



Product Evaluation

RC233 | 0916

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-233

Effective Date: September 1, 2016

Re-evaluation Date: November 2019

Product Name: Ondura/Onduvilla Corrugated Asphalt Roofing Sheets and Tiles

Manufacturer: Onduline North America, Inc.
4900 Ondura Drive
Fredericksburg, VA 22407
(800) 777-7663

General Description:

Ondura Corrugated Asphalt Roofing Sheets: The roofing sheets are made of pulpboard that is sealed with a bitumen (asphalt) coating. The asphalt roofing sheets measure 48" x 79". The sheets have 1-3/8" deep corrugations that are spaced 4" apart. The asphalt roofing sheets are available in several colors.

Onduvilla and Onduvilla FR Asphalt Roofing Tiles: The Onduvilla Corrugated asphalt roofing tile consisting of corrugated tile made from processed mineral and organic fibres and impregnated with bitumen (asphalt). The tiles are normally 42" wide by 16" long by 0.113" thick and have a normal finished weight of 0.60 pound per square ft. The tiles have 1-1/2" deep corrugations space at 7-1/2" on center. The Onduvilla FR Corrugated Asphalt Roofing Tiles are identical in formulation, dimensions, and weight to the Onduvilla Corrugated Asphalt Roofing Tile with the exception of a secondary fire – retardant coating applied to the top surface of the tile.

Limitations:

Roof Deck: The roof deck must be solidly sheathed with either minimum 7/16" OSB or 15/32" plywood.

New Roof Deck Attachment: The roof deck must meet or exceed the uplift requirements of the IRC or IBC and must be installed as required for resistance to lateral wind loads.

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

Table 1. Attachment of corrugated asphalt roofing sheets to either minimum 7/16" OSB or 15/32" plywood decking

System	Product	Substrate	Nailing Pattern		Design Pressure (psf)
			Starter Row, End (Head)	Field Sheet	
1	Ondura	Min. 15/32 inch thick exterior grade plywood or 7/16" thick OSB.	One at each corrugated crown	One at each crown in rows 12" o.c.	-60
2	Onduvilla®/ Onduvilla FR	Min. 15/32"thick exterior grade plywood or 7/16" OSB	One at each corrugated crown	One at each corrugated crown marked X shown in Figure Ondu FR1	-41

Roof Slope: The corrugated asphalt roofing sheets must not be installed on roofs with a roof slope less than 3:12.

Installation:

General: The corrugated asphalt roofing sheets must be installed in accordance with the manufacturer's recommended installation instructions and this evaluation report.

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 underlayment must be installed with 2" side laps and 4" end laps. The underlayment must be applied with corrosion-resistant fasteners in accordance with the manufacturer's installation instructions. Fasteners must be applied along the overlaps not farther apart than 36 inches on center.

Fasteners: The corrugated asphalt roofing sheets must be fastened to the roof deck with Ondura ring shank nails. The Ondura ring shank nails must have a minimum length of 3", a minimum ring shank diameter of 0.135", a minimum 7/16" diameter diamond head, and a 1/8" thick x 5/8" outside diameter EPDM rubber washer. The Ondura ring shank nails must be galvanized steel.

System 1:

Attachment of Corrugated Asphalt Roofing Sheets to Roof Deck: The corrugated asphalt roofing sheets must be secured to the roof deck as follows:

Corrugated Asphalt Roofing Sheets: The fasteners must be located on every ridge. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck. (Note: If the corrugated asphalt roofing sheets are installed over an existing roof covering, then the fastener length must be increased so that the fasteners are long enough to ensure a minimum penetration of 1/4" below the existing plywood roof decking). Measured from the end of the panel, the spacing of the line of fasteners along the length of the panel must be as specified in Table 1. A line of fasteners must be located 3" from the end of the panel.

Sheet Side Laps: The sheets must be overlapped one ridge (a single corrugation). The fasteners must be spaced 12" on center along the sheet side lap at the ridge of the sheet. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck. (Note: If the corrugated asphalt roofing sheets are installed over an existing roof covering, then the fastener length must be increased so that the fasteners are long enough to ensure a minimum penetration of 1/4" below the existing plywood roof decking).

Sheet End Laps: The sheets must have a minimum 7" overlap. The fasteners must be located on every ridge. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck. (Note: If the corrugated asphalt roofing sheets are installed over an existing roof covering, then the fastener length must be increased so that the fasteners are long enough to ensure a minimum penetration of 1/4" below the existing plywood roof decking). The line of fasteners must be located 3-1/2" from the end of the sheet.

Sheet Edges: The fasteners must be spaced 12" on center along the sheet edge. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck. (Note: If the corrugated asphalt roofing sheets are installed over an existing roof covering, then the fastener length must be increased so that the fasteners are long enough to ensure a minimum penetration of 1/4" below the existing plywood roof decking).

