intertek
Total Quality. Assured.

# MILLENNIUM METALS, INC
# TEST REPORT

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

**REPORT NUMBER**
H7685.03-450-18 R1

**TEST DATE**
11/29/17

**ISSUE DATE**
12/18/17

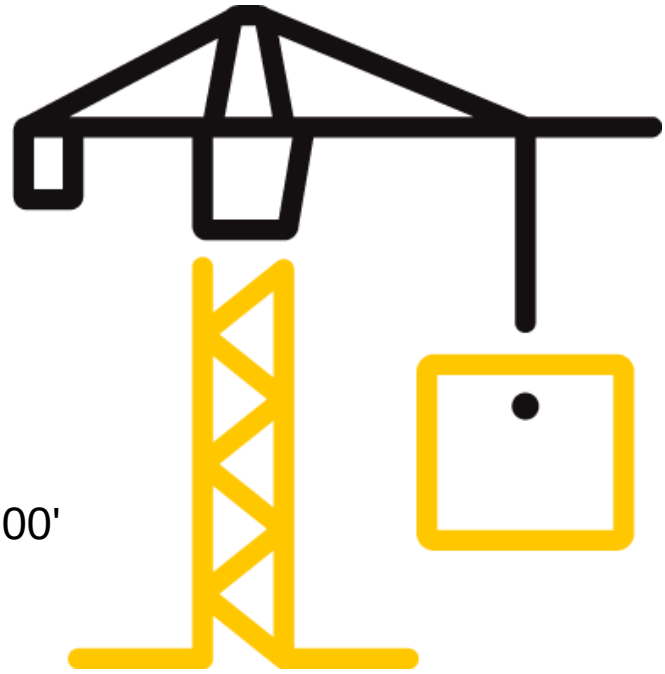
**REVISED DATE**
12/20/17

**RECORD RETENTION END DATE**
11/29/27

**PAGES**
11

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

Digitally Signed by: Gary Hartman
2017.12.28 14:21:03 -05'00'



© 2017 INTERTEK

2658 Electronics Way
West Palm Beach, Florida 33407

Telephone: 561-881-0020
Facsimile: 717-764-4129
www.intertek.com/building

**TEST REPORT FOR MILLENNIUM METALS, INC**
Report No.: H7685.03-450-18 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 detachable 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**: MMI 26 Ga Off Ridge Vent with Detachable 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

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample(s) tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

intertek
Total Quality. Assured.

2658 Electronics Way
West Palm Beach, Florida 33407

Telephone: 561-881-0020
Facsimile: 717-764-4129
www.intertek.com/building



## 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 |

intertek
Total Quality. Assured.

2658 Electronics Way
West Palm Beach, Florida 33407

Telephone: 561-881-0020
Facsimile: 717-764-4129
www.intertek.com/building

**TEST REPORT FOR MILLENNIUM METALS, INC**
Report No.: H7685.03-450-18 R1
Date: 12/18/17

## 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**: MMI 26 Ga Off Ridge Vent with Detachable 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 a 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.

intertek
Total Quality. Assured.

2658 Electronics Way
West Palm Beach, Florida 33407

Telephone: 561-881-0020
Facsimile: 717-764-4129
www.intertek.com/building

**TEST REPORT FOR MILLENNIUM METALS, INC**
Report No.: H7685.03-450-18 R1
Date: 12/18/17

**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 | The vent was 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). The top flange of the vent was located 11" below the ridge. | The vent was secured 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. |
| Baffle | The baffle was constructed from 26 Ga painted galvalume steel and measured 3” (h) x 2-3/4" (w) x 52-1/4" (h). | The bottom leg of the baffle was placed underneath the bottom flange of the vent and secured using the vent installation nails |

intertek
Total Quality. Assured.

2658 Electronics Way
West Palm Beach, Florida 33407

Telephone: 561-881-0020
Facsimile: 717-764-4129
www.intertek.com/building



## 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 | No water leakage |

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

The MMI 26 Ga Off Ridge Vent with Detachable 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.

2658 Electronics Way
West Palm Beach, Florida 33407

Telephone: 561-881-0020
Facsimile: 717-764-4129
www.intertek.com/building



## SECTION 11
## PHOTOGRAPHS

**Photo No. 1**
**Exterior of Deck at 35 mph**

**Photo No. 2**
**Exterior of Deck at 70 mph**

intertek
Total Quality. Assured.

2658 Electronics Way
West Palm Beach, Florida 33407

Telephone: 561-881-0020
Facsimile: 717-764-4129
www.intertek.com/building

**Photo No. 3**
**Exterior of Deck at 90 mph**

**Photo No. 4**
**Exterior of Deck at 110 mph**

Total Quality. Assured.

