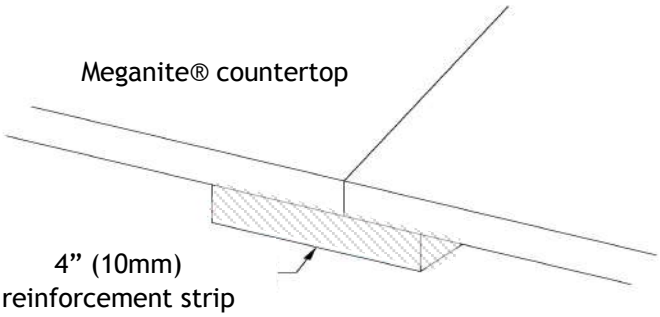
Seams must be at least 3 inches (75mm) away from all cutouts, dishwashers or other heat producing appliances.

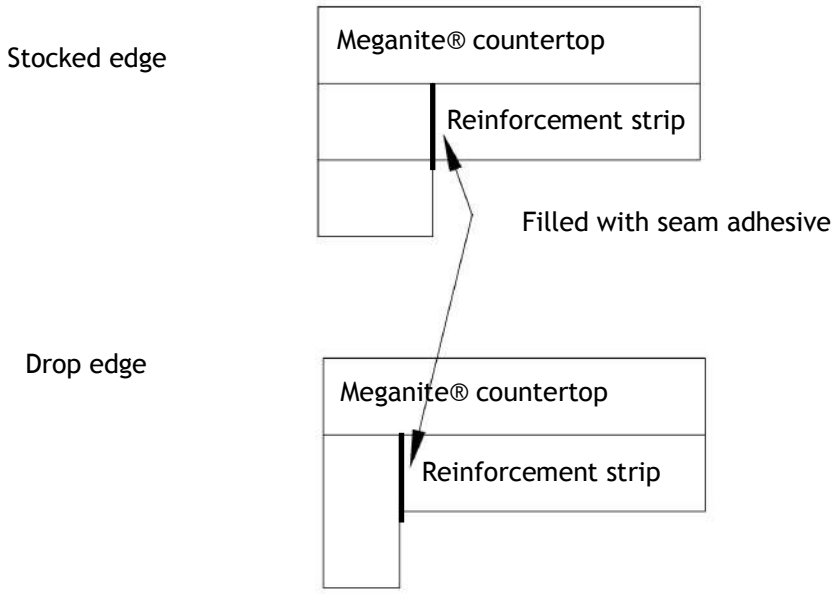
Seams must not extend into cooktop cutouts.

Seams can be placed through an integral Meganite® sink location.

All seams must be reinforced by a 4 inches (100mm) wide seam support adhered (with approved seam adhesive) to the underside of the sheets. The seam support must run the entire length of the seam. Flush to the back of the counter and butted up to the front build-up edge.

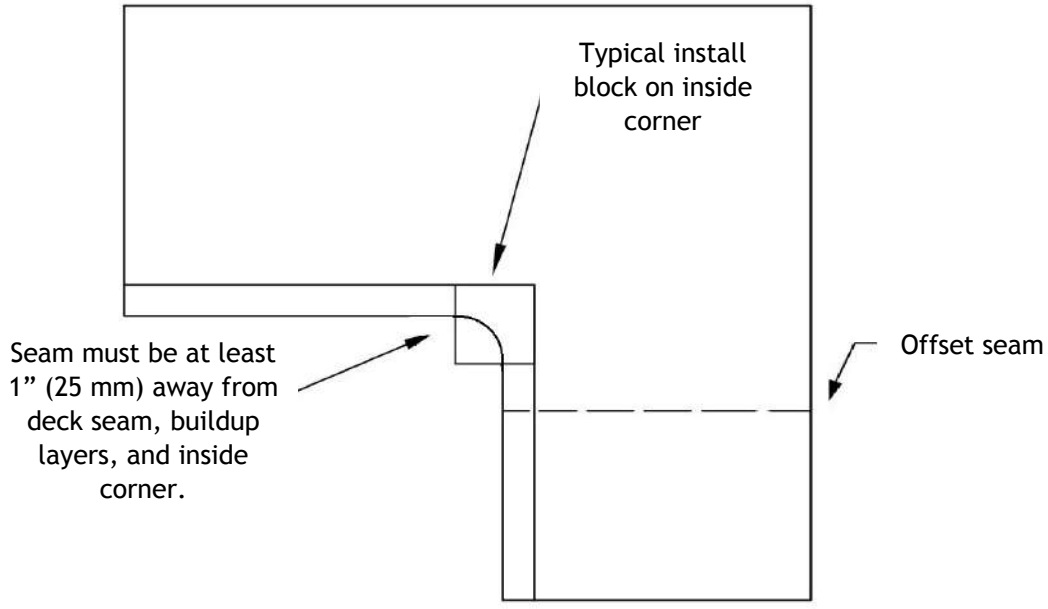




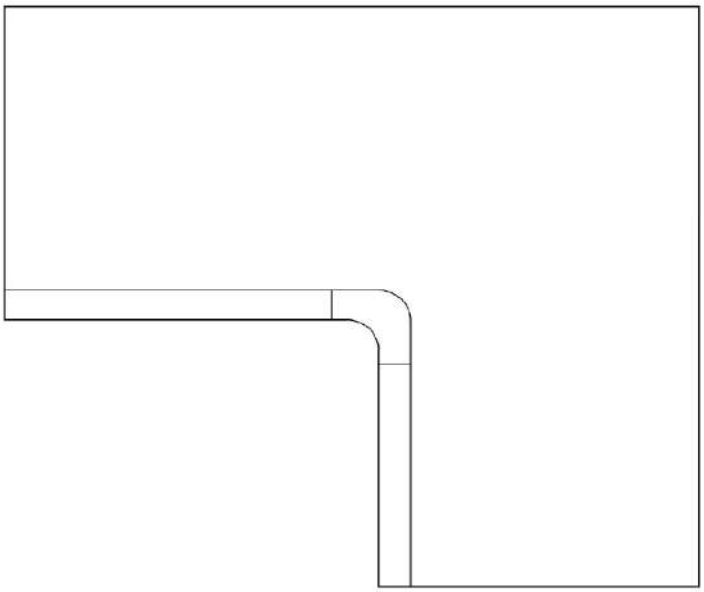


Seam Reinforcement Illustration

Offset seams in edge buildups at least 1 inch (25mm) away from all deck seams, additional buildup layers or inside corners.



Alternative fabrication



Offset Seam Position Illustration

Keep butt joints on the buildup layers away from the center of long runs for maximum strength.

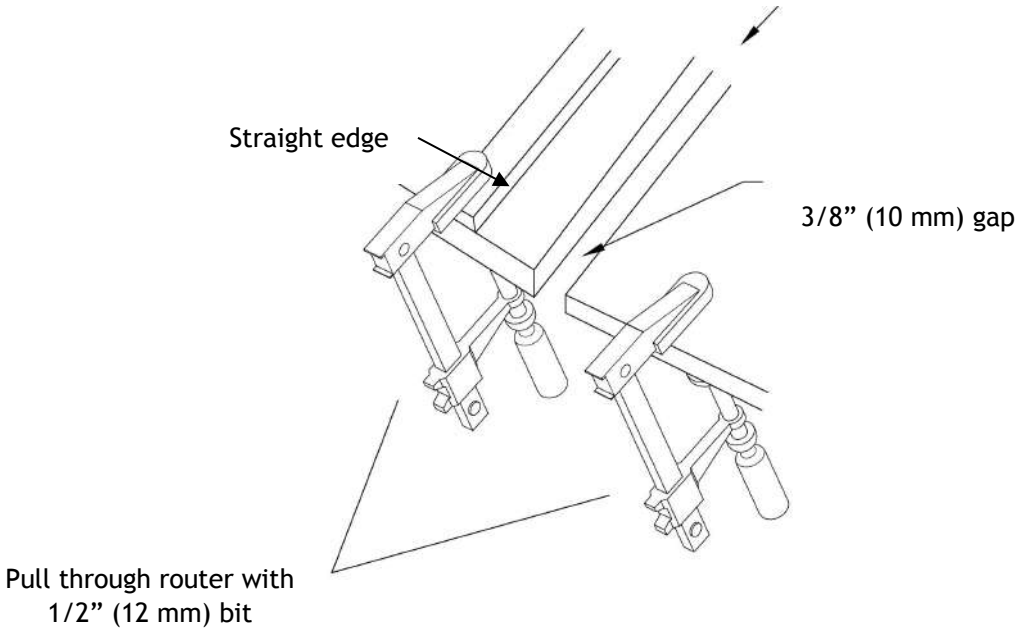
Seaming Steps

It is critical that the 2 pieces being seamed together provide a “perfect” fit. Doing so will provide a durable as well as inconspicuous seam.

The recommended preparation for two edges to be seamed is to clamp and “mirror image” rout the seam using a router with a 1/2 inch (13 mm) 2-flute carbide bit and a straight edge.

- Position the 2 pieces on the workbench and clamp then 3/8 inch (10 mm) apart.
- Attach a straight edge to one side that will allow the router bit to pass between the 2 pieces.
- Rout in one clean motion that will allow material to be removed from both pieces that will create a perfect mirror match.

Dry fit the pieces which should come together tightly with any gaps less than the thickness of a sheet of paper.



Mirror Cut Illustration

Hot melt wood clamping blocks on each side of the seam and directly across from each other. Use at least three sets of blocks for a 24 inches (600 mm) deep countertop, or a set about every 8 inches (200mm) for other sizes.

NOTE: Other commercially available vacuum clamps can be used in place of the wood block method.

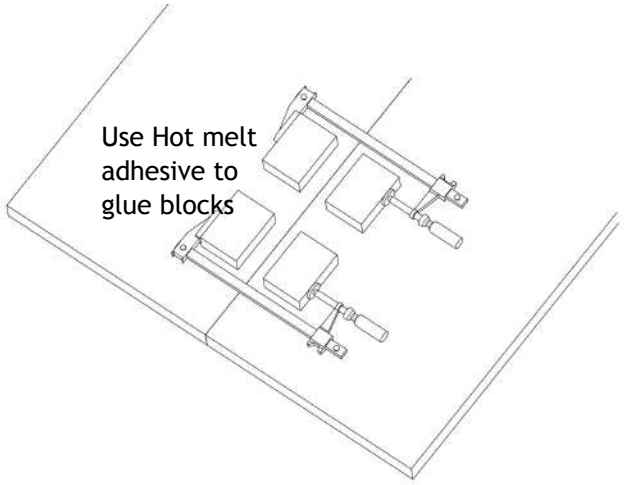
Prepare the seam by cleaning thoroughly with denatured alcohol and a clean white rag.

Place a strip of release material such as clear packing tape or wax paper under the seam and center the edges to be joined leaving a 1/8-inch (3mm) gap.

Purge the adhesive cartridge and tip to ensure proper mixture. If an air void appears while applying the adhesive, purge the cartridge again to avoid improper mixing.

Fill the gap between pieces one-half full of the appropriate colored approved seam adhesive and push the sheets together. Clamp the joint tightly (using spring clamps, vacuum clamps or bar clamps) allowing the excess adhesive to squeeze out. Over tightening the clamps will cause starved or weak seams.

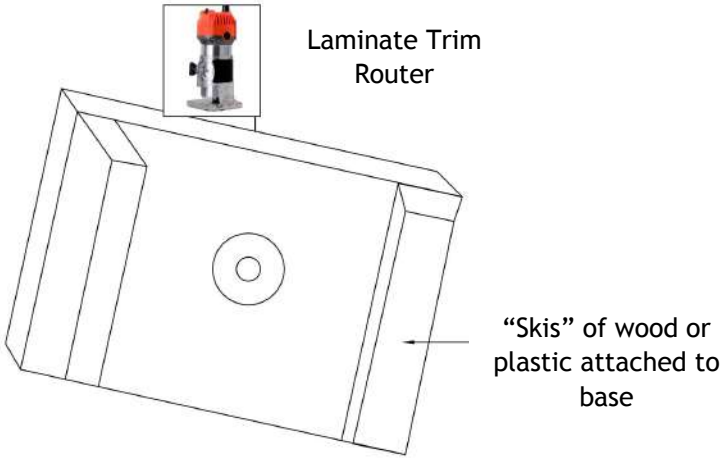
Do not remove the excess adhesive at this point. The clamps may be removed when the adhesive has fully cured when a fingernail does not leave a mark in the cured adhesive.



Clamping Illustration

Remove the hardened squeeze out with a router on skis or a modified block plane.

NOTE: Never use a chisel or belt sander on seams.



Router on Skis Illustration

Seam Reinforcement

Adhere the Meganite® seam support to the joint area using approved seam adhesive covering the entire length of the seam.

Field Seams

Take great care when fabricating the countertop sections in the shop to ensure that all field seams fit tightly when taken to the jobsite.

Field seams must follow all shop seam fabrication guidelines.

09 EDGE DETAILS AND BUILDUPS

Introduction & Overview

This chapter provides details on how to fabricate a thick edge of Meganite® solid surface.

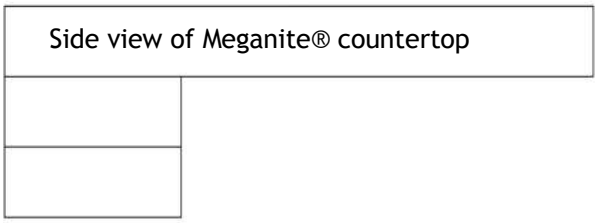
Edges are most commonly fabricated using either the “stacking method” or the “drop edge method”.

When fabricating material with large particulate, it is recommended that the “drop edge” method of edge fabrication be used. This will greatly reduce the possibility of visible lines (caused by repeated visual breaks in the large particulates, where one sheet ends, and another sheet begins) when the material is seamed together.

Some edge methods may be more suitable for specific colors depending on color properties, such as veining, directionality, reflective particulates, etc.

Type of Edges

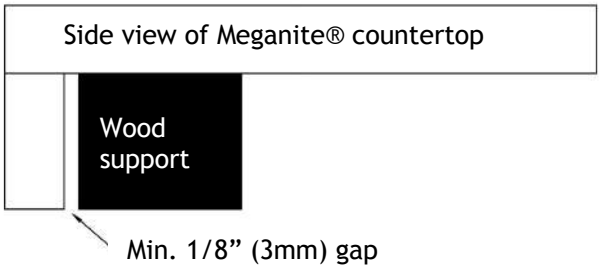
Stacking Method (surface to surface)



The stacking method is preferred and is the strongest. Stacking a contrasting color of Meganite® within the edge is a popular option.

Never sandwich other materials (wood, laminate, metal, etc.) between the Meganite® edge pieces. Always use a routed groove for these types of thin inlays.

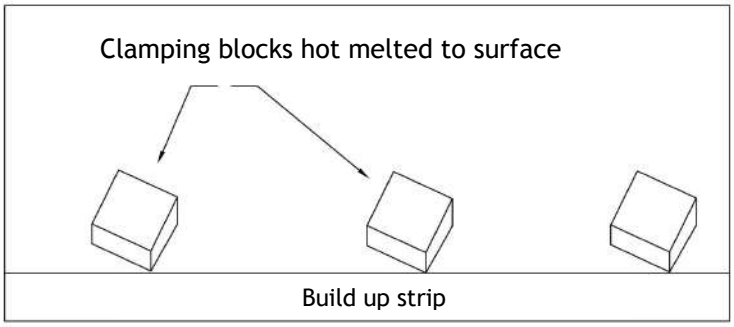
Drop Edge Method (stand up)



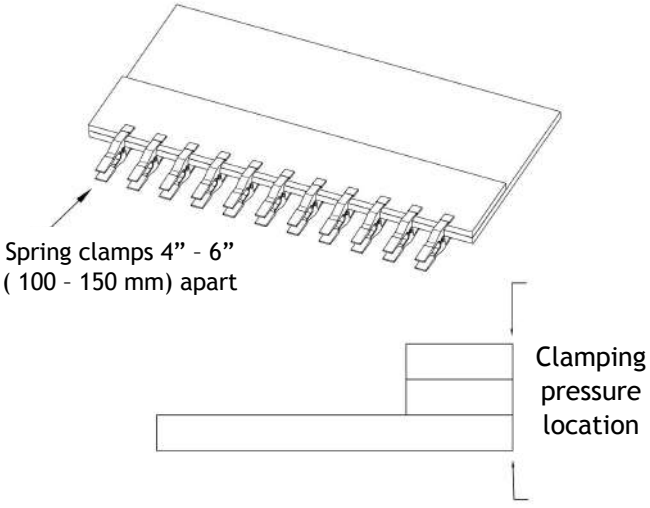
Edges can also be attached vertically on edge. This method will not be as strong as the stacked edge. Be sure to back up this edge with a wood reinforcement strip to increase its strength.
Use only 100% silicone adhesive when attaching wood to Meganite® solid surface. Always allow a 1/8-inch (3mm) gap between the Meganite® edge and the wood for expansion and contraction.

