

## Evaluation Report

*of*

**Millennium Metals, Inc.**

**“M-Seam”**

**Metal Roof Assembly**

*for*

**Florida Product Approval**

**# FL 4866.1**

**Florida Building Code 2004**

**Method: 1 - D**

**Category: Roofing**

**Sub - Category: Non – Structural Metal Roofing**

**Product: M-Seam Roof Panel**

**Material: Steel**

**Panel Thickness: 26 Gauge Minimum**

**Panel Width: 16” Maximum Coverage**

**Support Type: Wood Deck**

**Prepared for:**

**Millennium Metals, Inc.**

1333 Haines Street Expressway

Jacksonville, Florida 32202

**Prepared by:**

**James L. Buckner, P.E.**

Florida Professional Engineer # 31242

Florida Evaluation ANE ID: 1916

Engineer Assistant: Gil Samson

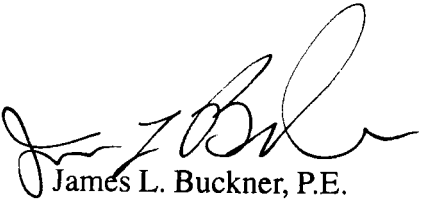
Report No. 05-226-MS-16-S6W

Date: 7 / 19 / 05

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James L. Buckner, P.E.

Florida P.E. # 31242

7/20/05

# C-BUCK Engineering

Specialty Structural Engineering

Certificate of Authorization # 8064

<b>Manufacturer:</b>	<b>Millennium Metals, Inc.</b>
<b>Product Name:</b>	<b>M-Seam Roof Panel</b>
<b>Panel Type:</b>	<b>Steel, minimum 26 gauge, minimum yield strength 50 ksi</b>
<b>Panel Material Standards:</b>	Material shall comply with Table 1507.4.3
<b>Panel Width(s)</b>	<b>16" Maximum (Net Coverage Width)</b>
<b>Support Type:</b>	<b>Wood Deck</b> <b>(Design of support system is not included in this evaluation)</b>
<b>Support Description:</b>	<b>Plywood or wood plank – 15/32" or greater, per Section 2308.10.8</b>
<b>Slope Range:</b>	<b>2 : 12 or greater</b>
<b>Design Uplift Pressure:</b>	<b>For Screw Rows Spaced 8" o.c. – 84.25 psf ( Safety Factor of 2:1 )</b> <b>For Screw Rows Spaced 4" o.c. – 91.75 psf ( Safety Factor of 2:1 )</b>
<b>Attachment To Support:</b>	Panels shall be attached to the deck with <b>minimum #10 x minimum penetration through deck 3/16", pancake head, self-tapping, corrosion resistant, wood screws, per ANSI/ASME B18.6.4.</b>
<b>Underlayment:</b>	Minimum underlayment shall be per Section 1507.4.5
<b>Fire Classification:</b>	Additional approved substrates may be added for Fire Classification purposes.
<b>Installation:</b>	<b><u>For Design Pressure = 84.25 psf</u></b> Install the "M Seam Roof Panel" to the deck with screw rows spaced <b>2" from all panel ends and maximum 8" o.c. thereafter along the length of the nail strip. Within rows, screws shall be spaced maximum 16" o.c. across the width of the panel, at the nail strips. Once the screws are secured, Install system in compliance with the attached installation method.</b>  <b><u>For Design Pressure = 91.75 psf</u></b> Install the "M Seam Roof Panel" to the deck with screw rows spaced <b>2" from all panel ends and maximum 4" o.c. thereafter along the length of the nail strip. Within rows, screws shall be spaced maximum 16" o.c. across the width of the panel, at the nail strips. Install system in compliance with the attached installation method.</b>



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**Performance Standards:** Roof assembly tested in accordance with **UL580-94, Rev. 1998** Uplift Resistance Standard.

**Code Compliance:** The product described herein has demonstrated compliance with the **Florida Building Code 2004, Section 1507.4.**

**Evaluation Report Scope:** This product evaluation is limited to compliance with the structural wind load requirements of the Florida Building Code, as related to Rule 9B-72.

**System Limitations:** The required design wind loads shall be determined for each project. The maximum fastener spacing listed herein shall not be exceeded. All rational analysis computations shall be prepared by a qualified design professional, as required by Florida Building Code, Section 105. This product is not approved for use in the High Velocity Hurricane Zone.

**Referenced Data:**

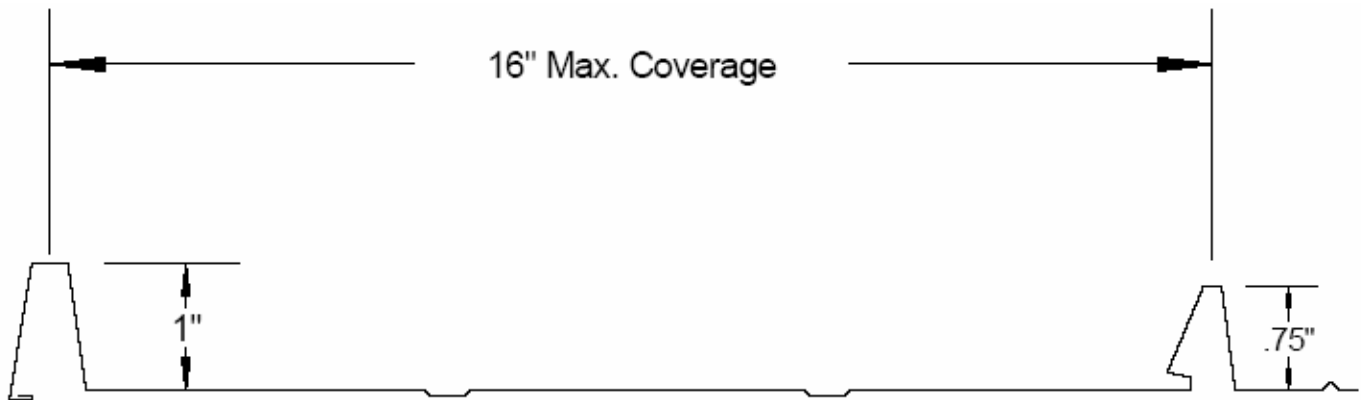
1. Certification of Independence
2. Quality Assurance  
Underwriters Laboratories, Inc. – Q.A. System ID: 1743
3. UL580 Test  
Hurricane Test Laboratories, LLC.  
Report #: 0232-0508-05  
Date: 6/29/05

