Profile Panels™

Material Specification

Product Description and Specification

Profile is a collection of sophisticated panels which bring impact to spaces with dramatic pattern, texture and color. This stunning three dimensional product is created with CNC machining with proprietary tooling and advanced thermoforming capabilities.

Features and Benefits

- Large variety of standard patterns available
- Rich finishes or finish on site with primer and paint
- Custom patterns and finishes available
- Cost-effective decorative feature
- Easy to specify and install
- Standard Class B rating (Class A fire-rated available)

Available Materials

MDF
Fire-Rated MDF
Wood - Baltic Birch
Wood - Poplar

Wood options are both plywood made from real wood veneers

Finish Options

MDF: Standard Finish - 3form standard finish wrapping material is made from Polyvinyl Chloride (PVC). Pattern direction on Wood Grain vinyl wraps are parallel to the 96" side of a full sheet.

MDF: Felt - Made from 100% Merino Wool Felt. 30 Colors.

MDF: Ready-To-Paint - 3form sands and primes the panels, which are then ready to paint in the field.

MDF: Unfinished - Panels are delivered as carved MDF to finish (prime and paint) in the field. 3form recommends using water-based paints.

Wood: Standard Finish - sanded and finished with clear matte lacquer.

Available Patterns (see page 3)

Agile	Chasm	Metric	Pleat	Tread
Band	Chisel	Metro	Prism	Trig
Braid	Crest	Mingle	Ray A	Veer
Bub	Dash	Motion	Ray B	Zing
Burst	Luxe	Nod	Stria	
Carve	Meridian	Pinstripe	Switch	

Pattern Direction

All patterns by default run parallel to the 48" direction. However, panels can be ordered parallel to the 96" direction by request. While the cut pattern's direction can be changed, the direction of the finish (wood grain for example) ***can not*** change. Finishes always run parallel to the 96" direction.

Color Consistency

Unwrapped Profile panels will ***not*** have color consistency from panel to panel as they are made using recycled/recovered forest products. Color consistency is not an issue when specifying a film wrapped Profile panel.

Variations in material dye lots will result in slight color differences between samples provided and finished product.

Panel Weight

Material	Weight
Weight Flux - MDF	~ 1.45 lb/ft²
Weight Flux - Baltic Birch	~ 1.31 lb/ft²
Weight Flux - Poplar	~ 0.97 lb/ft²

Panel Sizes and Tolerances

Profile panels are offered in 4'×8' (1.2m×2.4m) All dimensions and squareness are subject to a 3⁄16" (4.7mm) tolerance. Profile panels can be up to ¾" thick. Thickness varies due to texture. Due to the material thickness a Felt wrap can add up to ⅛" to the specified panel dimension.

Custom sizes are also available.

Pattern Name				Max Depth	Pattern Repeat
Agile Band Braid Bub Burst Carve	Chasm Chisel Crest Dash Luxe Meridian	Metro Mingle Motion Nod Pinstripe Pleat	Prism Stria Switch Tread Trig Veer	1/2" (12 mm)	All four sides
Metric 48"*				1/2" (12 mm)	Horizontal Only*
Ray A/B				1/2" (12 mm)	None
Zing 48"*				1/2" (12 mm)	Horizontal Only*

Panels can be edge matched top and bottom if they are cut down to match. Standard 4'×8' panels will not match on the 4' edges.

Flatness Tolerance

Natural bow or warp is common to all wood products; compensate with proper installation techniques.

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Product Description and Specification

Expansion/Contraction Allowances

Like all wood products, Profile will expand and contract nominally with fluctuations in moisture content. Wood products have a possible linear expansion of ± 0.33%. A 4'×8' panel can expand and contract ⅜". Panels will swell (grow) in high humidity and shrink in low humidity applications. 3form recommends the panels be installed in a controlled environment where the relative humidity is maintained at 25-55%. Humidity below 20% or above 80% can cause problems.

Flammability and Smoke Test Results

- Building Code Approvals

Profile panels have been independently tested and meet the criteria for approved interior finishes and light transmitting resin materials as described in the 2018 International Building Code®.

Material	ASTM E84	Data	Result
Fire Rated MDF (All)	Flame Spread Smoke Generated	15 225	Class A: 0-25 <450
Standard MDF - Standard Finish	Flame Spread Smoke Generated	40 400	Class B: 26-75 <450
Standard MDF - Felt	Flame Spread Smoke Generated	40 105	Class B: 26-75 <450
Wood - Baltic Birch	Flame Spread Smoke Generated	70 165	Class B: 26-75 <450
Wood - Poplar	Flame Spread Smoke Generated	40 135	Class B: 26-75 <450
Ready-to-Paint and Unfinished	Not Tested		

***ReadyTo Paint finish:** 3form recommends a water-based paint (ie latex), though some solvent-based paint (ie. lacquer) could also work with this process.*

***Paint Ready Laminate finish:** Use an acrylic-based lacquer paint, after cleaning the panels. Pre-test paint for adhesion as needed.*

In-Field Painting Process

Sand and prime the panel until it is ready to be painted. This may take more than one round of prime/paint.
For ReadyToPaint, 3form Fabrication uses the following steps (which can easily be replicated in the field):

1. Sand MDF using Norton Contour Sponge medium grit (part #2257 NCSSM)
2. Remove dust using an air blower
3. Apply Valspar White Vinyl (part #VUW2000) to 4ml using an airless sprayer
4. Dry for 25 minutes
5. Sand the applied white vinyl using Norton Contour Sponge fine grit (part #2256 NCSSF)
6. Remove dust using air blower and tac rag
7. Apply Valspar White Vinyl (part #VUW2000) to 4ml using an airless sprayer
8. Dry for 25 minutes
9. The product is now ready to be painted in the field (this service is not provided by 3form)

Cleaning Instructions (Felt Only)

Wool can be cleaned by vacuuming or gently brushing by hand. Please note slight shedding of fibers is normal and not indicative of any defect. These loosened fibers are easily vacuumed away and will decrease over time. If a wet spill should occur, blot to absorb the liquid quickly and avoid absorption. Soiled areas may be cleaned with warm water or a mild dry cleaning solvent. Avoid aggressive rubbing as this can continue the felting process and change the surface appearance of that area.

Cleaning Instructions

Profile should be cleaned periodically. A regular, seasonal cleaning program will dramatically help prevent noticeable weathering and dirt build-up. 3form recommends the use of the following common cleaning products: Windex, Formula 409, Simple Green, Fantastik, Virex, 10:1 Water/Bleach Solution. Remove dust and dirt from Profile with a soft cloth or sponge and a solution of mild soap and/or liquid detergent in water. A 50:50 solution of isopropyl alcohol and water also works well. Always use a soft, damp cloth to blot dry. Rubbing with a dry cloth scratches the material and creates static charge. Never use scrapers or squeegees on Profile. Also avoid scouring compounds, gasoline, benzene, acetone, carbon tetrachloride, certain deicing fluids, lacquer thinner or other strong solvents.

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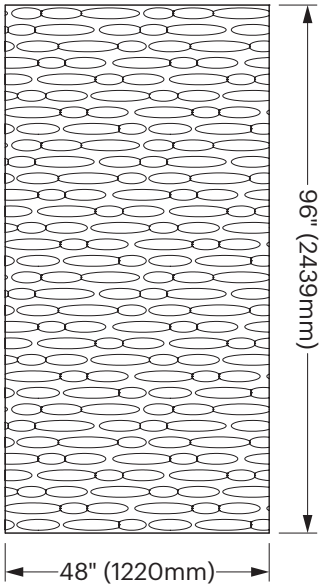
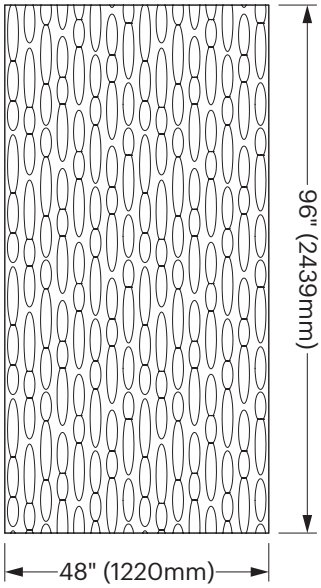
Pattern Overview

Agile

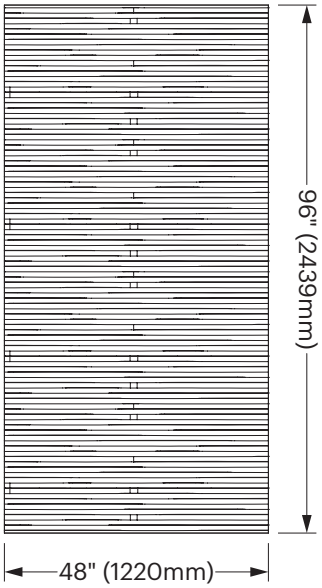


Pattern Parallel to 48" Direction



Pattern Parallel to 96" Direction

Band



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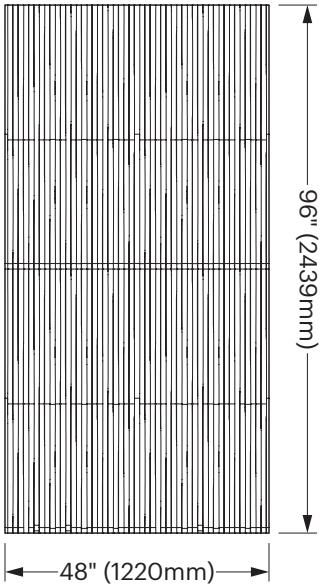
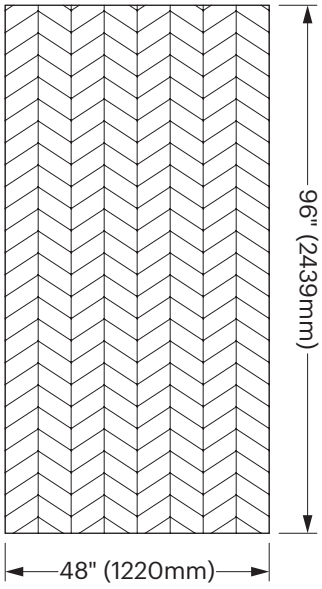


