

SEAMING CORIAN®

EDGE PREPARATION

10.1

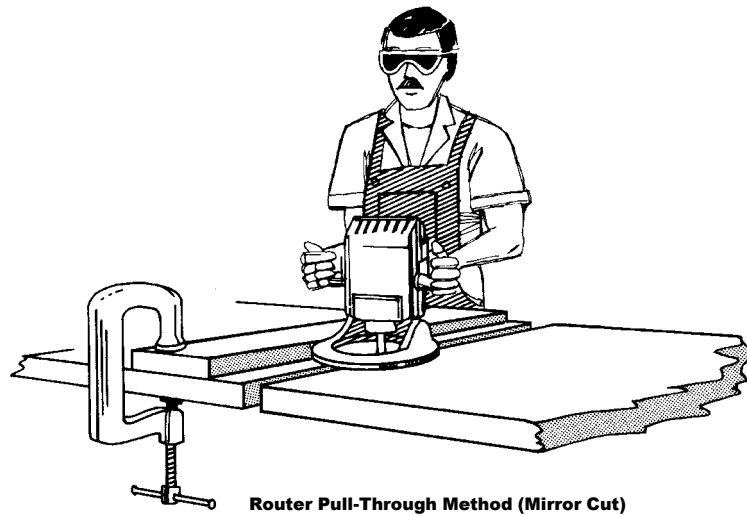
EDGE PREPARATION

When seaming two pieces of Corian® in a standard countertop seam, it is important that the two pieces are a perfect fit.

The ideal preparation for two edges to be seamed is the router pull-through method (mirror cut).

This method entails using a standard double-fluted router bit that is passed simultaneously across the leading edges of both pieces of the Corian® to be seamed, as illustrated in Figure 10.1.A.

Figure 10.1.A



Tools Required:

- 3-hp router
- double-fluted $\frac{1}{2}$ " (13 mm) shank router bit
- C-clamps, 6" (152 mm) bar clamps
- straightedge or mirror template

STEPS TO COMPLETION:

1. Place the two pieces to be seamed on a level workbench supported in a manner similar to that used when completing a cutout, to ensure that the router bit has a clean run.
2. Clamp the two pieces so that they are $\frac{3}{8}$ " (10 mm) apart and firmly and squarely affixed with clamps. It is imperative that the surfaces be parallel and in the same plane.
3. Attach the straightedge to one side to guide the router between the two sheets. As the blade of the router is $\frac{1}{2}$ " (13 mm), $\frac{1}{16}$ " (1.5 mm) will be removed from each edge and a perfect match will be created between the two pieces.

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EDGE PREPARATION • DECK SEAMS

Note: Be sure that the router handles clear the clamps before starting.

4. Clean both edges of any contamination that may discolor the seam.
Use clear, denatured alcohol on a clean, white cloth or paper towel.
5. Trial-fit both edges to check for perfect fit.

Helpful Hints:

Do not touch the edges once they are clean and ready for seaming.

Edge preparation for all seams (including on-site seams) should be done under factory conditions wherever possible.

Time spent on seam preparation will be greatly rewarded by an inconspicuous look.

Be sure that pieces are color matched before starting seam preparation.

10.2

DECK SEAMS

A deck seam is used to describe any seam where Corian® is seamed edge-to-edge to make a horizontal surface.

Note:

SEAMS IN CORIAN® ARE WEAKER THAN THE SHEET. THEREFORE ALL DECK SEAMS MUST BE REINFORCED.

ALWAYS FOLLOW MANUFACTURE'S SAFETY DIRECTIONS WHEN HANDLING AND USING DENATURED ALCOHOL

STEPS TO COMPLETION:

1. Complete edge preparation as per "Steps to Completion," Section 10.1.
2. Transport pieces to be seamed to the workbench and lay out on a level bench.
3. Place a strip of plastic tape under the seam to stop surplus adhesive from spilling onto workbench.
4. Wipe both edges with a clean, white cloth soaked in clear, denatured alcohol.
5. Adjust the sheets from underneath until face alignment is perfect.
6. When the pieces to be seamed are perfectly clean, have good face alignment and good edge fit, mix the Joint Adhesive as per the instructions on the pack.
7. Set the two pieces to be seamed about $\frac{1}{8}$ " (3 mm) apart.
8. Dam the ends of the two sheets using plastic release tape to prevent any glue from seeping from the ends of the seam.

