



# ***PFS Test Report***



TL-109

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## **PFS TEST REPORT # 14-126 ICC-ES AC 286 § 4.1 RAIN TEST OF CORRUSLIDE BRACKET FOR ECOFASTEN SOLAR<sup>®</sup> MORRISVILLE, VERMONT**

### **GENERAL**

PFS Corporation, Cottage Grove, Wisconsin, was contracted by the client, EcoFasten Solar<sup>®</sup>, Morrisville, Vermont, to evaluate the rain test performance of the CorruSlide bracket mounted on metal sheet roofing. The CorruSlide bracket was tested according to client instructions and in general accordance with AC 286 (2013) “Acceptance Criteria for Roof Flashing for Pipe Penetrations.” PFS Laboratory received the test sample brackets on 9/3/2014. The rain test was performed on 9/4/2014 at the PFS Testing Laboratory in Cottage Grove.

### **TEST SPECIMENS**

The CorruSlide bracket (provided by client) consisted of a 3 part assembly as shown in Appendix A, *Photo 1*. The sheet metal roofing (Photo 2), underlayment, and roof deck components were locally procured by PFS. The metal roofing consisted of ribbed metal sheathing with 0.018-in. nominal thickness manufactured from ASTM A653, Grade 80 steel. The underlayment was #30 felt conforming to ASTM D4869. The deck sheathing was 1/2-in. CDX, 3-ply, PS1 grade mark stamped, 32/16 plywood.

A mock-up roof deck 36-in. wide by 46-in. high was fabricated with the plywood sheathing and 2x4 SPF #2 lumber as rafters spaced at 18-in. on center. The felt was applied on the deck, and the metal roofing was installed with #10 pole barn fastener at 12-in. on center. The CorruSlide bracket was installed at the center of the deck according to the manufacturer's installation guide (Appendix B).

### **CONDITIONING**

The samples were tested in the ambient laboratory atmosphere of approximately 70 - 75°F and 40 - 50% relative humidity.

### **TEST PROCEDURE AND RESULTS**

#### **Spray Apparatus**

The rain test spray apparatus was fabricated in accordance with UL441-2010 Section 27. The UL441 spray nozzles were obtained by PFS from the Underwriter's Laboratory. The simulated rainfall from the spray apparatus was calibrated according to Section 27 of UL441-2010. The rainfall was measured to be 18.5 inches per hour.



ACCREDITED

### **Rain Test**

The test deck assembly was mounted at 12:12 pitch such that the center of the deck was at 55-in. and 45-degrees measured from the central spray head. The deck was continuously sprayed for one hour. The underside of the deck was examined for any leakage. The deck pitch was changed to 2:12, and the spray continued for one hour.

### **TEST RESULTS**

After the completion of the water spray, the top surface was wiped dry. Then the metal roofing was carefully removed and examined for any leakage underneath where the CorruSlide bracket was mounted, the deck surface, and underneath the deck. There was no evidence of water penetration. The test performed passes the AC286 Section 4.1 Rain Test requirement.

### **TEST REPORT DUPLICATION**

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Testing Performed by:



