



# C-BUCK Engineering

Specialty Structural Engineering

Certificate of Authorization # 8064

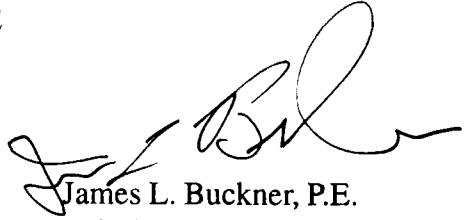
**Evaluation Report**  
*of*  
**Millennium Metals, Inc.**  
**“5-V Crimp” & “Millennium-V”**  
**Metal Roof Assembly**  
*for*  
**Florida Product Approval**  
**# FL 5211.1**  
**Florida Building Code 2004**  
**Method: 1 - D**  
**Category: Roofing**  
**Sub - Category: Non-Structural Metal Roofing**

**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

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



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



# 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

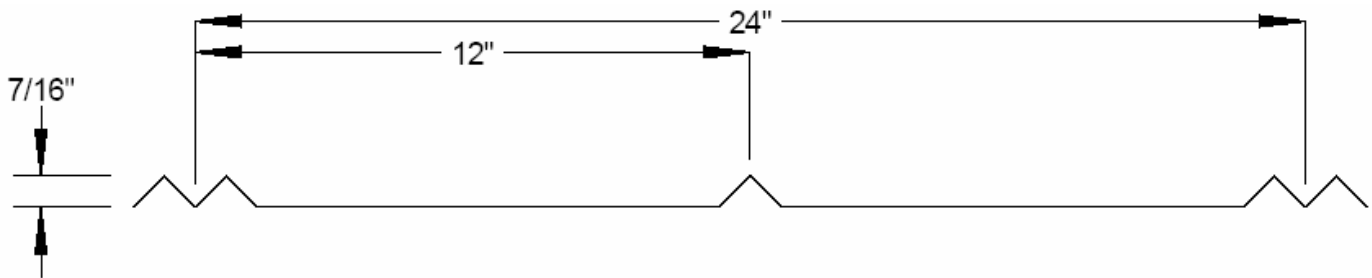
- Performance Standards:** Roof assembly tested in accordance with **UL580-94, Rev. 1998** Uplift Resistance Standard.
- Code Compliance:** The product described herein has demonstrated compliance with the **Florida Building Code 2004, Section 1507.4.**
- Evaluation Report Scope:** This product evaluation 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

