

Product Evaluation

RC404 | 0422

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

Evaluation ID: RC-404

Effective Date: April 1, 2022

Re-evaluation Date: April 2026

Product Name: Inspire Arcella Shake, Aledora Slate, and Classic Slate Synthetic Roofing Tiles
Installed Over Wood Structural Panels or Wood Board Decking

Manufacturer: Inspire by Westlake Royal Building Products, Inc.
4057 S. Oak Street
Metamora, MI 48455
(800) 971-4148

General Description:

The Inspire Arcella Shake, the Inspire Aledora Slate, and the Classic Slate are injection molded polypropylene synthetic cedar shake and slate roofing tiles.

The Arcella Shake roofing tiles are manufactured in lengths of 24" and widths of 5", 7.5", and 10". The shakes are 0.62" at the thicker end and taper down to 0.10". Refer to Figures 1, 2, and 3.

The Aledora Slate roofing tiles are manufactured in a length of 18" and widths of 6", 8", 10", and 12". The slates are 0.50" at the thick end and taper down to 0.15". Refer to Figures 4, 5, 6, and 7.

The Classic Slate roofing tiles are manufactured in a length of 17-1/2" and a width of 11-1/2". The slates are 0.23" at the thick end and taper down to 0.12". Refer to Figure 8.

Secure the roofing tiles to wood structural panels or to wood board decking as indicated in Table 1. Wood structural panels are either minimum 7/16" OSB or 15/32" plywood. Apply the wood board decking solidly or as spaced boards.

Limitations:

Roof Deck and Design Wind Pressures: Table 1 specifies the roof deck options and design wind pressure ratings.

Table 1. Roof Deck Options and Design Pressure Ratings

Product	Roof Deck	Design Pressure Rating
Arcella Shake	Board Decking	-97.50 psf
Aledora Slate	Board Decking	-97.50 psf
Arcella Shake	Wood Structural Panels	-75.00 psf
Aledora Slate	Wood Structural Panels	-90.00 psf
Classic Slate	Wood Structural Panels	-75.00 psf

Roof Deck (one of the following):

Wood Structural Panel: Sheath the roof deck with minimum 7/16" OSB or 15/32" plywood.

Board Decking: Use a nominal 1x6 Southern Yellow Pine lumber roof deck. Install the boards solidly (not spaced) or as spaced boards. If spacing the boards, then Table 2 specifies the maximum on center spacing of the boards:

Table 2

Product	Maximum Board Spacing
Arcella Shake	10.25"
Aledora Slate	8.00"

Roof Framing Requirements for Board Decking:

Roof Framing: Minimum Southern Yellow Pine rafters or trusses.

Roof Deck Attachment: Attach the boards to the wood roof-framing members with two minimum 10d (0.148") x 3" long ring shank nails at each intersection of a roof-framing member. Use fasteners long enough to penetrate a minimum of 1-1/2" into the roof framing.

Installation Over an Existing Roof Covering: Do not install the slate and shakes over an existing roof covering.

Roof Slope: Use the synthetic roofing tiles on roof decks with a minimum roof slope of 3:12.

Exposure:

- The Arcella Shakes have a maximum exposure of 9-1/4" for roof slopes of less than 5:12 and a maximum exposure of 10-1/4" for roof slopes greater than 5:12.
- The Aledora Slates have a maximum exposure of 7" for roof slopes of less than 5:12 and a maximum exposure of 8" for roof slopes greater than 5:12.
- The Classic Slate has a maximum exposure of 6" for roof slopes less than 5:12 and a maximum exposure of 7-1/2" for roof slopes greater than 5:12.

Installation:

Roof Deck: Use a minimum 7/16" OSB or 15/32" plywood or nominal 1x6 Southern Yellow Pine board lumber.

Underlayment (Solid roof decks only): Use a minimum of one layer of No. 30 (Type II) asphalt felt. Use an underlayment that complies with ASTM D 226, ASTM D 4869, or ASTM D 1970. Install the underlayment with a minimum 3" side laps and 6" end laps. Apply the underlayment with corrosion resistant fasteners. Space the fasteners a maximum of 36" on center along the overlap.

Alternative Underlayment (Solid roof decks only): Use a synthetic underlayment that complies with the requirements for underlayment as specified in the IRC and the IBC. Install the synthetic underlayment per the manufacturer's installation instructions.