Pattern Parallel to 96" Direction

Braid



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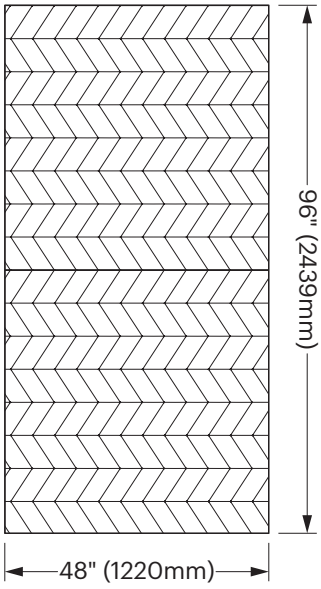
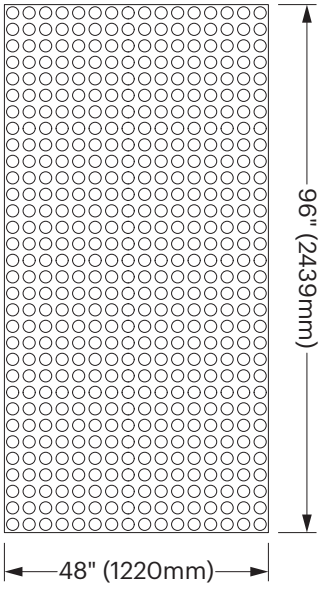


Pattern Parallel to 96" Direction

Bub



Omni-directional

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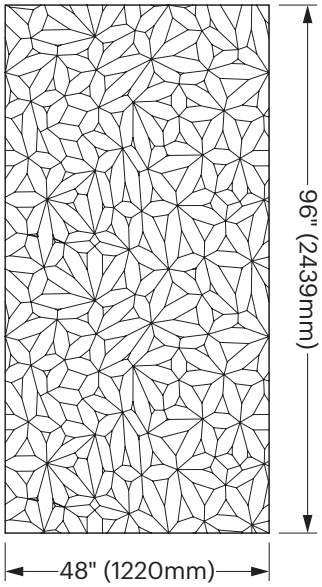
Pattern Overview

Burst



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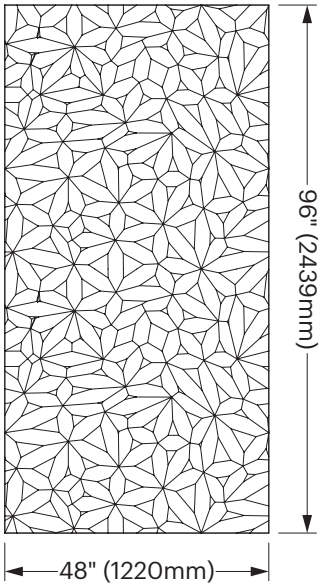
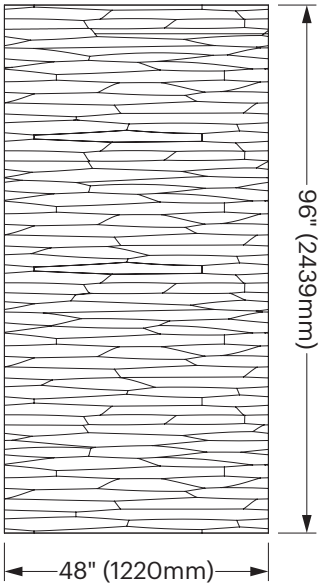


Pattern Parallel to 96" Direction

Carve



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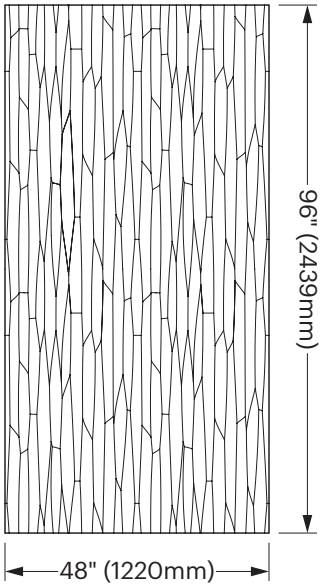
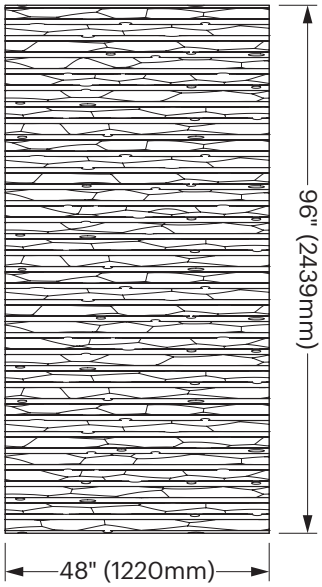


Pattern Parallel to 96" Direction

Chasm



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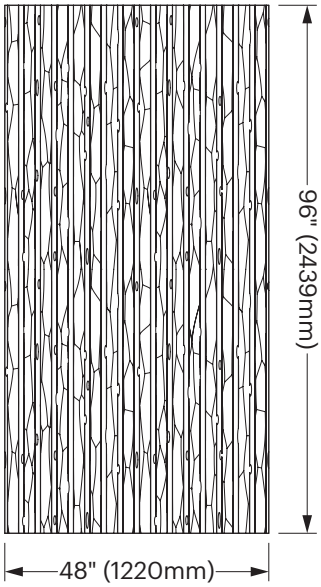

Pattern Parallel to 96" Direction

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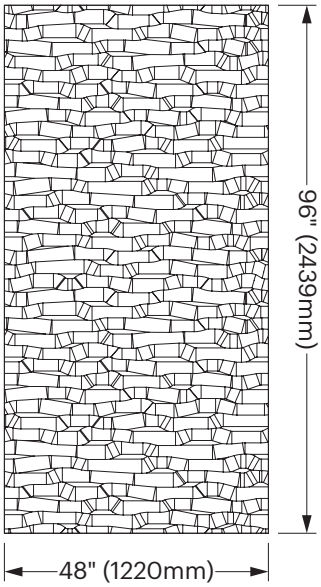

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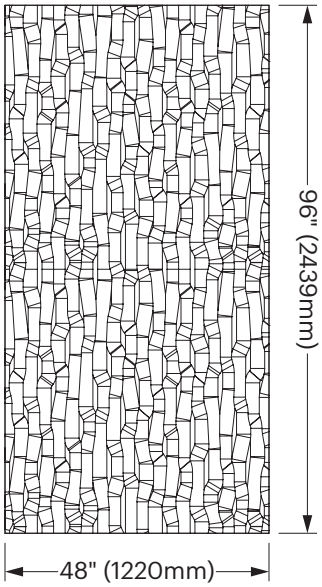

Pattern Parallel to 96" Direction

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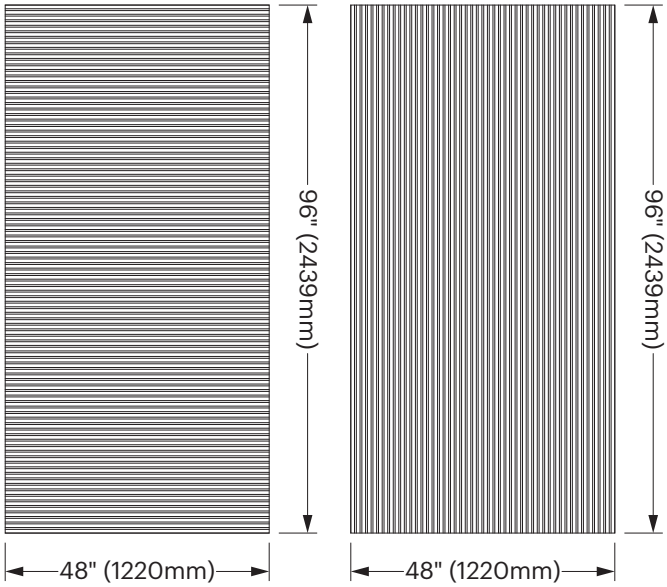
Pattern Overview