Edge Fabrication Procedure

1. Sand the backside of the sheet and buildup strips as needed.
2. Dry fit and clamp edge buildup strips to the backside of the sheet.
3. Hot melt wood clamping blocks tightly against the edge buildup strips (positioning the blocks at an angle will allow for easier removal after glue-up).



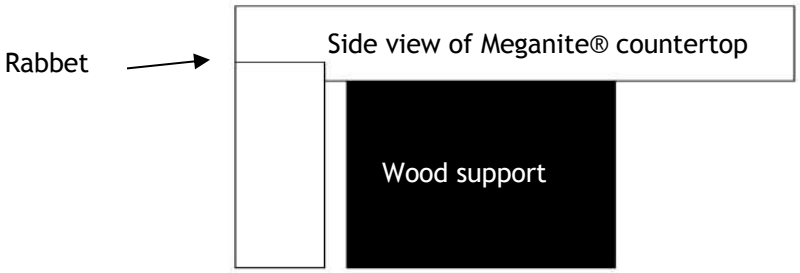
4. Remove all clamps and buildup strips. Thoroughly clean all surfaces that are to be glued using denatured alcohol or acetone and a clean white rag.
5. Apply Meganite® approved seam adhesive making sure there is enough adhesive to squeeze out free of voids along all seams.
6. Apply spring clamps no more than 3 inches (75mm) apart to the entire gluing area – making sure the clamping pressure is along the visible front edge.



7. Allow the adhesive to cure completely and remove clamps and wood blocks.

8. Using a straight edge and a router, flush trim the edges.
9. Rough sand the edges to remove any router chatter.
10. The edges are now ready to be routed to the desired profile.

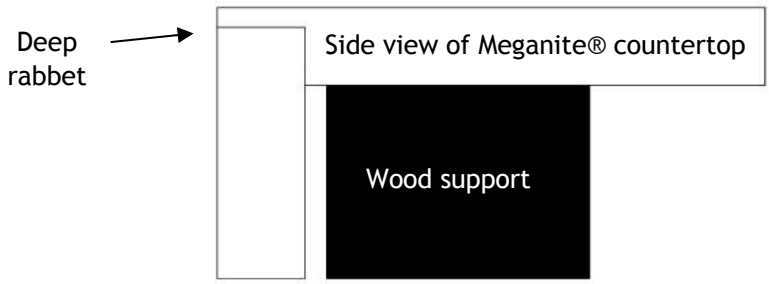
Alternate Edge Fabrication Methods



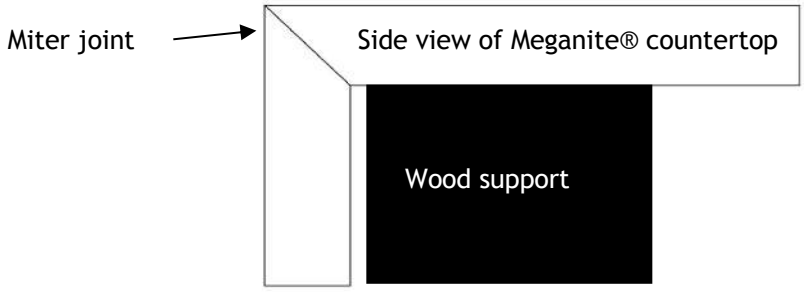
Another method of edge assembly can be to create a rabbet on the underside that the drop edge can be placed into during glue-up. This method eliminates the need to glue woodblocks to hold the pieces during assembly. It also creates a stronger edge.

Alternate Edge Fabrication Methods – Color Properties

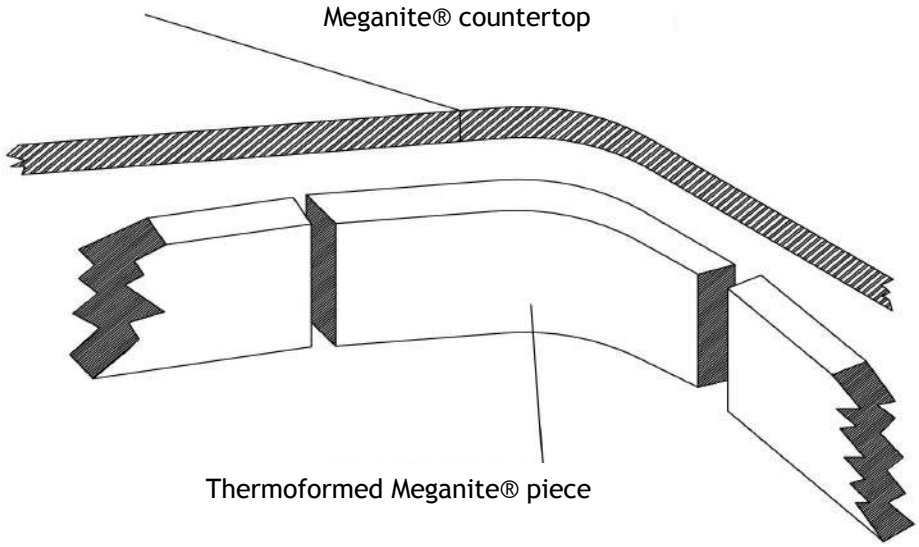
For specific Meganite® colors that have properties where the edge is different than the face side of the sheet, the following options can be used.



Miter Method



Thermoformed Method



- The countertop seam is placed out of the inside corner. The sheet that forms the "L" shape must be cut initially within 1/8 inch (3 mm) of the shape of the final inside corner radius.
- A strip of color-matched material is thermoformed per Meganite® thermoforming instructions to the required shape and depth of the thick edge.
- Prepare the edge to be glued against the underside of the countertop to ensure it is perfectly square.

NOTE FOR ALL EDGES: Plan the layout design that build-up strips do not align with countertop deck seams - ensure that there is a minimum of 2 inches (50 mm) between these seams.

10 SINKS & BOWLS

Introduction & Overview

This chapter details information on installation of integral bowls as well as other sink materials such as stainless steel or porcelain.

Installation of Undermount Sink or Drop-in Sink (Non-Solid Surface)

Cutouts should be made using a router. Plunge routers make this job much easier. Never use a jigsaw. Measure the actual sink for exact dimensions. Specification sheets have been known to be incorrect, and such an error is costly to the fabricator.

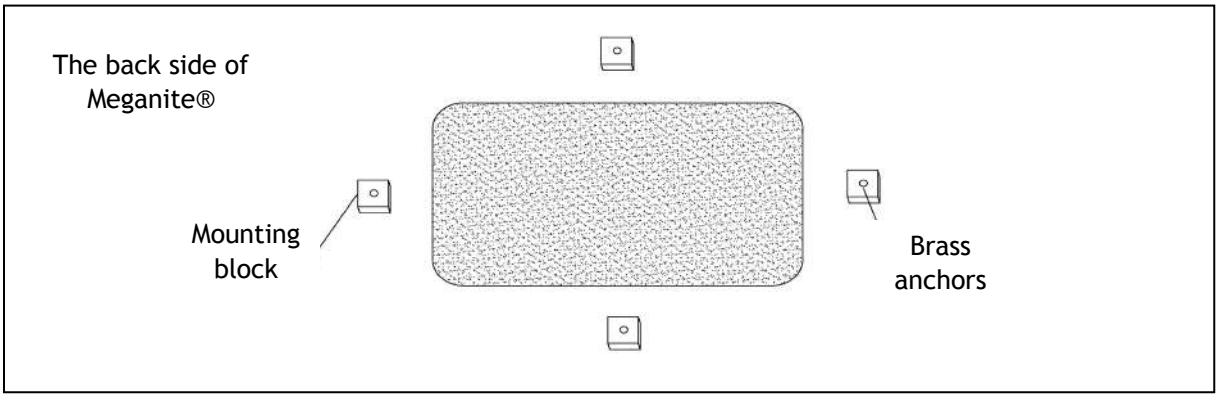
Using a template, rout the sink opening to its finished size.

Round over both the top and bottom edges using a 1/8-inch (3 mm) radius bit and sand the edges leaving them smooth and free of router chatter.

The use of sink clips to attach the sink to the sheet is allowed.

- Cut 1 inch x 1 inch (25 mm x 25 mm) mounting blocks (with rounded corners and eased edges) from the Meganite® solid surface sheet and secure them 3/4 inch (18 mm) from the sink edge using Meganite® approved seam adhesive.
- Drill a 1/4-inch (6mm) diameter hole into the center of the mounting blocks and tap in brass anchors.

NOTE: Never install brass anchors directly into the Meganite® solid surface sheet.



- Thread a wing nut onto the bolt. With the sink clip in place, tighten the bolt securely to lock the brass anchor.

Sink Clip and Brass Anchor

- Use only 100% silicone to bond the sink to the Meganite® solid surface sheet.
- With the sink clips in place on the rim of the sink, tighten all the wing nuts evenly until the clips begin to bend.
- Allow the silicone to cure. Do not remove the sink clips.

Alternate Methods to attach the sink to the sheet

Glue-on Threaded Fasteners

- Clean the area to be bonded to the fastener. Surface must be clean and dry for good adhesion.
- Carefully apply Meganite® proved adhesive to the underside of the fastener and set in position on the underside of the countertop around the sink cut-out.
- Allow the adhesive to cure for at least 30 minutes.
- Once adhesive is fully cured, place the sink in position install the Z clip and wing nut and tighten securely.
- Use only 100% silicone to bond the sink to the Meganite® solid surface sheet.

Glue-on Threaded Fasteners

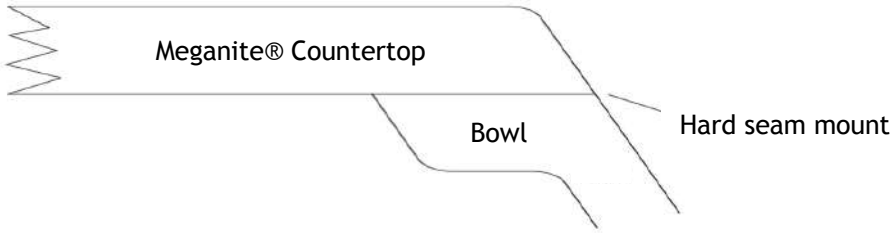
Undermount Solid Surface Sinks

The use of solid surface sinks or bowls other than a Meganite® or Gemstone product is not recommended and will affect your warranty.

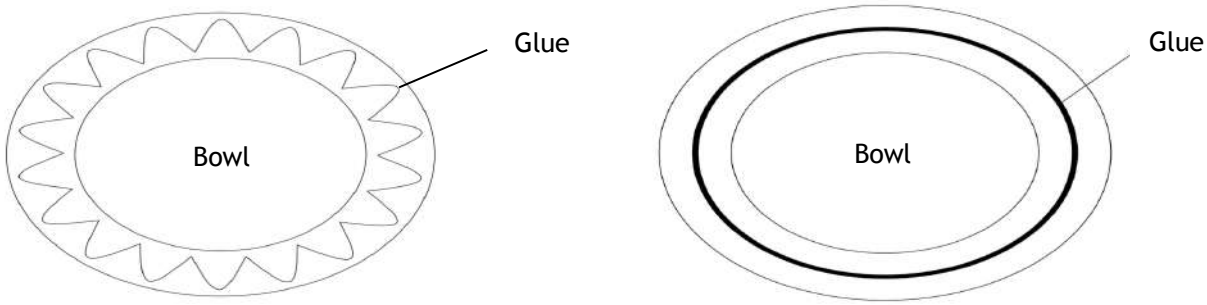
Before installation, make a close visual inspection of the solid surface sink to verify the color and look for imperfections such as discoloration, spots, chips, etc.

- Lay out the sink location carefully, marking the centerlines of the sink base cabinet. Be sure to allow adequate clearance for the faucet and other fixtures.

- Lay the sink in place on the back of the sheet. Lightly sand and clean around the sink to provide a bonding area for wood blocks.



- Hot melt wood glue blocks around the sink leaving about 1/8-inch (3mm) gap between the blocks and the bowl. These will help to hold the sink in position during the gluing process.
- Mark the drain hole positions on the countertop and remove the sink.
- Using a router cut a hole in the countertop at each drain hole location that is large enough for a pipe clamp.
- Lightly sand and clean areas to be seamed.
- Apply the approved Meganite® seam adhesive to the rim of the sink that will allow for complete glue coverage of the flange area.



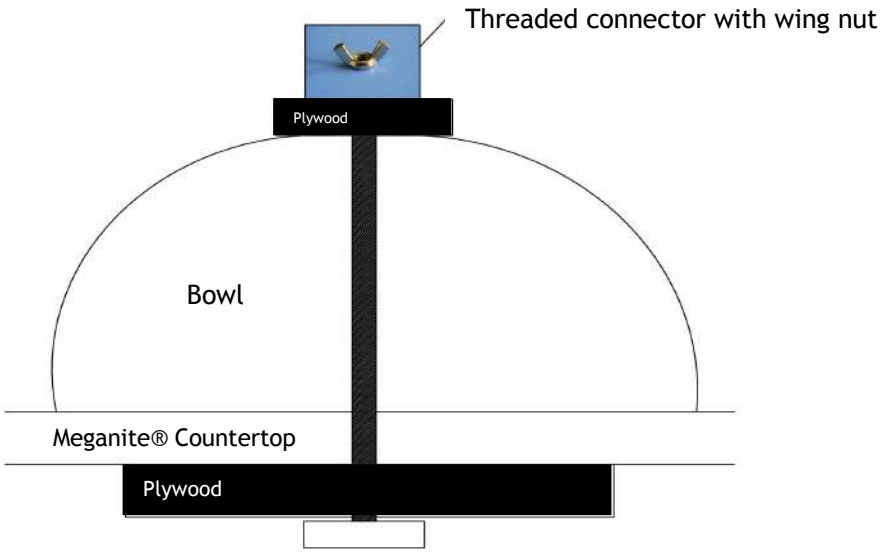
Wavy Glue Line Thick Glue Line

Adhesive Application Options

- Place the sink on the countertop and position against wood stop blocks.
- Make sure the sink is aligned properly. Clamp the sink tightly using pipe clamps and clamping boards. The adhesive must squeeze out around the entire sink perimeter free of voids. Continue to check the pressure on the clamp throughout the curing process.

  NOTE: Do not overtighten which could squeeze out all of the adhesive or deform the bowl.

  Other bowl clamping fixtures can be used during the glue up process.



- Remove clamps and wood blocks only after the adhesive has hardened.
- Use either a combination bit that removes excess sheet material and shapes the profile or
  - use a flush trim bit with an oversized bearing, rout the sink opening.
  - use the appropriate bowl profile bit to rout the opening to its desired shape.

  NOTE: Use of a recommended bit with a similar angle to the bowl (draft angle) will reduce required finishing time to blend the bowl to the deck.
- Sand the area as required to achieve the desired finish.

FAUCET HOLES

Faucet and accessory holes can be made by using a router or hole saw. Must sand both the top and the bottom of the hole to a slight radius, to avoid potential cracking at a later point in the life of the countertop.

Make sure the size of the hole drilled will allow for expansion and contraction and the hole is rounded over on both the top and bottom.

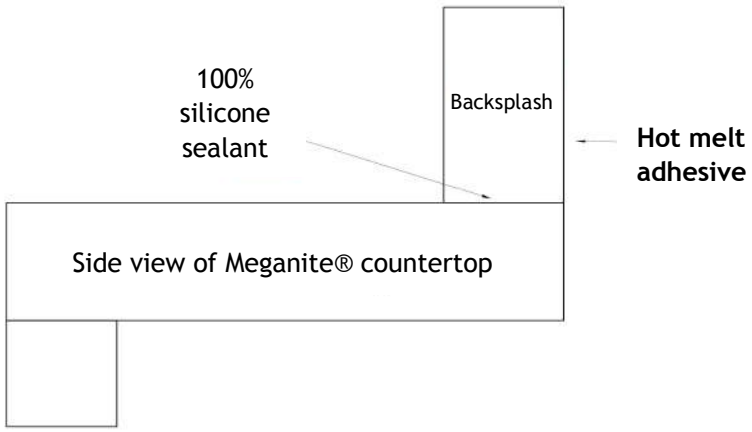
11 BACKSPLASHES

Introduction & Overview

This chapter provides information on the use of Meganite® solid surface in backsplash applications. This chapter deals with multiple types of backsplashes including integral coved backsplashes.