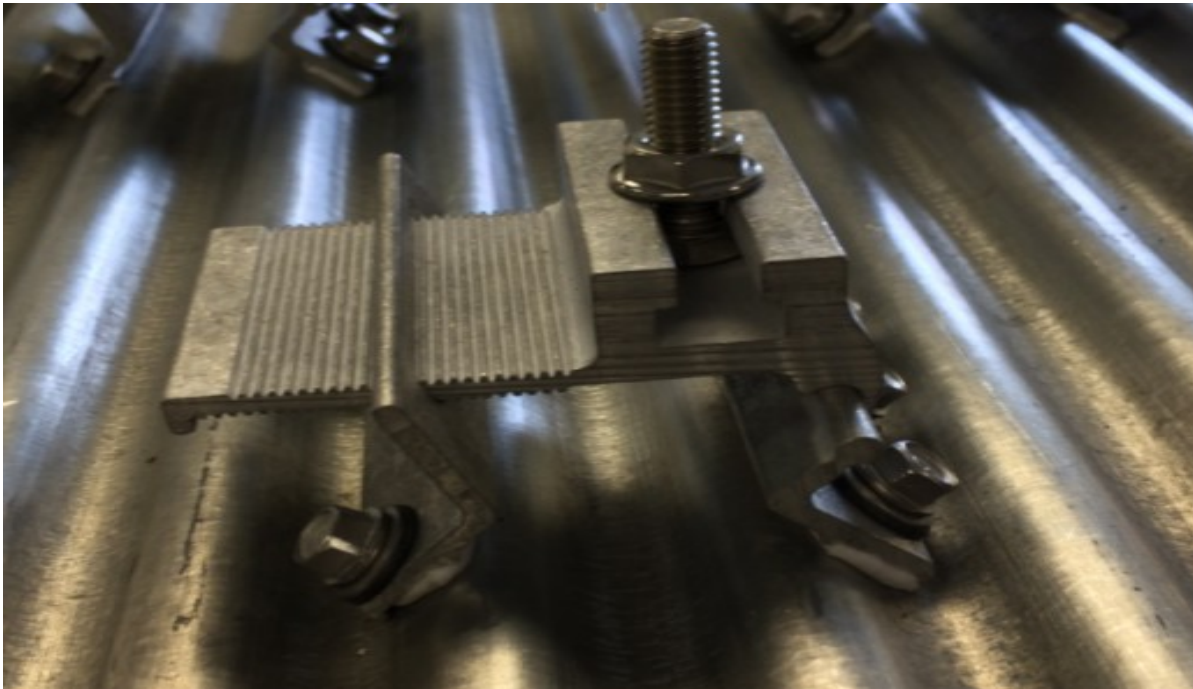
Rock Hartshorn  
Lab Technician

Report Prepared and  
Tests Witnessed by:



Deepak Shrestha, PE  
General Manager – PFS Lab

Appendix A: CorruSlide Component Details  
Appendix B: CorruSlide Installation Instructions



**Photo 1: CorruSlide Bracket Details**



**Photo 2: Metal Roofing Used for Test (27 Gauge)**





**Photo 3: Spray Test of Roof Deck at 12:12 Pitch**



**Photo 4: Spray Test of Roof Deck at 3:12 Pitch**



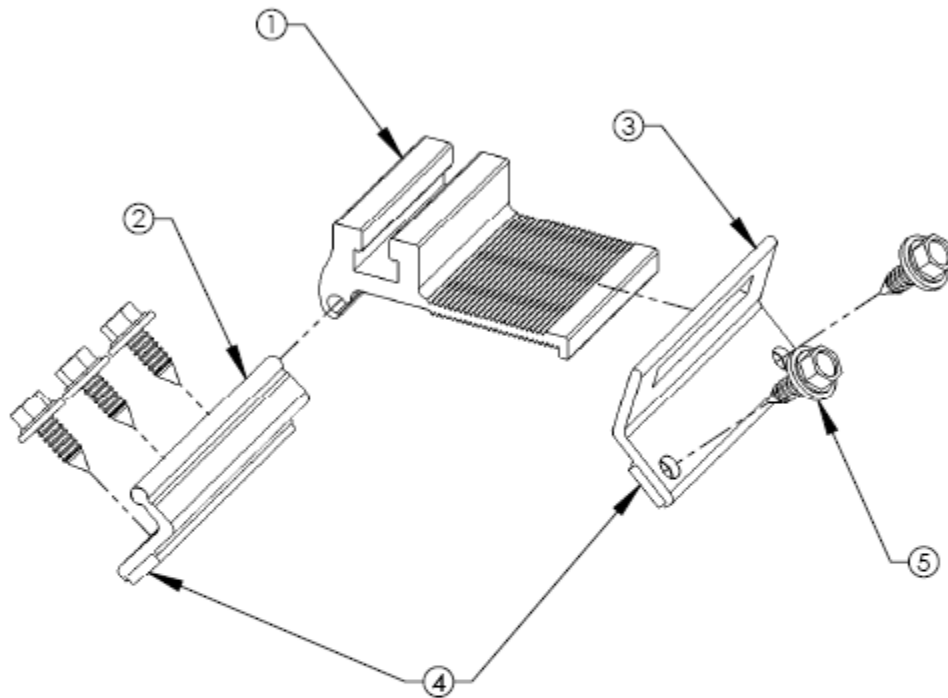
**Photo 5: Top Surface of Roof Deck After Rain Test**



**Photo 6: Underside of Roof Deck After Rain Test**

## Assembly Sheet - CorruSlide

1. Installation to be completed in accordance with manufacturer's written specifications and installation instructions.
2. See spec sheet or contact manufacturer for detailed material, finishes, and configuration options.
3. Contact manufacturer for detailed layout.
4. Do not scale drawings.
5. Subject to change without notice.