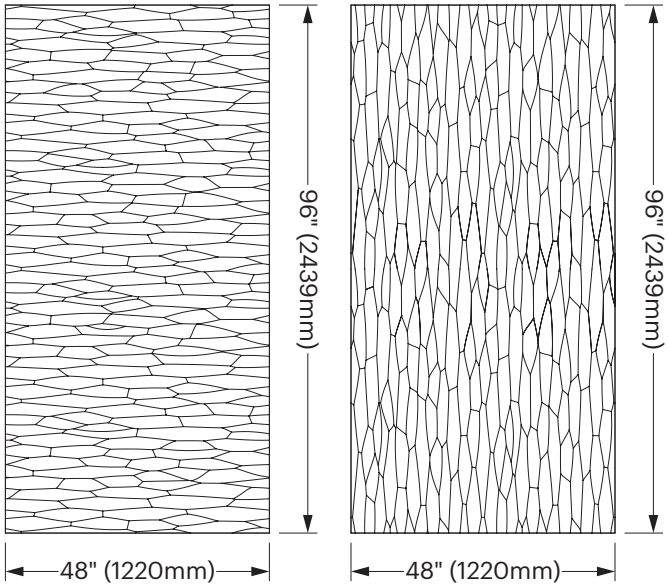
Cord



Pattern Parallel to 48" Direction

Pattern Parallel to 96" Direction

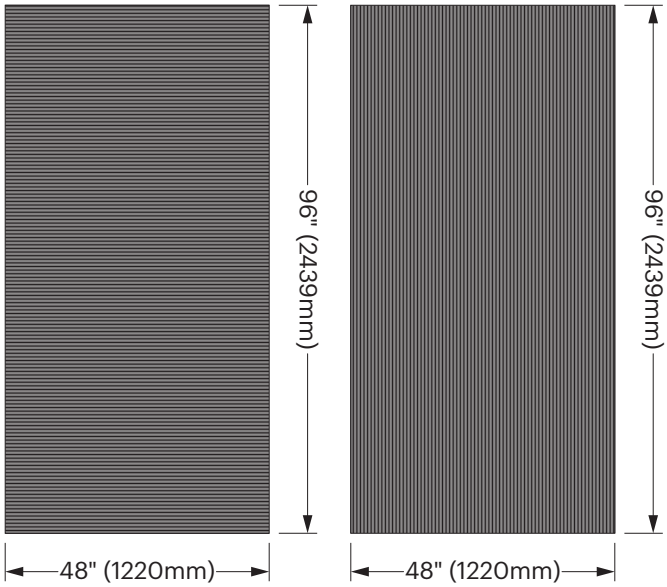
Crest



Pattern Parallel to 48" Direction

Pattern Parallel to 96" Direction

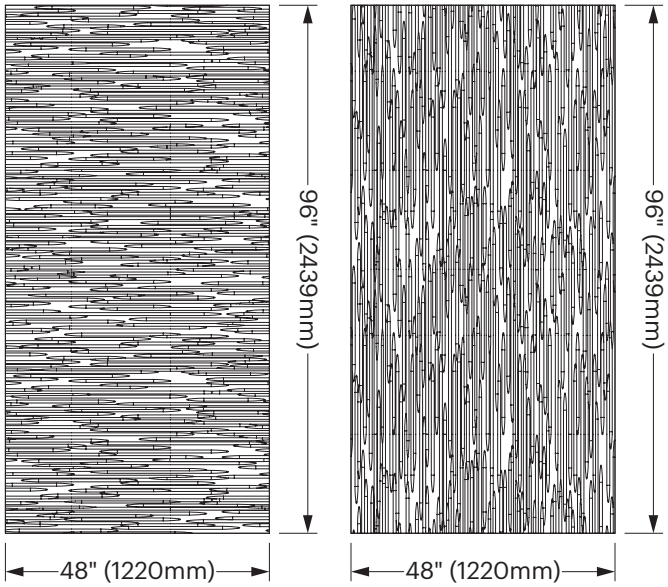
Crimp



Pattern Parallel to 48" Direction

Pattern Parallel to 96" Direction

Dash



Pattern Parallel to 48" Direction

Pattern Parallel to 96" Direction

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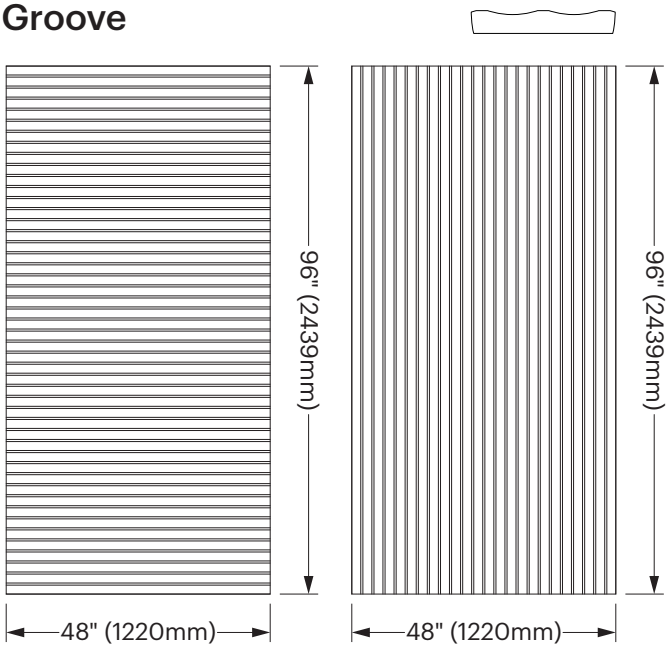
Pattern Overview