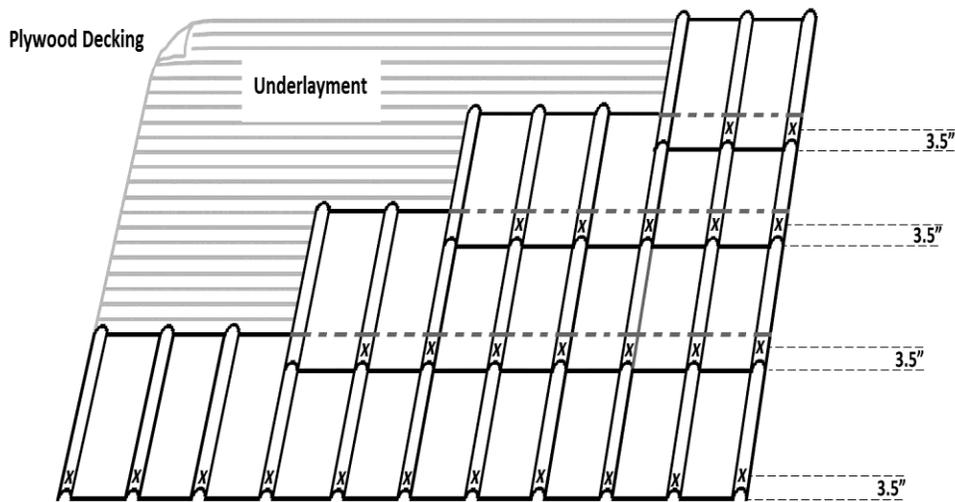
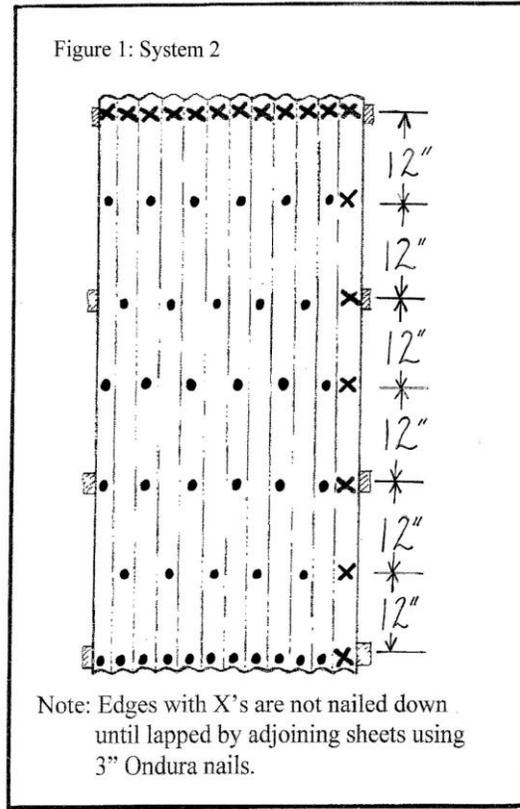
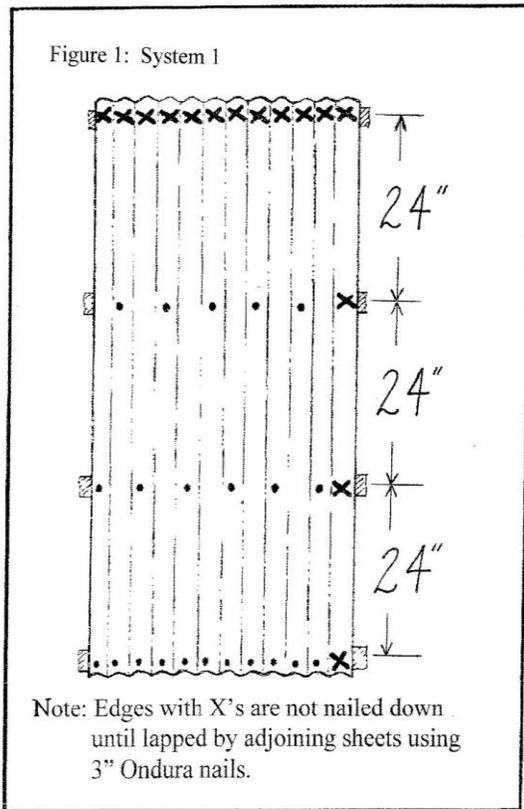
Trim: Ridge caps, hip covers, valley flashing, sidewall flashing, and closure strips must be installed in accordance with the manufacturer's installation instructions.

System 2:

Attachment of Onduvilla®/Onduvilla FR Corrugated Asphalt Roofing Tiles to Roof Deck: The corrugated asphalt roofing tiles must be secured to the roof deck as follows:

Corrugated Asphalt Roofing Tiles: The roofing tiles must be installed on roofs with a minimum slope of 3:12 with a minimum side lap of one corrugation and a minimum end (head) lap of must of 3-1/2". Starting at the eave, the tiles are fastened through the underlayment to the roof sheathing with fasteners of sufficient length to penetrate a minimum of 3/4" into the sheathing or through the sheathing whichever is less. Screws placed at the crown must be Onduvilla screws. The Onduvilla screws used for the installation of the Onduvilla® and Onduvilla FR tiles are zinc electroplated screws fabricated screws measuring approximately 2-3/4" long by nominal 0.157" diameter with a 0.39" diameter Phillips oval head and a 0.53" diameter EPDM washer allowing for a minimum 3/4" penetration into or through the sheathing whichever is less.

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



X - 2.75" Onduvilla screws in every corrugation centered between the two overlapping guides and in every corrugation crown along the starter row and end row.

Ondu FR 1