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DECK SEAMS • REINFORCED SEAMS

9. Insert the adhesive holding the tube upright, pull the tube toward you and squeeze the Joint Adhesive into the gap between the sheets. Fill the gap 1/3 to 1/2 full.
10. Push pieces together firmly by hand until uniform squeeze-out is seen along the entire seam.
11. Secure seam using a vacuum clamp system or glue small blocks of plywood to each piece with hot-melt glue, and clamp onto these with C-clamps or 6” (152 mm) bar clamps to provide seam pressure.
12. Ensure that a perfectly even bead of glue is emitted from the full length of the seam when pressure is applied.
13. When the glue is completely set and hard, remove surplus with a router on “skis.” Where “dustless” conditions are needed, use a block plane set on a low angle. At the back of the countertop you can use a broad, sharp chisel if access is impossible. Also, a random orbital sander equipped with a vacuum may be used.

Note: NEVER REMOVE EXCESS ADHESIVE WITH A BELT SANDER AS THIS WILL OVERHEAT THE SEAM CAUSING POSSIBLE WEAKNESS, DISCOLORATION OR FAILURE.

Helpful Hints:

Ensure that the sharp corners have been rounded on the chisel and plane blades to avoid scratching or gouging the surface when removing surplus adhesive.

Use the suggested Joint Adhesive color to attempt color match. Feel free to use a different color if so desired.

Never attempt any seam that is not a proper fit and is not thoroughly cleaned and color-matched.

Do not apply too much pressure to the seam as this may squeeze all the adhesive out, thus weakening the seam.

There are several commercially available devices to aid in edge alignment . Some will even aid in pulling and holding the pieces together while the adhesive cures.

10.3

REINFORCED SEAMS

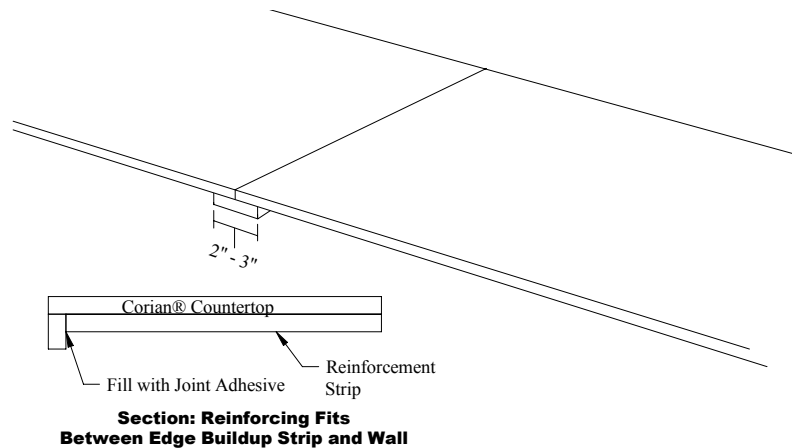
All deck seams in Corian® must be reinforced. The entire process may be done with the sheets upside down. thus the edges, the seam reinforcement, cooktop reinforcement blocks and Corian® bowls may be glued at the same time.

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REINFORCED SEAMS

To reinforce a seam, a 2" - 3" (51 - 76mm) "strip" of Corian® is cut and glued equally under the seam in the deck. The strip must go the full length of the seam, as illustrated in Figure 10.3.A. Be sure strip is chip free.

Figure 10.3.A



Apply adhesive to the end of the reinforcement strip which butts into the front edge strips.

STEPS TO COMPLETION:

1. Remove excess adhesive and sand the underside of the sheet and the strip smooth.
2. Prepare the strips, making sure they are the same length as the seam (i.e., that they run the full length of the seam), and that they are between 2" and 3" (51 to 76mm) wide.

Note:

The strip must be fully covered with Corian® Joint Adhesive.

3. Sand the strips prior to attachment to eliminate nicks and tool marks that could act as stress-riser crack starters.
4. Apply a liberal amount of Joint Adhesive to both surfaces and apply the strip evenly placed over the seam. **Make sure there are no void or dry areas** (i.e., the glue must be spread evenly over the entire strip). Be sure end of strip touching buildup strip is coated with Joint Adhesive.

In addition, smooth all excess adhesive evenly on the underside of the seam along the edges of the reinforcement strip leaving a small cove.