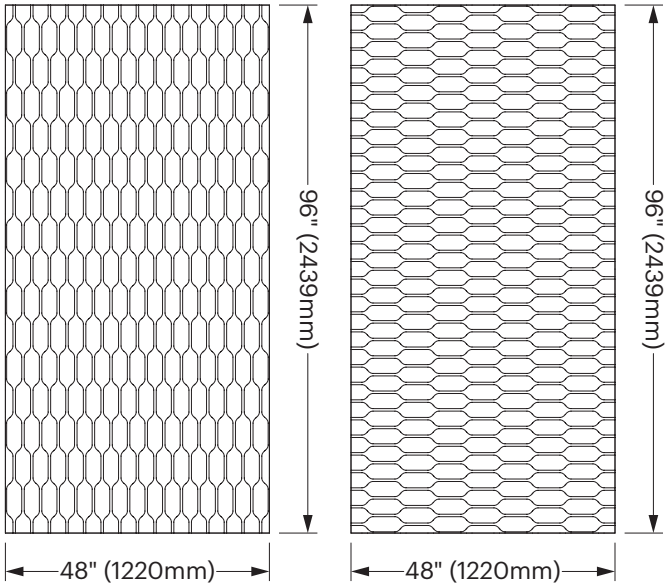
Groove



Pattern Parallel to 48" Direction

Pattern Parallel to 96" Direction

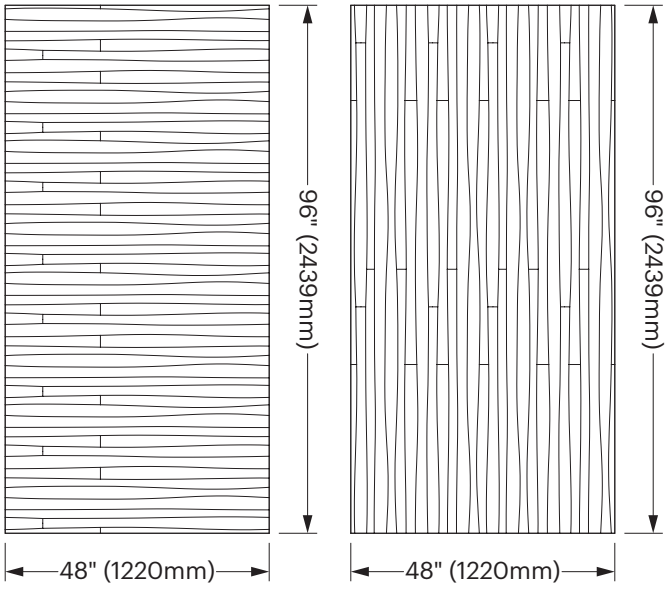
Luxe



Pattern Parallel to 48" Direction

Pattern Parallel to 96" Direction

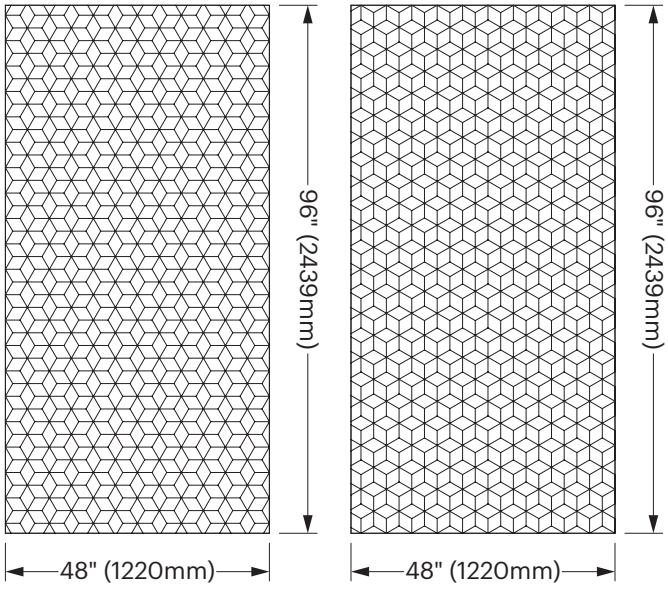
Meridian



Pattern Parallel to 48" Direction

Pattern Parallel to 96" Direction

Metric



Pattern Parallel to 48" Direction

Pattern Parallel to 96" Direction

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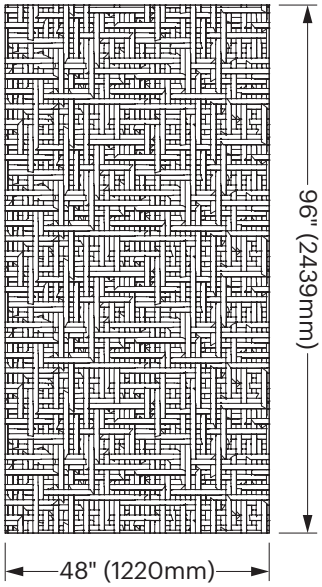
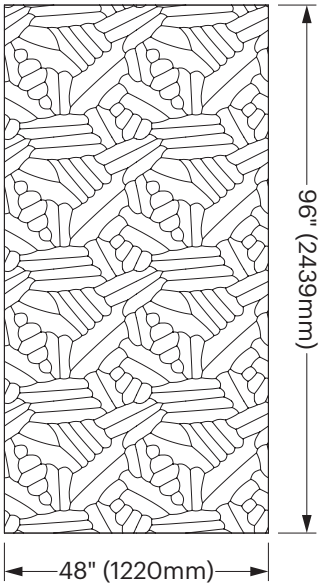
Pattern Overview

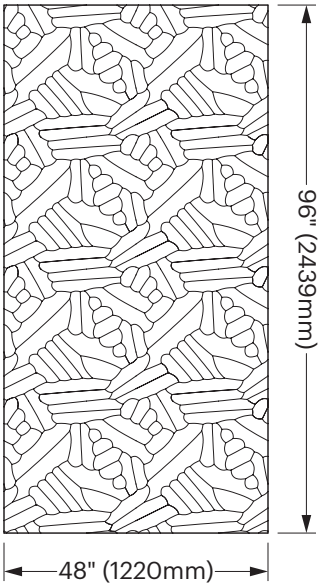
Metro



Mingle

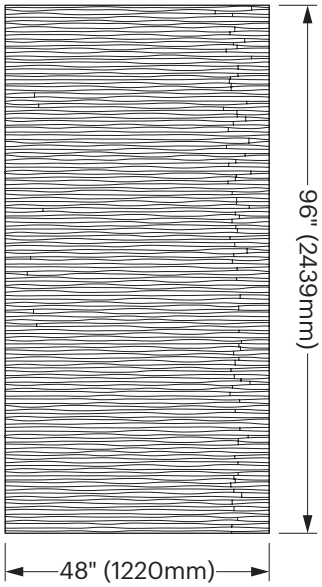


Pattern Parallel to 48" Direction

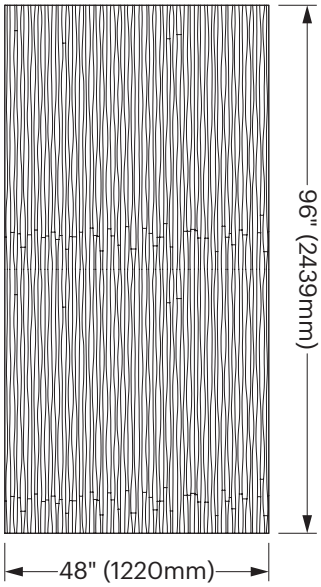


Pattern Parallel to 96" Direction

Motion

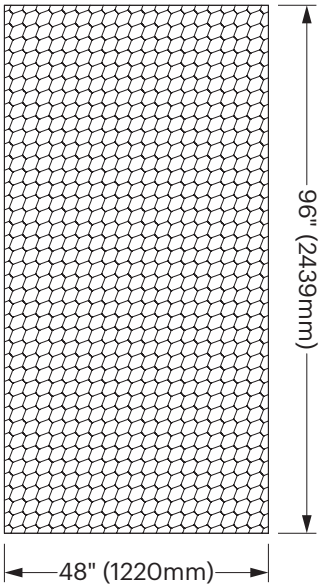


Pattern Parallel to 48" Direction

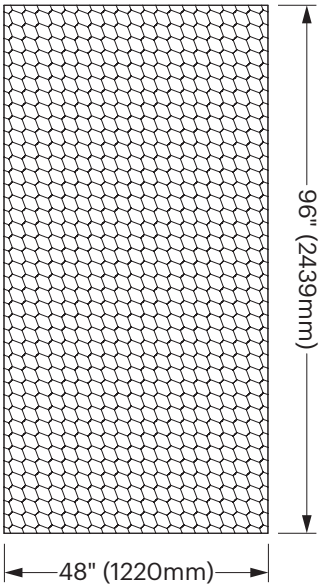


Pattern Parallel to 96" Direction

Nod



Pattern Parallel to 48" Direction



Pattern Parallel to 96" Direction

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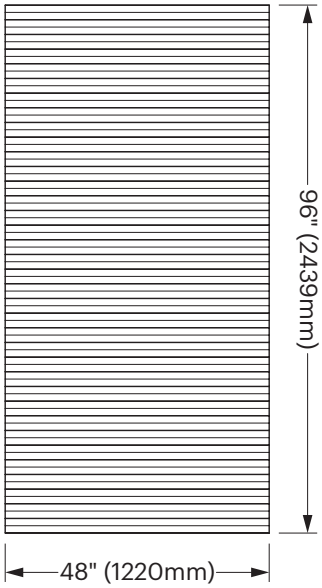
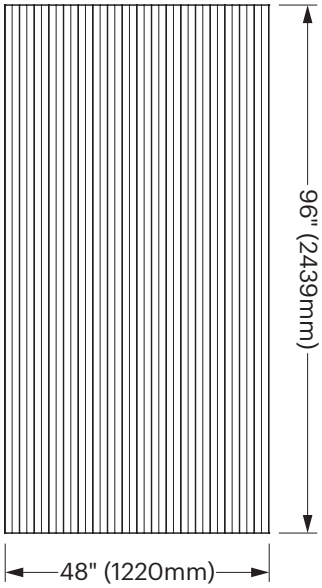
Pattern Overview