Metal Drip Edge and Flashing: Install a metal drip edge on the bottom edge of the roof (eaves) and on the open gable ends to deflect and prevent any wind driven rain from penetrating the synthetic roofing tiles. Install flashings in valleys, along walls of dormers, around chimneys and pipes, and around any other protruding structure that may hold ice and snow, or could allow water to penetrate.

Installation: Install the synthetic roofing tiles as specified in the manufacturer's installation instructions and this evaluation report. Attach each synthetic roofing tile to the roof decking with minimum 10-gauge x 1-1/2" long ring shank roofing nails. Install two fasteners per synthetic roofing tile. Place the fasteners at the locations indicated on the synthetic roofing tiles. Ensure that the head of the fastener is flush with the synthetic roofing tile surface. Install a starter course as specified in the installation manual. Install subsequent courses of synthetic roofing tiles as specified in the installation manual.

Note: Keep the manufacturer's installation instructions available on the job site during the installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.

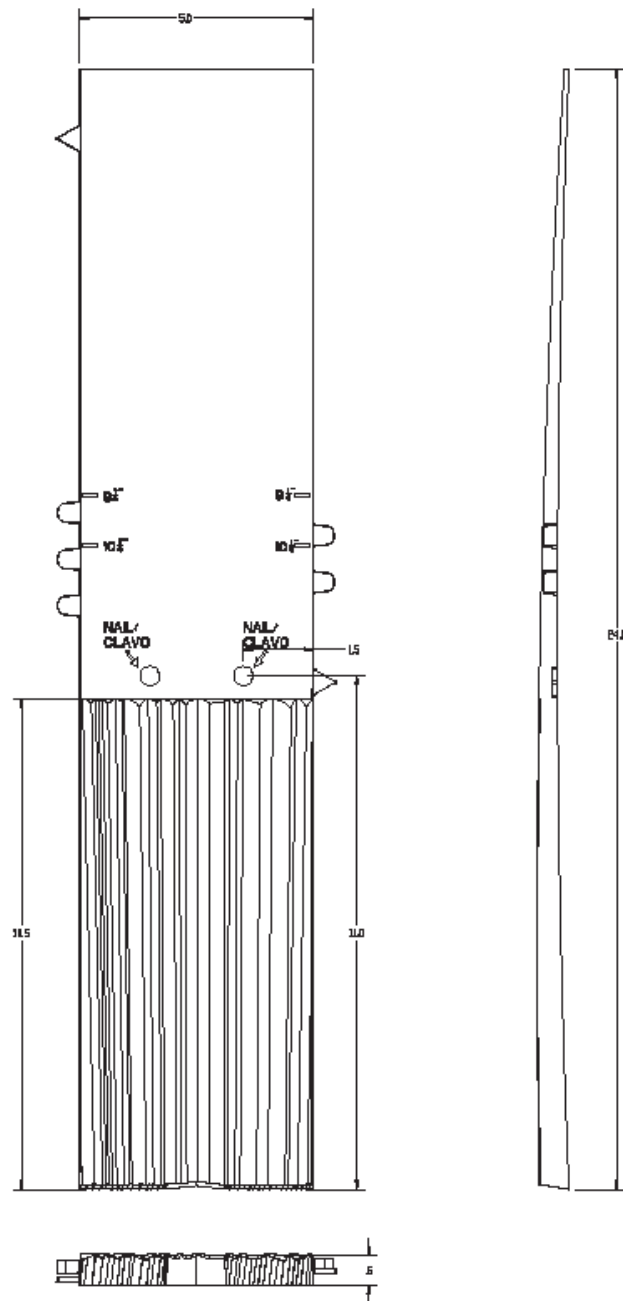


Figure 1. Inspire Arcella Shake (5" wide)