Standard Height Backsplash

The Standard Height Backsplash is a return up the vertical wall behind the countertop that is attached to the countertop with silicone adhesive using a simple butt seam.



Procedure:

- After the countertop has been installed, confirm that it is flat and measure from countertop to desired height of backsplash.
- Check for any obstructions along the wall such as power outlets, windowsills and any other obstructions.
- Cut the backsplash to approximate size and place sections in position.
- Scribe the backsplash to match the countertop.
- Trim to pencil lines and check fit.
- Remove any non-permanent obstruction from the wall that will prevent a close fit of the backsplash to the wall. In addition, make any cutouts required to accommodate power outlets, windowsills, etc. (Ensure that 1/8 inch (3 mm) spacing exists between cutout and fixture)
- Wipe edge face and countertop to be seamed with clear, denatured alcohol.
- Select color-matched, mildew-resistant silicone sealant and apply a large bead along the entire seam area.
- Every 20 inches (508 mm), apply a small dab of hot-melt adhesive to the wall to hold the backsplash in place while the silicone cures.
- Place the backsplash in position and wipe surplus sealant from the seam angle.

- Use the silicone sealant dispenser “push” method to apply sealant between the backsplash and deck.

Coved Backsplash

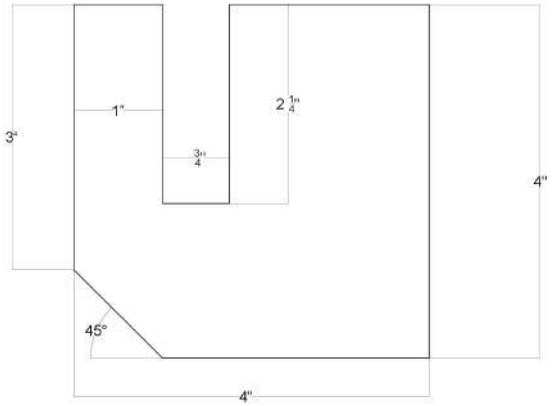
Several commercially and custom-made fabrication tools can be used when fabricating a coved backsplash in Meganite® solid surface.

NOTE: Some Meganite® colors have unique properties such as directional veining, Sparkle Series, particulate, etc. The use of the following techniques may create visible seams or darker areas at the cove area.

NOTE: The keys to successful coved backsplash installation involve keeping the glue-up square and applying the proper pressure.

Common ways to achieve a square install is to use a squaring block to keep the cove backsplash perpendicular to the deck.

This block is attached to the deck with hot melt adhesive and the cove is clamped to the block.



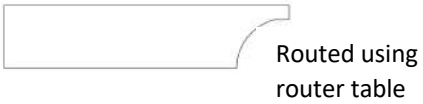
Squaring Block Example

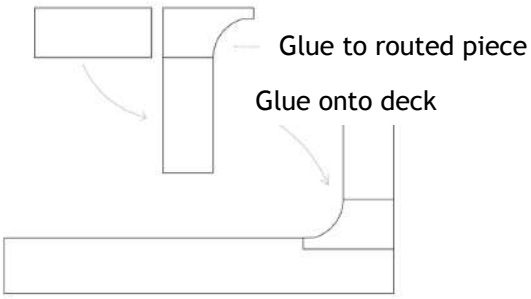
Procedure:

Router Table Method

- Using a router table – route a 1/2-inch (12 mm) radius into a length of Meganite® solid surface that is at least as high as your final backsplash height.
- Cut the coved section from this piece that is 1/2 inch (12 mm) wide – the cut piece will glue to this.
- Glue the pieces and clean glue area after cured.
- Prepare the deck with a 7/8” rabbet (22 mm) that the assembled piece will glue into
- Prepare clamping piece and glue in place.

- Allow to cure and finish sand the area.



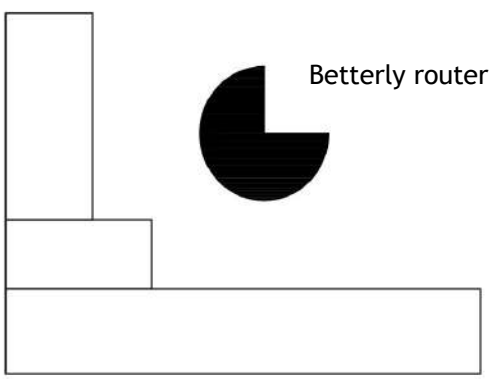


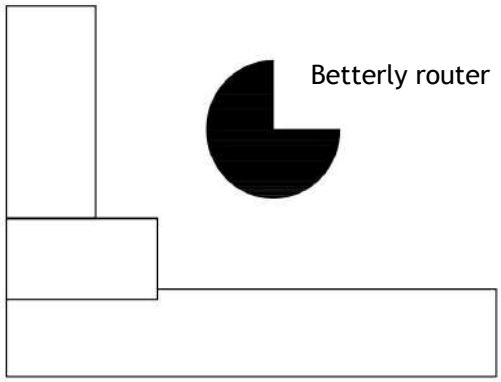
Betterley Coving Router Method

- Glue up the cove assembly as illustrated.

  NOTE: to avoid potential glue line problems, rabbet the cove piece into the deck at least 1/8" (3mm)

- Use the Betterley Coving Router to form the cove.
- Finish sand the area.





V-Groove Method (Provides best look for colors with directional veining, Sparkle Series, etc)

- Form cove using either a V-Groover or CNC
- Finish sand the area

V-groove cutting

12 STRUCTURAL SUPPORT

Introduction & Overview

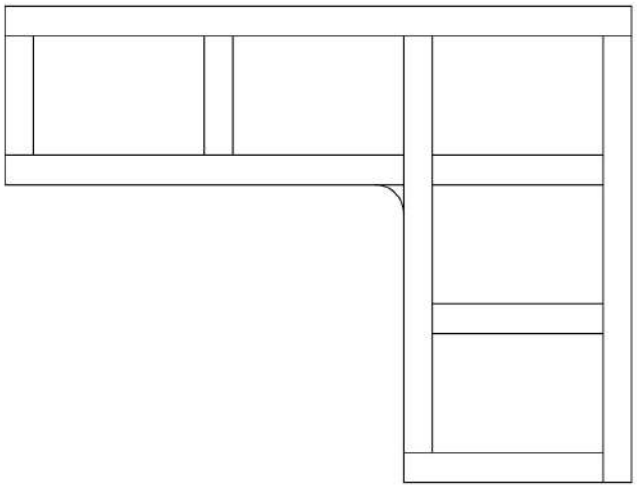
This chapter address the critical step of providing structural support of horizontal Meganite® installations. Improper support may lead to warping or failure of the product.

Types of Support

Meganite® solid surface is considered decorative, therefore it must be supported on a strong, continuous perimeter support frame that keeps it flat while providing sufficient support for any overhangs or spans.

Web/Ladder Frame Construction

A web frame must be used when installing Meganite® solid surface countertops. The web frame provides support at the front, back and ends of all cabinets, plus under all seams.



Ladder Support Frame Illustration: Cross support every 16” – 24” (400 mm – 600 mm)

Recommended web frame materials include:

- Plywood
- Medium Density Fiberboard (moisture resistant)
- Framing Lumber
- Tube steel or angle iron

Cross supports are required at all high stress locations, including seams. The entire perimeter of the

countertop must be supported. Horizontal support must be within 1/8 inch (3 mm) over 10 feet (3 meters).

Securing the Web Frame to the Cabinets

We recommend attaching the web frame to the back of the Meganite® top in the shop during fabrication using only 100% silicone.

Another method is positioning the web frame on site and attaching it to the cabinets using either 100% silicone or screws.

Use 3/4-inch (18 mm) dabs of 100% silicone caulking every 12 inches to 18 inches (300 mm – 450 mm) to secure the web frame to the cabinets.

If using screws, make sure they will not penetrate the substrate and contact the countertop. Never screw directly into Meganite® solid surface. This will void the warranty.

Attach the front and back supports running parallel to the length of the top.

Cross supports must be attached every 16 inches – 24 inches (400 mm – 600 mm) to coincide with the cutouts and cabinet sides. Cross supports are required 1 inch – 3 inches (25 mm – 75 mm) from the sides of all cutouts. Every attempt should be made to rest this cross support on the top of the cabinet immediately outside the cutout.

IMPORTANT: Full underlayment cannot be used over cabinets or where heat sources are present, such as dishwashers, ovens or cooktops.

Never use acrylic caulking, mastic, glue or rigid-set construction adhesives when attaching the countertop to the web frame.

Never use mechanical fasteners (nails, screws, staples, etc.) to secure a Meganite® top to the web frame.

OVERHANG SUPPORT REQUIREMENTS

When countertops overhang the cabinets, additional support is required:

0 – 6 inches (0 – 150 mm) overhang	No additional support is required
6 – 12 inches (150 – 300 mm) overhang	Brackets or 3/4-inch (18 mm) plywood underlayment
12 – 18 inches (300 – 450 mm) overhang	Brackets and 3/4-inch (18 mm) plywood underlayment
18 – 24 inches (450 – 600 mm) overhang	Support legs or columns and 3/4-inch (18 mm) plywood underlayment

The support bracket size should be a minimum of 75% of the overhang dimension.

When plywood underlayment is used, it should extend over the entire cabinet.

The maximum distance between brackets must not exceed 24 inches (600 mm).

The distance for spans must not exceed 12 inches (300 mm). Always use cleats to support the overhang where it meets any wall.

To add additional support across large unsupported areas, a steel web frame constructed of welded tubular steel is recommended. Attach the steel web frame using only 100% silicone caulking.

Seams should not be positioned in the overhang. Place seams over the cabinets whenever possible. Keep the seam as far from the edge of the cabinet as possible and a minimum of 3 inches (80 mm).

If other support methods are used, they must meet or exceed the strength capabilities of the support methods listed above. The countertop should not flex under any anticipated load.

13 FINISHING

Introduction & Overview

This chapter provides information on finishing and polishing techniques of Meganite® solid surface.

Standard Finish Types

There are 3 basic finishes for solid surface materials. Each finish has different properties as well as levels of maintenance that should be taken into consideration for each specific application.

1. **Matte Finish:** a softer finish that is easiest to maintain.

   NOTE: When using a Matte Finish with darker colors, it is preferred to use a Satin Finish instead of Matte which is midway between Matte and Semi-Gloss. Matte finishes on darker colors may cause blotches and blemishes that are noticeable and objectionable.

2. **Semi-Gloss Finish**: a medium finish that enhances the appearance of dark solids and patterns but is more difficult to maintain.

3. **Gloss Finish**: a polished finish that enhances the visual depth and beauty of the material ***(not recommended for countertops or other high traffic areas, as this finish is the most difficult to maintain.)***

Sanding Technique – Random Orbital Sanding

- Move the sander in a left to right direction, overlapping each pass by about one-third. Sand slowly at an even pace and never in a circular motion as this can create a low area in the surface.
- Follow by sanding in a front to back motion
- Finally you will sand at a random figure 8 or circular motion to blend away any sanding "rows"
- Clean the area and repeat these steps using the next abrasive level.

It is preferred to use random orbital sanders which provide a more uniform finish than standard orbital or belt type sanders.

IMPORTANT: Do not tilt the sander to address individuals' spots such as seams, this may result in depressions in the surface.

NOTE: Depending on the type of edge treatment finishing can be accomplished by using the same tool and finish paper as used on the deck. Certain edge types may require you to remove the abrasive from the pad and hand sand using all the abrasive levels.

Abrasives

We recommend using 3M Microfinishing or Trizact sanding abrasives. They usually have tighter control of particulate size and shape, resulting in fewer deep scratches and a better overall finish with reduced labor time.

Standard grit paper manufacturing involves sized grit material that is graded on size by passing through a sieve, however grit material height is not measured and may very significantly resulting in tooling marks on the surface and/or increased labor time.

If standard grit paper is used, it is preferable to use P-Graded sandpaper which is a European standard paper that provides much more uniform grit height on the pad.

Micron Paper manufacturing involves uniform sized grit material that provides a more uniform finish with less labor. Paper is graded based on the size of the particle – so that larger numbers indicate a larger particle and therefore a rougher paper.

NOTE: Consider using sandpaper with holes for dust collection which will save clean up time and also prevent the pad from dust buildup that will give you a more consistent finish faster.

Use only one class of abrasive for all finishing steps, abrasive types are not always equivalent. Do not switch between grit and micron papers.

Micron Paper / Standard Grit Paper

Satin Finish

If the surface has seams or excessive scratches: 100 Micron (P150)
60 Micron (P240)
Scotch-Brite 7448 (Gray)

Semi-Gloss Finish

If the surface has seams or excessive scratches: 100 Micron (P150)
60 Micron (P240)
30 Micron (P400)
Scotch-Brite 7448 (Gray)

Gloss Finish

If the surface has seams or excessive scratches: 100 Micron (P150)
60 Micron (P240)
30 Micron (P400)
15 Micron (P600)
Polishing Compound

3M Trizact® Film Abrasives

Trizact® film abrasives require the use of water when finishing. This can be accomplished by using a spray bottle to mist the surface prior to finishing.

NOTE: 3M recommends adding 2 to 3 drops of liquid soap to the spray bottle to assist with lubrication when using Trizact® finishing films.

Satin Finish

If the surface has seams or excessive scratches: 100 Micron (P150)
268XA A35 (Green) Trizact® film
Scotch-Brite 7448 (Gray) (Optional)

Semi-Gloss Finish

If the surface has seams or excessive scratches: 100 Micron (P150)
268XA A35 (Green) Trizact® film
268XA A10 (Blue) Trizact® film
Scotch-Brite 7448 (Gray) (Optional)

Gloss Finish

If the surface has seams or excessive scratches: 100 Micron (P150)
268XA A35 (Green) Trizact® film
268XA A10 (Blue) Trizact® film
268XA A5 (Orange) Trizact® film
268XA CeO (White) Trizact® film

Mirka Abralon Finishing

Matte / Satin Finish

If the surface has seams or excessive scratches: Use Abranet P120 grit abrasive.

A9A241120 (6” Disc)	120

A9A241180 (6” Disc)	180
A9A241240 (6” Disc)	240

Abralon A8A241360 (MATTE) (6” Disc)	360
Abralon A8A2411000 (SATIN) (6” Disc)	1000

Semi-Gloss Finish

If the surface has seams or excessive scratches: Use Abranet P120 grit abrasive.

A9A241120 (6” Disc)	120
A9A241180 (6” Disc)	180
A9A241240 (6” Disc)	240

Abralon A8A241360 (6” Disc)	360
Abralon A8A2411000 (6” Disc)	1000
Abralon A8A2414000 (6” Disc)	4000

Gloss Finish

If the surface has seams are excessive scratches: Use Abranet P120 grit abrasive.

A9A241120 (6” Disc)	120
A9A241180 (6” Disc)	180
A9A241240 (6” Disc)	240

Abralon A8A241360 (6” Disc) (Wet)	360
Abralon A8A2411000 (6” Disc) (Wet)	1000
Abralon A8A2414000 (6” Disc) (Wet)	4000

Polarshine A12 (AMMA121L) with the following lamb wool pads	
AMPADBU7	AMPADLW75

14 FASTENING MEGANITE® TO OTHER MATERIALS

Introduction & Overview

This chapter address the recommended methods for adhering Meganite® solid surface to various materials.

When Meganite® solid surface is required to be affixed to other materials it should be noted that other materials will expand and contract with temperature changes at a different rate than Meganite® solid surface. This aspect must be incorporated into the methods used in bonding. Rigid bonding should be avoided unless the area is small, otherwise a flexible bonding method is recommended.

Attachment to Plywood / MDF / Lumber

When adhering Meganite® solid surface to wood materials it is recommended to use 100% silicone adhesive. Silicone adhesive can accommodate expansion and contraction variations that will occur with changes in temperature and humidity.

Mechanical Fasteners

Brass, plastic, or metal inserts that are designed for solid surface can be used to mechanically fasten Meganite® solid surface to other materials. The use of these fasteners must allow for the expansion and contraction that will occur with changes in temperature. Never screw or nail directly into Meganite® solid surface.

Silicone Adhesive Steps

- Thoroughly clean areas that are being bonded with denatured alcohol to remove anything that would prevent a good bond such as dust, oily residue, etc.
- Apply dabs of silicone adhesive every 4 to 6 inches (100mm to 150mm).
- Press the material together and clamp if necessary.

NOTE: Some materials (such as porcelain tiles) may need to be abraded with 80 grit sandpaper in order provide a suitable surface that silicone will bond too.

15 TRANSPORTATION & INSTALLATION

Introduction & Overview

This chapter addresses the transportation and on-site fabrication and installation of Meganite® solid surface.

