Code Compliance Research Report
CCRR-0443

Issue Date: 02-10-2022
Revision Date: 02-20-2026
Renewal Date: 02-28-2027

DIVISION: 07 00 00 – THERMAL AND MOISTURE PROTECTION
Section: 07 41 13 – Metal Roof Panels

REPORT HOLDER:
TEK Industries LLC
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REPORT SUBJECT:
Hurricane Metal Shake
High Country Metal Shake
Hurricane Metal Shake PRO
High Country Metal Shake PRO
High Country Metal Tile
TEK Metal Shingle
TEK Metal Tile

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

- 2024, 2021, 2018 *International Building Code®* (IBC)
- 2024, 2021, 2018 *International Residential Code®* (IRC)
- 2025, 2022 *California Building Code* (see Section 9.0)
- 2023 and 2020 *Florida Building Code* (excluding High-velocity Hurricane Zones) (see Section 9.0)

NOTE: This report references the most recent Code editions cited. Section numbers in earlier editions may differ.

1.2 The TEK Industries metal panels described in this report have been evaluated for the following properties (see Table 1):

- Physical properties
- Wind resistance
- Fire classification

1.3 The TEK Industries metal roofing panels have been evaluated for the following uses (see Table 1):

- Metal roof panels complying with the requirements of IBC Section 1507.4 and IRC Section R905.10.
- Use as roof panels on buildings requiring a Class A roof classification.

2.0 STATEMENT OF COMPLIANCE

The TEK Industries metal roofing panels described in this report comply with the Codes listed in Section 1.1, for the properties stated in Section 1.2, and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.0.

3.0 DESCRIPTION

3.1 Roof Panels: The roofing panels are No. 28 gage AZ30 Galvalume coated steel, covered with a proprietary coating. Panel dimensions and profiles are shown in Table 3 and Figures 1 thru 5.

4.0 PERFORMANCE CHARACTERISTICS

4.1 Fire Classification: The roofing panels have a Class A rating when tested in accordance with ASTM E108 (UL 723). See Table 2 for roof assembly details.

4.2 Wind Uplift Resistance: Maximum allowable design pressures are shown in Table 3, based on testing in accordance with UL 1897, ASTM E1592 and TAS 125. Values are based on the allowable stress design (ASD) and include safety factors specified in ICC-ES AC166.

4.3 Impact Resistance: The metal panels recognized in this report meet the Class 4 impact requirements of UL 2218. Note, impact resistance is not required by the Codes for roofing installed at slopes greater than 2:12.

5.0 INSTALLATION

5.1 General: The roofing panels must be installed in accordance with the manufacturer's published installation instructions, the applicable Code, and this Research Report. A copy of the manufacturer's instructions must be available on the jobsite during installation.

5.2 Application: The roof panels must be installed on roofs having a minimum slope of 3:12 per IBC Section 1507.4.2 and IRC Section R905.10.2.

The roof panels are attached directly to the roof deck consisting of minimum 15/32-in. exterior grade plywood complying with APA PS-1. Construction of the roof covering must be as described in Tables 2 and 3.

6.0 CONDITIONS OF USE

6.1 Installation must comply with this Research Report, the manufacturer's published installation instructions, and the applicable Code. In the event of a conflict, this report governs.

6.2 The allowable wind uplift resistance noted in Table 3 is for the metal panels only. The roof deck and framing to which the metal panels are attached must be designed for components and claddings in accordance with IBC Section 1609 and IRC Section R301.2.1.

6.3 The roofing panels are manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

7.0 SUPPORTING EVIDENCE

7.1 Reports of tests demonstrating compliance with ASTM E108-20a [18b], UL 1897-15, ASTM E1592-05 (2017), UL 580-06, ASTM G155, ASTM B117 and TAS 125 (2003).

