

Product Sheet: Insulated Glass Unit (IGU)

This product sheet explains the requirements and rules for designing a SageGlass® insulated glass unit (IGU) and placing the pigtail. Consult SageGlass for any special requests. When designing an IGU, first take note of the information provided in this guide. Then determine what the appropriate information is for your design:

- IGU Design
- Tolerance Allowed
- Basic Dimension Needs
- Rules and Constraints

IGU Rules

- Any angle must be $\geq 30^\circ$ and $\leq 150^\circ$
- If the installed width is greater than 2286 mm (90"), the roller wave will be vertical as installed
- Edge finish will be standard seamed

Rectangle Rules:

- Maximum Length: 3095 mm (121.8"); other dimension must be:
 - ≤ 1828 mm (72") for Double Glazed Units
 - ≤ 1795 mm (70.7") for Triple Glazed Units
- Minimum Dimension: 350 mm (13.8")

Product Specific Rules:

SageGlass Harmony®

- Rectangles only
- Minimum height: 1600 mm (63")
- Available in portrait orientation ($H \geq L$)
- Recommended aspect ratio of 3:2 or greater

Non-Rectangle Shapes Rules:

- Shape must be larger than a bounding box of 350 mm (13.8") x 350 mm (13.8")
- Shape must be smaller than a bounding box of 2970 mm (116.9") x 1498 mm (59")
- Minimum length of any side: ≥ 120 mm (4.72")
- Bounding box of all shapes defined by L x H

Tolerances

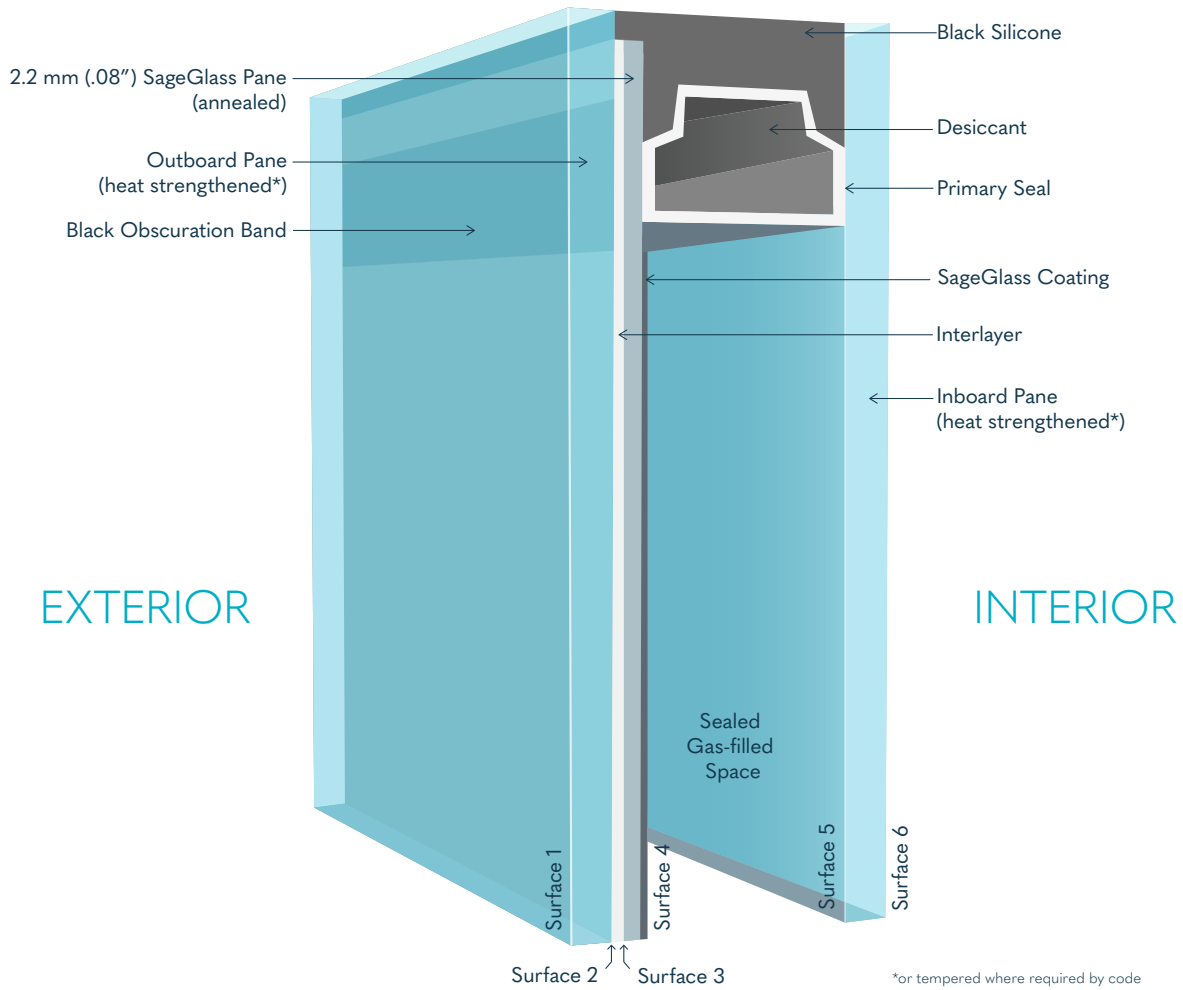
The standard IGU length and width tolerance is ± 2 mm (0.08"). The tolerance increases to ± 3 mm (0.12") if a side is ≥ 1981 mm (78"), if a lite or laminate thickness is ≥ 8 mm (0.31"), or if it is a triple IGU.