Pinstripe

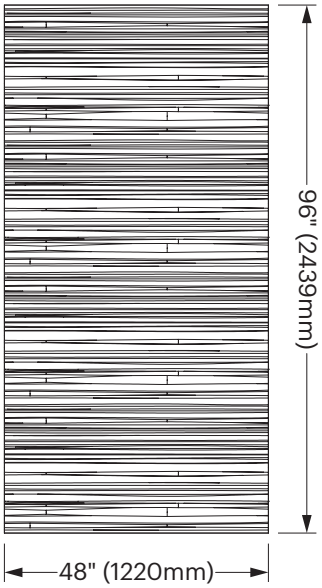


Pattern Parallel to 48" Direction

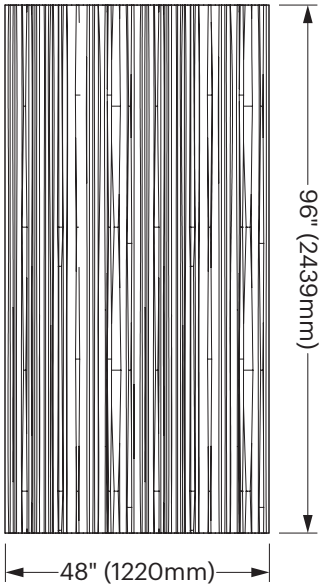


Pattern Parallel to 96" Direction

Pleat

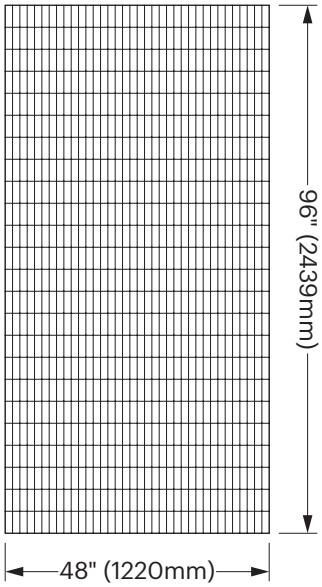


Pattern Parallel to 48" Direction

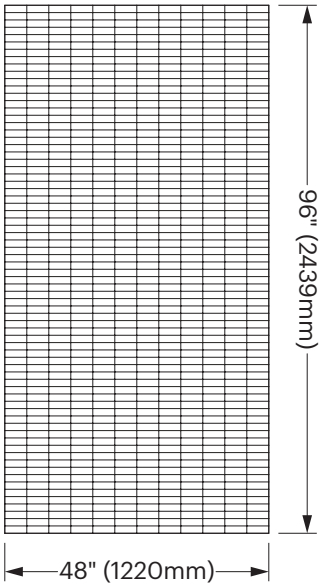


Pattern Parallel to 96" Direction

Prism

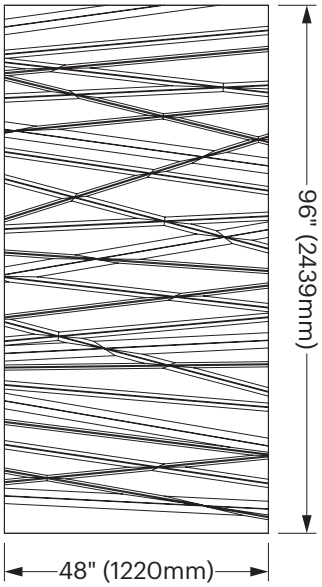


Pattern Parallel to 48" Direction

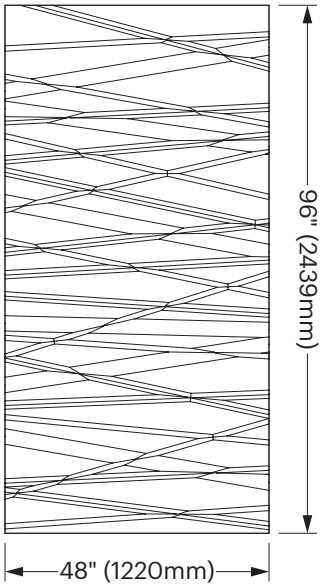


Pattern Parallel to 96" Direction

Ray



Ray A



Ray B

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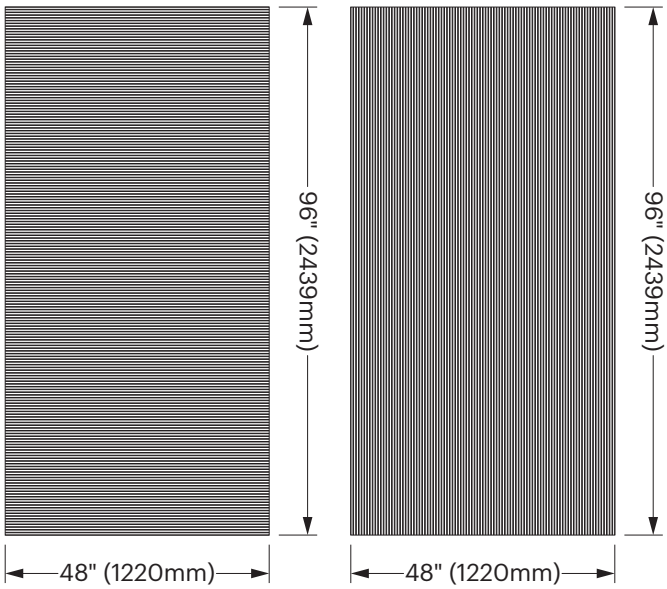
Pattern Overview

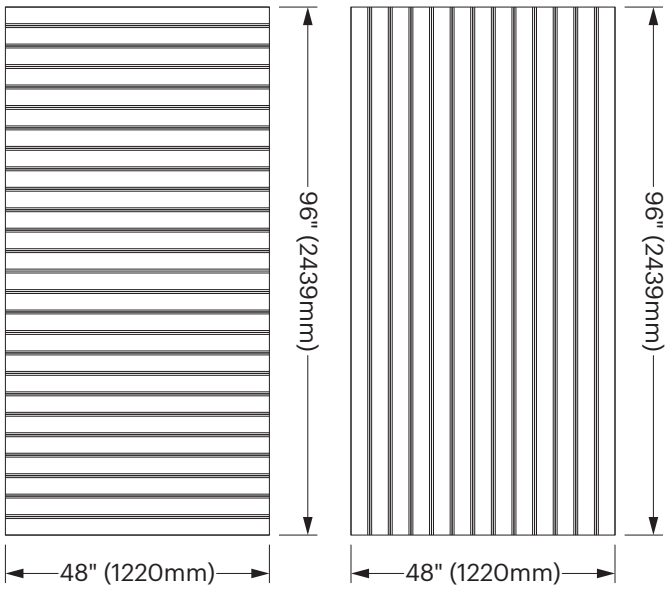
Ruffle



Pattern Parallel to 48" Direction

Pattern Parallel to 96" Direction

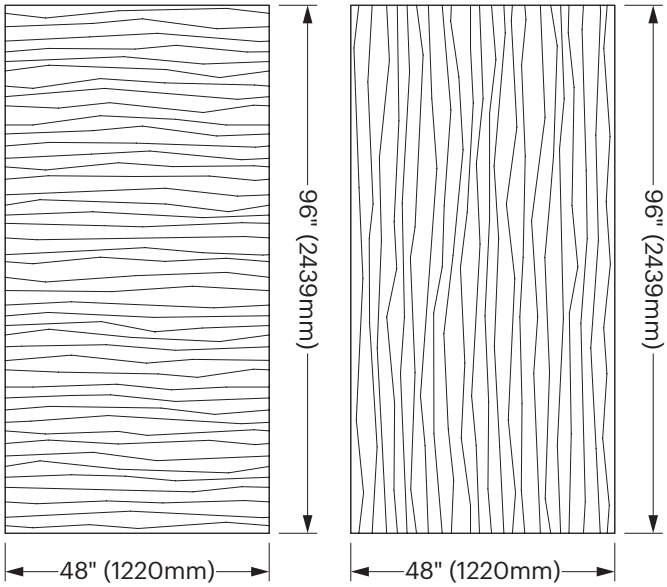
Rumble



Pattern Parallel to 48" Direction

Pattern Parallel to 96" Direction

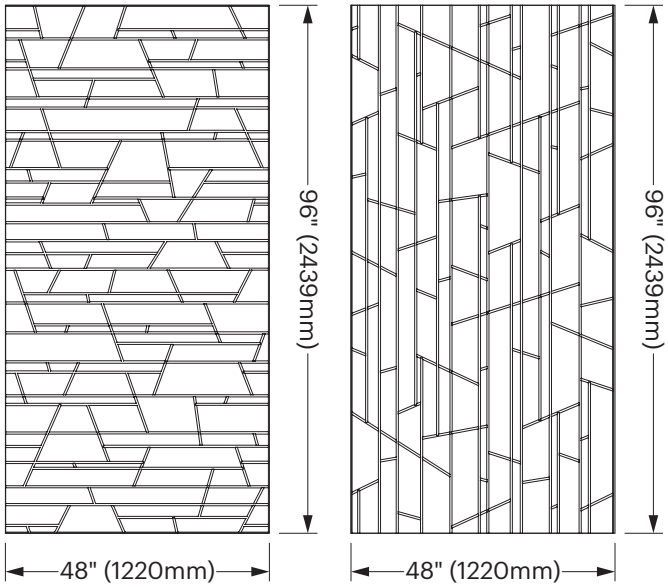
Stria



Pattern Parallel to 48" Direction

Pattern Parallel to 96" Direction

Switch



Pattern Parallel to 48" Direction

Pattern Parallel to 96" Direction

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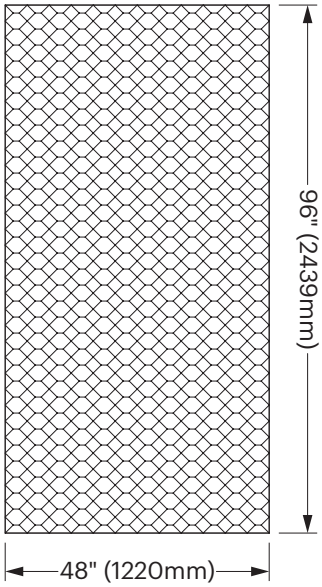
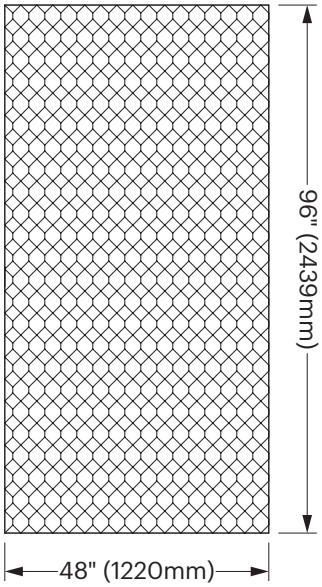
Pattern Overview

