

**INTRODUCTION**

This bulletin is offered to facilitate installation of Avonite Surfaces® solid surface vertical wall panel cladding. Our wide sheet Foundations acrylic products offer seamless panels up to 60” wide and provide a durable choice for wall protection in numerous applications where environmental surfaces are a concern. These large panels significantly reduce the amount of seams and labor time for installations.

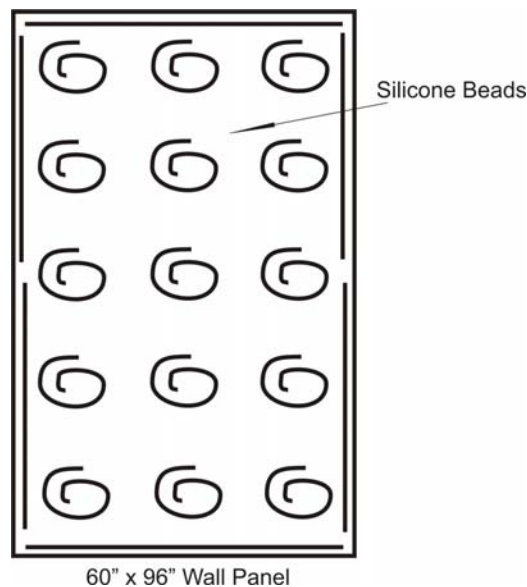
Additional introductory comments most applicable to the fabricator/installer include:

- Avonite Surafces® Wall Panels can be mounted with either horizontal or vertical seams in vertical cladding applications. Panels can be seamed together using butt or tongue and groove edge seams. Reference Section F for more information on tongue and groove joints.
- To ease alignment between sheets it is preferable to only have vertical or horizontal seams, not both. Therefore, for long, full height walls vertical seams are preferable. Develop an overall installation plan based on the application. Care must be taken to mount panels with plumb and level vertical and horizontal edges, respectively, especially for the initial sheet mounted on a wall. Both vertical edges of corner panels should be plumb. It is easier to align a larger panel than a narrow vertical or horizontal strip. To ease alignment for hard seamed panels it is suggested that narrow strip pieces, e.g., corner pieces or baseboards, be seamed to larger pieces prior to installation on the wall.
- Reference Section G for requirements for cutouts.

**A. ADHESIVES**

A 100% silicone sealant is suggested for bonding panels to walls. An adhesive thickness greater than or equal to 1/16-inch is suggested to apply the panel to the wall. The use of an elastic silicone and the final thickness of the silicone bond are important to create an elastic connection between the panel and the wall substrate to allow for differential expansion and contraction. A silicone bead between 1/4-inch and 3/8-inch diameter will yield bond line widths between 3/4-inch and 1 3/4-inches when compressed to 1/16-inch thickness. Make a perimeter bead of silicone about 1-inch in from edges of the panel with some interruptions to allow curing. Use sufficient beads of silicone about every 12 to 18 inches. (Reference Figure 1).

Figure 1



**B. Hard Seam Wall Length Limitations**

Long expanses of inconspicuous hard seamed cladding can be fabricated using Avonite® solid surface sheets and Avonite Ultra-Bond G adhesive. Maximum suggested wall lengths versus the expected temperature change appear in Table 1. If desired wall dimensions exceed those suggested, an expansion joint is required.

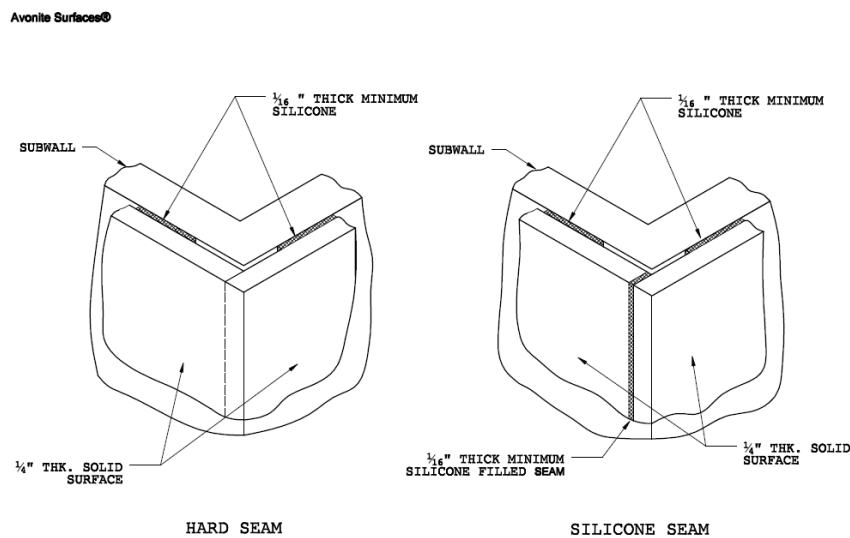
**Table 1**  
**Hard Seam Wall Length Limits as Function of Expected Temperature Change**

°F	Length Limit (ft)	°C	Length Limit (m)
± 10	72	± 6	20
± 15	48	± 9	14
± 20	36	± 12	10
± 25	29	± 15	8
± 30	24	± 18	7
± 35	21	± 21	6
± 40	18	± 24	5

The temperature range used for design should be based on the expected deviation from the installation temperature and should include consideration for the construction phase as well as occupation. Plan the installation to minimize ambient temperature changes on site. If possible, the building should be heated prior to installation. Acclimate the materials and building to the design temperature for at least 48 hours with air circulation around the materials.