5. Lightly clamp the strip to prevent movement while the adhesive cures.
6. The reinforcing strip may stick out past the back of the deck during seaming, but must be trimmed flush after the adhesive is completely set.

Helpful Hints:

Tests show that a reinforced seam is as strong as the material with no seam.

Do not reinforce a seam with material thinner than the countertop material (e.g., do not reinforce 1/2" [12 mm] with 1/4" [6 mm] Corian®). However, 1/2" (12 mm) deck may be "reinforced" using 3/4" (19 mm) Corian®.

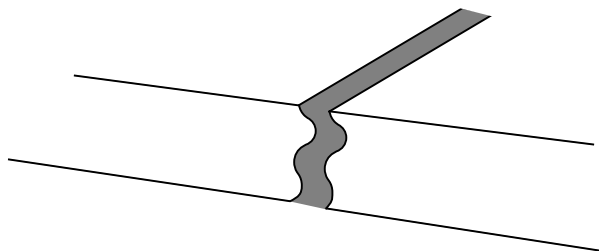
It is not essential to use the same color material or adhesive for reinforcing strips, but do not use dark colors with light colors since the contrast may cause a shadow under the Corian®.

10.4

WAVY SEAMS

Another seam preparation technique is using the wavy cutter. This cutter increases the glue area and provides a stronger seam as well as leveling the top surfaces. Wavy seams may prove useful when seaming small pieces such as baseboards or chair rail. **Wavy seams still require reinforcement.**

Figure 10.4.A



STEPS TO COMPLETION:

1. Complete edge preparation as per "Steps to Completion," Section 10.1.
2. Transport pieces to be seamed to the workbench and lay out on a level bench.
3. Work from the face side of one of the sheets to be seamed and set the wavy cutter to a depth that will pass through the width of the sheet while setting the center of one of the "waves" at the surface of the sheet.

Set a straightedge parallel to the seam, which will allow the wavy bit to cut the wavy pattern into the edge.

4. Take the opposite edge to be seamed and again work from the face side of the sheet but this time lowering the cutter to the correct depth (check with bit manufacturer). This enables the two top surfaces to align flush to each other on the face side.

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WAVY SEAMS • TONGUE AND GROOVE SEAMS

5. Alternatively, the wavy cutter can be used to mirror cut the two sheets to be seamed. One sheet must be lower than the other at the correct height (check with bit manufacturer).

Trial-fit a smaller piece of Corian® to determine correct fit prior to making your actual Corian® seam.

6. Wipe both edges with a clean, white cloth soaked in clear, denatured alcohol.

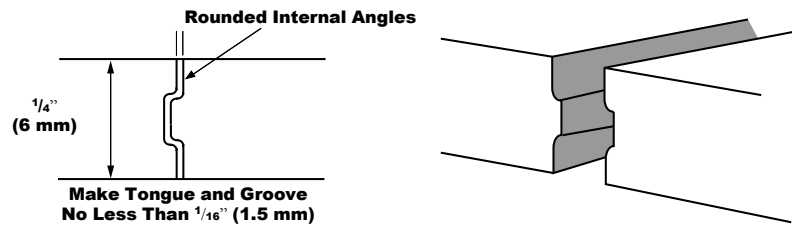
7. Make seam in normal manner.

The Tongue-and-Groove Seam is another modification to the Standard Seam by using a tongue and groove to enhance the face fit of the adjoining sheets. This can be used for 1/4" (6 mm) Corian® very successfully.

The method can be used to save time on face sanding because the face is well leveled.

10.5 TONGUE-AND- GROOVE SEAMS

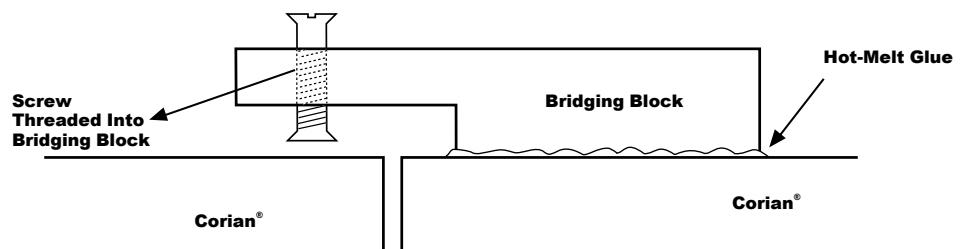
Figure 10.5.A



Bits can be custom-made, or several types are commercially available.