The thickness tolerance is ± 1 mm (0.04") for double IGU and ± 2 mm (0.08") for triple IGU.

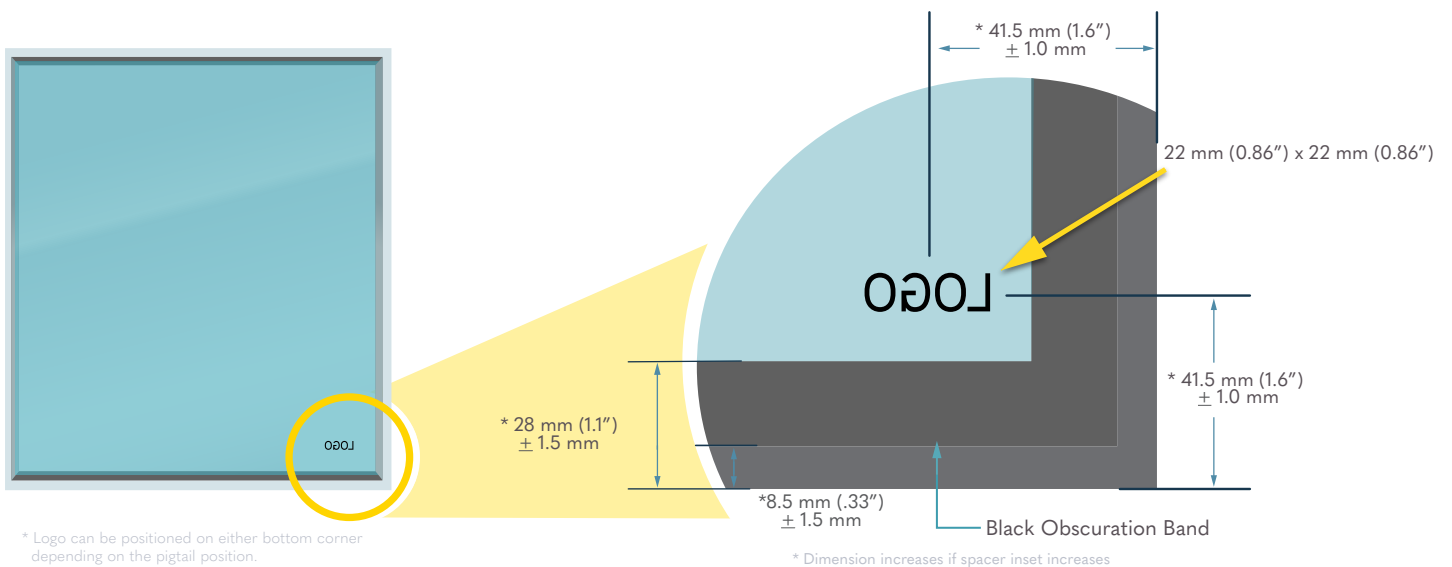
Shapes

SageGlass IGUs are available in a wide variety of shapes to enhance your building designs. Determine which category your desired shape falls into by matching it to one of the diagrams in the tables below. Provide SageGlass with the requested dimensions. The measurements needed for each shape are indicated (e.g., L, L1, H, or H1). Reference the *Shapes: Dimensions & Pigtail Placement Section*.