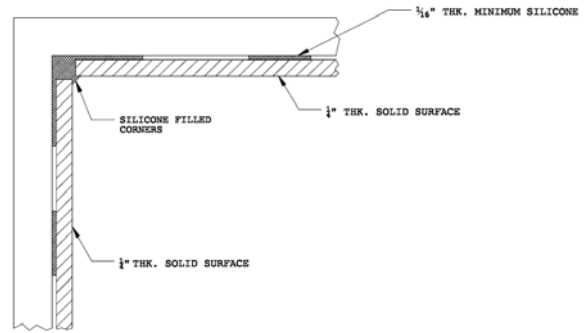
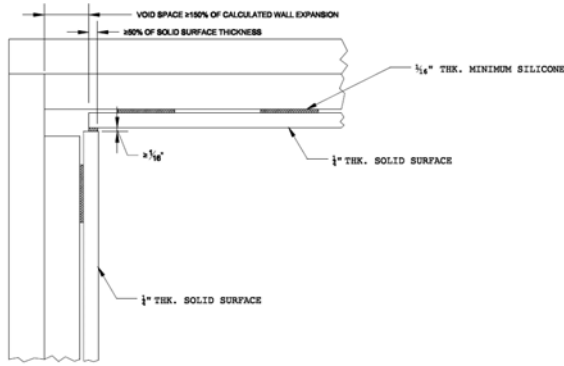
**C. Outside Corners**

Outside corners may be either hard seamed or silicone seamed as shown below. For extreme corner protection we recommend stainless steel corners for the full height.

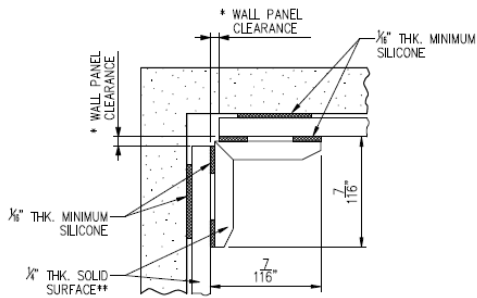


### D. Inside Corners

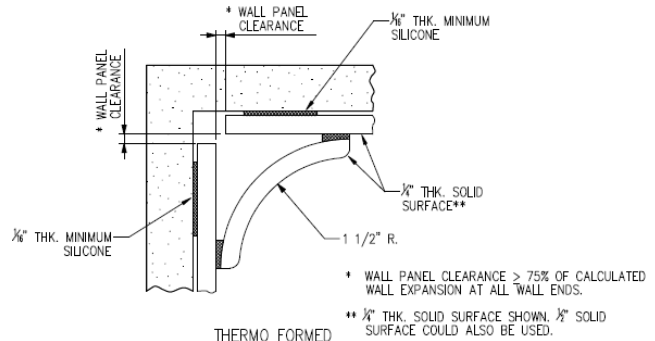
Any inside corners at the end of walls should be designed to allow for expansion. This allowance must consider both end walls and provide space for the panels to move. Hard seaming inside corners should not be attempted on continuous seamless walls over 20 feet. It is recommended that soft seams are used for adequate expansion. Below are different options for soft seaming inside corners.



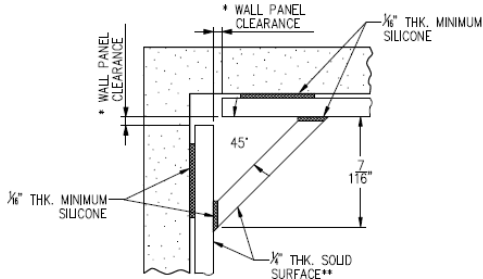
Avonite Surfaces®



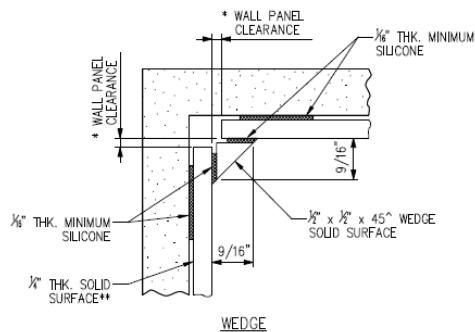
V - GROOVE



THERMO FORMED



BAFFLE



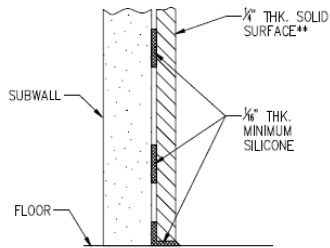
WEDGE



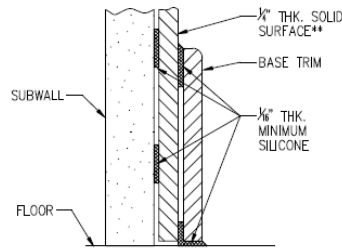
### E. Floor and Ceiling Details

The figures below demonstrate recommended finishing options where the wall panels meet the floor and ceiling.