Tread

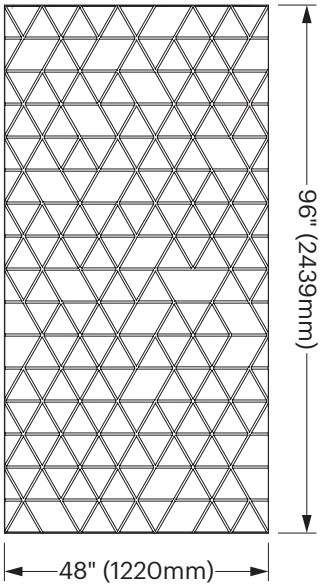


Pattern Parallel to 48″ Direction

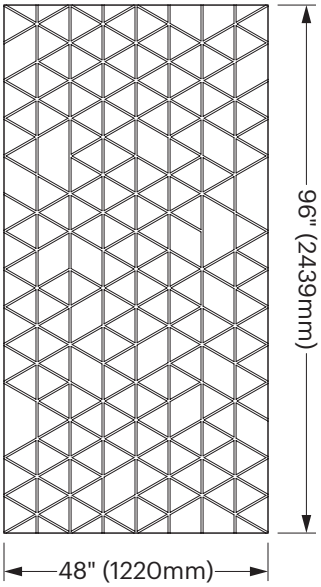


Pattern Parallel to 96″ Direction

Trig

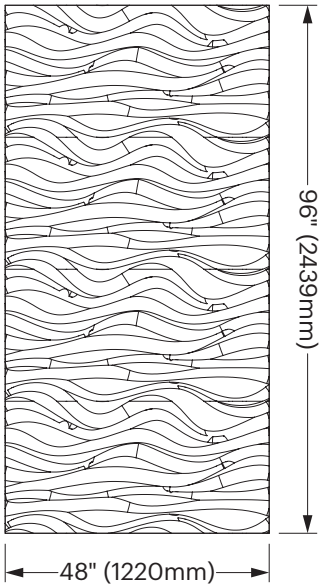


Pattern Parallel to 48" Direction

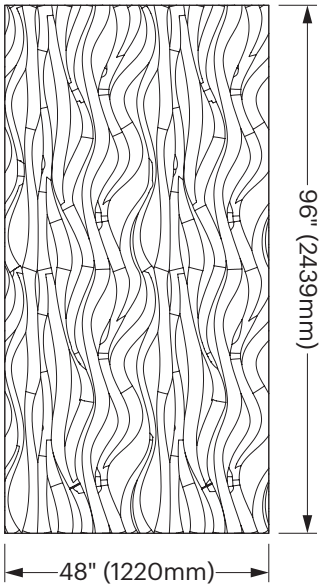


Pattern Parallel to 96" Direction

Veer

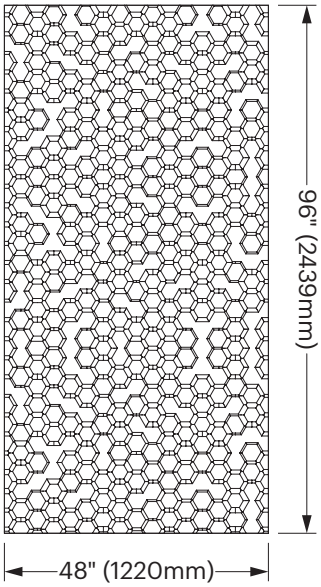


Pattern Parallel to 48" Direction

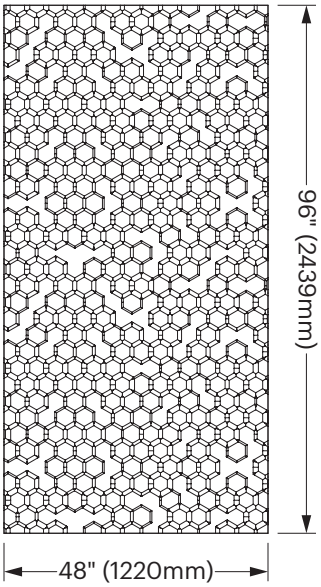


Pattern Parallel to 96" Direction

Zing



Pattern Parallel to 48" Direction



Pattern Parallel to 96" Direction

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How to Match Pattern Between Profile Panels

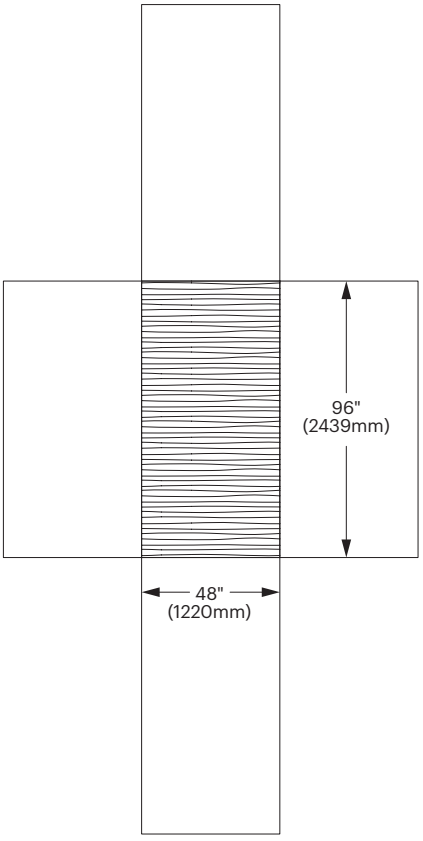
The orientation of the pattern must stay constant in order for the panels to repeat. When creating a full wall of panels. Use full size panels in the middle of the configuration and align factory edges for the pattern to properly repeat. All cuts should be made on the outer edge of the panels on the perimeter of the feature.

Omni-Directional Repeating Pattern

An omni-directional repeating pattern will allow for unlimited project areas. Identical panels may be used to extend the pattern in any direction. Patterns fit together top side to bottom side and left side to right side. The orientation of the pattern must stay constant in order for the panels to repeat.

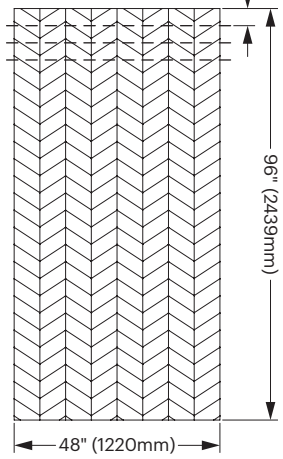
The following patterns are omni-directional repeating patterns:

Agile	**Crest**	**Pinstripe**
Band	**Dash**	**Pleat**
Braid	**Luxe**	**Prism**
Bub	**Meridian**	**Stria**
Burst	**Metro**	**Switch**
Carve	**Mingle**	**Tread**
Chasm	**Motion**	**Trig**
Chisel	**Nod**	**Veer**



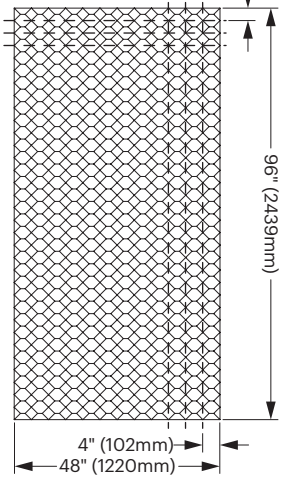
The Braid, Tread, Luxe and Prism patterns are the only patterns that can be cut and still maintain omni-directional pattern matching. Cut at intervals listed and pictured below.

Braid



Vertical
4" (10.2cm)

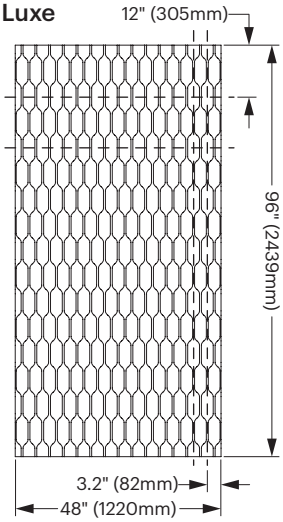
Tread



Vertical
3" (7.6cm)

Horizontal
4" (10.2cm)

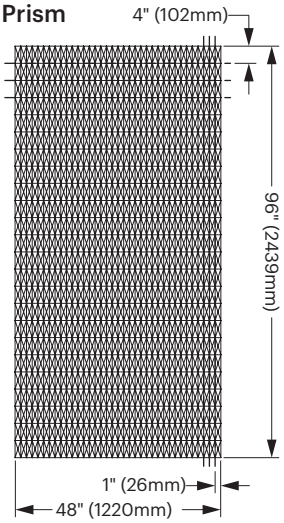
Luxe



Vertical
12" (30.5cm)

Horizontal
3.2" (8.1cm)

Prism



Vertical
4" (10.2cm)

Horizontal
1" (2.5cm)

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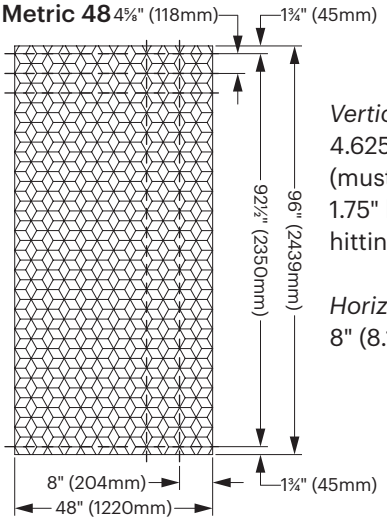
How to Match Pattern Between Profile Panels

Uni-Directional Repeating Pattern

A uni-directional repeating pattern can only be used to fill an area in the horizontal direction. Identical panels may be used to extend the pattern parallel to the 4' side. Patterns fit together left side to right side only. The orientation of the pattern must stay constant in order for the panels to repeat. The pattern can extend vertically if they are cut along the dashed lines above. The Metric and Zing patterns are uni-directional.

Uni-directional can be cut and maintain pattern matching. Cut at intervals listed and pictured below.