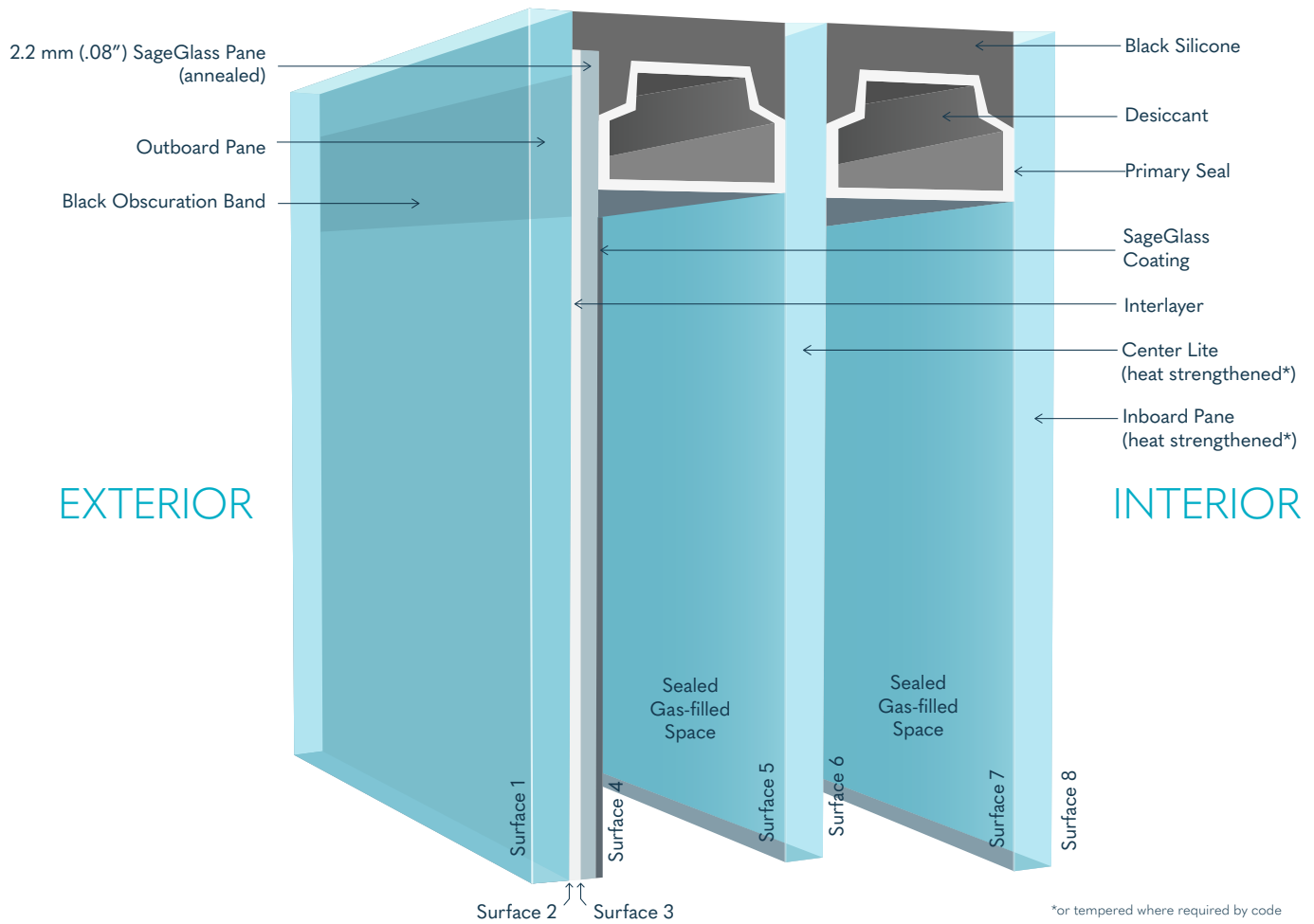
IGU Cross-Section: Double Pane



IGU Exterior: Double & Triple Pane



IGU Cross-Section: Triple Pane

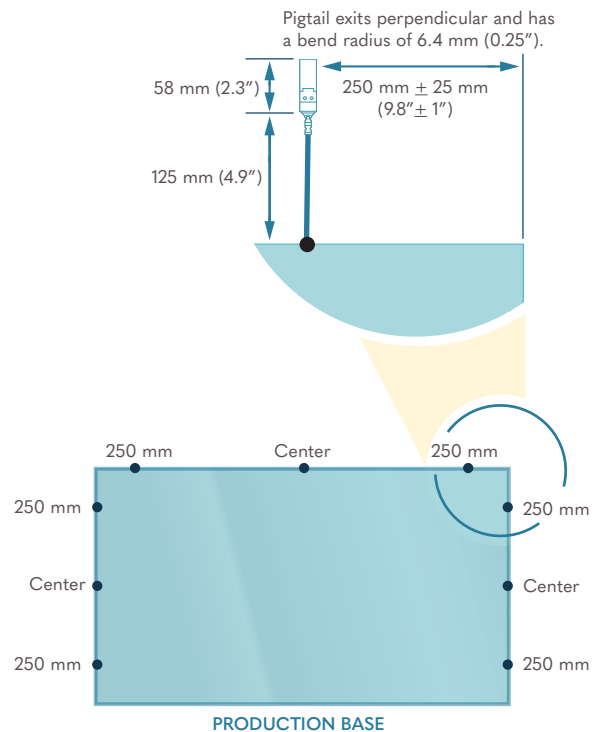


Pigtails

The available pigtail locations depend on the IGU shape and size. See the diagrams to the right for possible pigtail locations for each IGU shape.

Rules & Constraints:

- Pigtail cannot be on installed base.
- Pigtail cannot be on production base.
- If IGU side with pigtail is between 250 mm (9.8") and 500 mm (19.7"), then the pigtail must be centered on that side.
- Length of side with pigtail must be at least 250 mm (9.8")
- If the IGU is filled with krypton, the pigtail cannot be on a side that is < 400 mm
- Pigtail not allowed on step side

