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MILLENNIUM METALS, INC
TEST REPORT

SCOPE OF WORK
WIND DRIVEN RAIN RESISTANCE TESTING OF 26 GA MMI OFF RIDGE VENT WITH PERMANENT BAFFLE

REPORT NUMBER
H7685.01-450-18 R1

TEST DATE
11/27/17

ISSUE DATE **REVISED DATE**
12/18/17 12/20/17

RECORD RETENTION END DATE
11/27/27

PAGES
12

GARY T. HARTMAN LICENSE No. 73227 STATE OF FLORIDA PROFESSIONAL ENGINEER

Gary Hartman
Digitally Signed by: Gary Hartman
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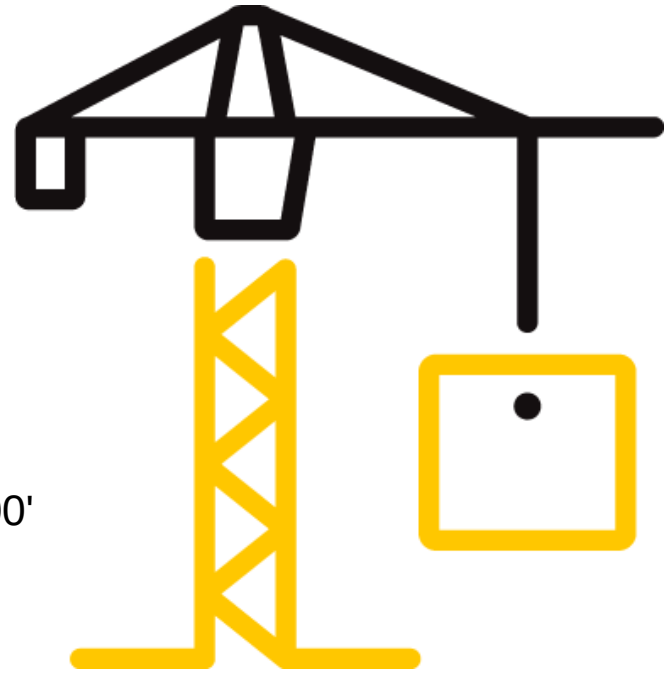

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TEST REPORT FOR MILLENNIUM METALS, INC
Report No.: H7685.01-450-18 R1
Date: 12/18/17

REPORT ISSUED TO

MILLENNIUM METALS, INC
10200 Eastport Rd
Jacksonville, FL 32218

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Millennium Metals to perform testing in accordance with TAS 100(A)-95, *Test Procedure for Wind and Wind Driven Rain Resistance of Discontinuous Roof Systems*, on one off ridge vent with attached baffle. Results obtained are tested values and were secured by using the designated test method. Testing was conducted at Intertek facility in West Palm Beach, Florida. This report does not constitute the certification of this product nor an opinion or endorsement by this laboratory.

SECTION 2

SUMMARY OF TEST RESULTS

Off Ridge Vent
Manufacturer: Millennium Metals, Inc.
Series/Model: 26 Ga MMI Off Ridge Vent with Permanent Baffle
Test Results: PASS

For INTERTEK B&C:

COMPLETED BY:	Alan Rule	**REVIEWED BY:**	Gary Hartman, P.E.
TITLE:	Field and Quality Supervisor	**TITLE:**	Laboratory Support Engineer
SIGNATURE:	Digitally Signed by: Alan Rule	**SIGNATURE:**	Digitally Signed by: Gary Hartman
DATE:	12/20/17	**DATE:**	12/20/17

mmn/awr/ab

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SECTION 3
TEST METHOD

The specimens were evaluated in accordance with the following:

TAS 100(A)-95, *Test Procedure for Wind and Wind Driven Rain Resistance of Discontinuous Roof Systems*, Florida Building Code - Test Protocols for High Velocity Hurricane Zone, 6th Edition (2017).

SECTION 4
CALIBRATION

Windstream, water supply, and water distribution calibration was performed prior to testing.

SECTION 5
MATERIAL SOURCE/INSTALLATION

The specimen was provided by Millennium Metals. Representative samples of the test specimen(s) will be retained by Intertek B&C for a minimum of ten years from the test completion date.

Installation of the tested product was performed by representatives of Intertek B&C.

SECTION 6
EQUIPMENT

Wind Generator: Engine driven propeller

SECTION 7
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Felipe Morales	Intertek B&C
Alan Rule	Intertek B&C
Gary Hartman, P.E.	Intertek B&C

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SECTION 8
TEST PROCEDURE

This test evaluates whether a soffit ventilation and a continuous or intermittent ridge area ventilation system installed within a discontinuous roof system, provides sufficient wind driven rain resistance to allow minimal water infiltration through the soffit and ridge area vent during a predetermined test period. One assembly was tested per TAS-100(A) at the wind speed intervals indicated below. (Reference Chart No. 1 for wind speed and duration.)

