TDI | Texas Department of Insurance

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Product Evaluation

RC717 | 0623

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-717

Effective Date: June 1, 2023
Re-evaluation Date: June 2027

Product Name: Steel Eshal Shingles and Zarah Tiles Installed Over a Plywood Roof Deck

Manufacturer: Nextgen USA LLC
3305 Drysdale Ct
Edwardsville, IL 62025
(618) 719-9542

General Description:
Eshal Shingle: The Eshal shingles are made of 26-gauge ASTM A792 AZ55, Grade 50 stone coated steel. Each shingle has an overall dimension of 52-7/8" x 14" and an exposure area of 50-1/2" x 12-1/2".

Zarah Tile: The Zarah tiles are made of 26-gauge ASTM A792 AZ55, Grade 50 stone coated steel. Each tile has an overall dimension of 45-3/4" x 16-3/4" and an exposure area of 43" x 14".

Limitations:
Roof Slope: Do not install the product on roof slopes less then 3:12.

Roof Deck: Minimum nominal 15/32" thick plywood sheathing.

Roof Framing: Rafters or trusses must not exceed 24" on center.

Roof Deck Attachment: The roof deck must be secured to the roof framing to resist the required wind uplift design pressures.

Design Wind Pressures: The design uplift load resistance shall be as specified in Table 1.

Table 1. Design Pressures

System	Panel	Design Wind Pressure
1	Eshal Shingle	-63.5 psf
2	Zarah Tile	-108.5 psf

Installation Over an Existing Roof Covering: Installation over an existing roof covering is limited to a maximum of one existing layer of composition shingles, wood shingles or shakes, built-up roofing, or roll roofing. The existing roof deck must be minimum 15/32" plywood. Note: Inspection of the existing roof deck must be made before installing the roof panels. The condition of the existing roof deck must be acceptable to receive the roof panels before the roof panel installation can proceed. A layer of underlayment over the existing roof covering is not required.

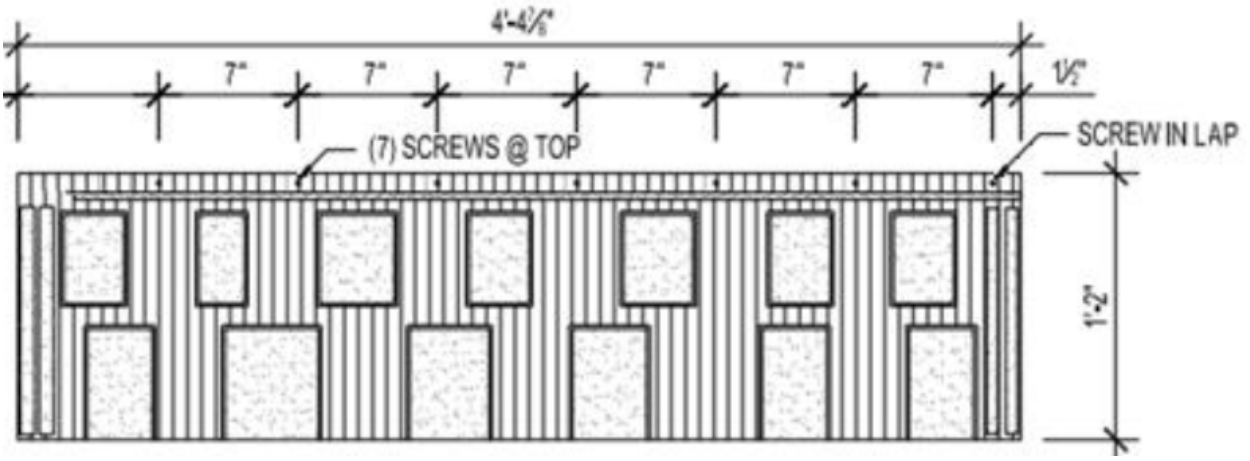
Installation:
Underlayment: A minimum of one layer of No. 30 (Type II) asphalt felt must be used. The underlayment used must comply with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. The felt must be installed with a minimum of 4" side laps and minimum 6" end laps. The underlayment must be applied with corrosion-resistant fasteners in accordance with manufacturer's installation instructions. Fasteners must be applied along the overlaps not farther apart than 36" on center.