ITEM NO.	DESCRIPTION	QTY
1	CorruSlide - Slide	1
2	CorruSlide - Flipper	1
3	CorruSlide - Slot Bracket	1
4	PreInstalled Gasket Tape	2
5	Self-Tapping & Sealing Sheet Metal Screws	5



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Material: See Spec Sheet

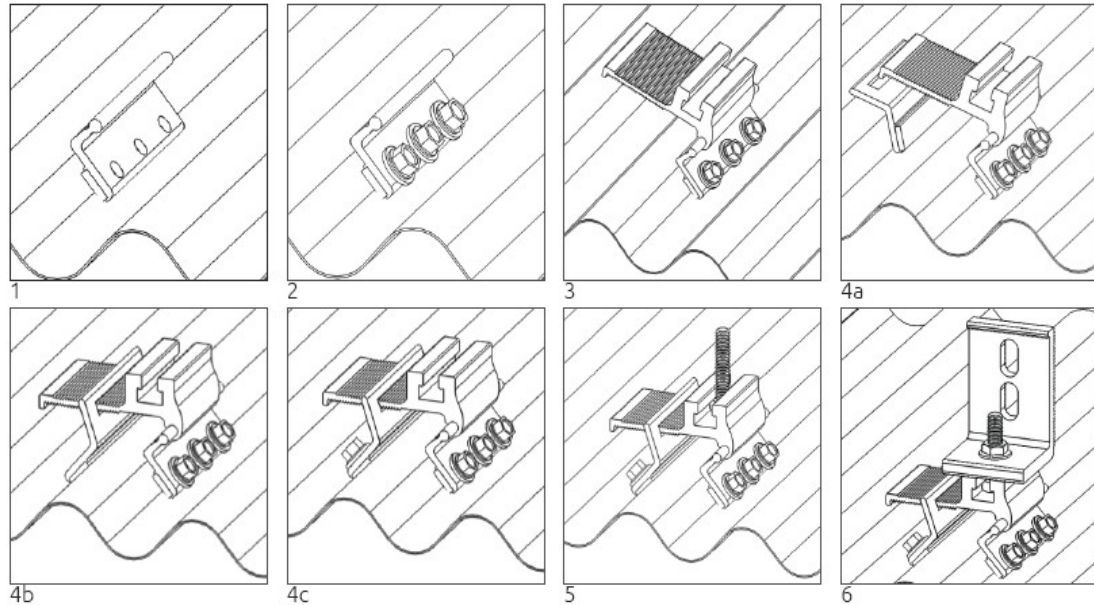
Scale: 2:3    7/2/2014    ASG: -    EFS: X

### Appendix A: CorruSlide Component Details



## CorruSlide – Product Guide

## Installation Instructions



\*Note- It is recommended that the installer assemble and check one complete CorruSlide assembly on the roof panel for fit prior to removing release paper or installing screws. This will provide an indication of approximate fit \*

1. Clean roof area that will come in contact with CorruSlide bracket. Remove release paper from tape on the CorruSlide-Flipper (hinged component with three fastener holes).
2. Install screws through the CorruSlide-Flipper into the roof panel.
3. Tilt the CorruSlide-Slide ("T" Slotted component) upward and slide into place over the CorruSlide-Flipper that was installed in step 2.
4.
  - a. Slide the CorruSlide-Slot Bracket (this part has a long rectangular hole and two fastener holes) over the serrated leg of the CorruSlide-Slide from step 3.
  - b. It is important to adjust the CorruSlide-Slot Bracket such that the CorruSlide-Slide of step 3 is level and locked in place. Note that depending upon the roof profile it may be necessary to skip a ridge/valley. Remove release paper.
  - c. Install Screws in CorruSlide-Slot Bracket component.
5. Slide the 5/16" diameter bolt (provided with each CorruSlide) into the CorruSlide-Slide.
6. Attach the desired rail attachment bracket (may be provided by other manufacturer).

## Appendix B: CorruSlide Installation Instructions