Proper fabrication is only the first step in providing a high-quality installation of Meganite® solid surface. The fabricated parts need to be properly secured for transport and delivered without incurring damage.

Installation is also a key component of a successful installation. This chapter is for both fabricators and installers. It provides the basic information needed for on-site fabrication and installation. Consult the appropriate chapter for more detailed information on any topic.

Material Transportation

- Proper packing is required to ensure the fabricated countertop is not damaged during transport.
- Wrap the fabricated pieces in bubble sheets, corrugated cardboard, or other material to prevent damage to the finished surface.
- Brace any cutouts or spans to prevent material flexing.
- Parts are best transported on their edge.
- Proper racking in the transport vehicle will ensure that the fabricated material arrives at the jobsite in good condition.

Jobsite Preparation

- Take great care when cutting and sanding at the job site. These steps produce a great deal of dust. Sanders equipped with a vacuum are recommended for finishing countertops at the installation site.
- Use drop cloths and plastic sheeting to mask off and protect the work area.
- Inspect the cabinets. A common cause of solid surface failure is cabinetry not installed perfectly flat. For that reason, always inspect the cabinets to be sure they are flat, secure, and structurally sound to ensure they can properly support the weight of the counter tops (including water filled sinks) and anything that will be placed on them. Cabinets should be level and screwed to each other and to the wall.
- Install additional supports if necessary. Corner cabinets and dishwashers are areas that usually require wood strips fastened to the wall for support.
- The countertop must be fully supported in both the front and back across all openings.
- Install overhang supports if required.

Fitting the Countertop

- Trial fit the countertop on the base cabinets and make any adjustments necessary to achieve the desired fit.
- Always maintain a 1/8-inch (3 mm) clearance at all walls to allow for expansion and contraction.

Final Inspection

- Finish sand the Meganite® solid surface to remove any scratches that may have occurred during the installation.
- Always leave the job site clean and free of any debris created from the installation.
- If possible, leave a cutout piece in a secure location at the jobsite to be used in the case of a future repair.

16 THERMOFORMING

Introduction & Overview

Thermoforming is the process of heating Meganite® solid surface until it softens and then formed to a two- or three-dimensional shape. This chapter addresses basic thermoforming techniques. Meganite® solid surface, like any 100% acrylic solid surface, is thermoformable.

Since environmental conditions change, a sample of the material should be tested before attempting to form the finished pieces. Variation in temperatures needed for forming between different solid surface colors is normal.

Equipment Needed

1. Protective Equipment

   In order to thermoform material, extremely high temperatures are involved, therefore both the ovens and heated sheet have the potential to cause serious burns. In addition to standard protective equipment, well maintained insulated gloves are required. With large pieces involving multiple persons, other protective equipment for the arms is recommended.

2. Heating Equipment

   The use of an oven large enough to enclose the entire sheet of Meganite® solid surface is essential. The entire piece must be heated.

   The key to effective thermoforming is uniform consistent heating. Spot heating will produce stress points, leading to eventual cracking. Never use a process such as a post-former or heat gun that will cause a temperature difference between heated and unheated areas of the sheet. This will cause a stress point to develop between the two areas and could lead to the material cracking.

   Therefore, dual plated platen ovens are preferred for uniform, consistent, and rapid heating. Air circulating or infrared ovens can be used but may require more monitoring to obtain uniform sheet temperature. These ovens may take 5 times as long to heat as platen type ovens.

   The use of smaller conventional ovens can work very well when heating smaller pieces such as edge buildup strips or corners.

3. Forms

   To allow for shape consistency, it is recommended to us a form or mold. Surfaces should be smooth and are typically produced from wood to allow for slow cooling.

   A vacuum membrane press can be used for half forms.

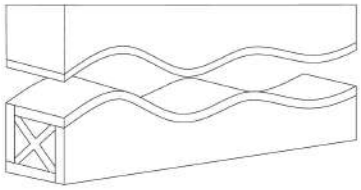


Illustration of Matching Form

4. Other Equipment

   Infrared thermometers are useful for temperature measurements to determine consistency of the temperature across the sheet as well as temperatures of the thermoformed material in the form.

   A stopwatch or timer to determine heat up and cool down times.

Procedure

The oven temperature should be set to between 285˚F (140˚C) and 320˚F (160˚C). Heating times vary depending on the oven used and the size of material but usually range from 30-60 minutes.

Before attempting to bend the Meganite® solid surface make sure it has been heated throughout the thickness of the material to a temperature between 285˚F and 320˚F (140˚C and 160˚C).

NOTE: Overheating may blister, crack or whiten the material. Attempting to bend the material at lower temperatures will crack or whiten the area and cause a stress point.

Meganite® Solid Surface Capabilities

Please note the following minimum bending radii by product thickness:

1/2-inch (12 mm) Meganite® - 3 inches (76 mm)
1/4-inch (6 mm) Meganite® - 1 inch (25 mm)

Thermoforming capability does differ based upon the color of the Meganite® solid surface. Solid light colors will perform much better than dark colors or colors with large particulate.

Test the oven using a small test piece before heating the actual sheet for the job to determine color capability.

NOTE: Translucent Ice colors are a polyester blended Solid Surface and are NOT thermoformable. The heating process will result in some discoloration and any bending less than 16 inches (400 mm) radius will result in whitening of the material.

Thermoforming Meganite® for Column Wraps / Enclosures

The use of Meganite® for column wraps or enclosures can be accomplished by using either 1/4" (6 mm) or 1/2" (12 mm) material. The Meganite® is then heated and placed in a form and allowed to cool. These
sections are then trimmed to exact sizing and seamed together.

Typically, the pieces are first thermoformed and then seamed together. Thermoforming after seaming is not recommended.

Installation Steps:

1. Trim the sections to size that will allow for the required spacing. Allow for minimum 1/8" (3 mm) spacing between the fixture to be wrapped and Meganite to allow for expansion and contraction.
2. Attach the Meganite Solid Surface using dabs of 100% silicone approximately every 12" (30 mm).
3. Seam the sections together following the guidelines in Chapter 8 – Seaming & Locations.
4. Allow the silicone to cure for 24 to 36 hours.
5. Finish the seam area per guidelines in Chapter 13 – Finishing

Other Considerations

Meganite® does not warrant any material that has been thermoformed.

17 REPAIRING

Introduction & Overview

This chapter describes steps needed to repair damaged Meganite® solid surface.

Minor Repairs

Minor repairs can be performed on Meganite® solid surface when the damage can be described as:

- Scratches
- Stains
- Burns
- Minor impact marks

Most minor damage can be repaired using a light abrasive cleaner and a ScotchBrite® pad or, in cases of heavier damage, light sanding.

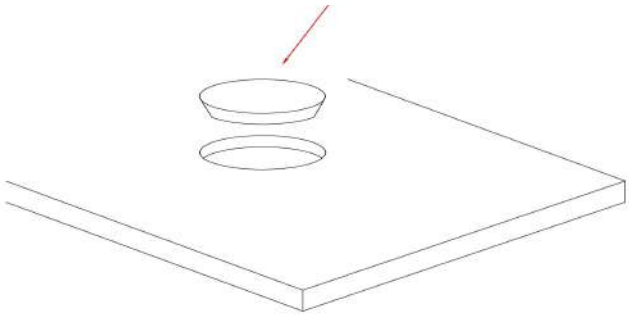
Minor Repair Steps

1. Identify the extent of the damage and if a minor repair will resolve the issue.
2. Depending on the degree of damage, begin with a sponge and an abrasive cleaner by wiping in a circular motion.
3. If step 2 fails to resolve the issue, use a Maroon ScotchBrite® pad. Using a random-orbit sander will provide a more consistent finish.
4. If step 3 fails to resolve the issue, use 220 grit sandpaper, preferably with a random-orbit sander – but hand sanding is acceptable.
5. If step 4 fails to resolve the issue, a more aggressive grit can be used. It is important to blend the area to provide a consistent finish. It is recommended to follow the steps found in Chapter 13 – Finishing.
6. If step 5 fails to resolve the issue, an alternate repair method will need to be used.

Round Plug Repair

This method removes a plug shaped section of the countertop which is then replaced with a plug from a color matched spare piece of material.

Tapered plug



Round Plug Repair Steps

1. Determine which size plug is needed to repair the area.
2. Insert plug cutter bit into plunge router and create and remove plug from color matched piece of Meganite® solid surface
3. Insert Plug Bevel Bit into plunge router and fasten router securely over the damaged area.
4. Plunge router to remove damaged area – DO NOT REMOVE ROUTER
5. Trial fit the plug in the hole to allow plug to be about 1/32 inch (0.8mm) above deck. If too high, set plunge depth lower and re-plunge.
6. Clean hole with denatured alcohol and tape underside of plug.
7. Using Meganite® approved seam adhesive, insert plug and apply uniform pressure till cured.
8. Follow steps in Chapter 13 – Finishing

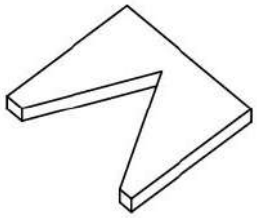
Pie Cut Repairs

This method inserts a sized - color matched piece of Meganite® Solid Surface into the sized opening. Typical shapes of the size piece are pie shaped allowing repairs of inside corners and edges. Templates are available commercially or can be prepared by the fabricator.

Pie Cut Repair Steps

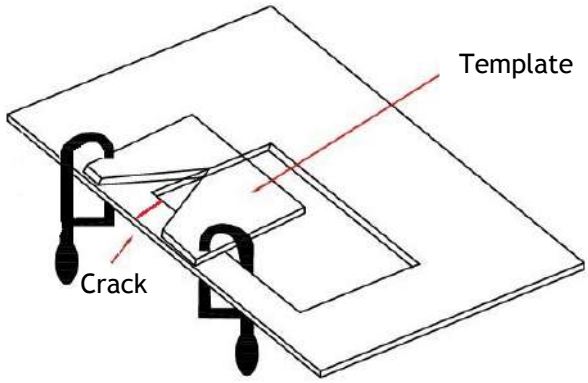
1. Make a shaped template that is larger than the damaged area.

   NOTE: Ensure the shaped template removes ALL of the damage.

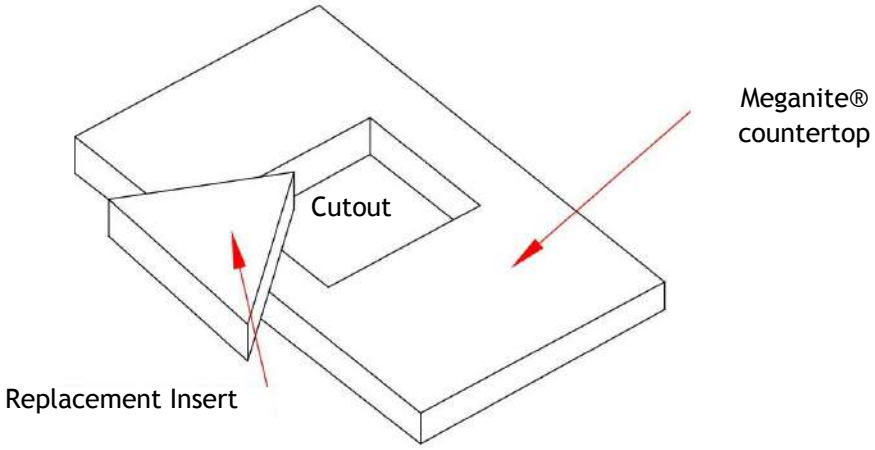


Template

2. Clamp the template to the area and route out the damaged area by an 11-degree router bit.
3. Clamp the template to a color-matched piece of Meganite® solid surface and route out a repair piece.



4. Trial fit the inserted repair piece so that there are no visible gaps.



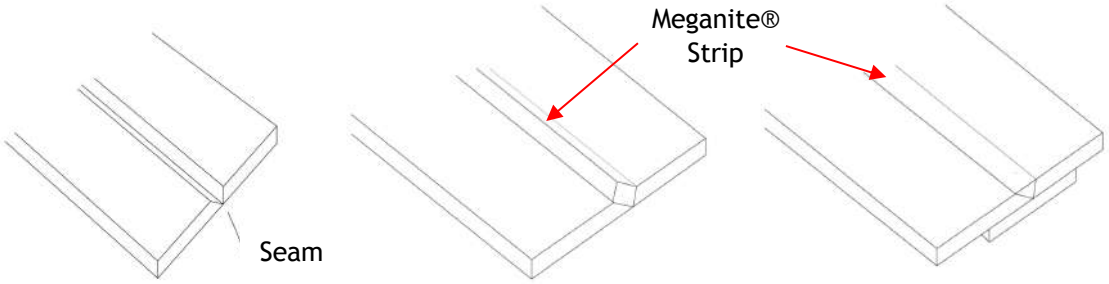
5. Clean the seam area with denatured alcohol and glue the insert piece with Meganite® approved adhesive.
6. Insert the repair piece and clamp on both sides.
7. Allow the adhesive to cure and follow finishing steps found in Chapter 13 – Finishing.

Insert Method Repairs

This method inserts a strip of color matched Meganite® Solid Surface into a straight routed area. This repair is typically done for straight seam failure damage or visible seams.

Insert Method Steps

1. Clamp a straight edge to the area and verify that the router will remove all the damaged area.
2. Route the area using a 90-degree beveled router bit.
3. Cut a color matching strip of Meganite® solid surface and sand to fit the routed area.
4. Clean the area and strip with denatured alcohol.
5. Glue the strip into place using Meganite® approved adhesive.
6. Allow the adhesive to cure and follow finishing steps found in Chapter 13 – Finishing.



18 WINDOWSILLS

Introduction & Overview

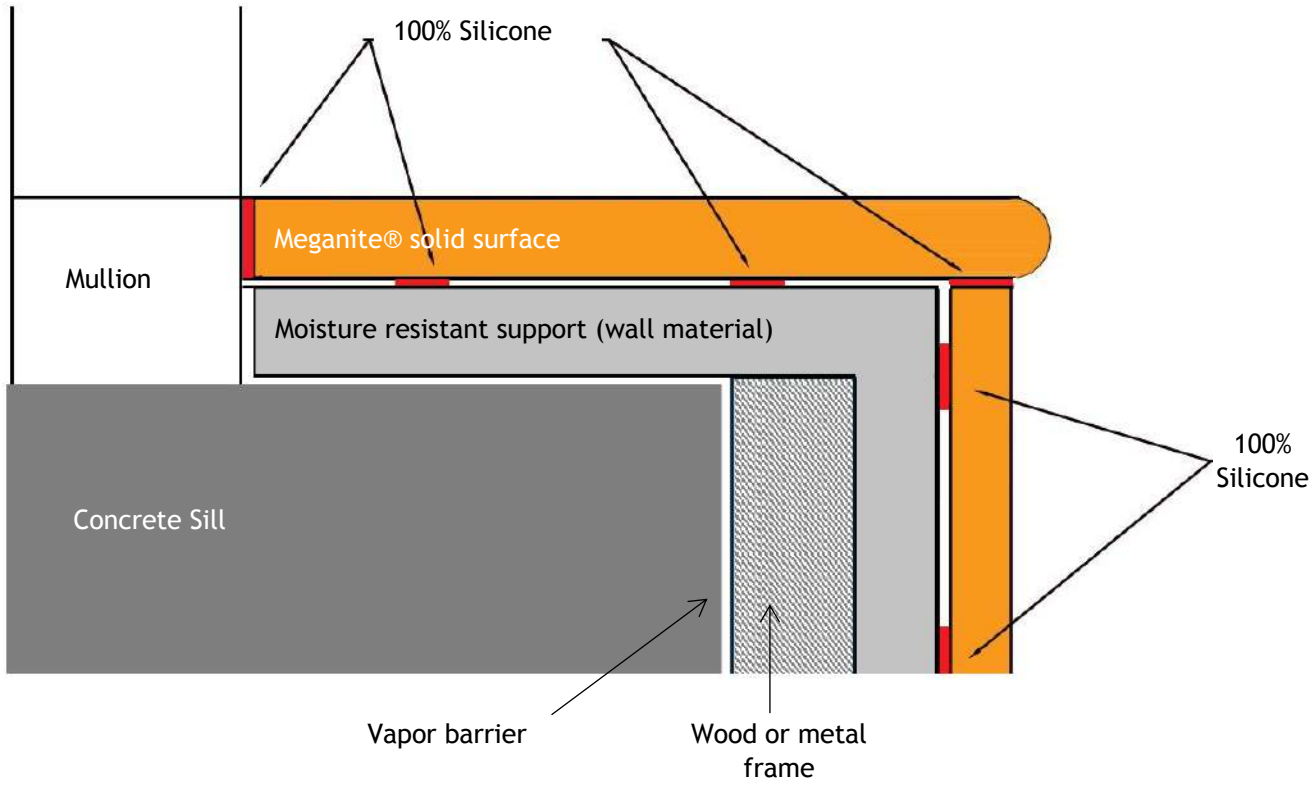
This chapter describes steps necessary for proper installation of Meganite® solid surface when used in windowsill applications.

