**Report Number: Originally Issued: Revised:** Valid Through: 04/2015

**EVALUATION REPORT** 

0216 04/2011 04/21/2014

#### DIVISION: 06—WOOD AND PLASTICS Section: 06060—Connections and Fasteners

#### **REPORT HOLDER:**

**EcoFasten Solar®** 289 Harrel Street Morrisville, Vermont 05661 Phone: 888-766-4273 brian@alpinesnowguards.com

### **ADDITIONAL COMPANY NAMES:**

# IronRidge Inc. 1495 Zephyr Avenue

Hayward, CA 94544 (800) 227-9523 www.ironridge.com

### **EVALUATION SUBJECT:**

GreenFasten-1-812 and FlashFoot Roof Mount Assemblies

### **1.0 EVALUATION SCOPE**

### 1.1 Compliance with the following codes

- 2009 International Building Code<sup>®</sup> (IBC)
- 2009 International Residential Code (IRC) •
- 2006 International Building Code<sup>®</sup> (IBC) .
- 2006 International Residential Code (IRC)

### 1.2 Evaluated in accordance with

IAPMO ES Evaluation Criteria for the Testing Analysis of Joist Hangers and and Miscellaneous Connectors, (EC002-2011).

### **1.3 Property Evaluated**

- Structural
- Water Penetration

### 2.0 **USES**

EcoFasten Solar's and IronRidge's GreenFasten-1-812 and FlashFoot Roof Mounts are mounting assemblies used to attach solar panels and other types of equipment to the rafters of roofs with asphalt shingle roof coverings.

## **3.0 DESCRIPTION**

#### 3.1 Product Information

GreenFasten-1-812: The GreenFasten-1-812 3.1.1 Roof Mount has four basic components: a flat 8" by 12" aluminum flashing with pre-installed EPDM grommet (GF-1), one-hole bracket (L-101-3), slotted bracket (SCL-101-3) or two-hole bracket (L-102-3), 5/16" Lag screw, and EPDM bonded 18.8 washers. See published installation instructions for more detailed dimensional information.

3.1.2 FlashFoot Roof Mount: The FlashFoot Roof Mount has five basic components: a formed 12" by 12" aluminum flashing with a raised circular center with a pre-installed EPDM grommet (GF-1), a 2-1/2" diameter (63.5 mm). The support disk is 5/16 inch thick (7.9 mm),  $^{\circ}/_{16}$  in diameter Lag screw, and EPDM bonded 18.8 washer. See published installation instructions for more detailed dimensional information.

#### 3.2 Materials

The GreenFasten-1-812 and FlashFoot Roof Mount component material standards are specified in Table 2.

Fasteners used to secure the flashing to the roof rafter must be 5/16-inch-diameter (7.9 mm) lag screws complying With ANSI/ASME B18.2.1-B1. The lag screw must be long enough to penetrate the rafter a minimum of 2.5 inches (64 mm). The lag screws must be corrosion-resistant, see table 12 QSM for pull out capacities for typical roof lumber (ADS).

### **4.0 DESIGN AND INSTALLATION**

### 4.1 Design:

Compliance to the following will be provided by the Designer/Engineer if requested by the jurisdiction having authority: The tabulated allowable loads shown in this report are based on allowable stress design (ASD) and include the load duration factor, C<sub>D</sub>, corresponding with the applicable loads in accordance with NDS.

Where the roof mounts are exposed to temperatures exceeding 100°F (37.8°C), uplift allowable loads must be adjusted by the temperature factor, Ct, in accordance with Section 10.3.4 of the NDS temperature factor, Ct, which applies to the roof mount connected to supporting wood members where sustained temperatures are greater than 100°F (37.8°C). When products are attached to wood framing having a moisture content

Page 1 of 7





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