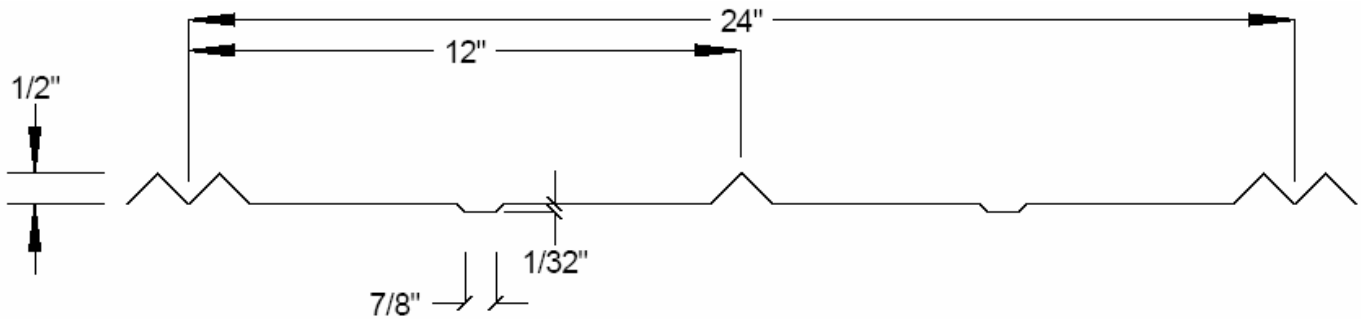
Specialty Structural Engineering

Certificate of Authorization # 8064

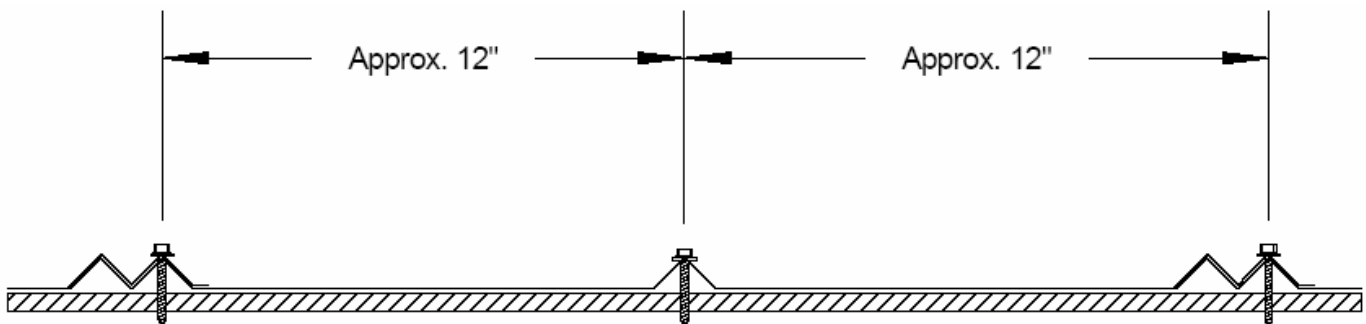
## Installation Method Millennium Metals, Inc. “5V Crimp” & “Millennium-V” Attached to Wood Deck



“5V Crimp” Panel Profile



“Millennium-V” Panel Profile



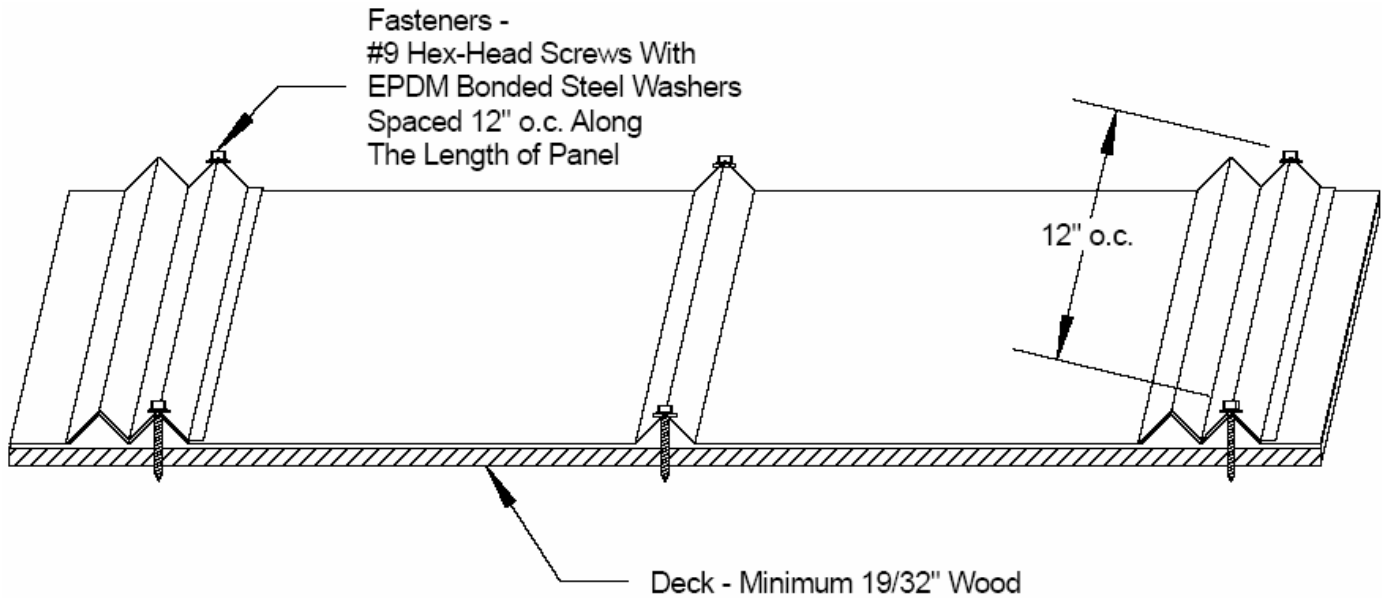
Assembly Profile (Both Panels)

# 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)