7.2 Data in accordance with the ICC-ES Acceptance Criteria for Metal Roof Coverings (AC166), approved February 2021.

7.3 Intertek Listing Report "TEK Industries LLC Metal Roofing Panels", on the Intertek Directory of Building Products.

8.0 IDENTIFICATION

The roofing panels are identified with the manufacturer's name (TEK Industries LLC), the product name, the Intertek Mark as shown below, the Intertek Control Number and the Code Compliance Research Report number (CCRR-0443).

9.0 OTHER CODES

9.1 California Building Codes: The Hurricane Metal Shake, High Country Metal Shake, Hurricane Metal Shake PRO, High Country Metal Shake PRO, TEK Metal Tile and TEK Metal Shingle roofing panels described in Sections 2.0 through 7.0 of this Research Report, comply with the California Building Code and California Residential Code.

9.2 Florida Building Codes: The Hurricane Metal Shake, High Country Metal Shake, Hurricane Metal Shake PRO, High Country Metal Shake PRO, TEK Metal Tile and TEK Metal Shingle roofing panels descried in Sections 2.0 through 7.0 of this report, comply with the Florida Building Code-Building and Residential, excluding High Velocity Hurricane Zones, subject to the following conditions:

- Fasteners shall comply with FBC-Building Sections 1606.5 and 1506.6, and FBC-Residential Sections R904.5.1 and R904.5.2, as applicable.
- Underlayment shall comply with FBC-Building Section 1507.1.1.1 and FBC-Residential Section R905.1.1.1.
- Allowable wind uplift loads are based on a factor of 2 in accordance with FBC Section 1504.9.

Intertek is an approved evaluation entity and quality assurance entity pursuant to Florida Statute 553.842 – *Product Evaluation and Approval*.

10.0 CODE COMPLIANCE RESEARCH REPORT USE

10.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

10.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

10.3 Reference to the https://bpdirectory.intertek.com is recommended to ascertain the current version and status of this report.

TABLE 1 – PROPERTIES EVALUATED

PROPERTY	APPLICABLE CODE SECTIONS[1]			
	IBC SECTION	IRC SECTION	FBC Section	CBC Section
Physical properties	1507.4	R905.10	1507.4.3	1507.4
Fire classification	1505	R902	1505	1505
Wind resistance	1504.4.3	R905.4.4.1	1504.3.2	1504.4.3

[1]Section numbers pertain to the most recent edition cited in Section 1.1 of this Report.

TABLE 2 – FIRE CLASSIFICATION

MIN. ROOF SLOPE	ROOF DECK	UNDERLAYMENT	METAL PANEL	ROOF CLASSIFICATION
Min. - 3:12 Max. - unlimited	15/32-in. exterior grade plywood	1 layer of synthetic roofing underlayment certified to ICC-ES AC188, and 1 layer of GAF VersaShield (ESR-2053)	Hurricane Metal Shake High Country Metal Shake Hurricane Metal Shake PRO High Country Metal Shake PRO TEK Metal Tile TEK Metal Shingle	Class A