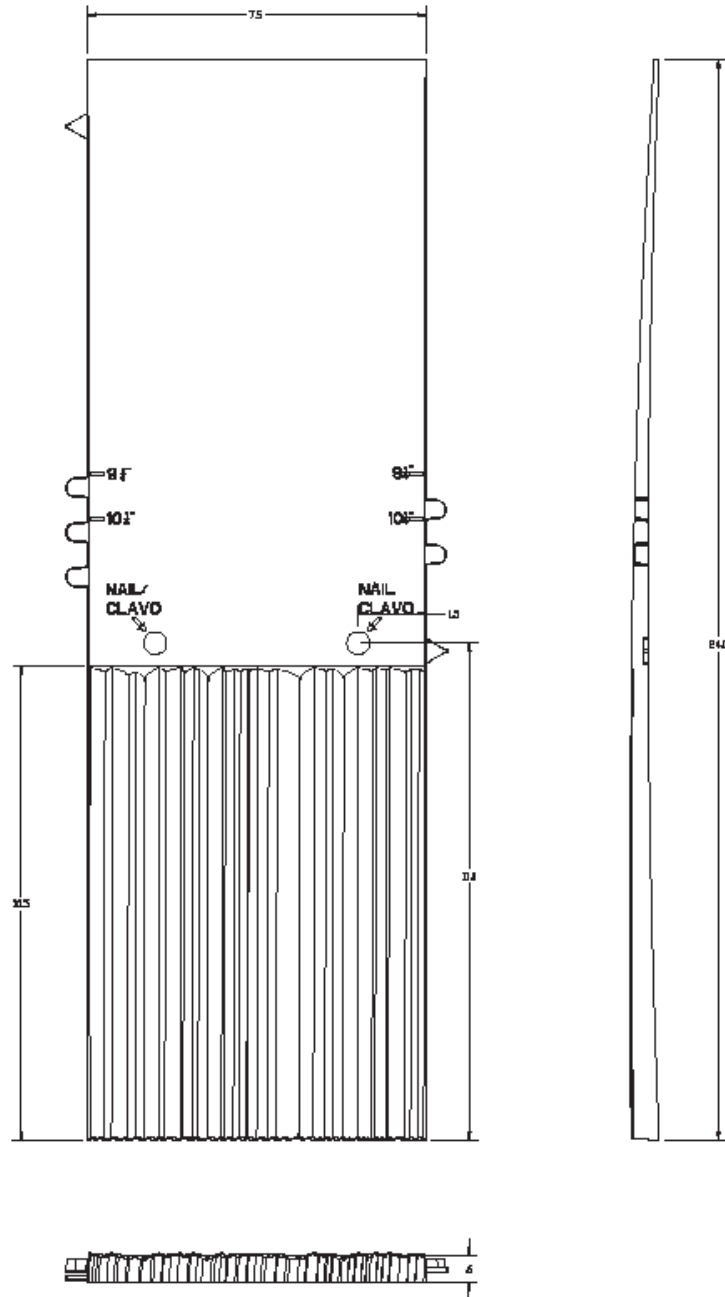


Figure 2. Inspire Arcella Shake (7.5" wide)