Interval No.	Wind Speed (mph)	Time (min)	Water Spray
1	35	15	On
2	0	5	Off
3	70	15	On
4	0	5	Off
5	90	15	On
6	0	5	Off
7	110	5	On
8	0	5	Off

Chart No. 1
TAS-100(A) Wind Speed Intervals

SECTION 9
TEST SPECIMEN DESCRIPTION

Off Ridge Vent
Manufacturer: Millennium Metals, Inc.
Series/Model: 26 Ga MMI Off Ridge Vent with Permanent Baffle

Vent Size: 4' (nominal)
Overall Size: 8' 0" wide by 8' 0" long (with ridge condition)
Roof Slope: 2:12
General Description: The 2:12 slope roof system test assembly incorporated a ridge condition. The plywood test deck consisted of four-ply 15/32" thick plywood sheathing installed over 2x10 perimeter supports and 2x10 intermediate supports, spaced 24" on center. The plywood was cut out to provide an 8" x 46" opening below the off ridge vent. Soffit ventilation was constructed into the test deck and located below the deck's front edge.

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Roof System:

COMPONENTS	DETAILS	ATTACHMENT METHOD
30# Asphalt saturated organic felt paper	A single layer was used with a 4" overlap between adjacent sheets.	0.120" x 1-1/4" galvanized annular ring shank roofing nails with 32 Ga tin caps spaced 6" on center at the perimeter and overlaps with two intermediate rows spaced 12" on center.
Shingles	Installed over the felt paper	The singles were secured using 11 Ga x 1-1/4" roofing nails per the installation instructions
Off ridge vent with permanent baffle	The vent and baffle were constructed from 26 Ga painted galvalume steel. The overall dimensions of the vent were 4-1/2" (h) x 23-3/8" (w) x 52-1/4" (l) and the baffle was 3" high. The top flange of the vent was located 11" below the ridge.	The bottom leg of the baffle was clinched to the vent using two pairs of 3/16" diameter toggle locks. The pairs of toggle locks were centered 16-1/2" from each side of the vent and spaced 1" apart. The vent was secured to the roof deck through the flanges at the top, bottom, and sides using 11 Ga x 1-1/4" roofing nails spaced 8" on center. Roof cement was utilized below the vent flanges and on top of the flanges at the nail heads.

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SECTION 10
CONCLUSION

The results are tabulated as follows.

WIND SPEED	OBSERVATIONS
35 mph	No water leakage
70 mph	No water leakage
90 mph	No water leakage
110 mph	0.04 ounces of water leakage was measured. This water leakage represents less than 0.01% of total amount of water sprayed at the test deck

Notes:
Reference Chart No. 1 for test wind speeds and durations.
Reference Section 11 for Photographs.

The MMI 26 Ga Off Ridge Vent with Permanent Baffle tested per TAS 100(A)-95 met the requirements for wind driven rain resistance. Per Section 11.1.2 of TAS 100(A) the vent met the requirements for installation up to and including a height of 33 feet.

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SECTION 11
PHOTOGRAPHS

Photo No. 1
Exterior of Deck at 35 mph

Photo No. 2
Exterior of Deck at 70 mph

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Photo No. 3
Exterior of Deck at 90 mph

Photo No. 4
Exterior of Deck at 110 mph

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Photo No. 5
Interior of Deck

Photo No. 6
Toggle Locks Clinching the Baffle to the Vent

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SECTION 12
DRAWINGS

The test specimen drawings have been reviewed by Intertek B&C and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.