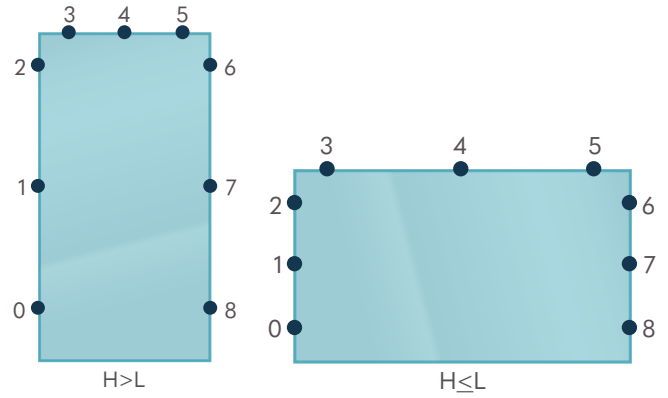
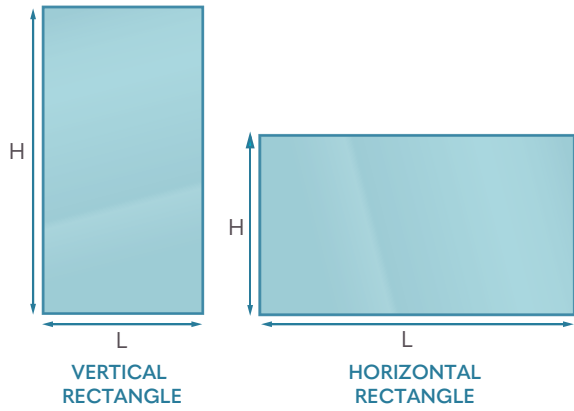


Shapes: Dimensions & Pigtail Placement

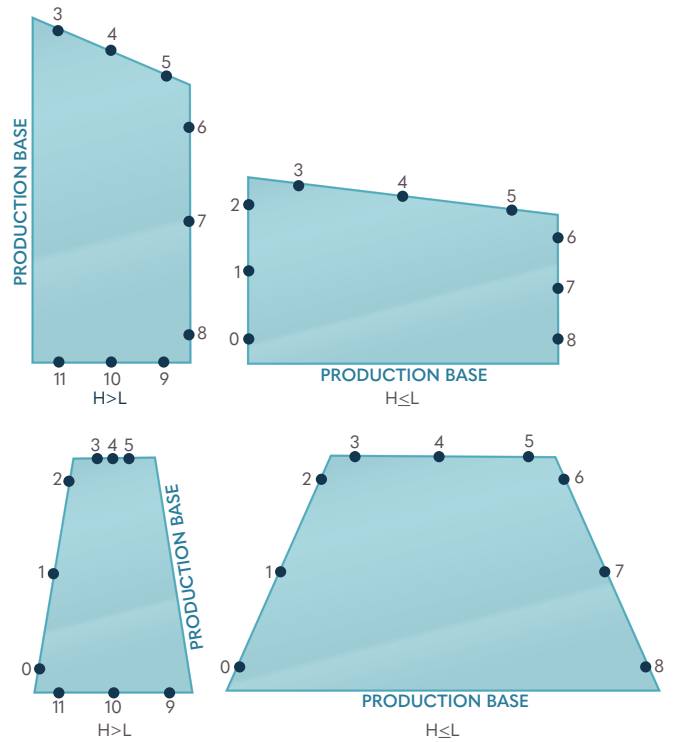
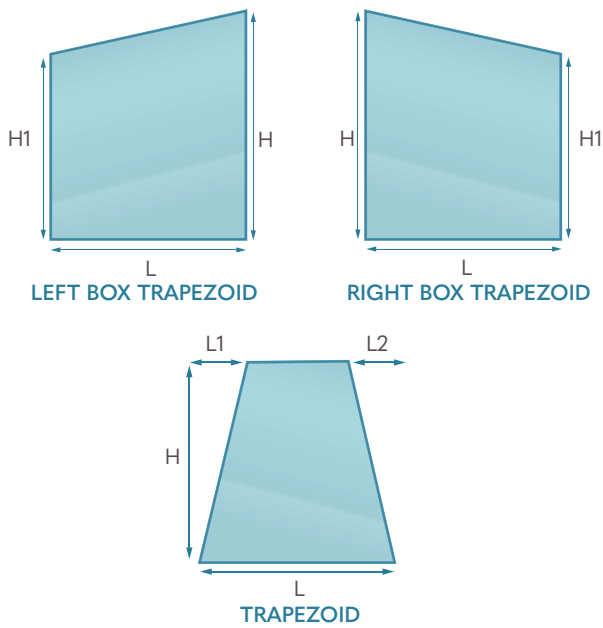
Note: Views from exterior.