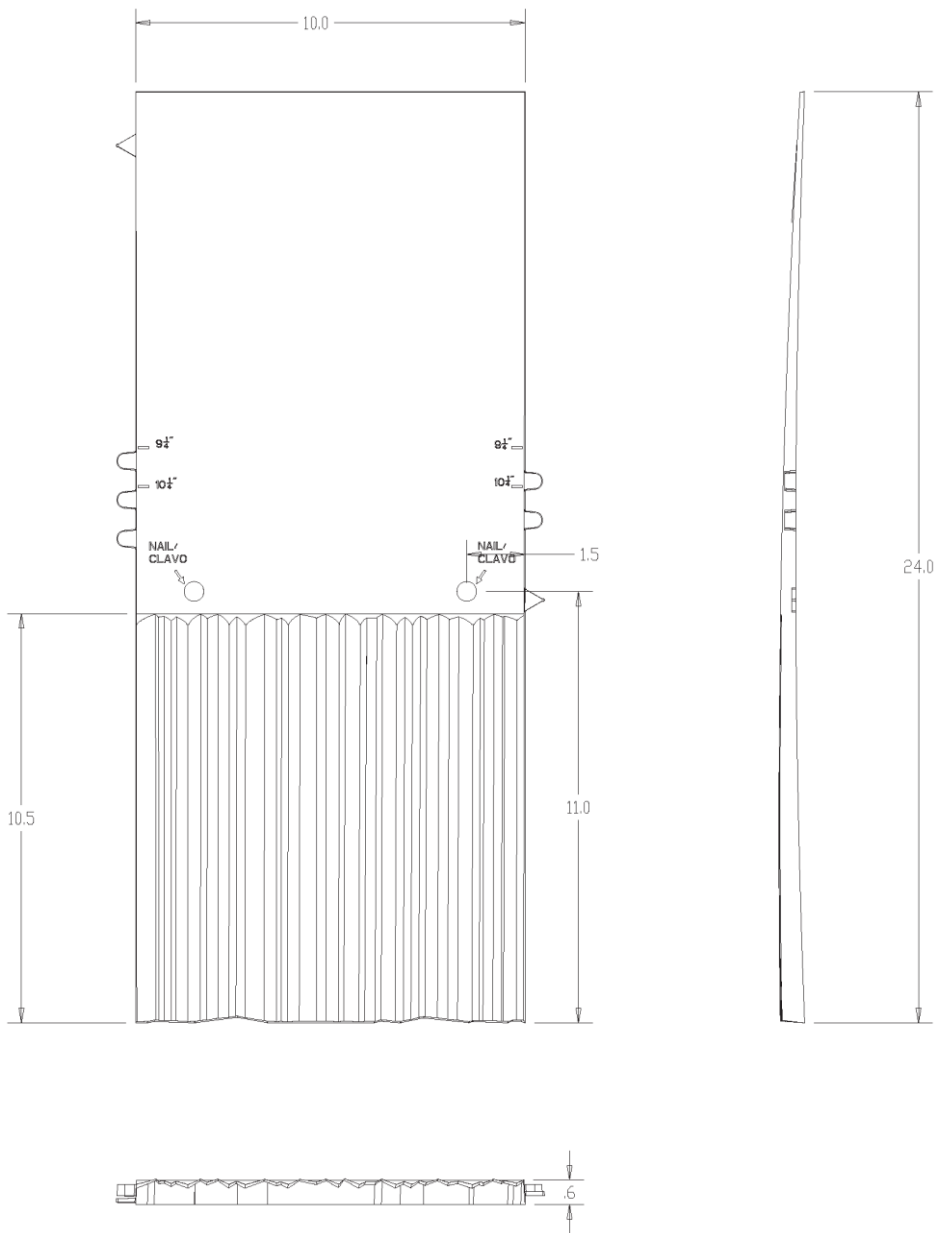


Figure 3. Inspire Arcella Shake (10" wide)

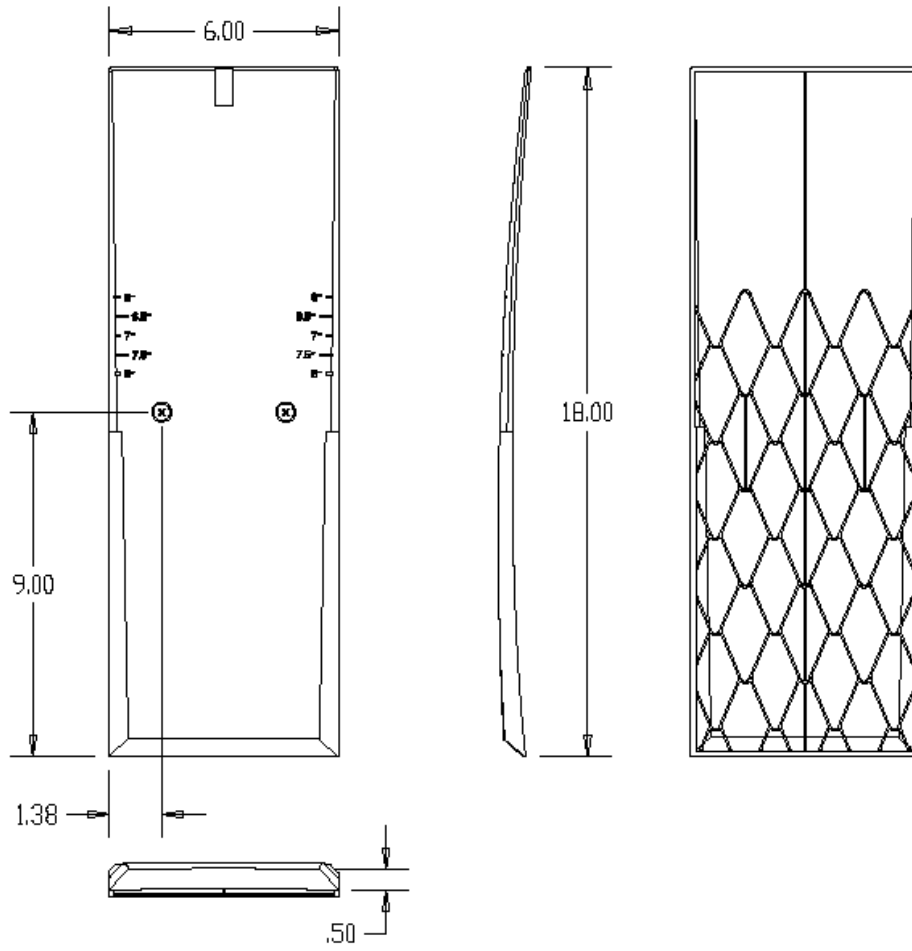


Figure 4. Inspire Aledora Slate (6" wide)