TABLE 3 – WIND UPLIFT RESISTANCE AND CONSTRUCTION DETAILS

METAL PANEL	PANEL DIMENSIONS (in.)	SYSTEM CONFIGURATION	ALLOWABLE WIND RESISTANCE[1] (psf)
Hurricane Metal Shake High Country Metal Shake	53 x 13	Panels attached to min. 15/32-in. plywood with eight, min. #10-12 x 2-1/2 in. HWH wood screws, four screws in the top flange, spaced 2 in. from ends and 16 in. oc. Screws engage the lower flange of the course above.	55
Hurricane Metal Shake High Country Metal Shake	53 x 13	Back flange attached to min. 15/32-in. plywood roof deck through a foam insulation wedge with 0.120" x 3" ring shank nails at 6" oc. The front flange attached through the back flange of the panel in the course below, and into the roof deck, with #10-12 x 2-1/2" HWH wood screws at 6" oc. See Figure 5 (Method 1).[2]	124
Hurricane Metal Shake High Country Metal Shake	53 x 13	Front and back flanges attached to nominal 2 x 2 wood battens with 0.131" x 2-3/8" ring shank nails at 6" oc. Battens are minimum S.G. of 0.42, attached to min. 15/32-in. plywood with 0.120-in. x 3-in. ring shank nails at 6-in. oc. A foam insulation wedge is loose laid under the tile next to the batten. See Figure 6 (Method 2).	116
Hurricane Metal Shake High Country Metal Shake	53 x 13	Front and back flanges attached to nominal 2 x 2 wood battens with #10 x 1-1/2" screws at 6" oc. Battens are minimum S.G. of 0.42, attached to min. 15/32-in. plywood with 0.120-in. x 3-in. ring shank nails at 6-in. oc. A foam insulation wedge is loose laid under the tile next to the batten. See Figure7 (Method 3).[2]	86
High Country Metal Tile TEK Metal Tile	50 x 18	Back flange is attached to min. 1/2-in. 4-ply CDX plywood sheathing with two 0.120-in x 3-in. ring shank nails per valley. Front flange is secured through the adjacent tile with one #10 x 2-1/2-in. screw per valley. A 1-pcf foam insulation wedge is installed per Figure 5.	78
Hurricane Metal Shake PRO High Country Metal Shake PRO	53 x 13	Panels attached to min. 15/32-in. plywood with six, min. #10-12 x 2-1/2 in. HWH wood screws, located in the nailing flange, 2 in. from ends and 10 in. oc. The panels interlock with the panels in the next course.	90
Hurricane Metal Shake PRO High Country Metal Shake PRO	53 x 13	Panels attached to min. 15/32-in, plywood with eight, min. #10 x 2-1/2-in HWH wood screws, located in the nailing flange, 2 in. from ends and 6-3/4- oc for the field of the roof AND ten, min. #10 x 2-1/2-in. HWH wood screws, located in the nailing flange, 2 in. from ends and 5-1/4-in. oc, in the corners.	101
TEK Metal Shingle	39-1/4 x 13 1/8	Panels attached with eight 0.120-in. x 1-1/4-in. ring shank nails located 6-in. from front edge on either side of the keyways.	101

[1]Allowable loads are based on a factor of 2 applied to the ultimate tested load.
[2]Foam insulation wedge shall be of materials complying with IBC and FBC Section 2603, and IRC and FBC – Residential Section 316.

