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Durasein
RV Best Practices



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Fabrication and Installation

RV Best Practices

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For detailed information and requirements, refer to the Durasein® Fabrication and Installation Manual at durasein.com/ca/technical.

Introduction

Durasein® Solid Surface countertops offer durability, aesthetics, and ease of maintenance, making them an excellent choice for RVs, modular homes, and boats. However, their fabrication and installation require specific techniques to ensure longevity and performance in mobile and confined environments. The use of quality fabrication techniques and state-of-the-art methods and details is critical for worry-free performance. Durasein expects that fabricators will be committed to always using the best fabrication practices in Durasein® Solid Surface products.

General Guidelines

Always follow the recommendations of the Durasein® Fabrication and Installation Manual

- **Cutting & Routing:** Use carbide or diamond-tipped tools for cutting and routing.
- **Seaming:** Use color-matched adhesives and recommended processes.
- **Edge Profiling:** Round over sharp edges to prevent chipping and improve durability.
- **Support:** Reinforce overhangs with plywood or metal brackets for added strength. Use seam reinforcements and proper support.

- **Substrate Preparation:** Use approved substrate materials being sure to leave room for expansion and contraction.
- **Adhesive Application:** Use flexible adhesives to accommodate movement and vibrations inherent in mobile applications.
- **Expansion Allowance:** Leave appropriate gaps for thermal expansion and contraction, especially in applications exposed to temperature fluctuations.

Layout

When choosing a layout, be sure to locate seams where potential stress points will be minimized.

- Do not place seams at inside corners.
- Do not place seams at cutouts.

Inside corners of countertops can be sensitive to stress and therefore need special attention. When planning, fabricating and installing “U” and “L” shaped configurations please follow these guidelines:

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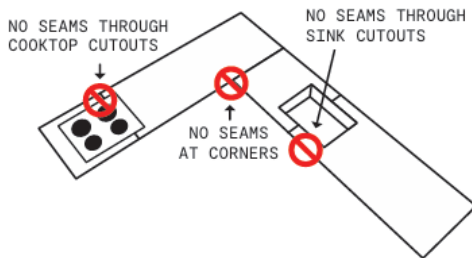
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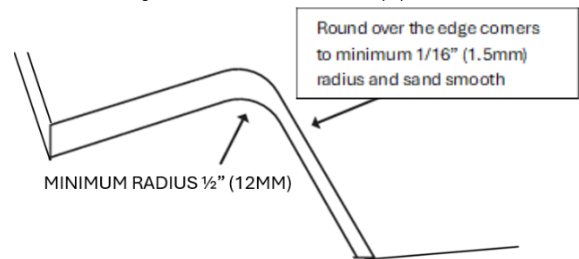
Incorporating an appropriate inside corner radius in Durasein® countertops is crucial for enhancing strength and preventing stress-related cracks. For both countertop inside corners and cutouts, a minimum inside radius of 1/2" inch (12.7 mm) is recommended. Larger radii are even more effective in distributing stress and reducing the likelihood of cracking.



Make the radius of an inside corner as large as is practical to help to provide structural strength to the corner. We suggest a 1" (25mm) radius to provide both aesthetic and structural benefits

Cutouts

All cutouts in solid surfacing need to be made with a router. The minimum required radius for an inside corner of a cutout in Durasein® Solid Surface is 1/2" (12.7 mm). For consistency and quality control, all cutouts should be made with a template and appropriate router bits and guides or executed on CNC equipment.



The top and bottom edges of all cutouts should be smoothed with a router bit and/or sandpaper. This is to remove any stress risers created in the cutting process. The elimination of stress risers is critical to the successful performance of a cutout.

RADIUS BOTH
TOP AND
BOTTOM OF
CUTOUT EDGES



Bevel edges are not a requirement for high strength cooktop corners. However, the block size is required to be at least 4" x 4" x 1/2" thick (102 mm x 102 mm x 12.7 mm thick).