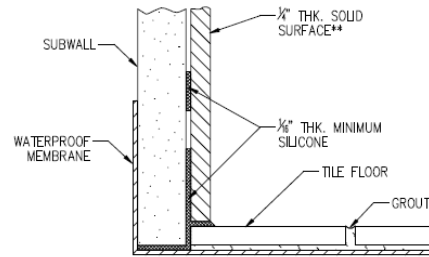
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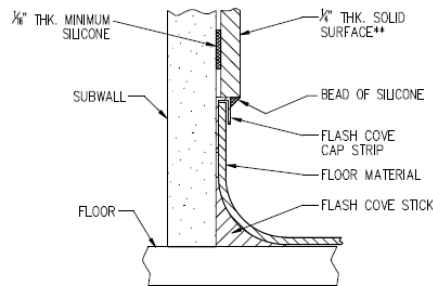
WALL BASE DETAIL



WALL BASE DETAIL WITH TRIM



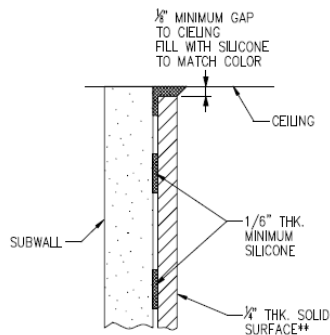
WALL BASE DETAIL TILE FLOOR



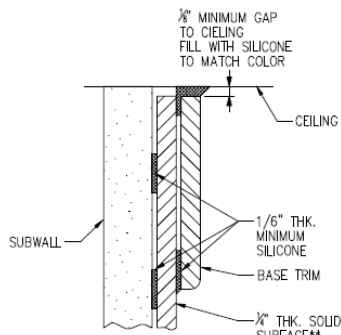
WALL BASE FLASH COVE DETAIL

\*\* 1/2" THK. SOLID SURFACE SHOWN. 3/8" SOLID SURFACE COULD ALSO BE USED.

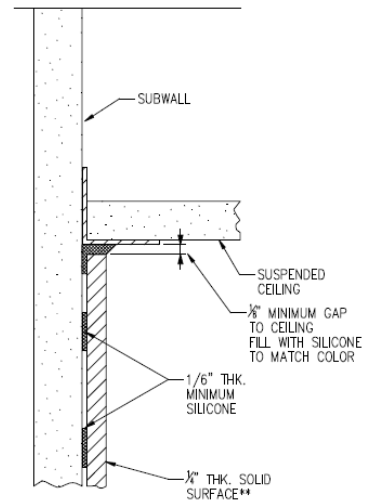
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WALL HEAD DETAIL



WALL HEAD DETAIL WITH TRIM



WALL HEAD DETAIL SUSPENDED CEILING

\*\* 1/2" THK. SOLID SURFACE SHOWN. 3/8" SOLID SURFACE COULD ALSO BE USED.



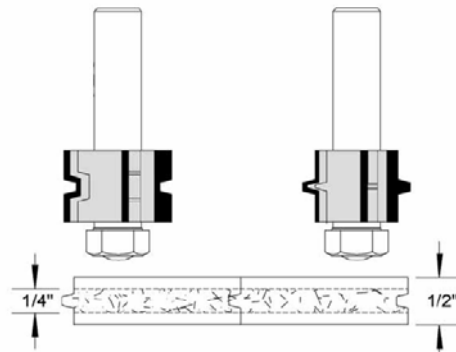
**F. VERTICAL SEAMING**

Sheets can be seamed together using Ultra-Bond G Adhesive for hard seams or color matched silicone for soft seams and expansion joints. Sheets can be seamed together using either butt joints or tongue and groove joints. The choice between a butt or tongue and groove seam should be based on ease of installation and fabrication cost. The potential advantage of a tongue and groove joint relative to a butt joint is easier sheet alignment. This can translate into labor savings by reducing the time it takes to finish sand the seam. Depending on the installer’s capability to align butt joints using clamps or other methods, the added cost of cutting the tongue and groove detail may not be justified. Featured below is one of several tongue and groove router bits developed for 1/4” and 1/2” solid surface.

Tongue & Groove set for joining  
1/4” or 1/2” thick solid surface material.

Part # 60-250

F. M. Velepec Co.  
800-365-6636



**G. Cutouts**

Cutouts for vertical wall applications should be made oversized by 1/8” to allow for expansion and contraction. Radius all inside corners with a 3/16” radii and sand all edges smooth.

**DISCLAIMER**

Aristech Acrylics LLC is the manufacturer of sheets of material and is not in the business of designing, fabricating or performing installations; nor do we employ architects skilled in the art of design. Accordingly, we do not claim to have any expertise in this area. As a result, we do not approve or disapprove any designs or drawing submittals or assume any liability for the design you selected. Any and all liability for a design rests with the architect, or the designer, or the owner, or the user, based on whatever contractual arrangements have been made.