A simple way to take out warp at the seam and level the top surfaces to be seamed is to use the Bridge Technique.

Figure 10.5.B



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TONGUE-AND-GROOVE SEAMS • V - GROOVE SEAM

Glue a bridging block to the lower side of the countertop seam using hot-melt glue. Carefully turn the screw in the bridging block until both surfaces are level. Bring together and glue as normal. After completion, remove the block.

Note: Protect countertop by using a wood or laminate shim under the screw.

10.6

V - GROOVE SEAMS

Requirements for seams made in V-groove tops are different than those for regular tops. Table 10.6.A outlines the requirements for seams in V-groove tops.

Table 10.6.A

PROCEDURE	REQUIREMENT
Turndown on edge of seam	1 1/2" minimum
Turndown edge in seam area	1/2" x 1/2" strip glued in behind front edge
Inside corner radius	Insert block— 1" minimum
Butt seam at inside corner	Does not require reinforcement
Miter seam at inside corner	Must be reinforced
Deck seam	Completely filled with Joint Adhesive

STEPS TO COMPLETION:

All edges on the countertop sections to be seamed are to be turned down a minimum of 1 1/2".

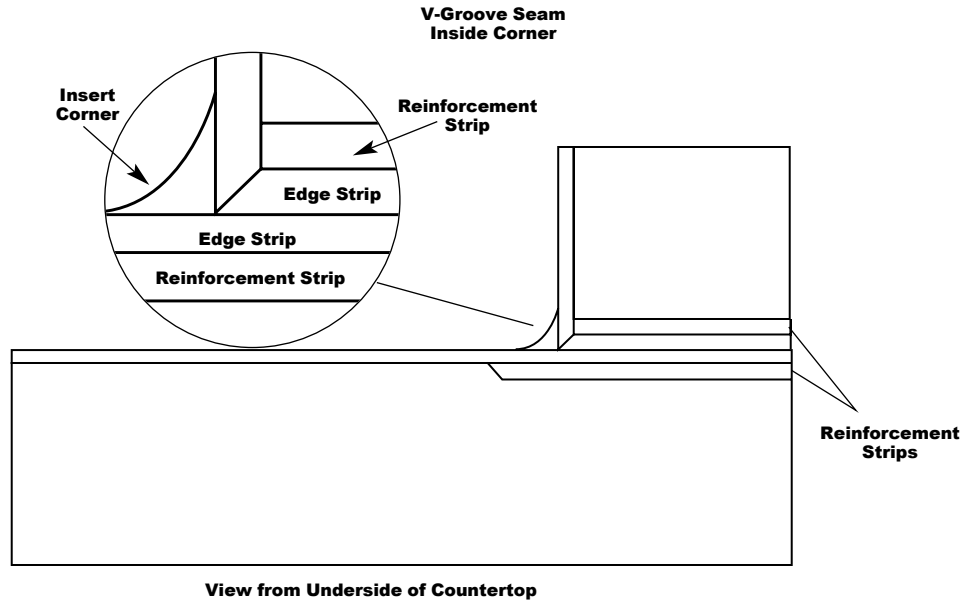
A reinforcing strip 1/2" x 1/2" x length of deck seam must be glued in the inside corner between the deck and the front edge strip. This can be done as the edge is being assembled. This is only done in the area of the deck seam. The 1/2" x 1/2" strips must be flush with the back of the deck. Glue end of one strip to the back of the front edge. Run other piece 1" past the insert block. Taper the end to 45°. See Figure 10.6.A.

An alternative to using a 1/2" x 1/2" strip is to make the strips 1/2" x the full height of the turned down edge piece. This will ensure adequate material will be left if the seam edges must be trimmed

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V-GROOVE SEAMS

Figure 10.6.A



Seam Preparation

The edges of the seam are to be smoothed using typical methods such as the "Mirror Match" technique. Since the two deck pieces are joined without an offset seam, the insert method must be used to make the inside corner radius. See Section 12.3.

