



C-BUCK Engineering

Specialty Structural Engineering

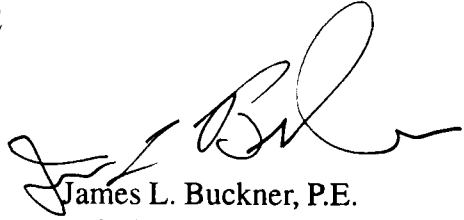
Certificate of Authorization # 8064

Evaluation Report
of
Millennium Metals, Inc.
“5-V Crimp” & “Millennium-V”
Metal Roof Assembly
for
Florida Product Approval
FL 5211.1
Florida Building Code 2004
Method: 1 - D
Category: Roofing
Sub - Category: Non-Structural Metal Roofing

Product: 5-V Crimp & Millennium-V
Material: Steel
Panel Thickness: 26 Gauge Minimum
Panel Width: 24” Maximum (Net Coverage)
Support Type: Wood Deck

Prepared for:
Millennium Metals, Inc.
1333 Haines Street Expressway
Jacksonville, FL 32202

Prepared by:
James L. Buckner, P.E.
Florida Professional Engineer # 31242
Florida Evaluation ANE ID: 1916
Engineer Assistant: Gil Samson
Report No. 05-226-5V-24-S6W
Date: 8 / 11 / 05



James L. Buckner, P.E.
Florida P.E. # 31242
8/30/05

Contents:
Evaluation Report Pages 1 – 3
Installation Method Pages 4 – 5

C-BUCK Engineering

Specialty Structural Engineering

Certificate of Authorization # 8064

Manufacturer: Millennium Metals, Inc.

Product Name: 5-V Crimp & Millennium-V

Panel Type: Steel, minimum 26 gauge, minimum yield strength 50 ksi

Panel Material Standards: Material shall comply with Table 1507.4.3

Panel Width(s): 24" Maximum (Net Coverage Width)

Support Type: Wood Deck
(Design of support system is not included in this evaluation)

Support Description: Plywood – 19/32" or greater, or wood plank, per Section 2308.10.8

Slope Range: 3 : 12 or greater

Design Uplift Pressure: 112.5 psf (Safety Factor of 2:1)

Attachment To Support: Panels shall be attached to the deck with **minimum #9 x minimum penetration through deck 3/16", hex-head, self-tapping, corrosion resistant, wood screws, per ANSI/ASME B18.6.4 with EPDM bonded steel washers.**

Underlayment: Minimum underlayment shall be per Section 1507.4.5

Fire Classification: Fire Classification is outside the scope of Rule 9B-72, and is therefore not included in this evaluation. Additional approved substrates may be added for Fire Classification purposes.

Installation: Install the "5V Crimp" & "Millennium-V" to the deck with **screw rows spaced 3" from all ends and maximum 12" o.c. thereafter, along the length of the panel. Within rows, screws shall be spaced approximately 12" o.c. across the width of the panel.** Install system in compliance with the attached installation method.



C-BUCK Engineering

Specialty Structural Engineering

Certificate of Authorization # 8064

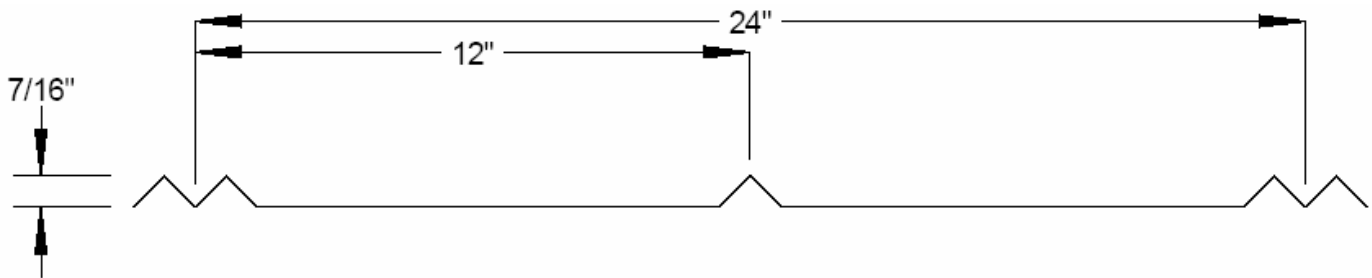
- Performance Standards:** Roof assembly tested in accordance with **UL580-94, Rev. 1998** Uplift Resistance Standard.
- Code Compliance:** The product described herein has demonstrated compliance with the **Florida Building Code 2004, Section 1507.4.**
- Evaluation Report Scope:** This product evaluation 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 Laboratory, LLC
Report #: 0232-0801-00 #2-4,
Date: 9/8/00