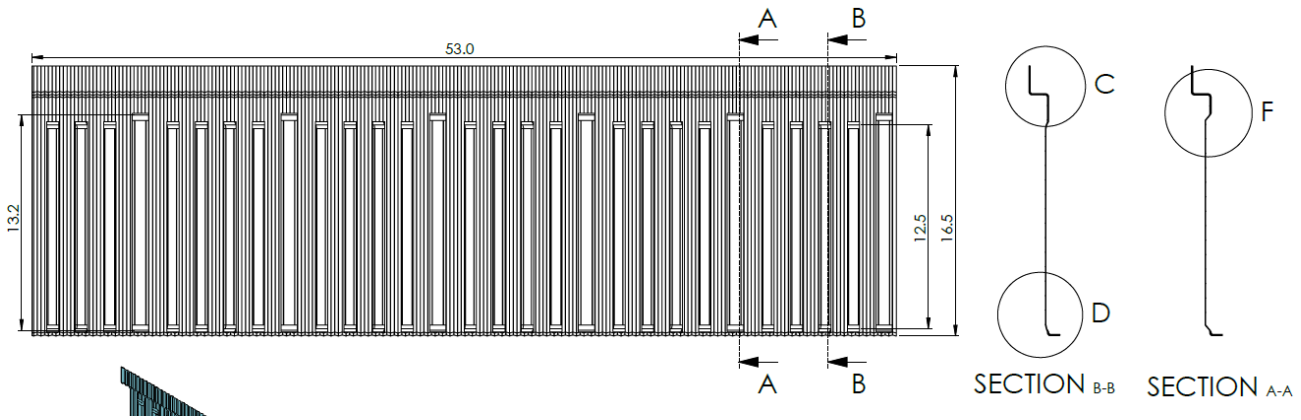

FIGURE 1 – HURRICANE METAL SHAKE / HIGH COUNTRY METAL SHAKE

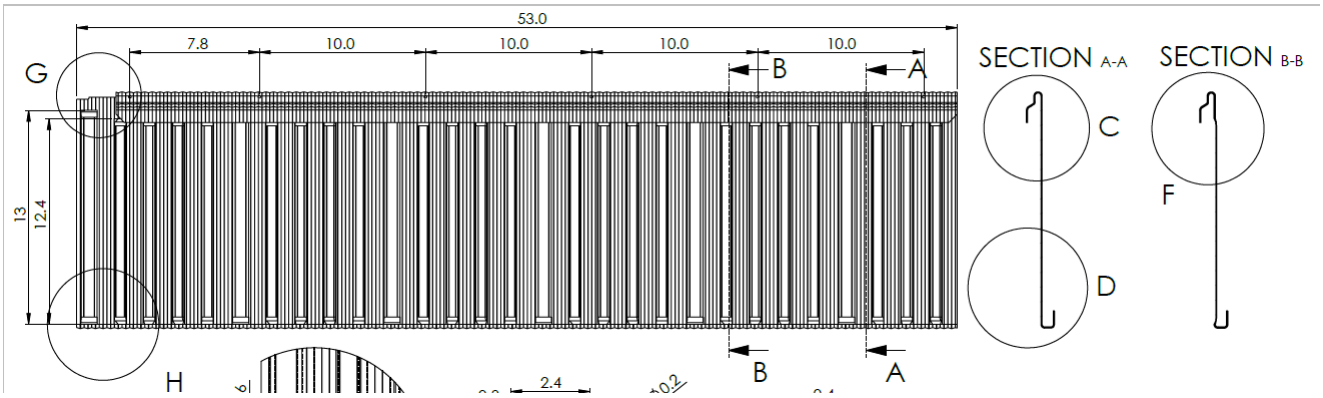

FIGURE 2 – HURRICANE METAL SHAKE PRO / HIGH COUNTRY METAL SHAKE PRO