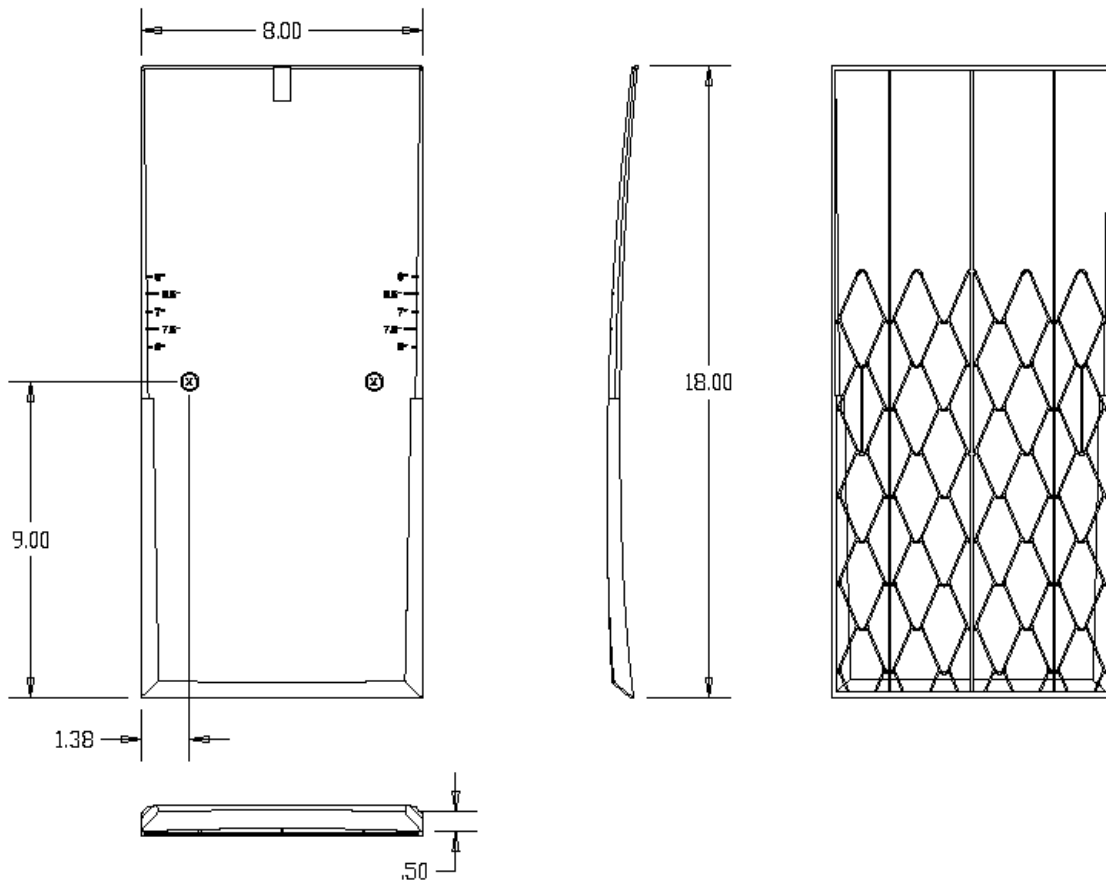


Figure 5. Inspire Aledora Slate (8" wide)