C-BUCK Engineering

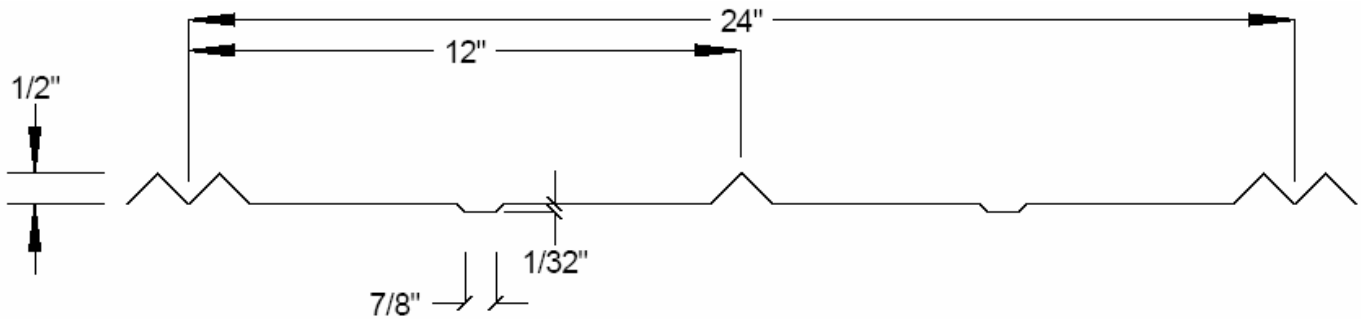
Specialty Structural Engineering

Certificate of Authorization # 8064

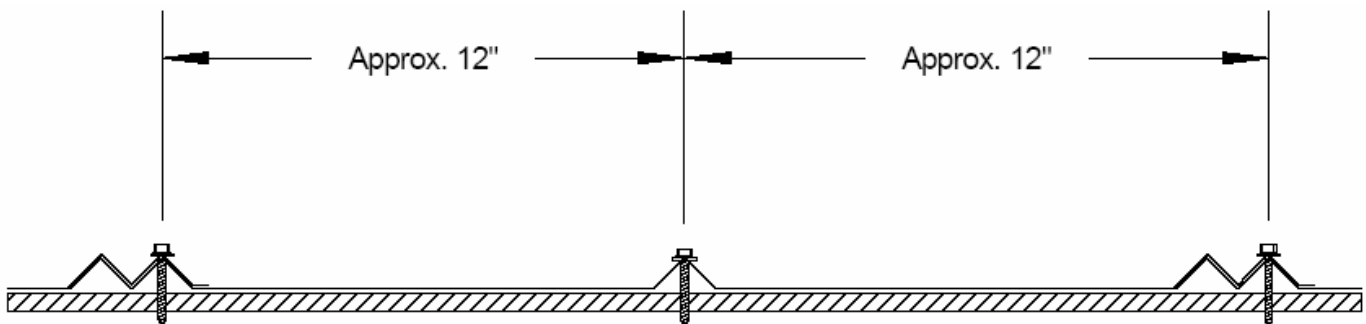
Installation Method Millennium Metals, Inc. “5V Crimp” & “Millennium-V” Attached to Wood Deck



“5V Crimp” Panel Profile



“Millennium-V” Panel Profile



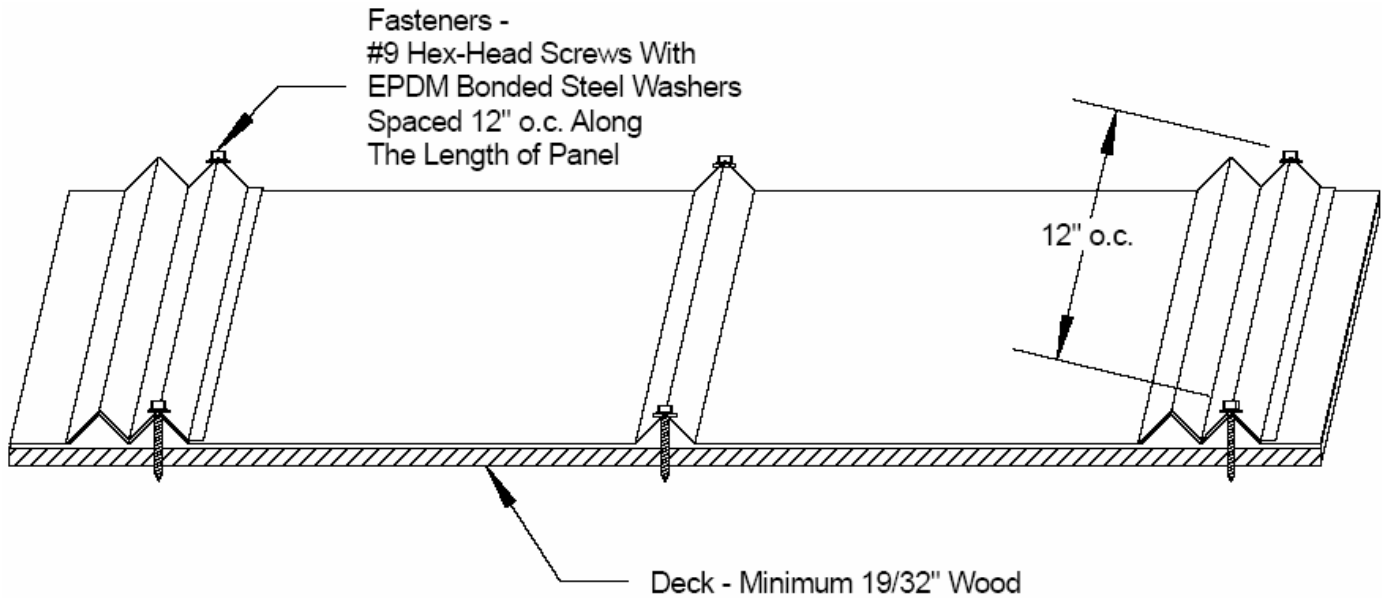
Assembly Profile (Both Panels)

C-BUCK Engineering

Specialty Structural Engineering

Certificate of Authorization # 8064

Installation Method (Continued) Millennium Metals, Inc. "5V Crimp" & "Millennium-V" Attached to Wood Deck



Assembly Isometric View (Both Panels)