

Minimum Requirements for Successful Installation for Polarstone® Surfaces

This technical bulletin addresses standards that must be adhered to when handling, fabricating and installing Polarstone® surfaces. By purchasing this material, you agree that you will follow industry procedures for safe handling, fabrication, installation and servicing of customers. Polarstone US offers a Limited Warranty, which can be found on the Polarstone US website.

Definitions and Terms

- **Manufacturer** is Polarstone US, and a **Fabricator** is the company that buys slabs and fabricates them into finished products, ready for installation. The **Installer** takes fabricated products and installs them into the final placement. Each party has responsibilities for ensuring quality installations.
- The dimensions of 2 cm and 3 cm are referred to as nominal $\frac{3}{4}$ inch and $1\frac{1}{8}$ inch respectively.

Fabricator Requirements

- Slabs are inspected at the factory to ensure the highest quality.
- Inspect slabs upon receipt. Polarstone® ingredients are natural raw materials from the Earth. Slight color variations and particulate distribution, shape, size or concentrations may occur just as in natural stone products.
- Proper storage of slabs is required to maintain slab quality. When Polarstone® surfacing is stored outside, it needs to be covered from direct sunlight, as is the case with all man-made engineered stone or quartz surfacing. Exposure to direct sunlight (UV rays) can cause discoloration of the exposed areas.
- Prior to cutting a slab, the fabricator should:
 - Inspect the front and back of a slab for defects.
 - Ensure color match for slabs to be installed adjacent to each other, whether seamed or un-seamed.
 - Veined products must be aligned for both vertical and horizontal book match installations. NOTE: The book match will NOT be perfect like wall paper. There will be some variation between major vein pattern.
- Once a Fabricator has cut a slab, they have deemed it to be acceptable.
- Fabricator is responsible for color matching slabs as well as laying out the orientation to match pattern flow.
- Fabricator is responsible for following industry accepted guidelines for safe handling, fabricating and installing products.

Corner Radius Requirements

- When the corner is cut from a solid piece, all inside corners are required to have a minimum radius of $\frac{1}{4}$ inch to reduce corner stresses.
- No radius is required for L or U-shaped countertop corners that utilize full 45-degree seams.
- Fabricator should break or round over the top and bottom edges of countertops to minimize stress risers and to minimize potential for injuries.
- Radius all outside corners to a minimum $\frac{1}{8}$ inch for safety purposes.

Cutout Requirements

- All cooktop cutouts are required to have corners with a minimum radius of $\frac{1}{4}$ inch to reduce corner stresses. The finished corner should be smooth.
- Leave a minimum space of $\frac{1}{8}$ between the side walls of the countertop and all appliances or sinks to allow for expansion. This is especially true in the corners.
- Cutouts must be supported on all sides within 3 inches of the edge of the cutout.
- Heavier sinks or appliances may require brackets, cradles or structural support attached to the walls or floor. The Fabricator is responsible for minimizing the load on the countertop.

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Overview of Minimum Installation Requirements

- Polarstone® surfacing is only recommended for interior installations.
- Perimeter support is recommended versus full underlayment, especially near heat generating appliances. If an installation requires full underlayment for structural support, see "Support Materials" below for recommendations.
- Polarstone® surfacing is a heavy material and requires a structurally sound base for installation. It is up to the Fabricator to determine the suitability of support for the installation.
- The installation area must be true and flat within 1/8 inch of a flat surface over a 120-inch length.
- Leave a minimum 1/8 inch gap between Polarstone® surfacing and walls for expansion.
- Secure the countertop to the support structure with a flexible 100% silicone adhesive. DO NOT USE RIGID OR NON-FLEXIBLE ADHESIVE! The silicone adhesive will allow the top to expand or contract with temperature changes in the room.
- Do not use metal fasteners (screws, nails, etc.) with Polarstone® surfaces. Brass inserts or equivalent may be used.

Support Requirements:

Support structures with **4-sided support** require no additional support if the following conditions are met. If the dimensions are exceeded, support is required every 36 inches.

- Countertop depth < 26 inches.
- Countertop length <118 inches.

Support structures with support on **3 sides** (dishwashers, desks, frameless cabinets, etc.) require additional support.

- 2 Cm with countertop depth <26 inches requires support every 24 inches.
- 3 CM with countertop depth <26 inches requires support every 36 inches.
- 2 CM and 3 CM with countertop depths >26 inches require support every 24 inches.

Support Requirements for Spans and Cantilevers

- The overhang cannot exceed 1/3 of total countertop depth and must be a minimum 24 inches in length.
- 2 cm material requires support every 24 inches, and 3 cm requires support every 36 inches.
- Install support strips where necessary to meet span requirements.
- Outer perimeter support (4-sided box) is acceptable when depth is 26 inches or less.
- Overhangs require at least 2/3 of width to be supported, no more than 1/3 is the overhang.
- No cutouts or holes are allowed in the overhangs.

Material Thickness	Minimum allowable before additional support required	Additional support requirements in addition to a 3/4 inch plywood or metal frame
2 cm	<12 inches	12-18 inches - Corbels >18 inches - Columns or Legs
3 cm	<15 inches	15-24 inches -Corbels >24 inches - Columns or Legs

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Support Materials

- The following materials are examples of acceptable substrate materials; MDF board, Plywood and Wood.
- Structural steel is acceptable.
- Particle Board, Flake Board, OSB or other non-moisture resistant products are NOT acceptable as a support material.

Seam Requirements

- Field seams must be supported on both sides of the seam.
- Utilize 2-part polyester epoxy or acrylic adhesive for laminating all edges; color match as required.
- Seam adhesive must completely coat the surfaces to be seamed.
- Recommended seam width is $< \frac{1}{16}$ inch.
- Seams through an overhang must be supported.
- Seam support paralleling the seam is strongly recommended.
- Seams are not warranted by Polarstone US.

Edge Detail Production Methods:

Any edge detail that can be done on natural stone is acceptable with Polarstone® surfacing. Typical configurations utilize one of three methods:

1. Non-laminated edges are the simplest, strongest and most economical to produce. They are limited to the thickness of the material.
2. Laminated edges are utilized for producing edges thicker than the material. The thicker edge will give the appearance of more mass, but the quality of the fabrication and the color match of the buildup material will affect the final look and quality of the edge.
3. Mitered edges are utilized for producing larger edges. It is not recommended to produce mitered edges over 4 inches unless special support is provided behind the edge to prevent breakage.

If you have further questions about Polarstone US, you can contact us at (888) 565-4443 or visit the Polarstone® website at www.polarstoneus.com