

Solid Wire Grounding Assembly**NOTE**

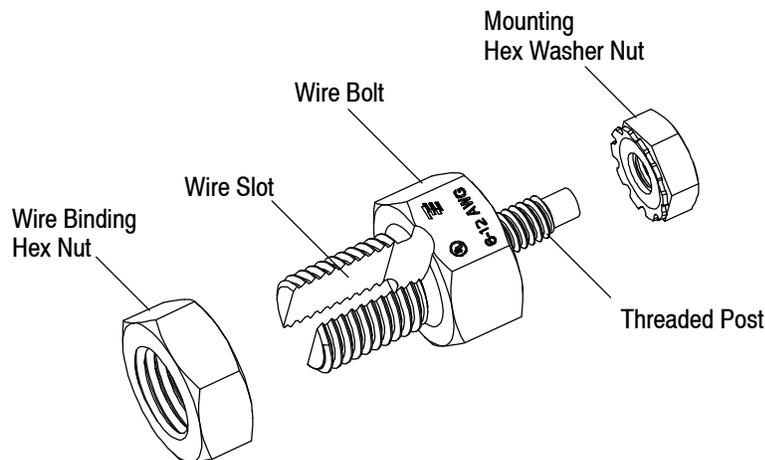
All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters [and inches]. Unless otherwise specified, dimensions have a tolerance of ± 0.13 [$\pm .005$] and angles have a tolerance of $\pm 2^\circ$. Figures and illustrations are for identification only and are not drawn to scale.

1. INTRODUCTION

This specification covers the requirements for application of Solid Wire Grounding Assembly used with aluminum-framed photovoltaic (PV) modules (or solar panels) and related products that require grounding for safety reasons. The grounding assembly consists of a wire binding hex nut, wire bolt, and mounting hex washer nut. The wire bolt has a wire slot on one end and a threaded post on the other end. The grounding assembly is available with the threaded post in size No. 8-32 UNC or No. 10-32 UNF. The wire bolt and mounting hex washer nut have an annular edge that penetrates the finish of the aluminum frame (of the solar panel).

The threaded post of the wire bolt and the mounting hex washer nut is used to mount the grounding assembly to the frame. The wire slot of the wire bolt is used to hold the wire, and the wire binding hex nut is used to terminate the wire.

When corresponding with personnel, use the terminology provided in this specification to facilitate your inquiries for information. Basic terms and features of this product are provided in Figure 1.

*Figure 1***2. REFERENCE MATERIAL****2.1. Revision Summary**

Revisions to this application specification include:

- Changed company logo

2.2. Customer Assistance

Reference Product Base Part Number 2058729 and Product Code L586 are representative of Solid Wire Grounding Assembly. Use of these numbers will identify the product line and expedite your inquiries through a service network established to help you obtain product and tooling information. Such information can be obtained through a local Representative or, after purchase, by calling PRODUCT INFORMATION at the number at the bottom of this page.

2.3. Drawings

Customer Drawings for product part numbers are available from the service network. If there is a conflict between the information contained in the Customer Drawings and this specification or with any other technical documentation supplied, call PRODUCT INFORMATION at the number at the bottom of this page.

2.4. Specifications

Design Objective 108-2380 provides expected product performance and test information.

2.5. Instructional Material

Instruction Sheets (408-series) provide product assembly instructions or tooling setup and operation procedures. Documents available which pertain to this product are:

408-10262 Solid Wire Grounding Assemblies 2058729-1 and 2106831-1

3. REQUIREMENTS

3.1. Material

All components are made of stainless steel.

3.2. Safety

Do not stack product shipping containers so high that the containers buckle or deform.

3.3. Storage

A. Ultraviolet (UV) Light

The solid wire grounding assembly is UL rated for UV light and outdoor exposure.

B. Shelf Life

The grounding assembly should remain in the shipping containers until ready for use to prevent damage. The grounding assemblies should be used on a first in, first out basis to avoid storage contamination that could adversely affect performance.

C. Chemical Exposure

Do not store grounding assemblies near any chemical listed below as they may cause stress corrosion cracking in the grounding assembly.

Alkalies	Ammonia	Citrates	Phosphates	Citrates	Sulfur Compounds
Amines	Carbonates	Nitrites	Sulfur Nitrites		Tartrates

3.4. Wire Selection and Preparation

The grounding assembly accepts solid uninsulated copper wire sizes 12 through 6 AWG. The wire must not be nicked, cut, or scraped. There is no preparation required.

3.5. Panel Frame

A. Material and Thickness

The frame shall be aluminum alloy (such as 6063-T3) with a clear anodized finish. The frame thickness range must be within the dimensions given in Figure 2.

B. Mounting Hole

The mounting hole diameter must meet the dimension given in Figure 2.

3.6. Spacing

Care must be used to avoid interference between adjacent grounding assemblies and other components for removal of the grounding assembly.