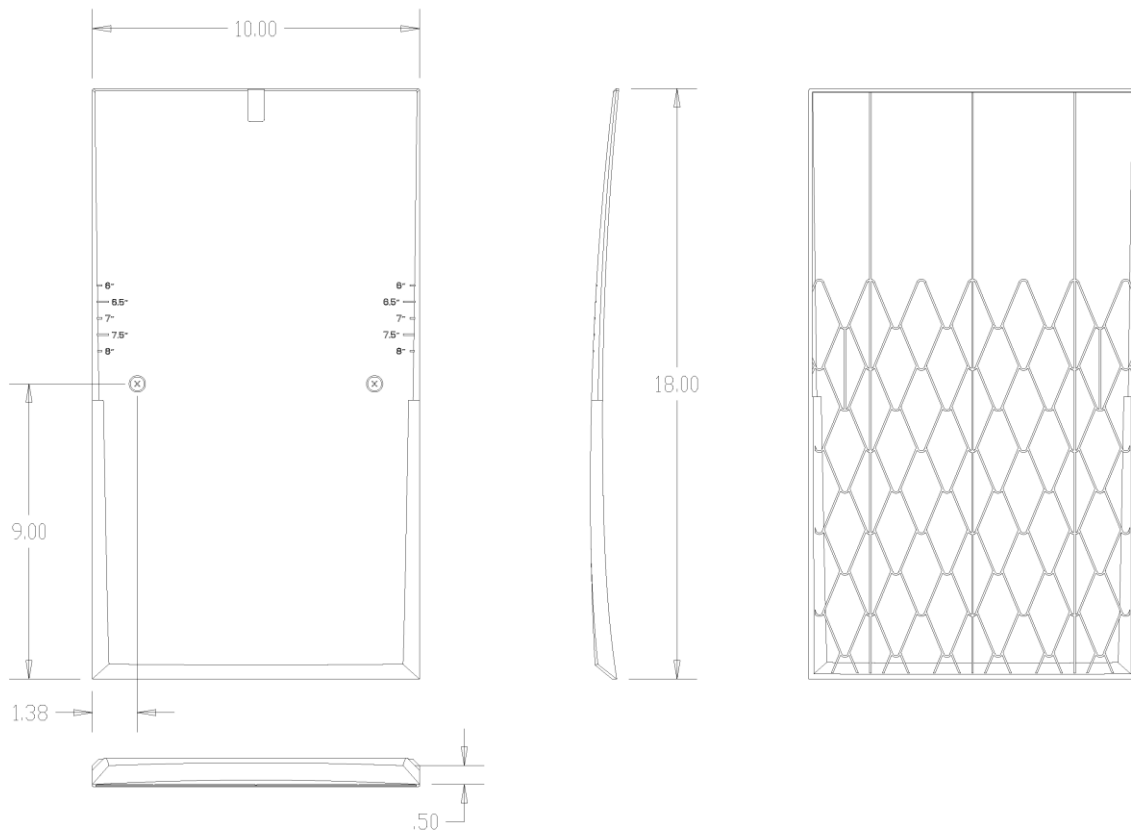


Figure 6. Inspire Aledora Slate (10" wide)