Ease or radius the top and bottom edges of the cutout and reinforcing blocks and sand smooth. See the Cutouts section of the Durasein® Fabrication and Installation Manual for more information.

Corners of cook top cutouts must be reinforced by bonding a 4" (102 mm) x 4" (102 mm) X 1/2" (12.7 mm) or larger piece of solid surface to the underside. Durasein® does not require that all sides of the corner blocks should have a 45° bevel. Beveled corner blocks are permissible but not required.



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Potential Problems with Cook-top and Range Cutouts:

1. Excessive Heat
2. Stress points in the cut-out
3. Not enough space between the cook-top appliance and the countertop
4. Insufficient support
5. High-strength blocks are not large enough or thick enough

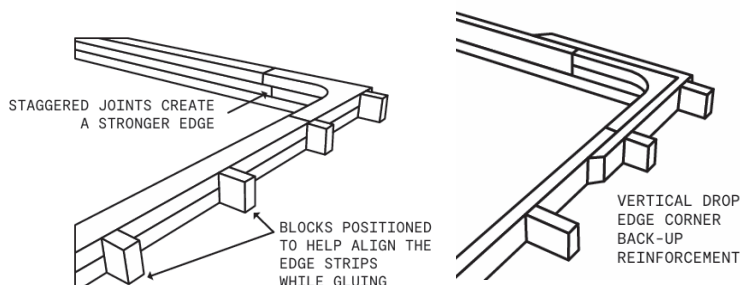
Prevention:

1. Make the cut-out as big as possible to provide space between the cooktop appliance and Durasein®.
2. Apply a heat barrier tape that will deflect heat away from the Durasein® surface and provide a protective barrier against heat.
3. Always use a router for the cut-out and smooth edges to release heat and avoid stress risers ("crack starters").
4. Always sand smooth all edges of the cutout and corner blocks.
5. Use solid surface reinforcing blocks at the corners of cooktop cutouts.
6. Make the radius at the corners of the cutout as large as possible with a minimum of ½" (12.7 mm) radius.
7. Completely support the perimeter of the cutout.

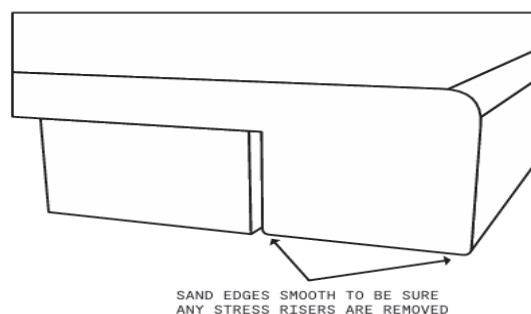
Be sure all corner blocks and edge build-up have been sanded to remove any potential stress risers. This includes the back face of the build-up pieces and the exposed outside corners of the build-up.

Edges

Edges are generally created by attaching strips of material to the countertop deck using solid surface seam adhesive. When using either the vertical or the horizontal style, it is recommended that the seams in the strips be staggered wherever possible. This will create stronger joints in the build-up strips.



Elimination of stress risers is an especially critical factor for built up edges in moving vehicles. Be sure to sand or rout the underside edges of all built up edges and corner blocks.





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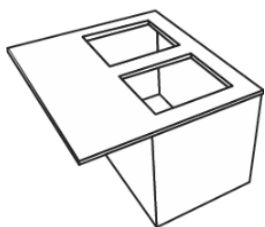
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Support

For unsupported spans between lower cabinets, it's advisable to limit the span to no more than 36" (914 mm). If a longer span is necessary, additional support should be provided, such as installing a support beam or partition between the cabinets. This ensures the countertop remains stable and prevents potential sagging or damage over time.

The table below shows recommended unsupported spans for countertops.