GROUNDING ASSEMBLY THREADED POST SIZE	FRAME THICKNESS RANGE	MOUNTING HOLE DIAMETER
No. 8-32 UNC	1.143-2.413 [.045-.095]	4.37±0.20 [.172±.008]
No. 10-32 UNF	1.143-10.67 [.045-.420]	5.03±0.20 [.198±.008]

Figure 2

3.7. Installation

The grounding assembly must be installed according to the following requirements:

A. Mounting Wire Bolt to Frame

The wire bolt must be placed onto the panel frame so that the threaded post is inserted into the pre-drilled hole. The mounting hex washer nut must be installed finger-tight onto the threaded post. See Figure 3.

B. Wire Placement

The wire must be positioned in the wire slot length-wise. The wire must be bottomed in the wire slot. Refer to Figure 3.

C. Terminating the Wire

The wire binding hex nut must be installed onto the wire slot end of the wire bolt. The wire must be compressed. The wire binding hex nut and mounting hex washer nut must be tight to the torque stated in Figure 3.

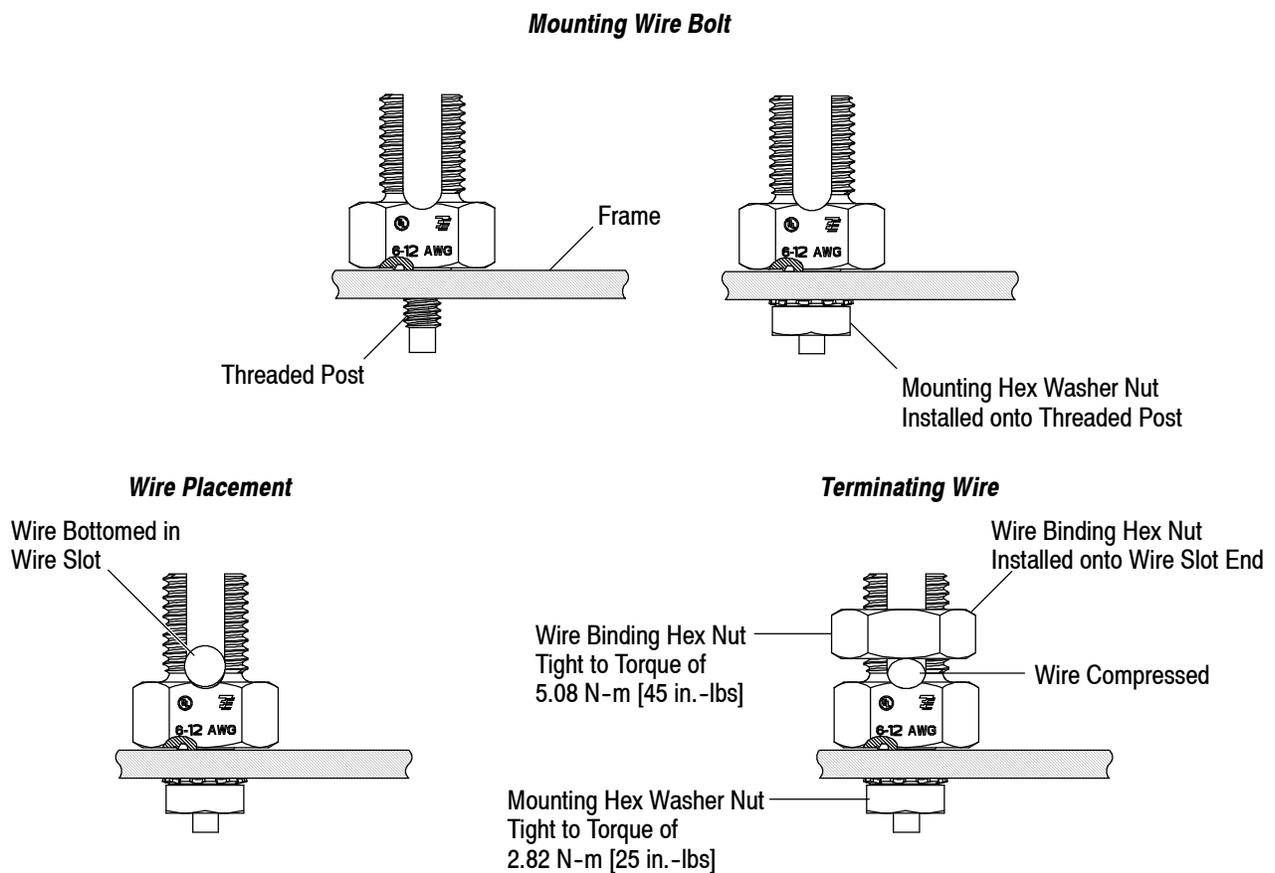


Figure 3

3.8. Removal

The wire can be removed from the grounding assembly by loosening the wire binding hex nut. The mounting hex washer nut must be removed before the grounding assembly can be removed from the frame.