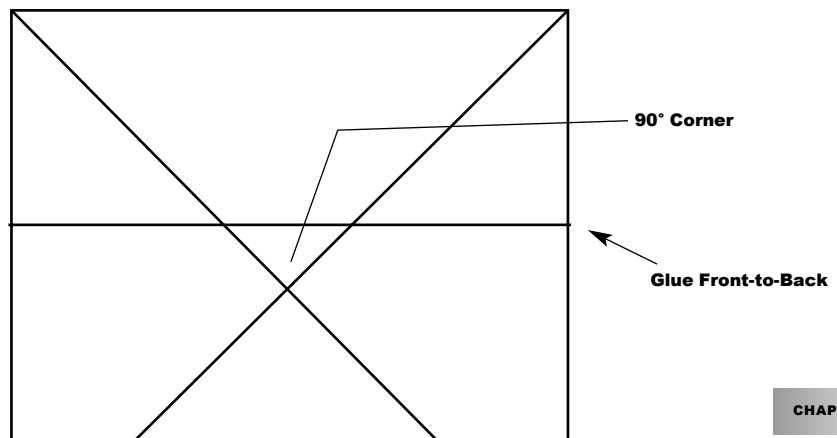
An alternative method is to partially remove some of the front edge and inlay the corner block into the edge. There are several manufacturers who make special jigs for this purpose.

If the countertop is made from any of the Lustra Series or Palladio colors, then the insert corner should be made using the following method:

- Glue two 1/2" x 1 1/2" strips together using Joint Adhesive for DuPont Corian®. Be sure to adhere the piece front-to-back.
- Cut the piece to make a right triangle. **Do not cut** the finished face. See Figure 10.6.B.
- Sand saw cuts to remove all saw marks. Cut to proper length.

Figure 10.6.B

Face of Upper Strip



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V - GROOVE SEAM • ADHESIVES FOR USE WITH CORIAN®

A seam made with edges turned down by the V-groove method does not require seam reinforcement. However, if the inside corner is mitered, then reinforcement is mandatory.

10.7

ADHESIVES FOR USE WITH CORIAN®

Although many different types of adhesives are used worldwide, each application requires specific performance characteristics from the adhesive (color, flexibility, cure time, etc.). Listed below are the proper adhesives to use in a variety of applications. Questions regarding a specific brand of adhesive should be directed to the manufacturer.

Table 10.8.A

FOR JOINING CORIAN® TO	USE
Corian® for flush edges	Joint Adhesive for Corian®.
Corian® for recessed edges	Silicone sealant for Corian®.
Acrylic* strips for edges, inlays	Joint Adhesive for Corian®, Weld-on #16 or silicone sealant for Corian®.
Acrylic*, polyester or other polymeric (plastic) solid surface materials*.	Silicone sealant for Corian®**.
Steel, porcelain, china, cast iron or acrylic* bowls	Silicone sealant for Corian®.
Wood	Silicone sealant.
Laminate, wood veneer or metal tapes for edges or inlays	Silicone sealant for Corian®, or double-sided adhesive tape.
Marble, granite, or engineered stone	Silicone sealant
Zodiaq® Quartz Surfaces ***	Joint adhesive

* Acrylic materials other than Corian®.

** ***Do not rigidly adhere Corian® to any other solid surface product.*** Since the mechanical and chemical properties of other solid surface products do not match those of Corian®, use only flexible adhesives to join these products.

*** When SUB mounting Corian® shapes to Zodiaq® Quartz Surfaces.

**10.8
MITER SEAMS**

Several of the colors of Corian® have patterns that run throughout the sheet. A typical butt seam does nothing to change of direction of the pattern. In these cases, a miter seam may give the best aesthetics by allowing the patterns to “flow” through the corner. A miter seam does not give the best yield of the material as there are two triangular pieces left from making the miters. pieces can be used to make reinforcement blocks, or short edge strips.