Durasein® Solid Surface	Length of Overhang	Support Recommendation
Standard ½" (12 mm) Countertop	Up to 6" (150 mm)	No additional support
Standard ½" (12 mm) Countertop	6" to 12" (150-300 mm)	1" plywood and/or corbels
Standard ½" (12 mm) Countertop	12" to 18" (300-450 mm)	Plywood with support brackets
Standard ½" (12 mm) Countertop	Over 18" (450 mm)	Plywood with legs or columns
Special Countertops	Varies	Welded steel Framework

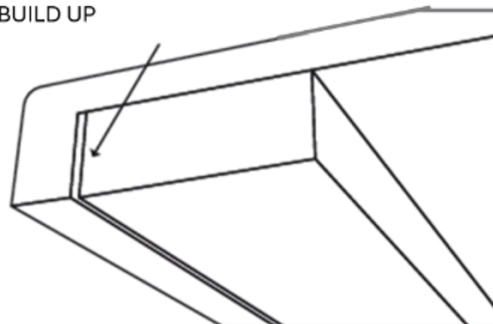


Do not use a full underlayment under any countertops that may be subjected to heat above 150°F (66°C). This includes installed appliances like cooktops, warming drawers and commercial food service equipment. Additionally included are appliances that are set on top of the counter such as electric hotplates, coffee makers, electric woks,

chaffing dishes and similar devices. Even free-standing ranges installed next to a countertop may have adverse effects. In any case where heat may be a factor, be sure to use a frame substrate method or to cut out sufficient portions of any support panel to allow for adequate circulation of air to help release heat from the countertop.

We recommend attaching substrate to the solid surface top first and then fastening it to the cabinets. Use 100% silicone or an approved equivalent adhesive to attach the substrate to the top. To allow for some movement between the substrate and the Durasein® sheet use dabs of adhesive sparingly. This way if you ever need to remove the top, you may do so without destroying it. Set the top on pre-leveled cabinets. Screws or flexible adhesives may be used to attach the substrate to the cabinets. If using screws, be sure they do not penetrate the Durasein® material.

LEAVE A MINIMUM 1/8" (3 mm) SPACE
BETWEEN THE EDGE OF THE
SUBSTRATE AND THE BACK OF THE
BUILD UP





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Flexible Adhesives

Flexible adhesives are used for joining solid surfacing to dissimilar materials because they have different expansion and contraction rates. Generally, they allow for the normal expansion and contraction that occurs in each material due to either changes in moisture or changes in temperature. Here are some tips on flexible adhesives:

The standard in the industry is 100% silicone adhesive/caulk. This material is used for joining dissimilar materials and for caulking finished installations.

When in doubt, use silicone.

Traditional construction adhesives generally cure rigid and are not appropriate for joining solid surfacing with other materials. During the expansion and contraction process these adhesives may fail thus losing their ability to hold dissimilar material together.

Advances in adhesive technology have resulted in a family of adhesives that result in a flexible joint that is compatible with dissimilar materials. Many of these are urethane-based adhesives that remain flexible after joining. Usually in a caulk tube for ease of application, these are quicker curing, but thicker than silicone. Some have fast tack characteristics. Check with the manufacturer's recommendations to be sure the application is appropriate and has a cured flexibility equivalent to 100% silicone.

NEVER USE STANDARD CONSTRUCTION ADHESIVES or other rigid adhesives. These do not allow for expansion or contraction of the top.

Environmental & Safety Considerations

Solid surface countertops are generally durable and perform well across a range of temperatures. However, they can be susceptible to thermal shock if exposed to rapid temperature changes. For instance, moving sheets or a completed countertop from a high-temperature environment to a low-temperature one abruptly can lead to cracking. Here are some other points to consider:

1. Use local ventilation and dust collection to minimize dust when cutting & sanding.
2. Use hearing protection when sawing, routing and sanding.
3. Wear safety shoes, gloves and safety glasses with side shields or goggles.
4. Provide adequate ventilation when using all adhesives and denatured alcohol.
5. Carry sheets vertically, one at a time using appropriate supports, especially for countertops with cutouts.
6. Shop-made or purchased support devices can aid in supporting fabricated tops during transportation.
7. Dispose of waste materials according to environmental regulations.



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