Windowsill applications involve wide temperature extremes due to solar heating and lower window insulation values, therefore the expansion and contraction of Meganite® solid surface must be taken into consideration.

Allow for 1/8-inch (3 mm) movement per 8 feet (2440 mm) of sill length.

Installation Instructions

NOTE: If the installation location is in contact with concrete or CMU walls, a moisture barrier is required.



The window ledge area must be smooth, level and structurally sound. Support beneath the windowsill must have full perimeter support. This can be a ladder support frame or moisture resistant full underlayment.

Clean the surface of the window ledge and allow to dry thoroughly.

All edges of the Meganite® windowsill must be sanded smooth. Sand or rout all edges, top and bottom to break the sharp corners.

Use 3/4-inch (18 mm) dabs of 100% silicone caulk every 10 inches – 14 inches (250 – 350 mm) to secure the sill to the window ledge. Do not use a continuous bead. Never use acrylic caulking, mastic, glue or construction adhesives. These will not allow for the expansion and contraction of the sill.

Once the windowsill is in place, lightly caulk where the sill comes into contact with the window frame, using only 100% silicone caulk.

Maintain a 1/8-inch (3 mm) clearance at all walls to allow for expansion and contraction.

Using small dabs of hot melt glue to hold the sill in place while the silicone cures is allowed.

Clean the excess silicone using denatured alcohol and a clean white cloth.

19 FABRICATION RECOMMENDATIONS OF SPECIFIC COLORS

Introduction & Overview

This chapter gathers alternate fabrication methods of certain colors of Meganite® solid surface that are recommended to provide a suitable aesthetic. Some colors have characteristics and properties that when fabricated using standard methods will result in an unacceptable look.

1. **Meganite® bright, vibrant, and dark solid color:**

This document offers recommended fabrication techniques for fabrication of bright solid colors, vibrant solid colors and dark solid colors of Meganite Acrylic Solid Surface. These colors are typically heavily pigmented with inherent reflective properties

Meganite Colors Included In This Category

Grey 056A	Parapet Grey 090A	Slate 040A	Pewter 093A/X	Jet Black 019A/X
Fire 088A	Tangerine 077A	Sunshine 079A	Lime 060A	Chocolate 091A/X

*And any non-white & non-off-white solid colors from Pantone, NCS, paint matches or custom matches designs.

Edge Fabrication
Due to inherent properties of the reflective nature of the edge being different than the face, it is recommended that edge preparation be done using a miter seam. This will result in a more uniform and consistently finishing between the edge and the deck.

The use of a stacked edge or a drop edge may result in inconsistent appearance between the edge and the deck that may be objectionable.
Always do a mockup test piece to make sure you and/or your customer is satisfied with the final product.

- BEST OPTION: MITER EDGE

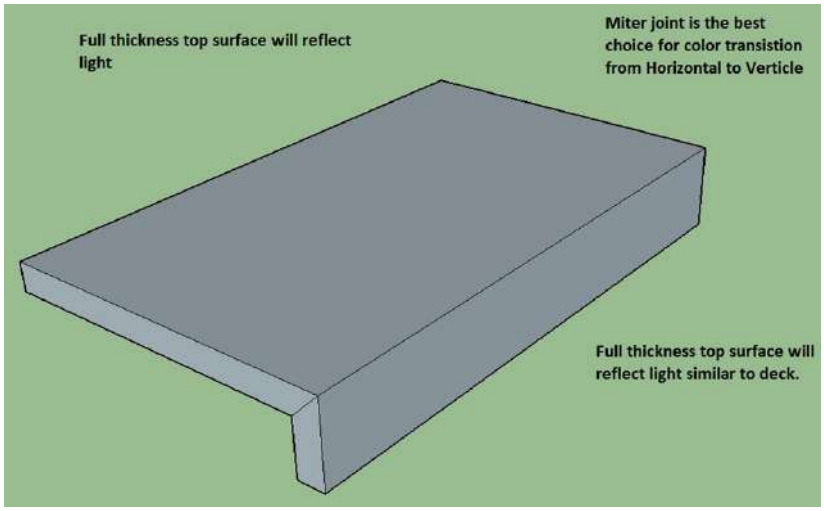


Diagram 1 Miter Edge –

The best fabrication technique to give the edge and deck surface the most consistent color appearance.

- STACKED EDGE

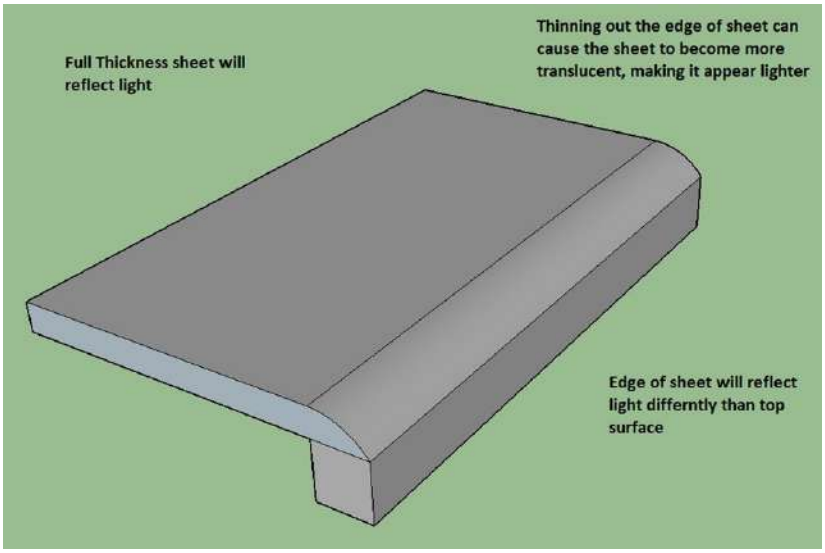


Diagram 2 Stacked Laminated Edge –

Thinning out the edge of sheet can cause the surface lighter. As a result, the top surface might look different in color compared to the thinning out area.

- DROP EDGE

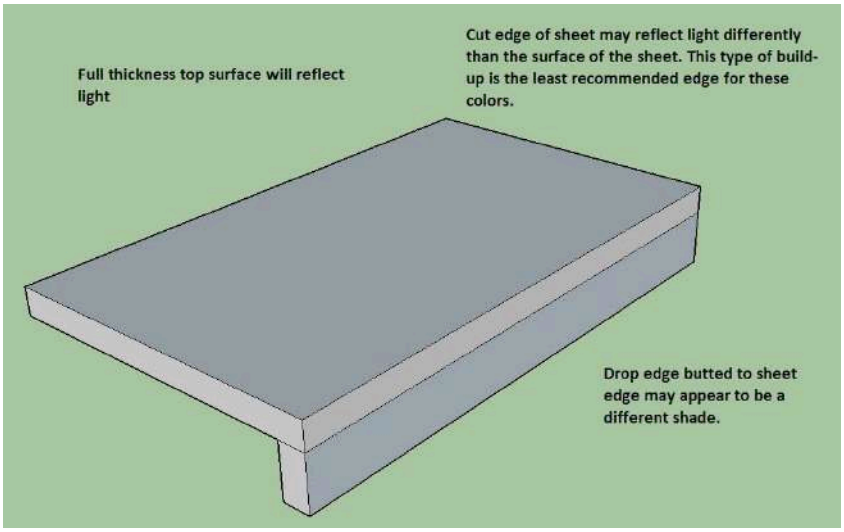


Diagram 3 Drop Edge -

The top surface of these colors can reflect light differently than the edge of the sheet. As a result, the top surface might look different in color compared to the edge.

General Thermoforming Guide To Colors In This Category

Please be aware when bright, vibrant and dark solid colors can have more visible white stretch marks after thermoforming. And discoloration is possible. This is not a material bending issue. It is generally because the material is bent too fast or not heart through enough.

When do thermoforming to above colors, the material shall be heated in oven at 150-160°C (302-320°F), 10-20 mins. The common radius shall be ≥ 150mm (≥ 5-15/16”). Heating temperature higher than 190°C (320°F) is not recommended. Heating time longer than 30 min is not recommended.

Every oven is different. Results can vary. PRACTICE ON PARTIAL OF SHEET IS RECOMMENDED BEFORE CARRYING OUT THERMOFORMING ON FULL SHEET.

2. **Meganite® Shell series colors:**

This document offers recommended fabrication techniques for fabrication of colors containing “shell” of Meganite® Acrylic Solid Surface.

These colors incorporate natural materials that produce an exclusive iridescent, dimensional appearance unique to the Meganite® brand. The subtle surface variations are an inherent characteristic of the material and should be regarded as a design feature. These variations provide distinctive tactile and visual qualities while maintaining all the standard performance benefits of solid surface.

Meganite Colors Included In This Category

424A Makena Beach	426A Summer Beach	428A Kauai Beach
429A Lanikai Beach	430SA Shine On Me	9927B Shell Mosaic

Fabrication

Normal fabrication tooling and procedures should be used with these colors. Due to the construction of these colors and the natural ingredients used, you may experience some small voids within the sheets as they are fabricated. These can be filled using color matched joint adhesive. Please inspect the material during the fabrication process and fill any voids if necessary.

You may find that the natural materials used to create this unique appearance may cause some minor additional tool wear if high quality tooling is not used. It is recommended that you use proper tooling. Dull or poor-quality bits and tooling may increase tool wear.

Finishing

A slightly higher finish will enhance the depth and appearance of the natural materials but may change care and maintenance requirements.

Thermoforming

These colors are not suitable for thermoforming and should not be used in those applications.

3. **Meganite® Sparkle series colors:**

This document offers recommended fabrication techniques for fabrication of colors containing “sparkle aesthetic” of Meganite Acrylic Solid Surface.

These colors incorporate millions of light-reflective flakes distributed throughout the full thickness of the sheet. As the flakes are directionally oriented, it is essential to align all sheets in the same direction during fabrication to ensure a uniform and consistent appearance.

Meganite Colors Included In This Category

508SA Starry Starry Night	519SA Rain Cloud	531SA Starry White
698SA Red Diamond Sparkle	703SA Snow Owl	704SA Urban Habitat
721SA Ice Storm	819SAR Goldrush Gemstone	820A Botanic Gemstone
930SA Silver Shards	931SA Bird Bath	932SA Mottled Gray
933SA Solar Eclipse		

Direction Of Meganite® Sheets

The light-reflective flakes are aligned lengthwise within the sheet. Each Meganite® sheet is clearly marked with directional arrows on the underside to indicate the flow direction.
Always verify these arrows before cutting to ensure all project components are fabricated with consistent orientation.

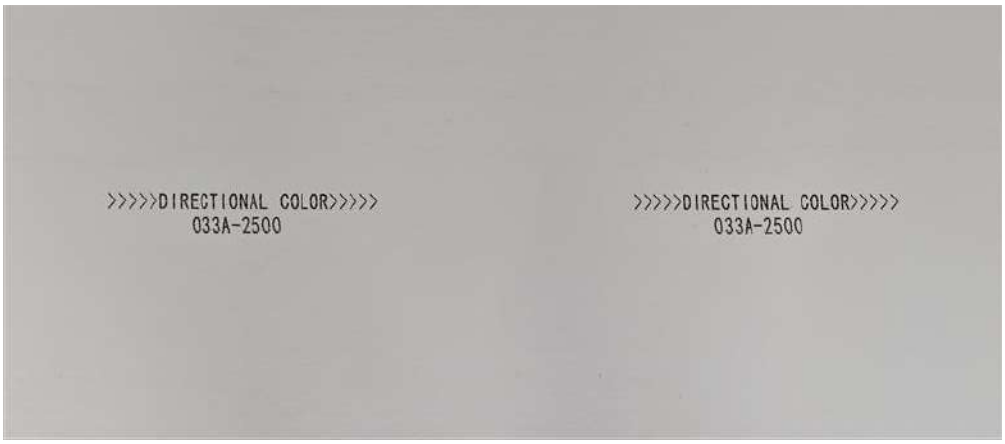


Figure 1 Directional arrows on underside of the sheet

Sheet Layout

Proper sheet layout is especially critical for L-shaped and U-shaped projects to ensure that the reflective flakes flow seamlessly around corners and that seams remain as inconspicuous as possible. Always align sheets in the same directional flow when laying out L-shaped or U-shaped countertops. The illustrations below demonstrate the most effective layout techniques for these configurations.

Note: These illustrations are intended for layout reference only. Standard fabrication practices — such as seam offsets, inside radii, and the use of seam plates — must still be followed.

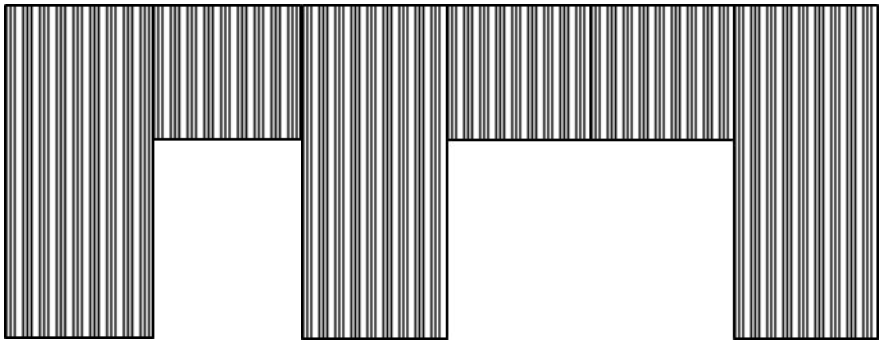


Figure 2 Recommended Sheet Layout Illustrations

Edge Treatments

It is recommended to use a mitered edge that will maximize surface exposure and flake reflection and provide a consistent look. Stacked edges are acceptable and will provide a suitable aesthetic.

Figure 3 Illustration on mitered edge

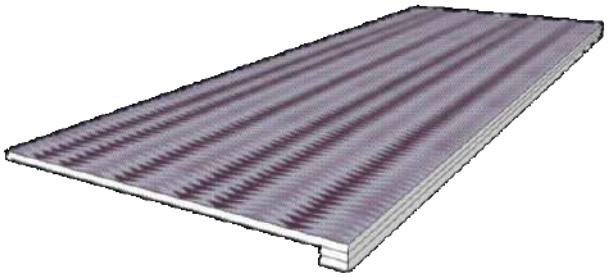


Figure 4 Illustration on stacked edge

It is not recommended to use a drop edge as color inconsistency will be apparent between the edge of the sheet and the top of the sheet.

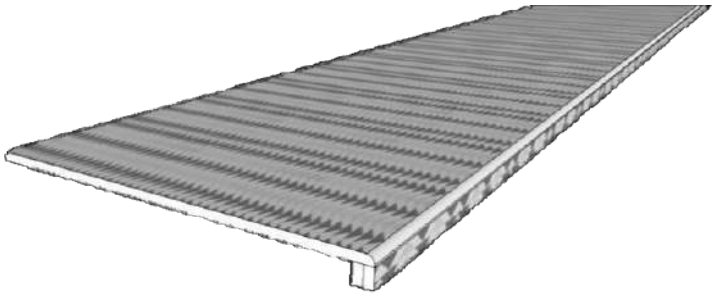


Figure 5 Illustration on drop edge

4. Meganite® Translucent colors:

This document offers recommended fabrication techniques for fabrication of translucent colors of Meganite® Acrylic Solid Surface.

These colors are designed to achieve a striking luminous effect when paired with proper backlighting. Their light-diffusing property creates a soft, glowing effect that enhances creative lighting designs. Despite their delicate aesthetic, these colors retain the standard performance benefits of solid surface when used in appropriate interior applications.

Meganite Colors Included In This Category

Translucent Green Ice 912B	Translucent Blue Ice 913B	Lemon Glow 056A
Aqua Glow 062A	Summer Glow 063A	White Glow 094A
White Crystal 813A	Froster Ice 9745B	

Fabrication

Meganite's translucent offering can be fabricated using the same fabrication techniques as our standard offering but when these sheets are back lit there are some simple fabrication techniques that can be utilized to give the final project the best possible appearance.

Seaming

Take extra care when prepping your seam, the seam must be as tight as possible, as the adhesive may not be as translucent as the sheet when backlit and will become much more visible than a standard, top lit seam. Translucent adhesives should be used for all seams for best appearance.