- Allowed Pigtail Locations.

Rectangle Pigtail Locations

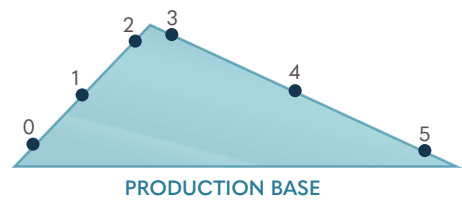
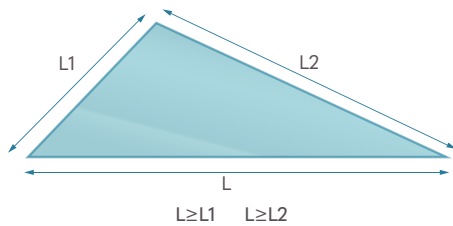


Trapezoid Pigtail Locations

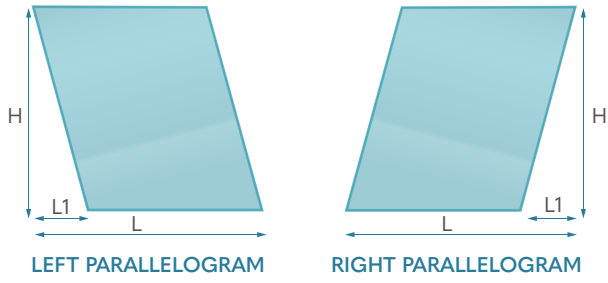


NOTE: If $H > 1524$ mm (60") a general quadrilateral shall be used

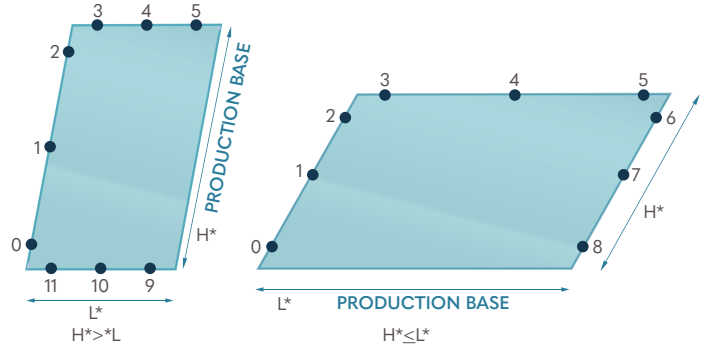
Triangle Pigtail Locations



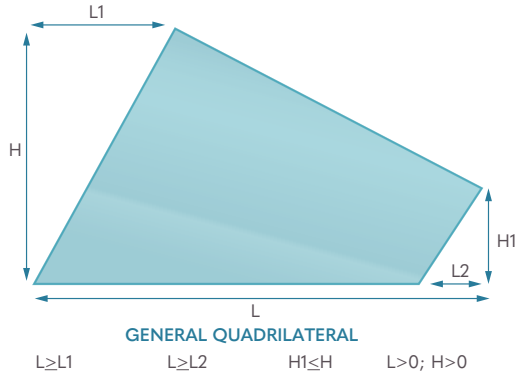
Parallelograms



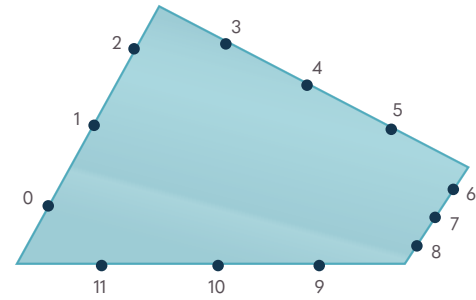
Pigtail Locations



Quadrilateral

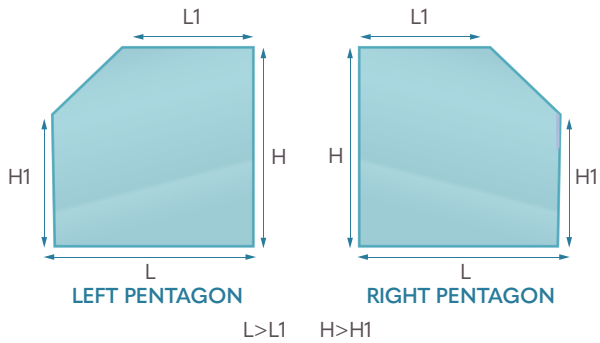


Pigtail Locations



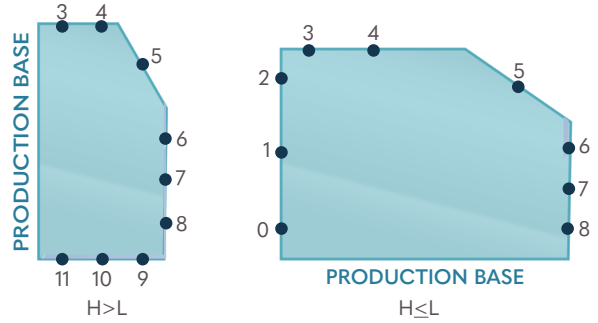
NOTE: Production base is the longest side.
Pigtail cannot be on the production base.