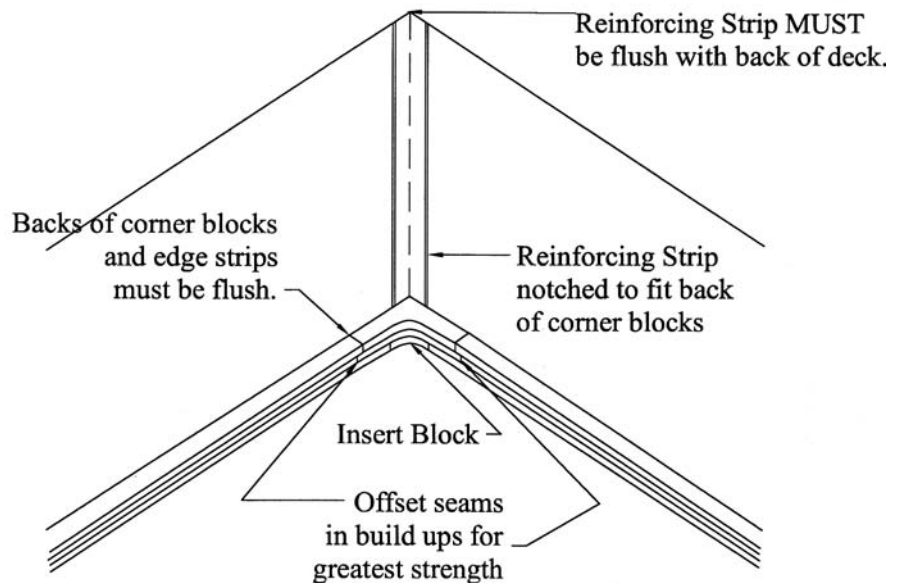
When using a miter seam, all requirements for a deck seam, as set forth in the Fabrication Manual must be followed.

When making a miter seam, use the insert block method to get the proper inside corner radius. This combined with two blocks, which are attached to the underside of the deck in the corner, makes for a very strong seam. However, this requires that the reinforcement strip fits against the backside of the first block. (See Fig. 1) There are several ways to accomplish this. Among them are:

- Cut a square notch in the reinforcement strip
- Rout the notch in the reinforcement strip and round the back corner of the block
- Square off the back corner of the block to make a butt seam

Note:

Be sure the joint between the reinforcement strip and the corner block is completely filled with adhesive.

Figure 10.8.A

VIEW OF INSIDE CORNER FROM THE UNDERSIDE OF THE COUNTERTOP

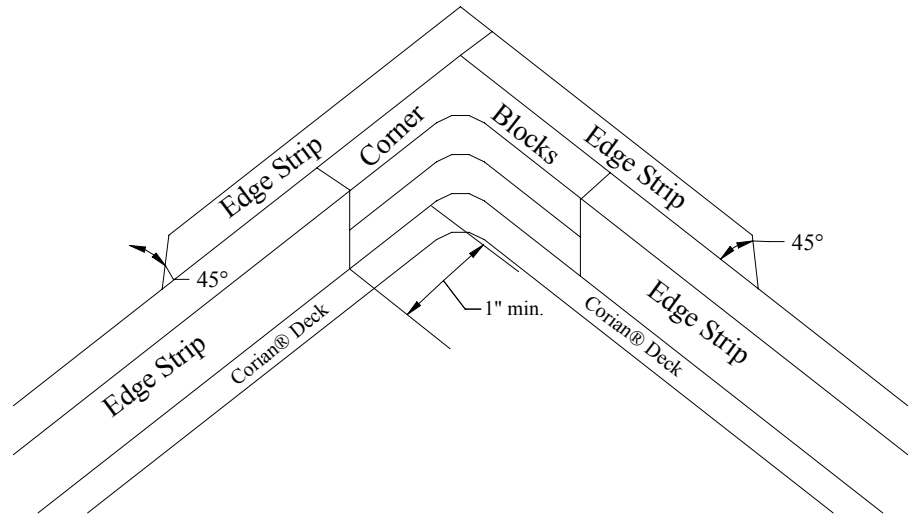
SEAMING CORIAN®

MITER SEAMS • SEAMING FROM A PANEL SAW

Offsetting the seams in the corner blocks will help strengthen the corner.

When using a drop edge, a different method is used for the inside corner to assure a strong corner.

Figure 10.8.B



The strips extending from the corner blocks should be at least 3" long and must be fully adhered using joint adhesive.

10.9

SEAMING FROM A PANEL SAW

Testing has shown that sufficient quality of cut for seaming purposes can be achieved when using a panel saw. Specifically, the strength of a seam made from sheets cut on high quality panel saws using high quality blades is comparable to a mirror cut seam. The aesthetics of saw cut seams will vary with:

- Rigidity of the saw
- Saw set up
- Blade life
- Cut speed
- Skill of the operator.

To obtain the highest quality of cut:

- Have a saw of sufficient mass and rigidity.
- Use Corian® to set up saw
- Use the saw blade manufacturer's recommended blade speed and cut rate.
- Make a smooth transition when entering and exiting material.

Panel saw set up is even more critical when cutting Corian® than when cutting wood, so always use Corian® during the set up process.