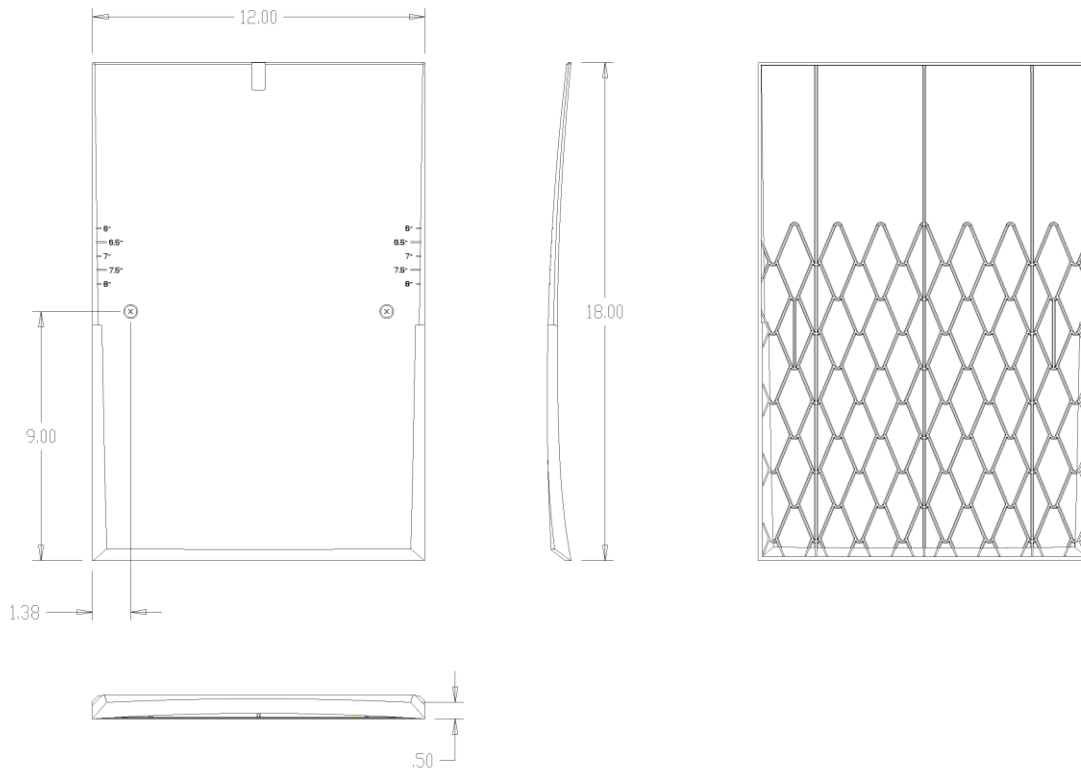


Figure 7. Inspire Aledora Slate (12" wide)

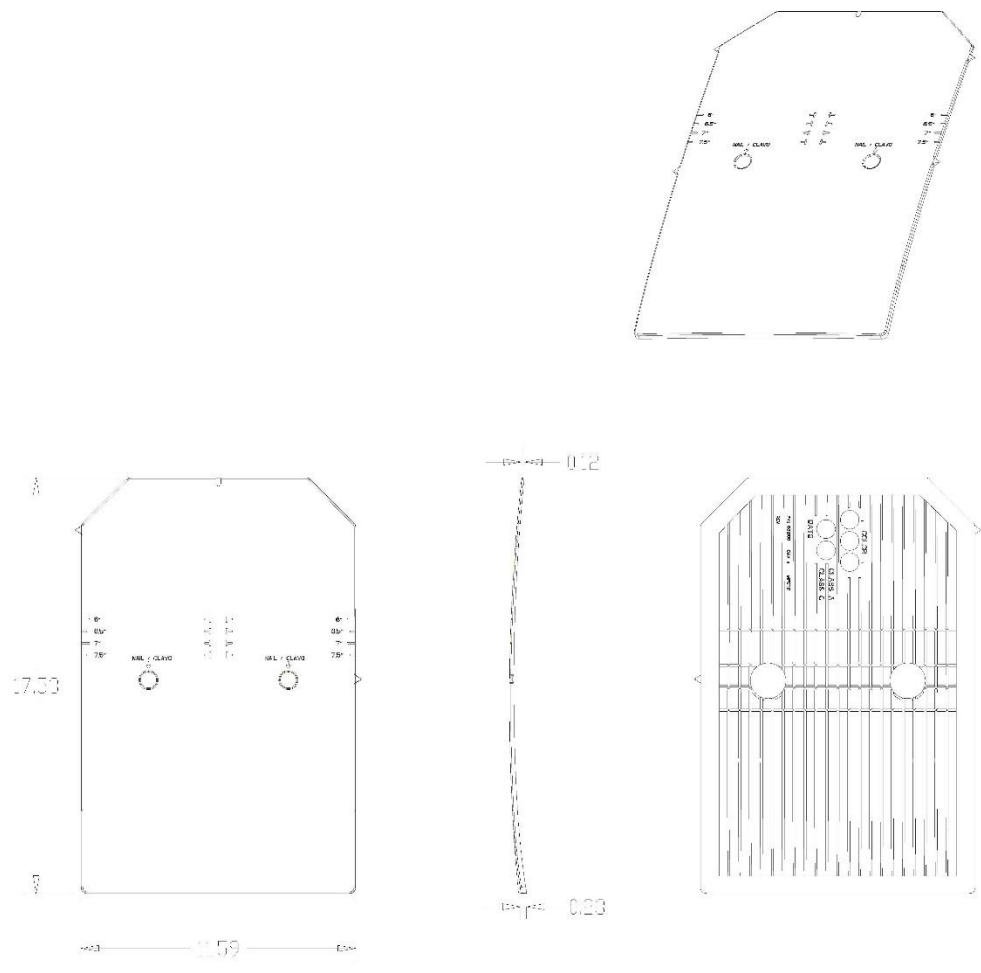


Figure 8. Inspire Classic Slate