Pentagon



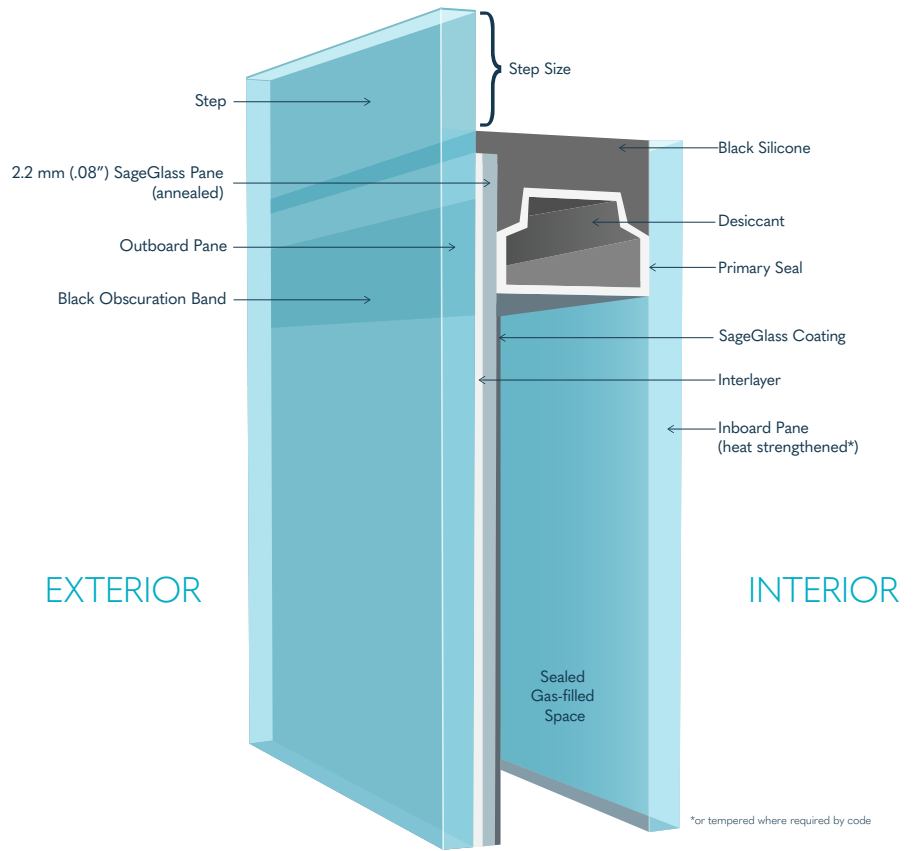
NOTE: Must include three 90° corners

Pigtail Locations



Steps

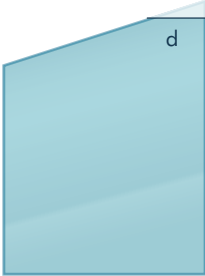
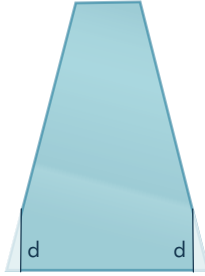
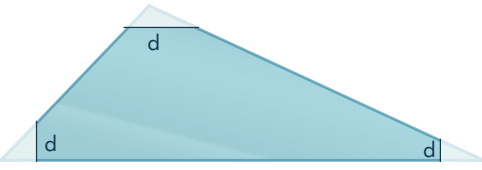
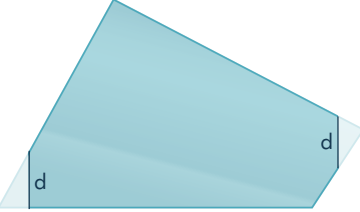
- Steps only allowed on rectangles
- Steps only allowed on outboard pane
- The maximum dimensions for IGU's with steps are 1795 mm (70.6") x 3095 mm (121.8"), including the step
- Step size must be ≥ 14 mm (0.55") and ≤ 140 mm (5.51")
- Up to one long side of the rectangle may have a step
- Up to two sides total of the rectangle may have a step



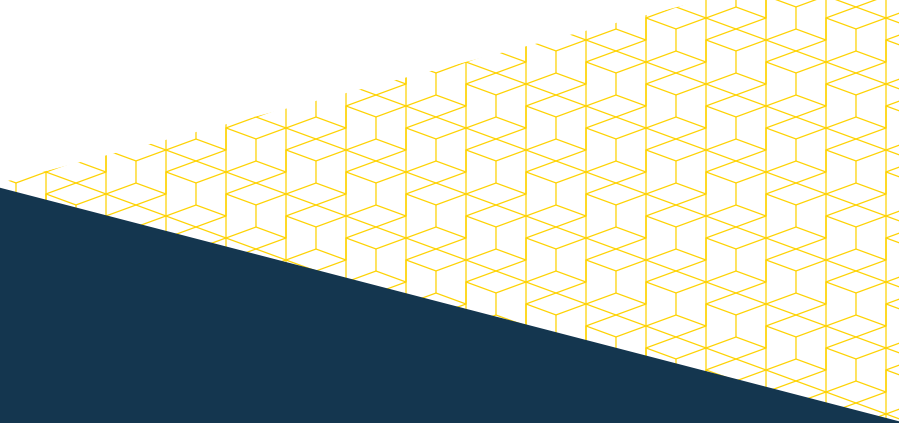
Clipped Corners

Certain corners cannot be manufactured, and the points need to be "clipped" and replaced with a straight side. The guidelines for clipped corners are shown below.

NOTE: Dimensions to pre-clipped corners must be provided.

Shape	Rules & Constraints
 <p data-bbox="284 1570 454 1596">BOX TRAPEZOID</p>	<ul style="list-style-type: none"> • Angles 30 to $\leq 35^\circ$ will be clipped to a length (d) of 19.1 mm (0.75") • Angles > 35 to $< 65^\circ$ will be clipped to a length (d) of 9.5 mm (0.37")
 <p data-bbox="673 1570 779 1596">TRAPEZOID</p>	
 <p data-bbox="259 1837 365 1862">TRIANGLE</p>	
 <p data-bbox="706 1837 885 1862">QUADRILATERAL H=H1 only</p>	





Learn more at [SageGlass.com](https://www.SageGlass.com)

2 Sage Way • Faribault, MN 55021 • USA • +1 877.724.3321

© SAGE Electrochromics, Inc. All rights reserved. SageGlass is a registered trademark of SAGE Electrochromics, Inc. SCS-046.11