Make sure the seams are filled with adhesive, any voids in the adhesive will make the seam conspicuous when backlit.

Remove any excessive solid surface adhesive from the underside of the seam, excess adhesive will be seen through the sheet if backlit.

Edge Treatment

Edge build-ups should have the least number of seams possible, see following build-up options to achieve best appearance.

- V-groove or Mitered edge offers the least number of exposed seams.
- Drop Edge offers only one exposed seam.
- Stacked/Laminated edge offers the highest number of exposed seams and is the least recommended technique.

Finishing

Standard solid surface finishing techniques should be applied to the sheet's front. For backlit sheets, ensure all scratches, inkjet marks, or shop markings are fully removed.

When finishing deck seams, carefully feather the seam without over-sanding. Any variation in thickness—particularly at the seam—can affect translucency and make the seam more noticeable.

Support

As with standard Meganite® solid surface colors, seam supports or plates must run the full length of the seam. These supports should match the deck color to maximize translucency, and translucent adhesives should be used to secure them.

Non-solid surface supports, such as cabinet walls, L-brackets, or corbels, may be visible through the sheet. If they affect the desired appearance, applying latex paint to the underside can create a more uniform look.

Back Lighting

Low heat LED lighting is the best recommendation for back lighting the Meganite® Translucent color offering.

DO NOT place a heat emitting light source near the sheet, by doing so you will heat one side of the sheet, causing thermal expansion, possibly causing the sheet to warp.

Thermoforming

Polyester based sheets (colors end with "B") are not recommended to thermoform. Acrylic based sheets can be thermoformed at a lower temperature.

5. Meganite® Movement & Nature colors:

This document offers recommended fabrication techniques for fabrication of colors containing veining of Meganite® Acrylic Solid Surface. Inspired by the elegance of natural stone, the raw beauty of concrete, and the rhythm of nature, Meganite®'s Movement & Nature Collection offers a timeless aesthetic that transforms spaces with ease.

By applying the recommended techniques and expert craftsmanship, you can achieve the collection's full visual potential—creating environments that evoke relaxation, serenity, and an uplifting sense of well-being.

* Drawings in this bulletin utilize a simulated vein pattern for instructional purposes.

Setting Proper Customer Expectations

Establishing clear customer expectations is just as important as proper fabrication. We recommend providing deck seam samples and edge detail samples.

These allow customers to review and approve the intended look before production begins, ensuring alignment and reducing rework.

Important:
The final appearance of seams and edge details is the responsibility of the fabricator. Meganite® does not warrant aesthetic outcomes.

The Veining In Meganite® Movement & Nature Series

Meganite® Movement and Nature Series is produced with a natural, randomly flowing veining pattern that runs lengthwise through the sheet.

Because the veining is directional, fabrication must follow the indicated flow direction.
Each sheet is clearly marked with directional arrows on the underside to guide proper orientation during cutting and assembly.

Always verify these arrows before cutting to ensure all project components are fabricated with consistent orientation.

Figure 1. Direction of Meganite® M002 Mt. Vancouver

Figure 2. Directional arrows on underside of the sheet

Cutting

Taking time to visually assess the pattern in the sheet before cutting, will give you the best finished project. It may be difficult to determine veining direction on smaller parts. It is suggested that you make multiple direction marks on the sheet before cutting the sheet into multiple parts.

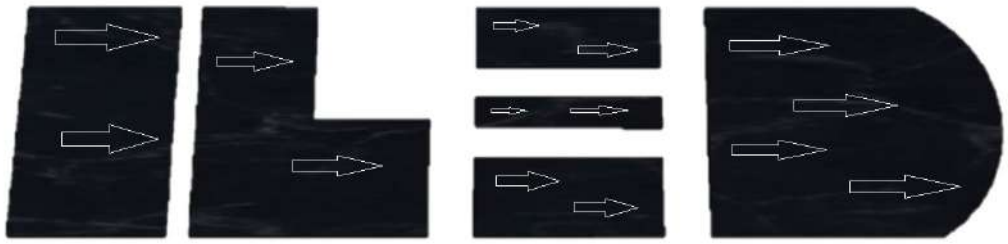


Figure 3. Mark extra directional arrows on smaller parts

Serpentine Seam

With the use of templates or CNC cutting, serpentine seams can help to achieve a seamless appearance.

Figure 4. Serpentine seam

Figure 5. Template used to cut serpentine seam

Inside Corner Reinforcement & Veining Alignment

Inside corners require special reinforcement due to increased stress in these areas. Rout all finished inside corners to a minimum ½" (13 mm) radius — larger radii are preferred for added strength.

Use one of the following reinforcement methods:

- Corner Block Method: Glue and clamp a minimum 3" x 3" (77 x 77 mm) buildup block under the inside corner, then rout to match the corner size.

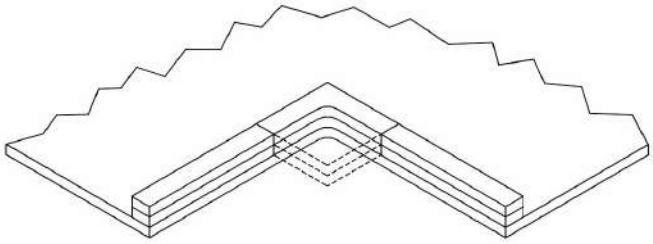


Figure 6 Corner block method

- Interlocking Corner Block Method: Use buildup blocks with seams offset by 1" (26 mm) for greater strength.

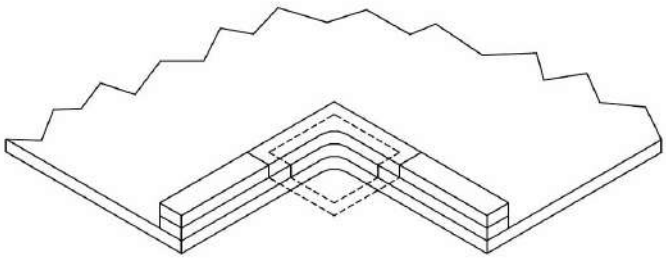


Figure 7. Interlocking corner block method

- Vertical Strip Corner Block Method: Pre-glue and square vertical Meganite® strips to form a corner block, then adhere under the inside corner.

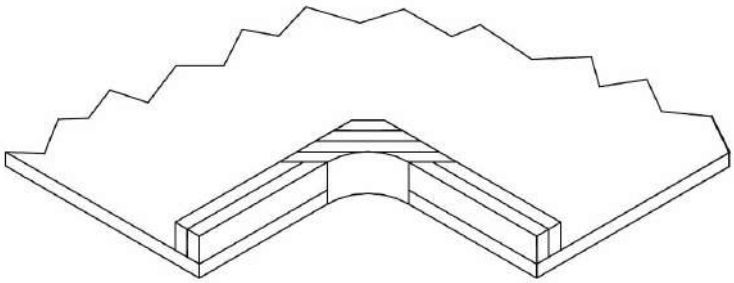


Figure 8. Vertical strip corner block method

When fabricating L- and U-shaped countertops, always align sheets in the same direction to ensure veining flows seamlessly and seams remain inconspicuous. Refer to the illustrations below for proper layout techniques.

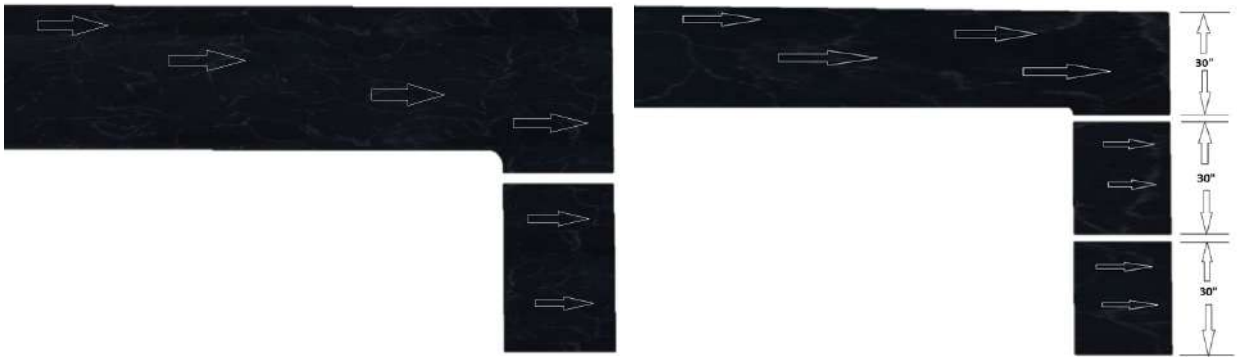


Figure 9. Inside corner with offset and layout for seaming

Inside Corner Reinforcement & Veining Alignment - Mitered

For inside corners where sheets run perpendicular, a mitered seam is recommended to achieve a smooth, continuous veining flow.

The mitered joint must be reinforced with a full seam plate measuring at least 6 inches (153 mm) wide, with equal coverage of 3 inches (77 mm) on each side of the seam. All joints, including those between the seam plate and the inside corner block, must be completely filled with adhesive.

Ensure seam plates are fully supported at both ends to maintain structural integrity.

Refer to the illustrations below for proper layout techniques.

Figure 10. topside miter joint for veining colors utilizing the “Interlocking Corner Block Method.

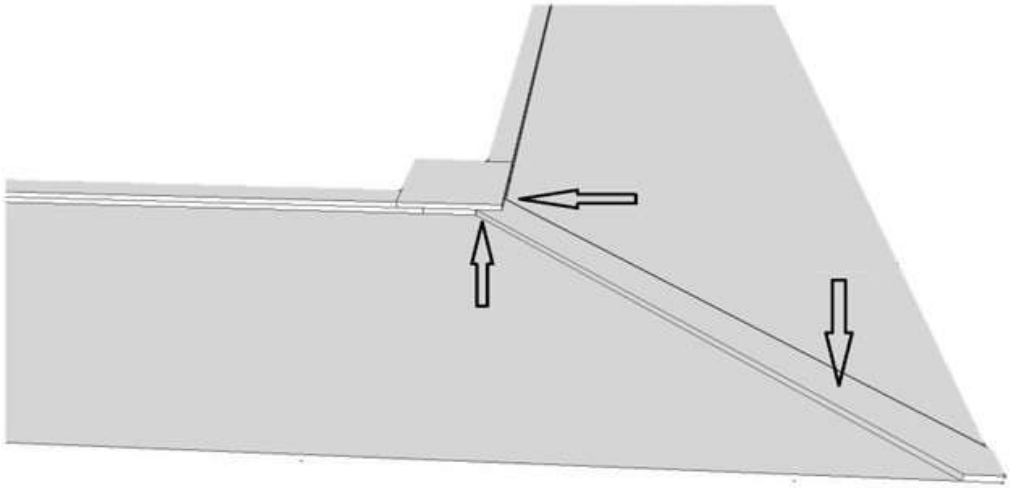


Figure 11. Miter seam for veining colors, viewed from underside, showing seam plate and inside corner block detail

Edge Treatment (From Best To Least Favored)

- Best Option – Miter/V-Groove Seam

  Keeps the veining flow continuous and only shows the sheet surface at the glue line. Ideal for veining colors.

Figure 12. Miter / V-groove edge

- Better Option – Rabbeted Drop Edge

  A ¼ inch (7 mm) rabbet on the underside of the deck minimizes exposed edges and blends well with a drop edge.

Figure 13. Rabbet drop edge

- Good Option – Laminated/Stacked Edge

  Acceptable but may show differences in veining and light reflectivity between edge and top surface. Decorative profiling can help reduce the visual difference.

Figure 14. Laminated / Stacked edge

- Least Favorite Option – Drop/Butt Edge

  Minimal visual continuity; not recommended for veining colors.

Figure 15. Drop/butt edge

Integrated Backsplash (From Best To Least Favored)

- Best Option - V-groove technique

Figure 16. V-groove technique folded together

Figure 17. V-groove edge before gluing and folding

- Good Option - Stacked technique

Figure 22. Stacked integrated/cove splash

- Good Option - Stacked technique

Figure 22. Stacked integrated/cove splash

Thermoforming

Meganite® veining colors, like all 100% acrylic solid surfaces, can be thermoformed. Always test a sample first, as different colors may require slightly different forming temperatures.

Use an oven large enough to heat the entire sheet evenly. Spot heating or using a heat gun/post-former can create stress points and lead to cracking. Small ovens are suitable for edge strips or corners.

Recommended oven temperature: 300–325°F (150–160°C). Heating time depends on oven size and material thickness, usually 30–60 minutes. Ensure the entire sheet reaches 275–325°F (140–160°C) before bending.

Avoid overheating, which can blister, crack, or whiten the sheet. Bending at too low a temperature can also cause cracking or stress points.

20 REQUIRED FABRICATION METHODS OF MEGANITE®

Material Inspection (Chapter 4)

- Inspect material for defects and color match prior to installation.

Cutting & Cutouts (Chapter 6)

- Use only routers for cutouts. Use a 1 inch (25 mm) or larger diameter bit and roundover top and bottom of cutout to minimum 1/8 inch (3 mm)
- Sand vertical edge of cutout smooth using 150 grit (100 micron) or finer sandpaper.
- Reinforcement blocks measuring a minimum of 4 inches x 4 inches (100 mm x 100 mm) are required for any cooktop cutout.
- Heat generating appliance cutouts require 2 layers of 4 mil thick 3M #433 heat reflective tape covering the flange and hanging vertically in the opening.

Adhesives & Seaming (Chapter 8)

- Use only Meganite® approved adhesives.
- Reinforce all horizontal seams with a 4 inches (100 mm) pieces of Meganite® solid surface placed in the middle of the seam spanning the complete length of the seam.

Edge Details and Buildups (Chapter 9)

- Inside corners of L- or U-shaped tops require a minimum inside radius of 1/2-inch (13 mm) to reduce corner stresses.
- Buildup seams must be more than 1 inch (25 mm) past the end of the inside radius. This can be accomplished with blocks or radius cut pieces.

Structural Support (Chapter 12)

- Full perimeter support is required. Additional support may be required to prevent deflection of the Meganite® solid surface.
- Provide full cutout perimeter support within 3 inches (76 mm) but no closer than 1 inch (25 mm) from the edge of cutouts. The cutout support must be attached to the main support structure. For oval bowls the support may be rectangular, with the distance measured from the closest points of the bowl to the support.
- Supports must provide for spacing of at least 1/8 inch (3 mm).
- Horizontal support must be within 1/8 inch (3 mm) over 10 feet (3 meters).
- Use 3/4-inch (18 mm) dabs of 100% silicone caulking every 12 inches to 18 inches (300 – 450 mm) to secure the web frame to the cabinets.
- Support overhangs exceeding 6 inches (152 mm) for 1/2 inches (12 mm) Meganite® solid surface sheet.

- Full underlayment cannot be used over cabinets or where heat sources are present, such as dishwashers, ovens or cooktops.

Fastening to Other Products (Chapter 14)

- Meganite® solid surface should not be seamed to anything other than itself or approved Meganite® bowls. Silicone should be used for all other fastening.
- Never screw or nail directly in Meganite® solid surface in order to fasten or install. Brass and plastic inserts specifically designed for solid surface are acceptable. Certain specialty applications may have other fasteners that are allowed. Fasteners must consider the thermal expansion and contraction of Meganite® solid surface.

Transportation & Installation (Chapter 15)

- Allow 1/8-inch (3 mm) minimum clearance spacing between walls or any surface that could constrain expansion and contraction of the Meganite® solid surface.

21 INTERIOR VERTICAL INSTALLATIONS

Introduction & Overview

Meganite® solid surface can be used in a variety of vertical applications, such as full height backsplashes or tub and shower surrounds as well as full height wall cladding.

Installation Decisions

Material Thickness

- Any material thickness can be used with 1/4" (6 mm) and 1/2 inch (12 mm) being the most commonly used. Typically, 1/2 inch (12 mm) or thicker is used in situations where impact could be a concern such as healthcare situations where a gurney may impact the wall surface.

Material Orientation

- Meganite® solid surface can be installed either with vertical or horizontal seams for wall cladding. Keeping sheets aligned will be more difficult if the installation contains both types of seams.

Seam Types

- Meganite® solid surface can be seamed together using a butt seam, tongue & groove, or a wavy edge seam. Seams can either be hard seamed using recommended adhesive or soft seamed using 100% silicone sealant. Proper hard seaming will allow for an inconspicuous seam that can be easily maintained and cleaned; however wall lengths are limited.

Corner Details

- Both inside and outside corners can either be hard seamed using recommended adhesive or soft seamed using 100% silicone adhesive. Proper hard seaming will allow for an inconspicuous seam that can be easily maintained and cleaned; however wall lengths may determine the type of seaming that can be used.