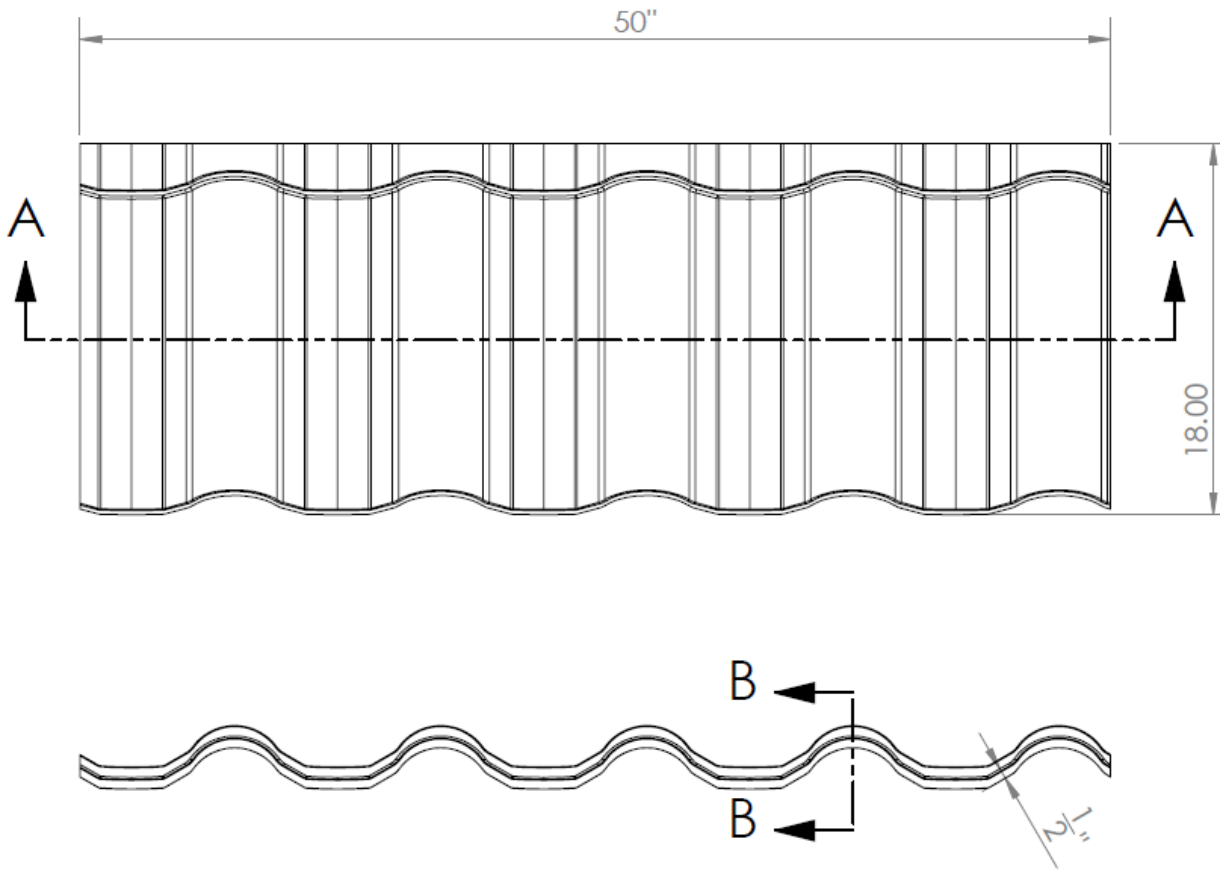

FIGURE 3 – HIGH COUNTRY METAL TILE / TEK METAL TILE

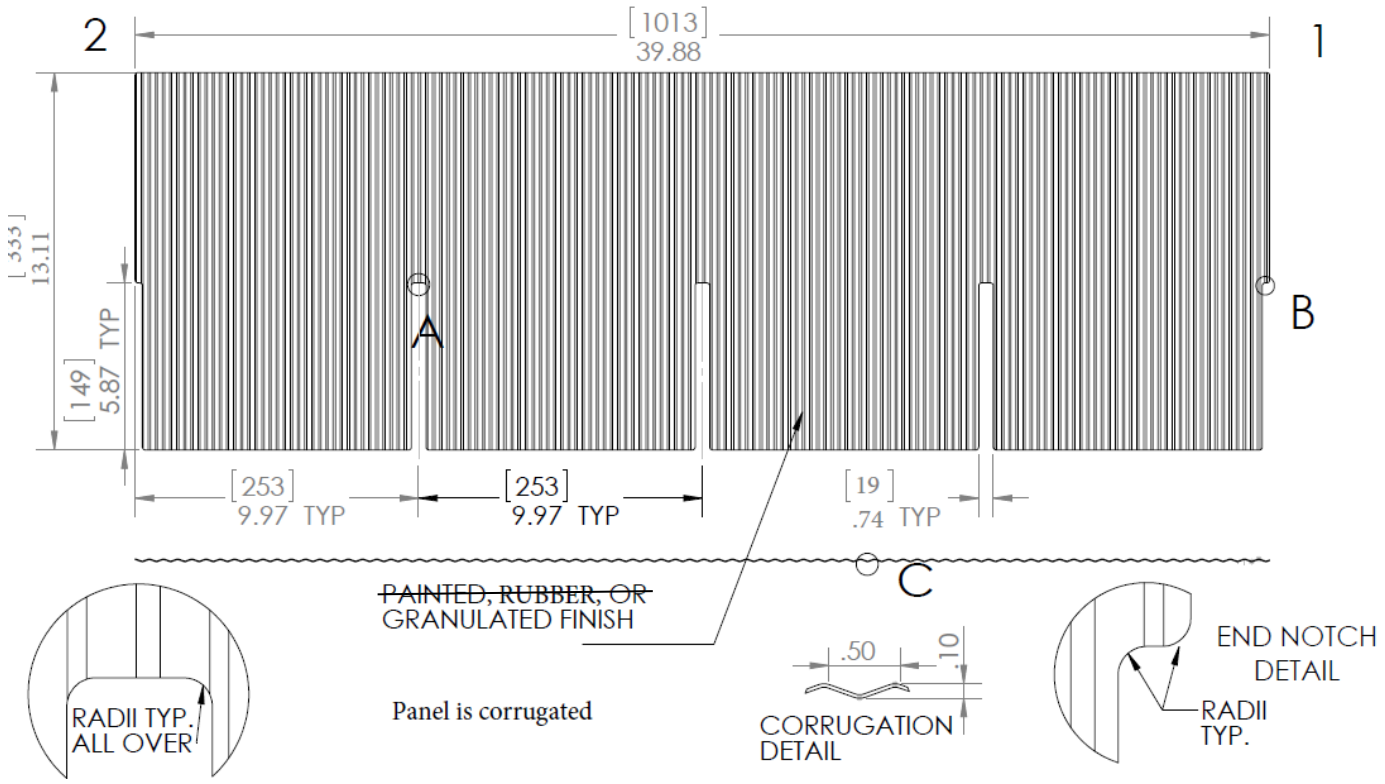

FIGURE 4 – TEK METAL SHINGLE

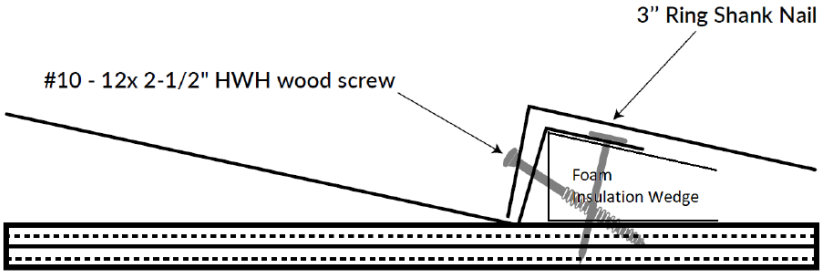

FIGURE 5 – ATTACHMENT METHOD 1 – HURRICANE