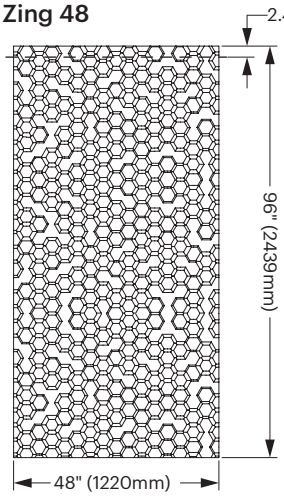
Metric 48



Vertical
4.625" (30.5cm)
(must remove 1.75" before hitting repeat)

Horizontal
8" (8.1cm)

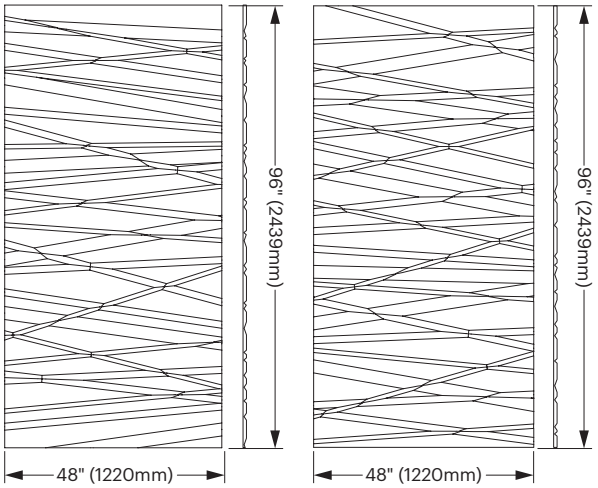
Zing 48



Vertical
2.47" (10.2cm)

Non-Repeating Pattern

A non-repeating pattern will not match on ***any*** side. However these patterns are deliberately designed to not match, and can still allow for unlimited project areas.



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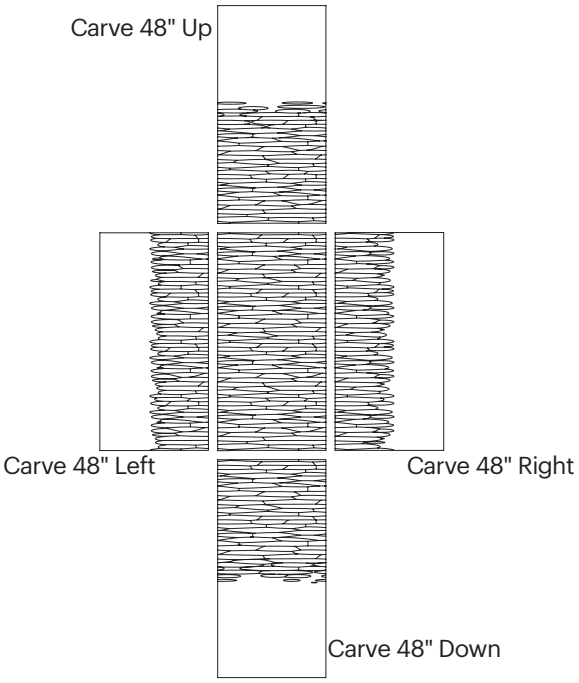
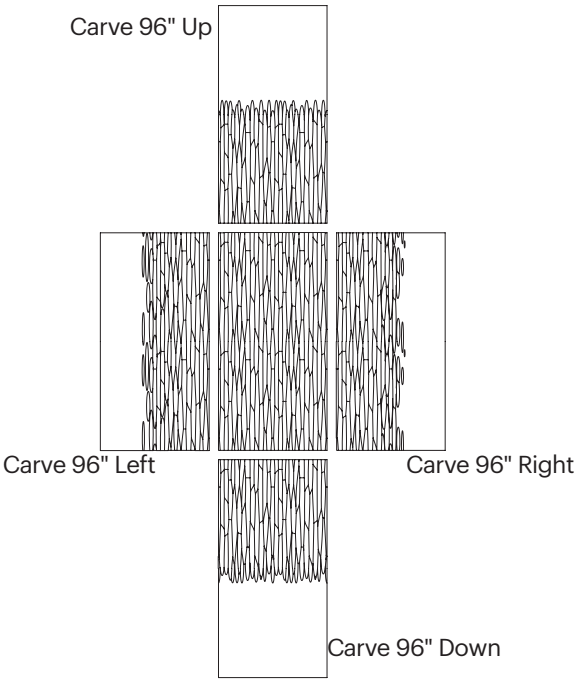
How to Match Pattern Between Profile Panels

Transition

Profile patterns can fade in either direction using Transition. As an example, the following figures show Carve 48 and Carve 96 with four transition options.





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Non-Seamless Installation

There are a variety of possible ways of installing Profile panels.

Direct Screw Attachment
(Unfinished/ReadyToPaint Panels Only)

Profile panels can be attached to a wall by screwing directly through the panel. Construction mastic or an industrial grade silicone such as Momentive SilGlaze II SCS 2800 should also be used to supplement the screws. It is required to leave a 1/16" gap between panels to allow for expansion and contraction of the wood panels. This technique should only be used on non-wrapped panels that will be painted in the field. Holes in the panel should be pre-drilled and counter-sunk. After screwing the panel to the wall a non-shrinking filler like Bondo may be used to cover the holes. Please note that non-shrinking filler should not be used between panels. A flexible seam filler should be used in between panels. This method is limited to a maximum of 6 panels.

Adhesive

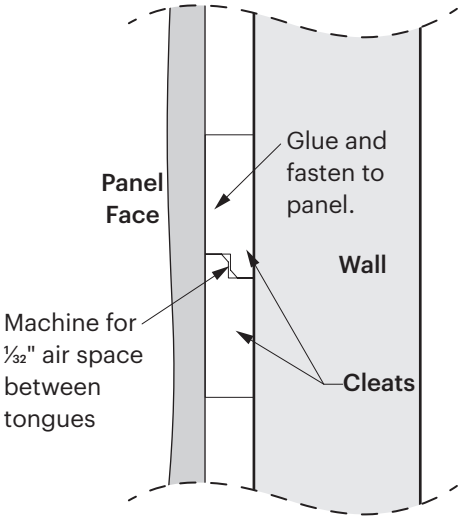
If using an adhesive to glue the panels directly to the wall, it is required to leave a 1/16" gap between panels to allow for expansion and contraction of the wood panels. An industrial grade silicone such as Momentive SilGlaze II SCS 2800 or other suitable construction mastic can be applied to the back of the panels in combination with 3M 4496 VHB foam tape. Silicone/mastic should be applied in dots as it needs moisture (air) to cure. Alignment of the panels prior to curing is important as the panels may not be re-aligned after curing. Panel installations more than 16' wide should use panel cleats. For an immediate cure of the VHB tape you can use 3M Primer 94. If using, apply the primer with a foam brush to the back of the Profile material where the VHB tape is to be applied. For additional installation questions or concerns please contact our technical support line at 1-800-726-0126.

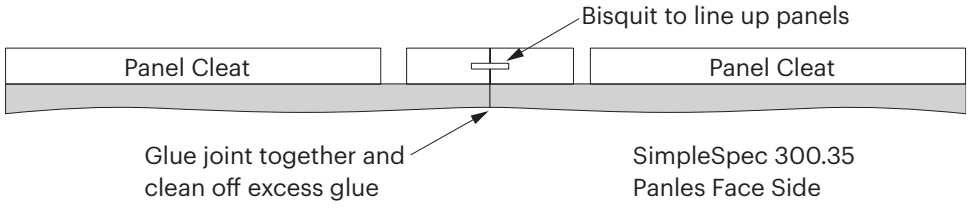
Panel Cleats

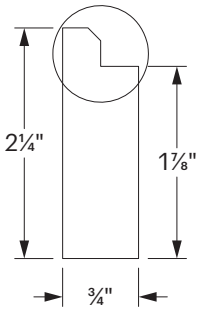
To install Profile panels to the wall using panel cleats, first panel cleats must be attached to the back of the panel. Panel cleats should run the entire width of the panel and special care should be taken with regards to the length and size of the screws used and where the screws are placed so as not to impact the front finish of the panel. Construction mastic or an industrial grade silicone such as Momentive SilGlaze II SCS 2800 should also be used to supplement the screws. A minimum of (3) rows of panel cleats are necessary per 8' tall panel. Rows of panel cleats should be situated on the top and bottom edge of the panel, with additional rows spaced evenly between. Plywood or solid wood “in-wall” blocking is required.

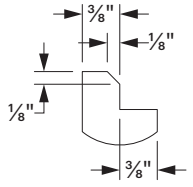
When gluing multiple panels together, it is necessary to leave space at both end panels to allow expansion and contraction of the entire panel system. Glued joints should only be used on smaller installation of 2-6 panels or when using recommended panel cleats as shown. Panel cleats will allow the entire feature to expand and contract. Use this formula to calculate the maximum expansion tolerances for your feature.

Max Length of feature * 0.0006 in/in = Max. Dimensional change









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Seamless Installation *(4 Panels or Fewer)*

To install a seamless Profile panel installation of fewer than four panels follow these simple recommendations: Use 3M 4496 VHB Foam Tape. Use a 1/16" reveal between panels.