MILLENNIUM
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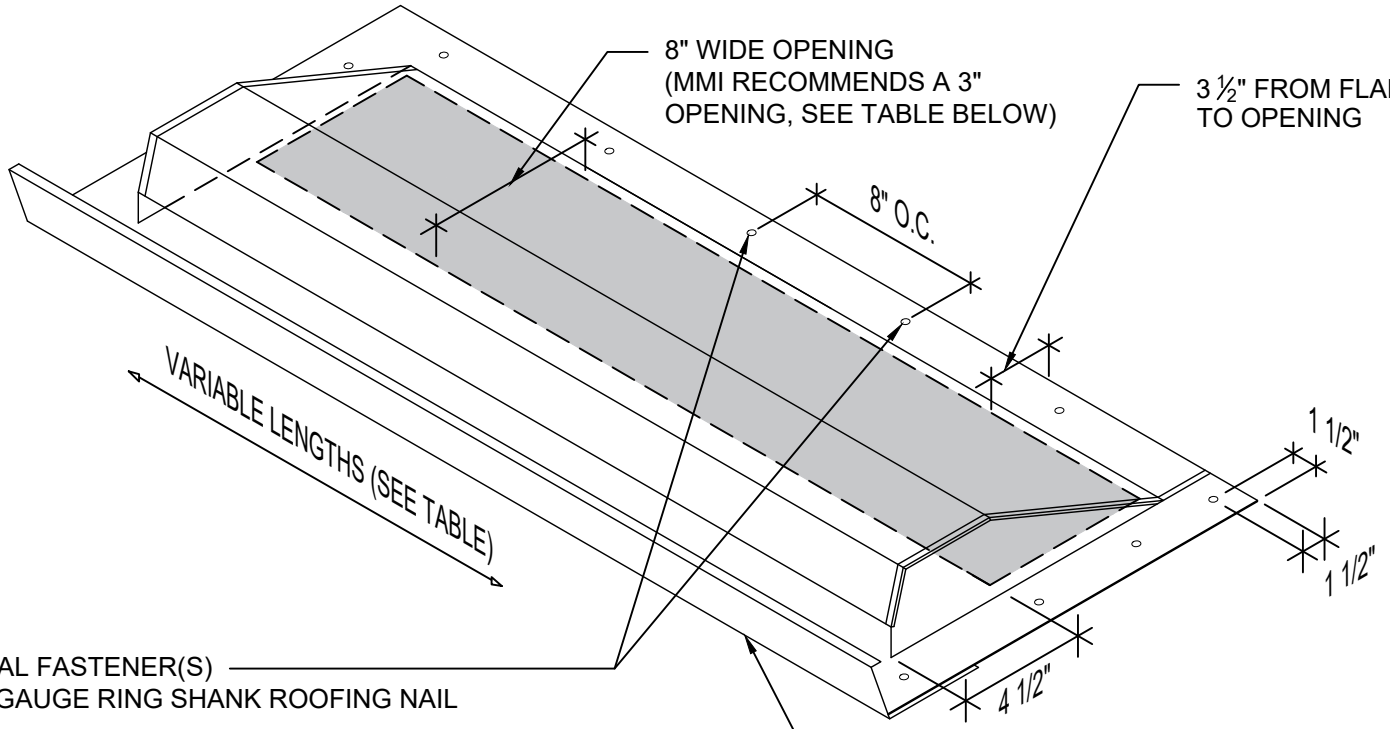
904-358-8366 WATTS 1-877-358-7663 (ROOF)
FAX 904-358-8285

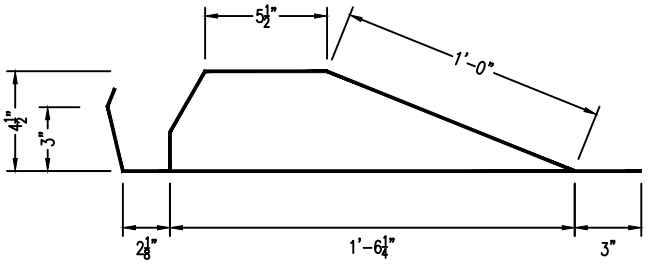
TAS 100(A) -95 INSTALLATION METHOD
Millennium Metals, Inc.
MMI Off Ridge Vent with Permanent Baffle - Attached to Wood Deck



TYPICAL FASTENER(S)
- 11 GAUGE RING SHANK ROOFING NAIL
OR
- #10 MIN. WOOD SCREWS

VENT TESTED WITH 11 GAUGE 1 ¼" RING SHANK NAIL, 8" O.C. TO PENETRATE DECK BY 3/16"

ATTACHED BAFFLE:
FIXED BAFFLE ON VENT SECURED WITH APPROVED FASTENERS 8" O.C.



SIDE VIEW

MMI OFF RIDGE VENT RECOMMENDATIONS		
LENGTH	CUT OUT	NET FREE AREA
4 Ft.	3" x 46"	138 Sq. In.
6 Ft.	3" x 70"	210 Sq. In.
8 Ft.	3" x 94"	282 Sq. In.
10 Ft.	3" x 118"	354 Sq. In.

Intertek
Report #: H7685.01-450-18
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Verified by:

OFF RIDGE VENT

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SECTION 13
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	12/18/17	N/A	Original Report Issue
1	12/20/17	5	Added 1-1/4" length for 11 Ga nail
		11	Updated drawings