METAL SHAKE, AND TEK METAL TILE

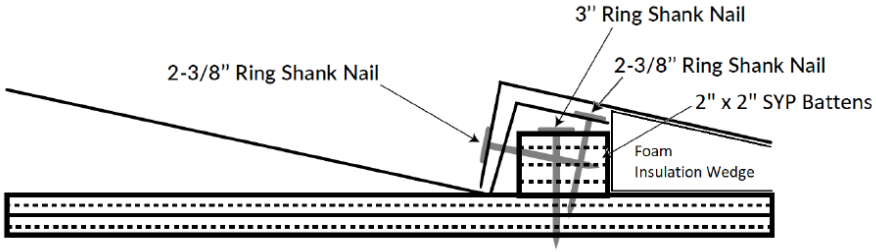

FIGURE 6 – ATTACHMENT METHOD 2 – HURRICANE METAL SHAKE

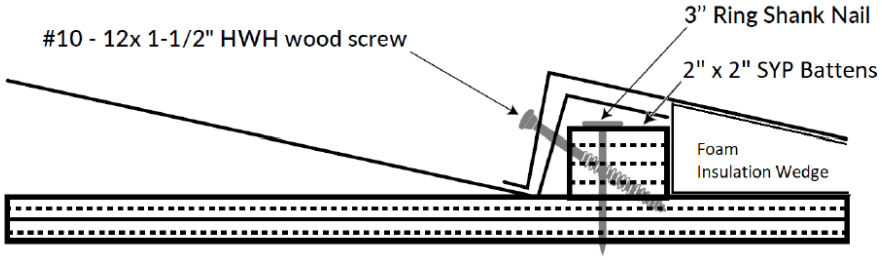

FIGURE 7 – ATTACHMENT METHOD 3 – HURRICANE METAL SHAKE