The grounding assembly can be re-used up to 5 times after proper removals.

3.9. Repair

Components of the grounding assembly are not repairable. Any defective or damaged components must not be used.

4. QUALIFICATION

Solid Wire Grounding Assembly is Underwriters Laboratories Inc. (UL) Listed to UL 467 and Listed by UL to Canadian Safety Standards CSA C22.2 No. 41-07 in File E69905.

5. TOOLING

A drill bit should be used for drilling the hole in the frame. The size of the drill bit is given in Figure 4.

A socket wrench is needed for installation of the grounding assembly. The size of the socket wrench must be as stated in Figure 4.

A $\frac{9}{16}$ -in. open end wrench is needed to hold the hex body of the wire bolt for installation and removal of the grounding assembly.

GROUNDING ASSEMBLY THREADED POST SIZE	DRILL BIT SIZE	SOCKET WRENCH SIZE	
		Wire Binding Hex Nut	Mounting Hex Washer Nut
No. 8-32 UNC	$\frac{11}{64}$ in.	$\frac{9}{16}$ in.	$\frac{11}{32}$ in.
No. 10-32 UNF	No. 8 (.1990 in.)		$\frac{3}{8}$ in.

Figure 4

6. VISUAL AID

Figure 3 shows a typical application of Solid Wire Grounding Assembly. This illustration should be used by production personnel to ensure a correctly applied product. Applications which DO NOT appear correct should be inspected using the information in the preceding pages of this specification and in the instructional material shipped with the product or tooling.

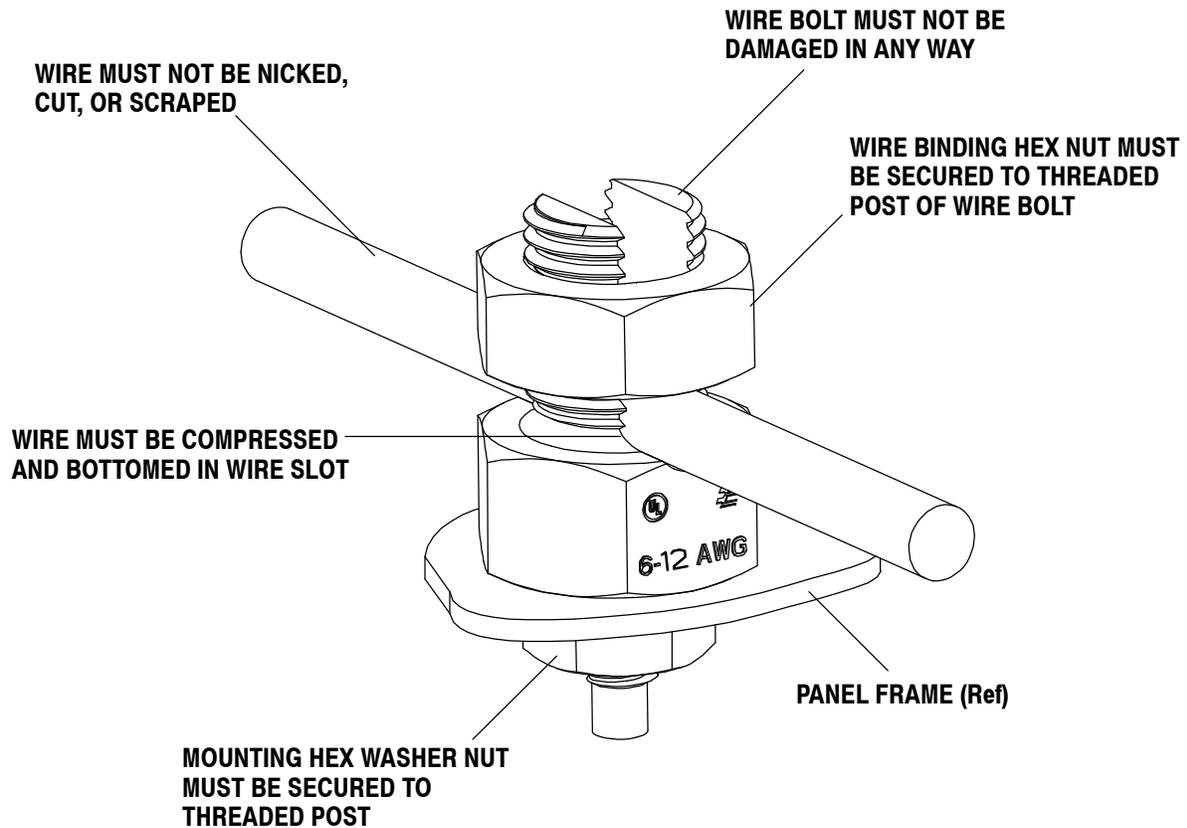


FIGURE 5. VISUAL AID