Ceiling and Floor Details

- Optional trim details can be used.

Large Size Sheet Material

- Some colors of Meganite® solid surface are available in larger width sheets that allow for reduced seaming. Consult with your local distributor for availability.

Preparation and Support

When using Meganite® solid surface in vertical applications, proper wall preparation is essential.

Examples of acceptable materials for walls are plywood, gypsum board or tile backer board. Consider using moisture resistant substrates in areas where moisture will be present.

Installation over a ceramic tile surface is allowed, provided the surface is sound and has been properly prepared. Any glazed tiles should be scored and abraded to allow the silicone to maintain a bond by using 80 grit sandpaper on the surface. Clean the tiles thoroughly to remove dust using denatured alcohol.

Any loose tiles must be removed, and the gaps filled with tile adhesive.

Meganite® solid surface is not recommended for use where moisture is present on the supporting surface. The source of the moisture must be found and corrected before installation. Correction methods may include a vapor barrier. (See section Moisture Control)

A 1/2-inch (12 mm) gap between the bottom of the plywood, gypsum or tile backer board and the base must be left to ensure that no moisture can wick up into the material behind the Meganite® solid surface.

NOTE: Meganite® solid surface should not be used in steam rooms, saunas or applications where extreme temperatures are present.

Proper Gaps & Spacing

Temperature changes after installation will result in Meganite® solid surface expansion or contraction if temperature increases or decreases. The movement of the material must be accounted for by leaving spacing and gaps that account for this movement.

As a rule of thumb – a typical installation requires 1/8” spacing for every 10 Feet (3 meters) panel length.

If large temperature changes exist within the installed space this spacing should be increased.

Scribing

It may be necessary to scribe the wall panels to achieve the proper fit, as walls tend to be out of square and not plumb.

Always trial fit the wall panels, marking them for any cutouts or required scribing.

Allow 1/8-inch (3 mm) for expansion and contraction on all holes cut or drilled in the Meganite® solid surface.

The panels can be ascribed to fit using a router, sander or electric planer.

Before installation, the end must be sanded smooth, and the edges sanded to remove the sharp edge so that it is free of chips and scratches.

Panel Preparation

NOTE: Preparation of the panels for either a soft seam or hard seam install

Typical installation of the panels is simply butted at each end to the other panel.

Alternate methods can be used such as tongue and groove or a wavy edge. The potential advantage of these edges in installation is to allow for easier sheet alignment.

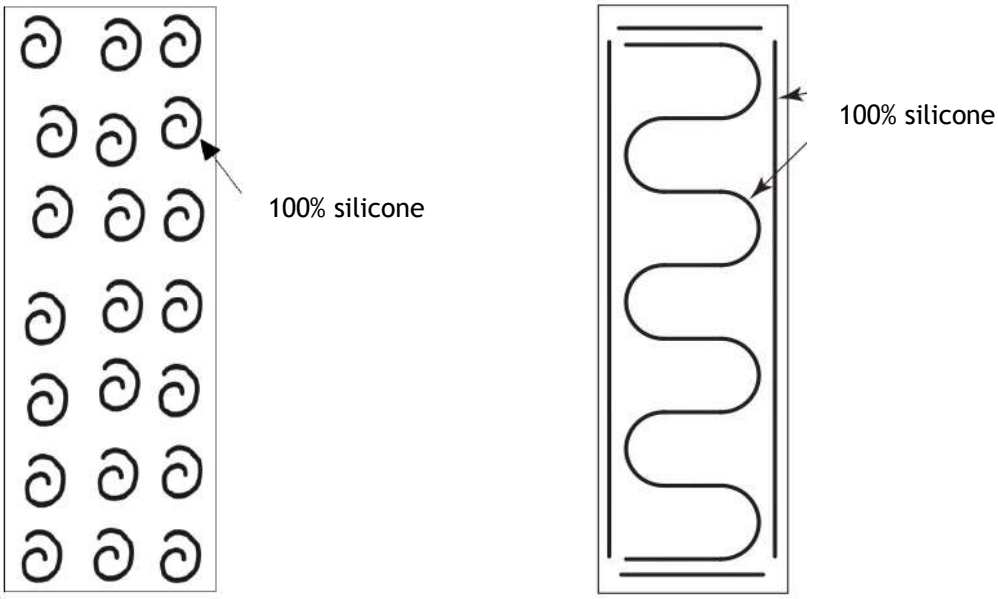
Panel Bonding Recommendations

100% silicone adhesive is recommended to bond the Meganite® solid surface to the wall. Silicone will provide for the flexibility needed so that panel movement with changes in temperature can occur without stressing the panels.

It is recommended that the thickness of the silicone after installation be greater than 1/16-inch (1.5 mm).

Panel Attachment Method using Soft Seams

- Thoroughly clean the backside of the panels with denatured alcohol and adhere to the wall using 100% silicone caulking.
- Apply the silicone in an “S” pattern on the back of the panel and a perimeter bead about 1 inch (25 mm) from the edges on all four sides. “G” or “6” shapes can also be used.



TIP: Use a "O" shape on areas of the panel to act as a type of "suction cup" to hold the panels in place.

- Maintain a minimum thickness of 1/16-inch (1.5 mm) of silicone between panels and substrate – this can be achieved by using temporary shims.
- Use hot melt glue applied to the substrate to hold the panels in place while the silicone cures.
- Repeat this procedure for all remaining panels.
- Use 100% silicone to caulk all joints.
- Clean the excess silicone using denatured alcohol and a clean white cloth.

Panel Attachment Method using Hard Seams

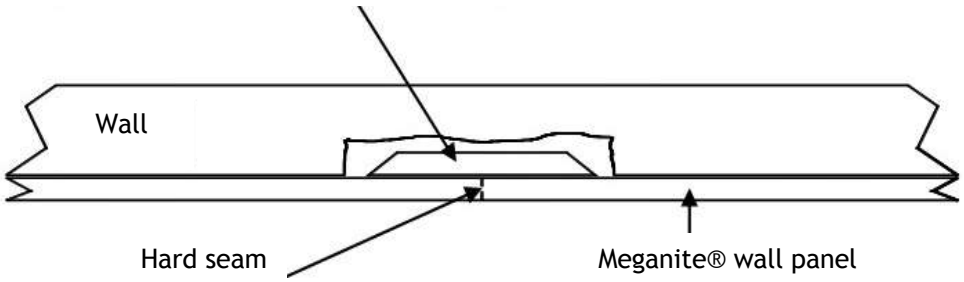
To create large one-piece sections, panels can be seamed together using Meganite® approved joint adhesive.

The two approved methods are:

1. Reinforced Seam Method

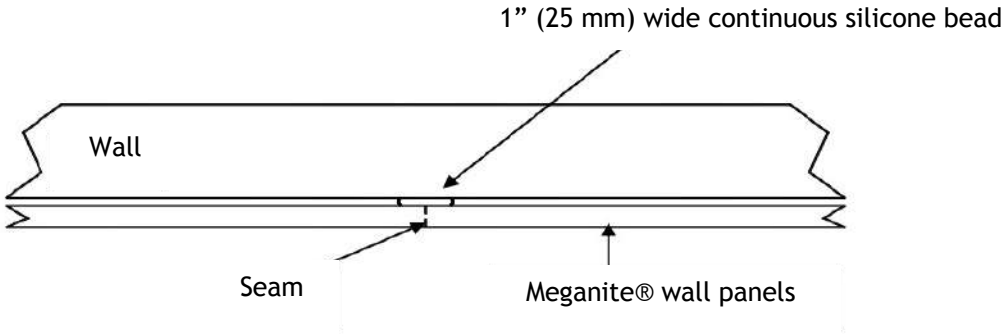
   When seaming pieces together, use a piece of Meganite® solid surface for seam support, adhered to the back of the panels using Meganite® approved seam adhesive. This procedure requires a slot cut in the wall to accept the seam support.

Meganite® seam support



2. Silicone Seam Support Method

   On the backside of the panels, apply a 1” (25mm) wide silicone bead over the entire length of the seam.



Procedure

- Scribe and trial fit all panels.
- If the edges are damaged or too much spacing exists during the trial fit, then mirror cut the edges of the panels to be seamed together.
- Apply the silicone in an “S” pattern on the back of the panel and a perimeter bead about 1 inch (25 mm) from the edges on all four sides.
- Use a brace or blocking to hold the panels in place during the seaming process or use hot melt glue to hold one panel in place while the silicone cures.
- Using standard seam techniques, seam the panels together using Meganite® approved seam adhesive.
- After seam adhesive has cured use a router on skis to remove excess adhesive and finish seam area.
- Repeat this procedure for all remaining panels.

Hard Seamed Wall Length Limitations

The length of the walls is limited by the temperature change experienced by the material over the life the installation. Smaller temperature changes allow for a longer hard seamed wall length and greater temperature changes will allow for a shorter hard seamed wall length.

Increasing the silicone bonding thickness will allow for longer wall lengths.

The following chart can be used as a guideline for wall length and bonding thickness:

Temperature Change °F	Bonding Thickness	Maximum Wall Length
±10	1/16”	48 Feet
±10	1/8”	100 Feet
±20	1/16”	24 Feet
±20	1/8”	50 Feet
±30	1/16”	16 Feet
±30	1/8”	35 Feet
±40	1/16”	12 Feet
±40	1/8”	25 Feet

Moisture Control

Masonry products are known to retain and release moisture. While Meganite® solid surface is non-porous, it will absorb small amounts of moisture resulting in material dimension changes such as warping or bowing away from the moisture. Trapped moisture behind the wall can lead to the material warping or bowing. To prevent this, it is recommended to use an approved vapor barrier that will create a dry space for the Meganite® solid surface and allow for any moisture drainage.

Mounting Accessories

When mounting accessories, consideration must be given to allow for the proper spacing and to allow for the free movement of the material without constraint.

The preferred method of attachment is to mount the accessories directly to the substrate and create cutout in the Meganite® solid surface that allows for spacing of 1/8 inch (3 mm). This space can then be filled with 100% silicone sealant.

An alternate method is attaching the accessories through the Meganite® solid surface. Pre-drill and oversize the attachment holes in the Meganite® solid surface so as not to constrain any movement.

22 COMMERCIAL FOOD SERVICE TECHNICAL INFORMATION

Introduction & Overview

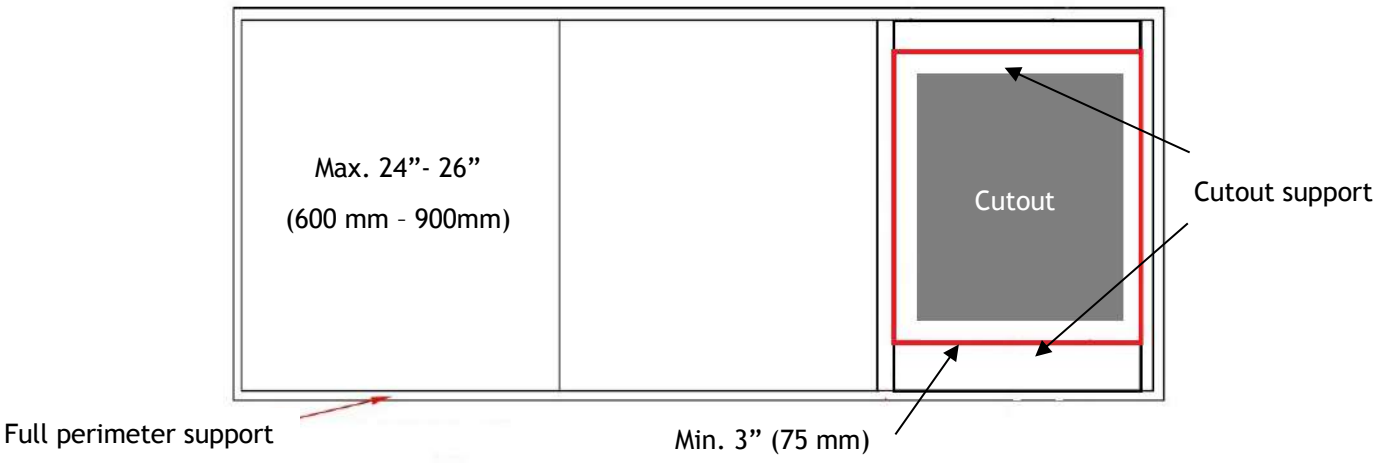
The installation of hot and cold food wells can include a wide variety of design options. These applications are subject to higher levels of stress than a typical residential installation. Critical design aspects of a commercial food service installation include support, isolation, and insulation.

Food Service Countertops Support

It is important that close attention be paid to the adequate support of the countertop. Since non-flat cabinet installation is a major cause of solid surface failure, always make sure the cabinets are flat and secure before installing Meganite® solid surface.

Meganite® solid surface is not a structural material, therefore full support is required to reduce stress. These support guidelines are for zero-load installations and any additional weight would require additional support.

- Provide full perimeter support around the entire countertop and each individual cutout.
- Support must be in the same plane with a variation of less than 1/8 inch (3 mm) over a 10 feet span (3 meters)
- Position cross supports every 24 inches (600 mm) to 36 inches (900 mm) so that deflection does not exceed 1/8 inch (3 mm)
- Cutout support must be the full perimeter within 3 inches (75 mm) of the edge of the cutout but no closer than 1 inch (25 mm) of the edge.



Acceptable support materials include Moisture Resistant MDF, Moisture Resistant Plywood, Wood, Metal Angle Iron, and Tube Steel.

Moisture resistant products will reduce the possibility of warping.

Never use non-structural material such as particle board, wafer board, chip board, or similar materials.

IMPORTANT: Never use full underlayment as this will result in countertop failure.

Support strip material must be used to provide the needed support and are made from MDF or plywood. These support strips should be a minimum of 3/4-inch (19 mm) thick and 2 inches (50 mm) in width. They can be secured to the support frame with 100% silicone adhesive or screws.

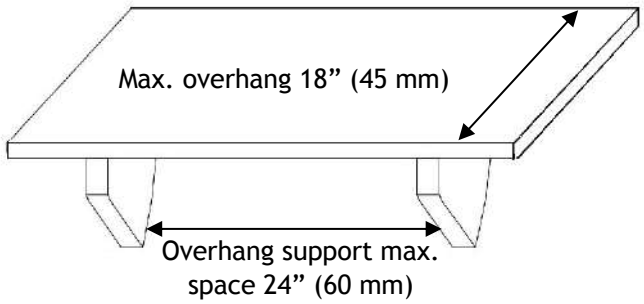
Overhang Information

Proper support of overhangs is critical in food service applications. These guidelines are for zero-load and any additional weight will require additional support to prevent deflection that would exceed 1/8-inch (3 mm).

Overhang Guidelines

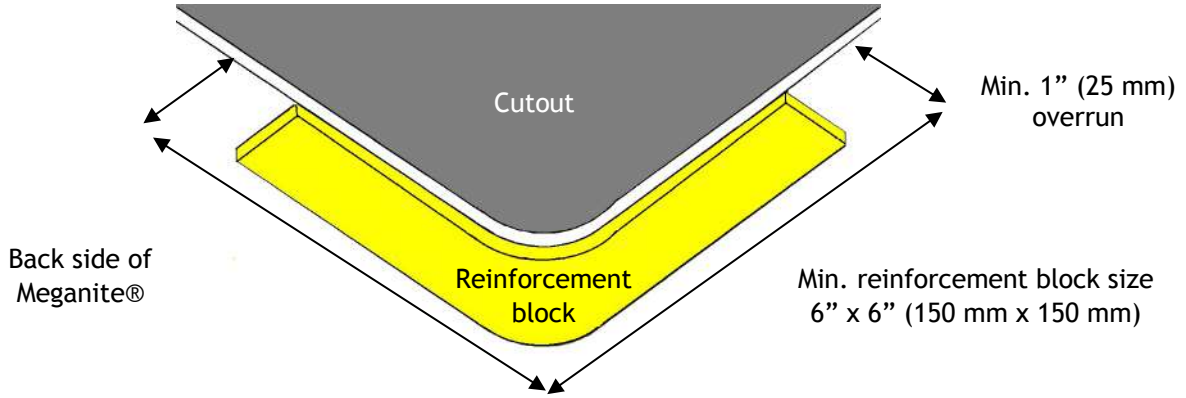
- Less than 6 inches (150 mm) – No additional support required.
- 6 inches (150 mm) to 18 inches (450 mm) – Brackets or tube steel every 24 inches (600 mm) maximum.
- 18 inches (450 mm) or more – Support legs and full underlayment.

Overhang supports should be spaced at 24 inches (600 mm) maximum.