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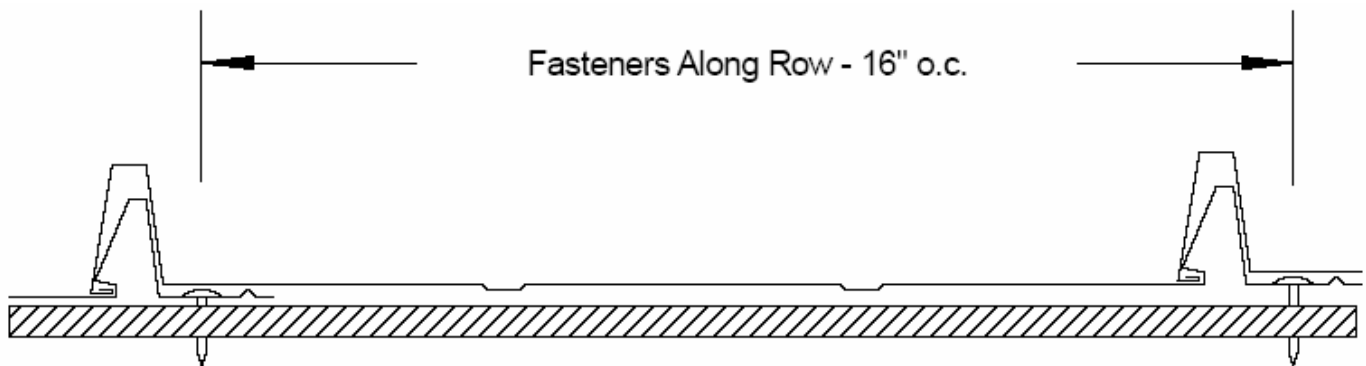
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## Installation Method Millennium Metals, Inc. "M Seam" Attached to Wood Deck



**Panel Profile**



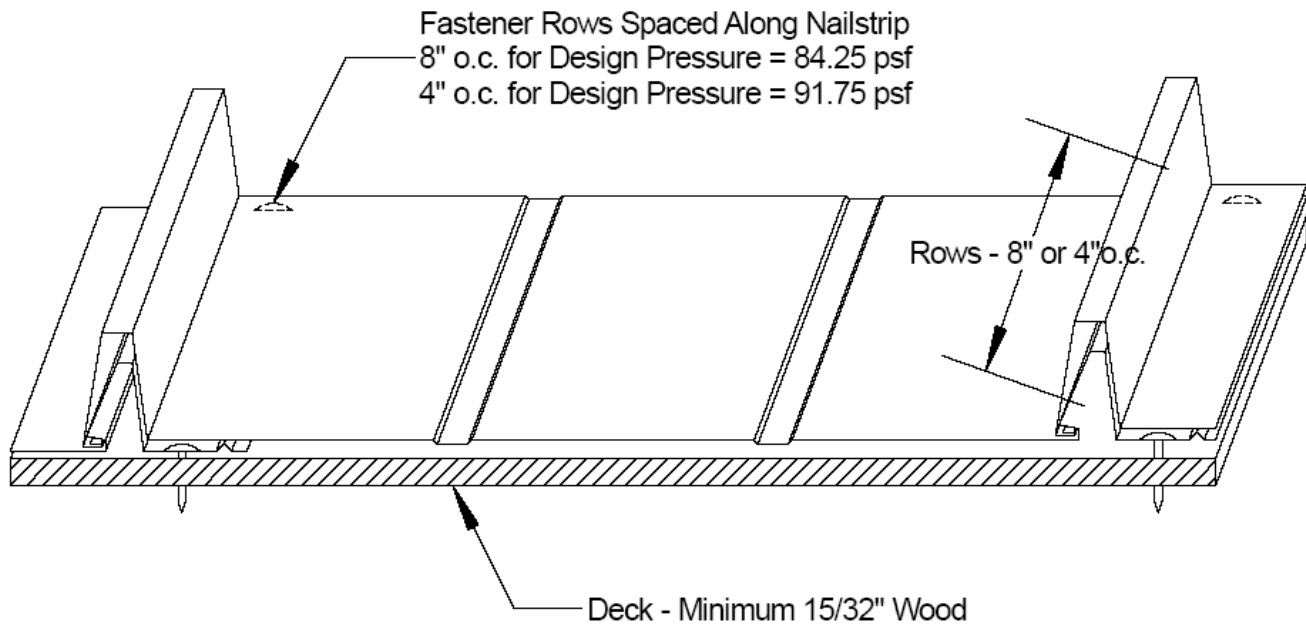
**Fastener Spacing Across Width**

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## Installation Method Millennium Metals, Inc. "M Seam" Attached to Wood Deck



Assembly Isometric View