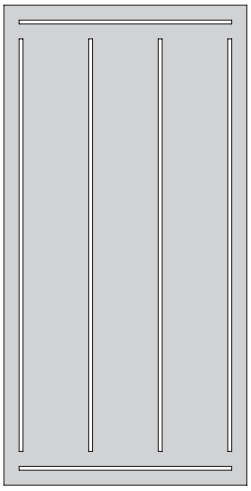
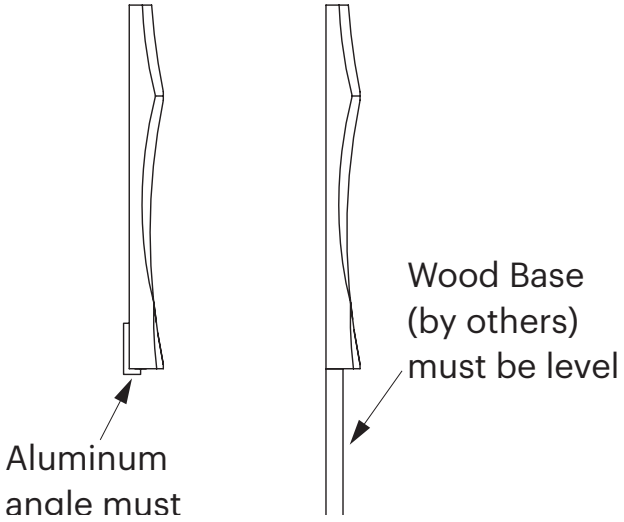


Figure 1

Place tape around perimeter and approximately every 12" OC (**See Figure 1**) Use a J roller to ensure tape seals well to back of panel. Panels can be installed with VHB tape and construction mastic or an industrial grade silicone such as Momentive SilGlaze II SCS 2800. VHB tape with a bottom support can also be used. The bottom support is shown in **Figure 2**. You can use a 3/8"×1" aluminum angle (machining the back of the panel is optional) or a 3/8"×4" wood base (by others). For an immediate cure of the VHB tape you can use 3M Primer 94.



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Seamless Installation *(up to 6 Panels)*

This installation method is only to be used for unfinished or ReadytoPaint panels. First prepare the wall for panel cleat installation. Use soft maple or poplar for panel cleats. There must be a minimum clearance of ⅜" on both sides of the final installation size. 3form recommends 4" distance from the floor to the bottom of the panels. Minimum of ½" clearance on the top of the panel. See **Figure 3** for recommended cleat locations on panel.

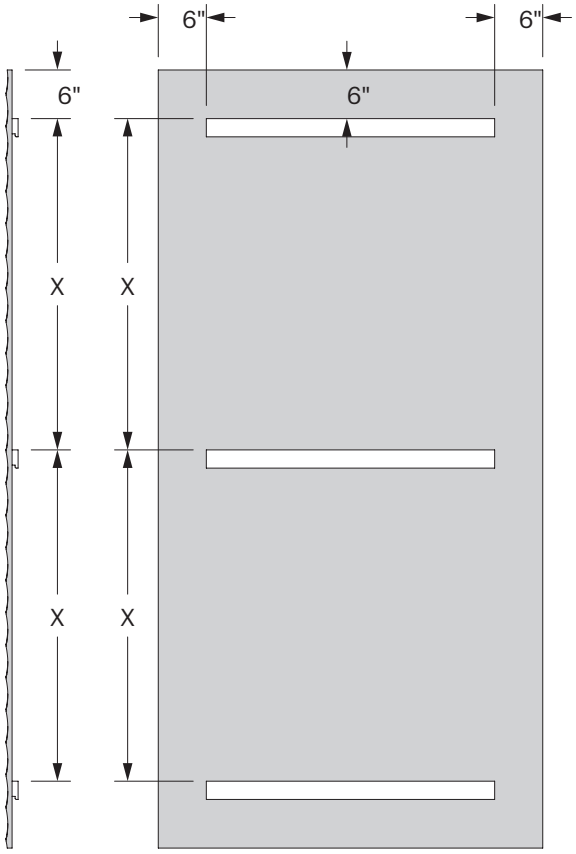

Figure 3

Next to insure that the panel cleats are flat (to make up for irregularity in the wall surface), start on the bottom row of panel cleats. Insert 1½" - #8 pan head screws on the far left and far right of the panel cleats and then stretch a jet line or fine line between the two screws and pull very tight. Keep the line 1" away from the face of the panel cleat. (**See figure 4**) Use a 6" tape measure and measure between cleat and jet line at each fastener going into the wall. Loosen grabbers where necessary and install horseshoe shims to achieve a consistent 1" between cleat and jet line.

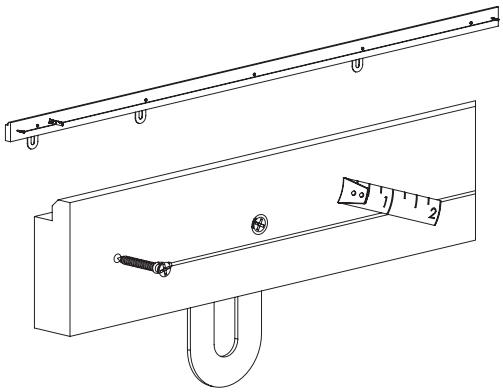

Figure 4

Next, the next two sections of panel cleats need to be plumb to the bottom panel cleats. To do so, take a straight edge and a level and align it from the bottom panel cleat to the middle upper panel cleat and use the level to make sure it is plumb. Shim as necessary. Use (3) panel cleats per 8' panel, and add blocking as needed on the wall to support the panel.

Next the panels need to be prepared for installation to the wall. To do so, the panels need to be biscuited and edge glued. Panel cleats need to be installed into the back of the profile panels.

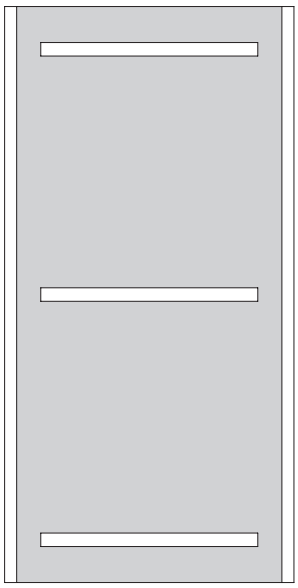

Figure 5

First screw and/or glue wood blocking and panel cleats into the panel according to **Figure 5**. Wood blocking needs to be 2" wide by ¾" thick. The wood blocking is shown in **Figure 5**.

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Seamless Installation *(up to 6 Panels)*

Once this is compete, edge glue the panels together (Biscuits are recommended for strength) using wood glue as shown in **Figure 6** and **Figure 7**.

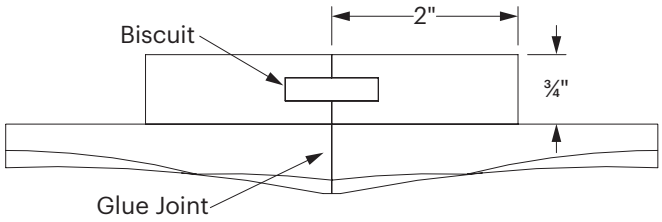

Figure 6

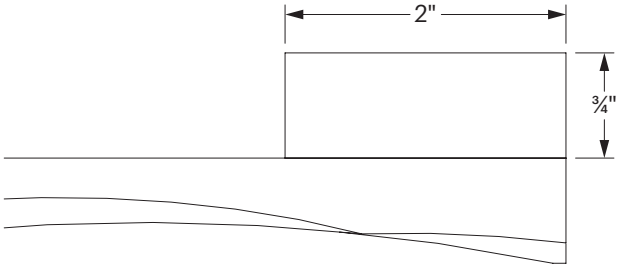

Figure 7

The back side of a 5-panel edge-glued piece is shown in **Figure 8**. Once the panels are glued together, install them onto the wall mounted panel cleats as shown in **Figure 9**.

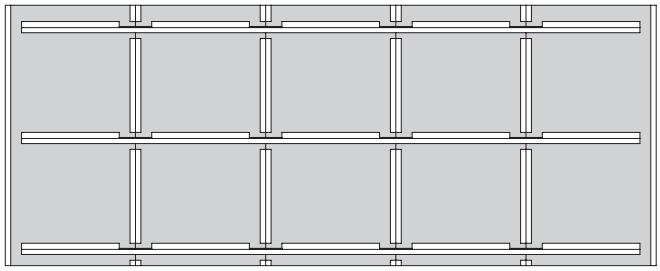

Figure 8

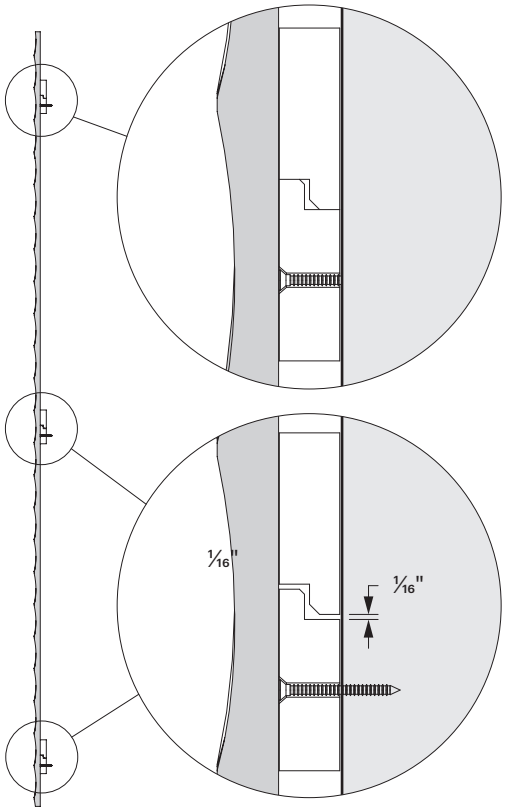

Figure 8

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