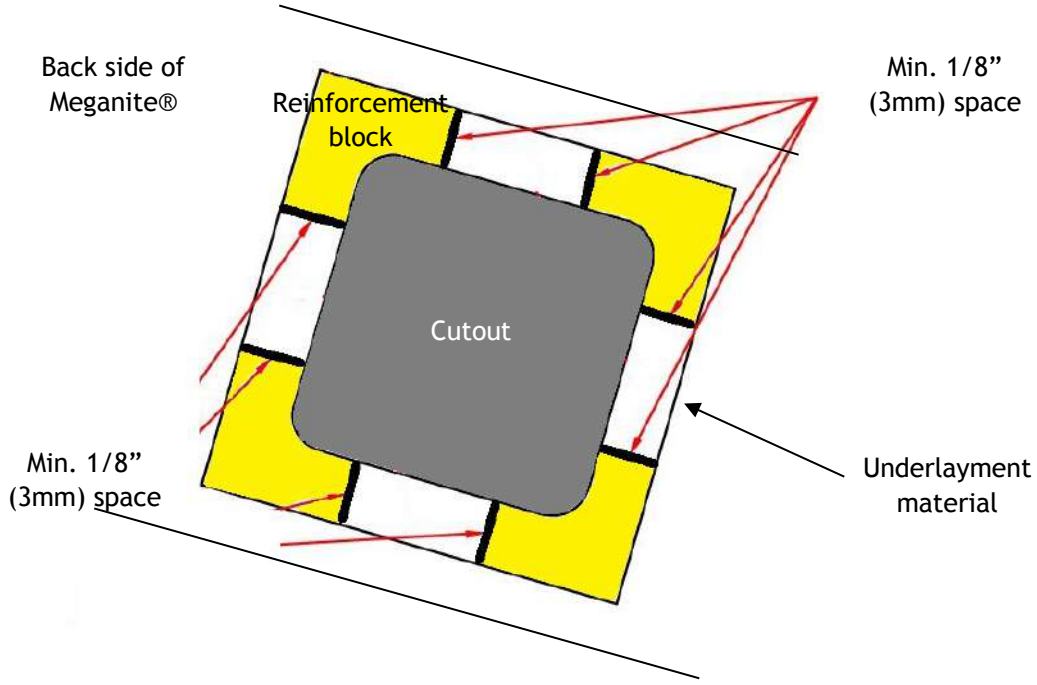


Cutout Information

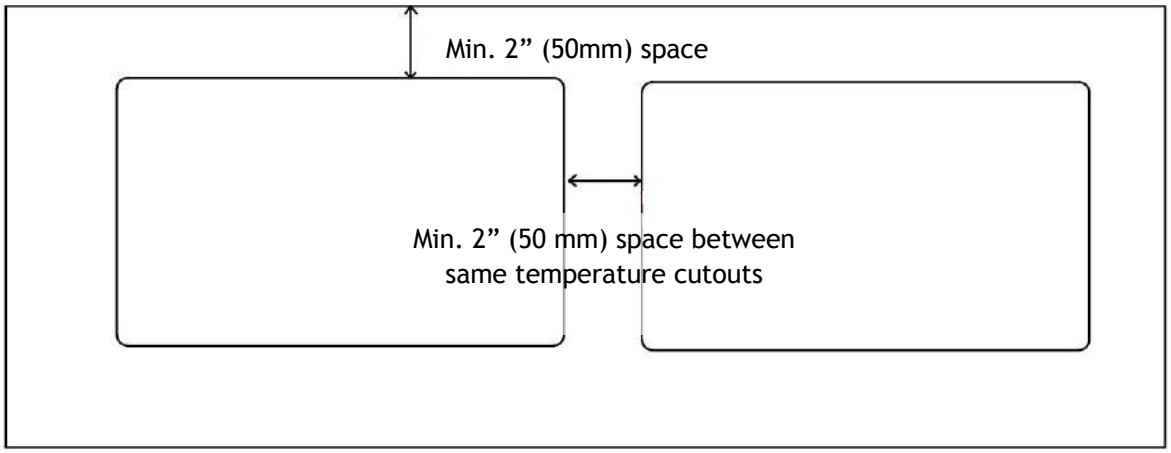
Inside corners of all hot or cold cutouts must be a minimum 1/2-inch (12 mm) radius and reinforced with reinforcement blocks sized to 6 inches x 6 inches (150 mm x 150 mm) with an approximate 1 inch (25 mm) overrun into the deck. Treat this type of cutout with the same care and preparation you would any cooktop cutout.



Fill in spacing between reinforcement blocks with underlayment material that is the same thickness as the reinforcement blocks. This underlayment material can be MDF or plywood. Leave 1/8 inch (3 mm) spacing between reinforcement blocks and underlayment material.



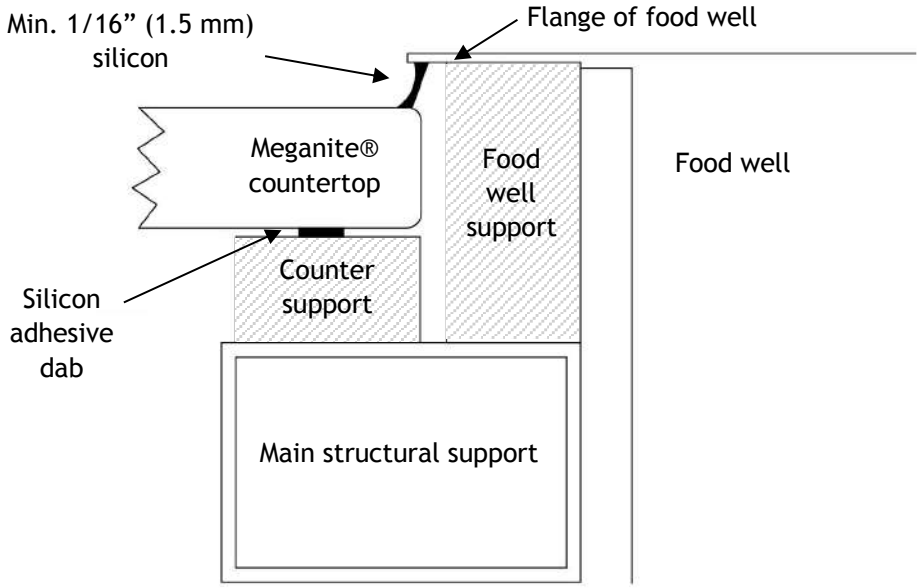
Minimum spacing between cutouts of the same temperature is 2 inches (50 mm). Cutouts of a different temperature (hot and cold) require a minimum distance of 12 inches (300 mm). This distance can be reduced with additional insulation as detailed in Food Service Countertops Insulation Section.



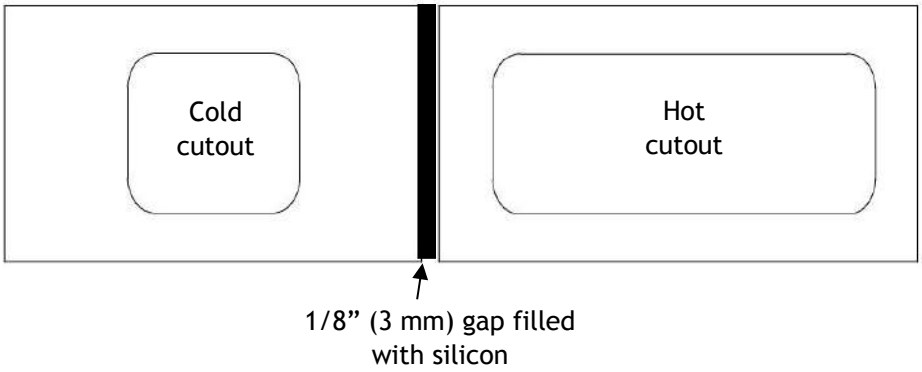
Secure the countertop to the support structure using 100% silicone adhesive dabs spaced 12 inches (300 mm) to 18 inches (450 mm) apart.

Food Service Countertops Isolation

Isolation of the heat generating appliance from the Meganite® solid surface is critical to preventing failure. The heat generating appliance MUST be independently supported and not directly contact the Meganite® solid surface.

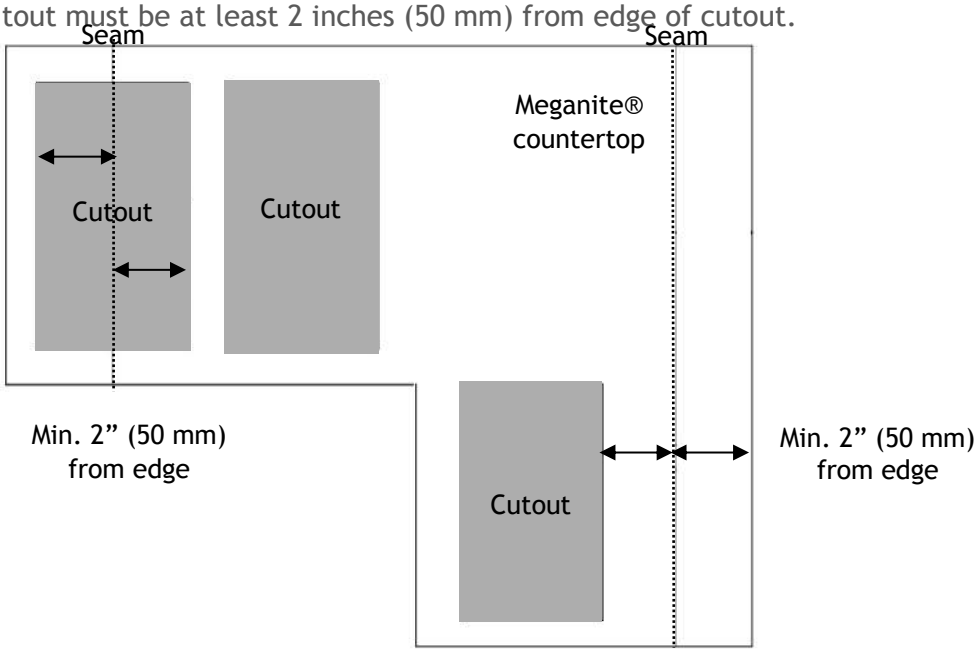


The use of a thermal break separating hot and cold sections is required. Use a 1/8 inch (3 mm) flexible silicone seam between sections to allow for expansion and contraction of the two surfaces.



Seam Location Guidelines

- Keep seams at least 2 inches (50 mm) from edge of countertop.
- Keep seams at least 2 inches (50mm) from edge of cutout.
- Seams through a cutout must be at least 2 inches (50 mm) from edge of cutout.



Food Service Countertops Insulation

As well as to providing proper insulation between hot and cold surfaces. The fabricator must make sure that the design is within the tolerance level of the solid surface material before the job is fabricated.

Meganite® solid surface will expand and contract with temperature changes. These material changes must be accounted for otherwise the material will be stressed and could result in failure. Always allow for expansion spaces.

Insulation / Spacing Guidelines

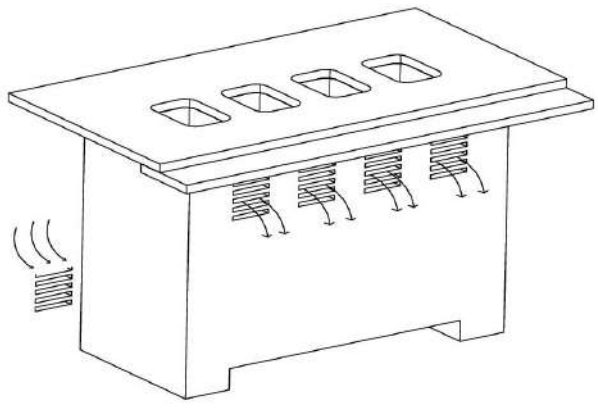
- Provide insulation of any heat source using meta-aramid fiber such as Nomex® covered by 3 mil thickness aluminum tape.
- Minimum radial spacing when passing through the surface is a minimum of 1/8-inch (3 mm).
- Minimum clearance between buildup and structural support should be a minimum of 1/8-inch (3 mm)
- Minimum clearance between surface and walls should be 1/16-inch (1.5 mm)

Insulation Layers Required

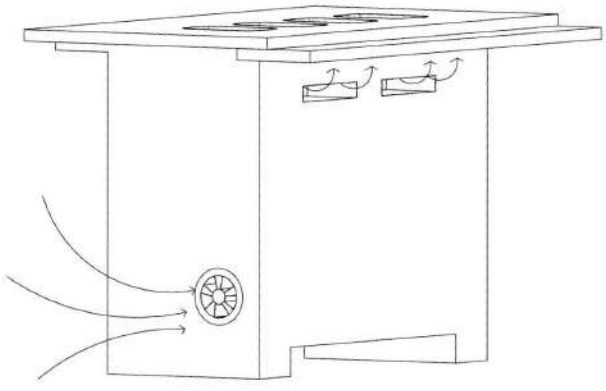
Hot/Cold Distance greater than 12 inches (300 mm): 1 Layer of meta-aramid fiber/aluminum tape

Hot/Cold Distance 6 inches (150 mm) to 12 inches (300 mm): 2 Layers of meta-aramid fiber/aluminum tape

Make sure the base cabinets are adequately vented. In some cases, a fan may be necessary to assure adequate ventilation. Cooling can also be achieved with convective flow.



Convective flow cooling



Forced air fan cooling

Other Considerations

Mechanical Fastening

Special requirements are required when fastening anything to Meganite® Solid Surface. Never screw or nail directly into the material. Acceptable methods of fastening include:

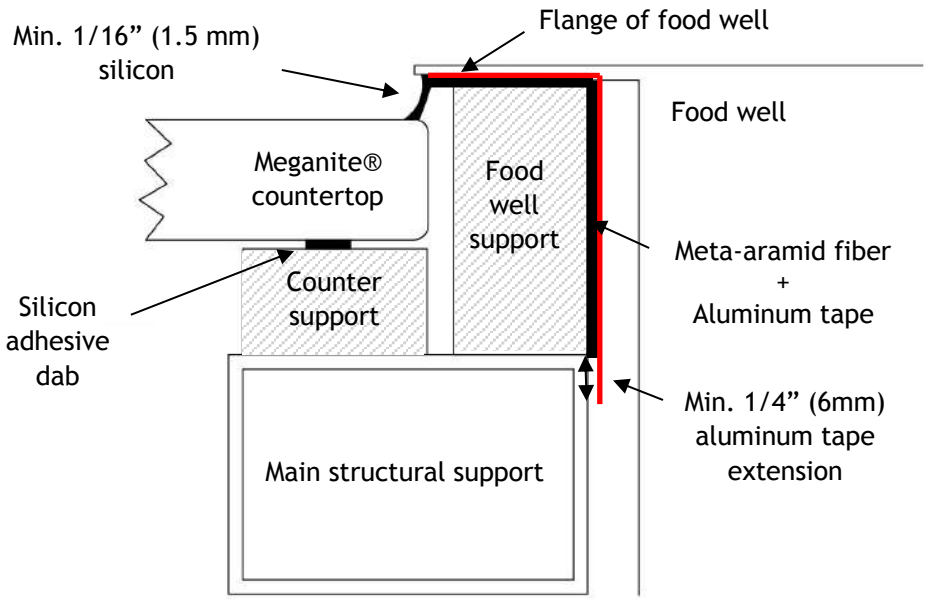
- Pass-thru method – this is commonly used with sneeze guards where the fixture passes through Meganite with an over-sized opening with at least 1/8-inch (3 mm) perimeter spacing then attached to the support structure.
- Brass threaded Insert – drill into Meganite® and use a brass threaded slip fit fastener.

Cutout Minimum Requirements Summary

- Minimum radius of 1/2” (12 mm).
- Top and bottom edges rounded over and smoothed to a minimum radius of 1/8 inch (3 mm).
- Vertical edge sanded smooth with 150 grit or finer sandpaper.
- Structural support within 3 inches (75 mm) of cutout edges.
- Perimeter space of 1/8 inch (3 mm) clearance

Additional Requirements for Hot/Cold

- Minimum clearance between food well flange and Meganite® surface of 1/16 inch (1.5mm) filled with 100% silicone.
- Reinforcement blocks sized to 6 inches x 6 inches (150 mm x 150 mm) with an approximate 1 inch (25 mm) overrun into the deck.
- Insulation between food well and food well support using a meta-aramid fiber.
- Cover insulation with 3 mill thick aluminum tape extending at least 1/4 inch (6 mm) past the edge.


Min. 1/16” (1.5 mm) silicon
Flange of food well
Food well
Meganite® countertop
Food well support
Meta-aramid fiber + Aluminum tape
Counter support
Silicon adhesive dab
Min. 1/4” (6mm) aluminum tape extension
Main structural support