2658 Electronics Way
West Palm Beach, Florida 33407

Telephone: 561-881-0020
Facsimile: 717-764-4129
www.intertek.com/building

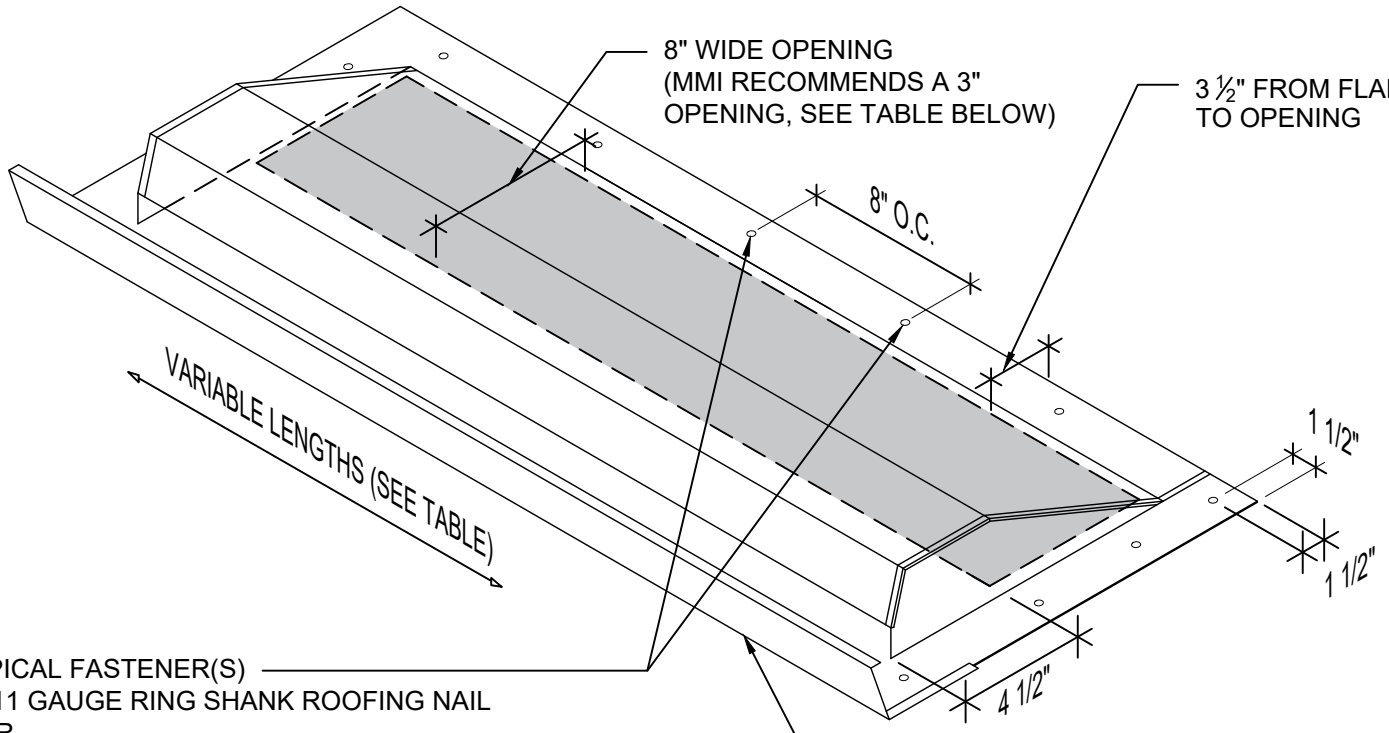


## SECTION 12
## DRAWINGS

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
METALS, INC.
10200 EASTPORT ROAD JACKSONVILLE, FL 32218
904-358-8366 WATTS 1-877-358-7663 (ROOF)
FAX 904-358-8285

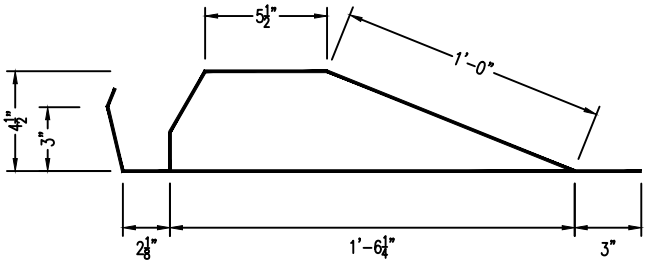
# TAS 100(A) -95 INSTALLATION METHOD
## Millennium Metals, Inc.
## MMI Off Ridge Vent with Detachable Baffle - Attached to Wood Deck




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"

**DETACHABLE BAFFLE**:
TWO PIECE SYSTEM THAT SLIDES INTO LOWER FLANGE OF VENT AND 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 #: H7685.03-450-18
Date: 12/20/17
Verified by:

**OFF RIDGE VENT**

2658 Electronics Way
West Palm Beach, Florida 33407

Telephone: 561-881-0020
Facsimile: 717-764-4129
www.intertek.com/building



## 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 |
| | | 10 | Updated drawings |