Attachment of Metal Roofing Panels to Roof Deck: The metal roofing panels shall be secured to the roof deck as follows:

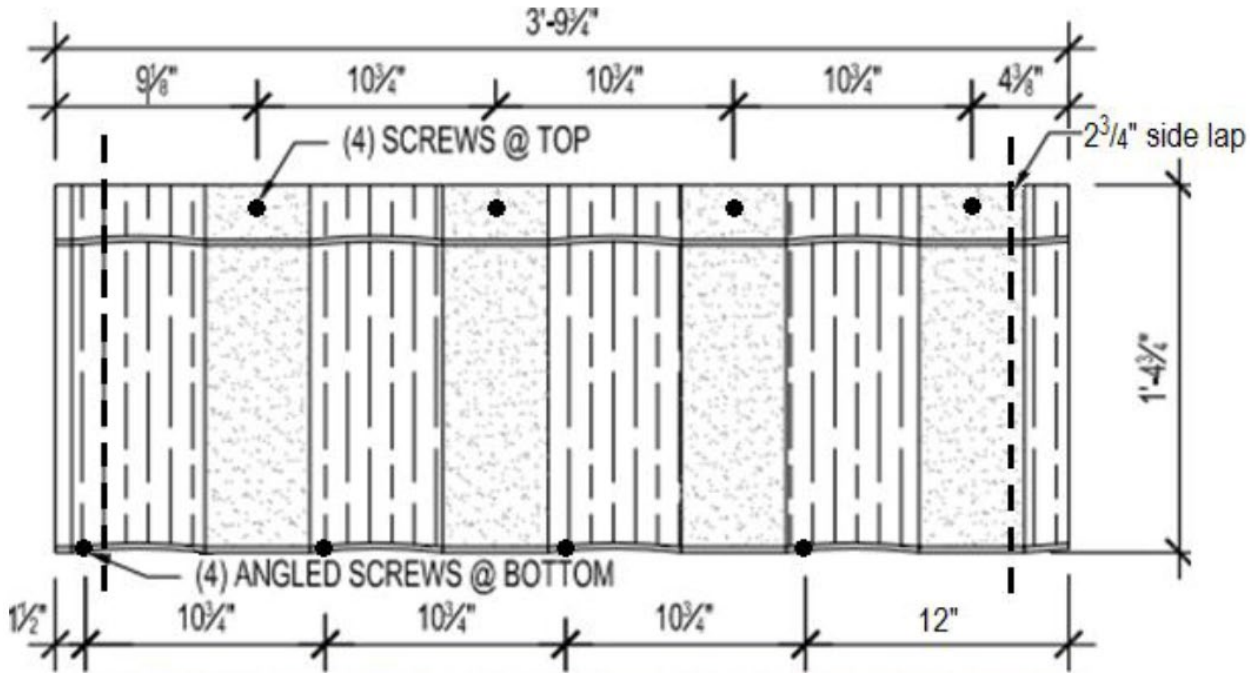
System 1: Attached using six (6) #10 x 1-1/2" HWH screws placed along the fastening flange beginning 1" from the edge and proceeding approximately 7" o.c. thereafter and one (1) additional fastener at the side lap for a total of seven (7) fasteners per panel. Panels applied in courses, by interlocking the head lap and side lap to adjacent panels. Refer to Figure 1 for panel profile and screw locations.

System 2: Attached using eight (8) #10 x 2-1/2" HWH screws for each panel. Four (4) screws installed 10-3/4" o.c. across the back shelf of the panel at the center of the trough beginning 9-1/8" from the edge of the panel. Four (4) screws were installed 10-3/4" o.c. at a 45-degree angle at the panel through the head lap at the apex of the vertical to horizontal transition beginning 1-1/2" from the edge of the panel. Panels were installed with 2-3/4" side lap and 2-3/4" head lap. Refer to Figure 1 for panel profile and screw locations.

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.



Eshal Shingle



Zarah Tile

Figure 1. Panel Profile