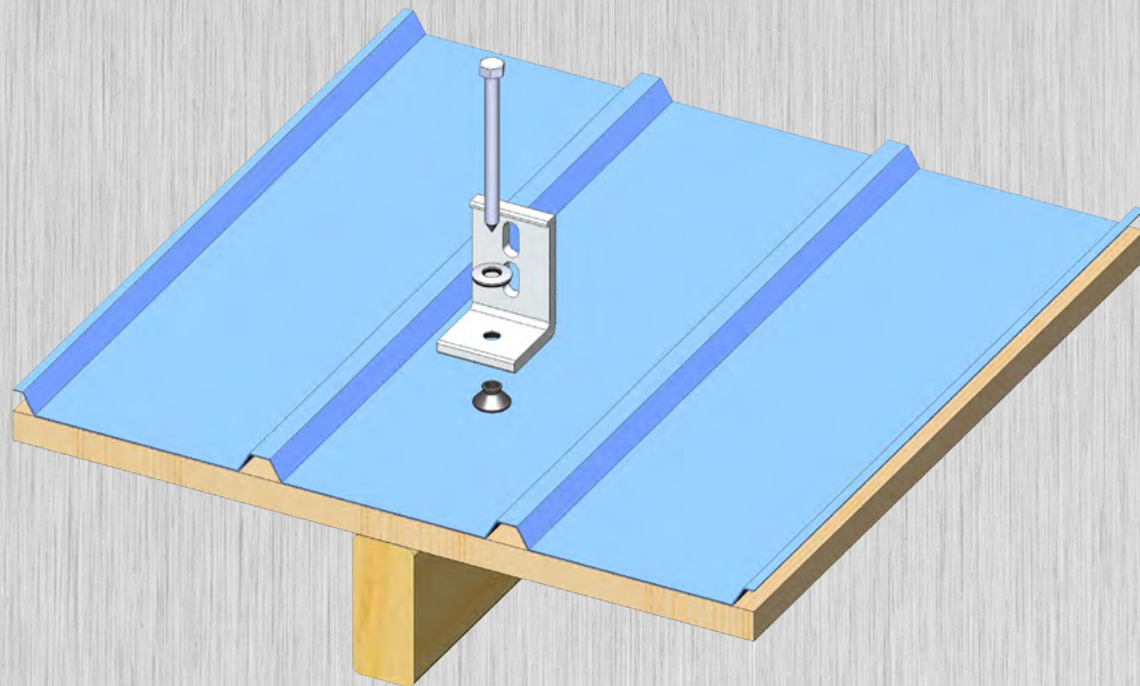
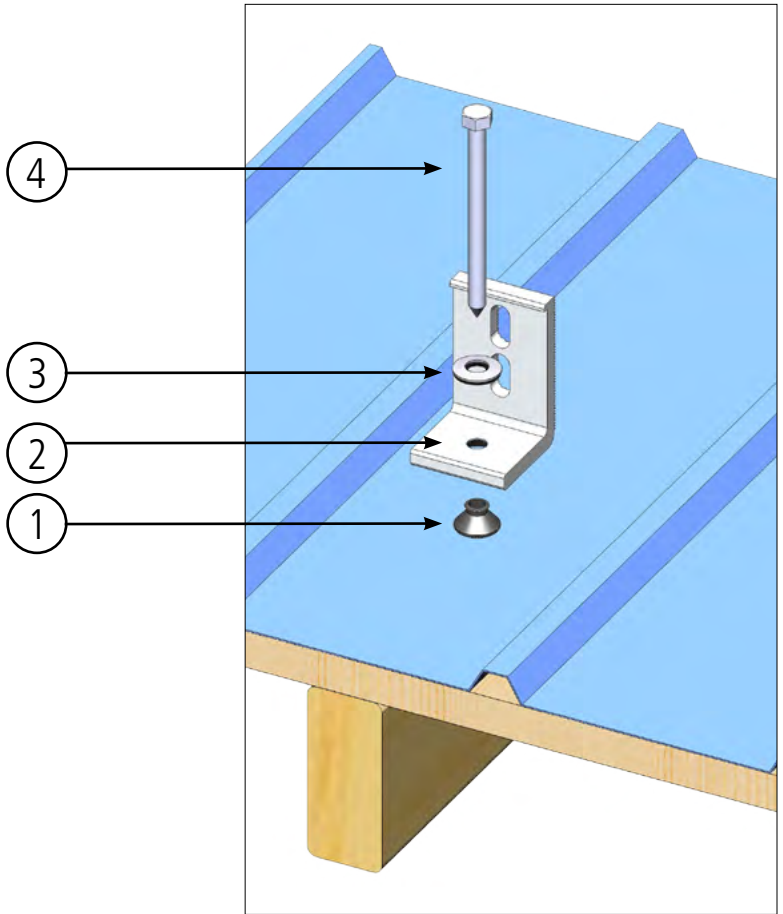
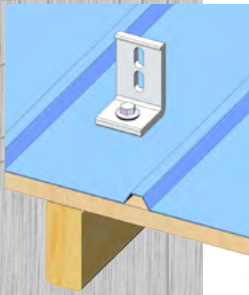


Simple Seal PRODUCT GUIDE

- Exploded Product View/B.O.M. – 1
- Installation Instructions – 2
- Cut Sheets – 3
- Specifications – 4
- Test Data – 5
- Price List – 6

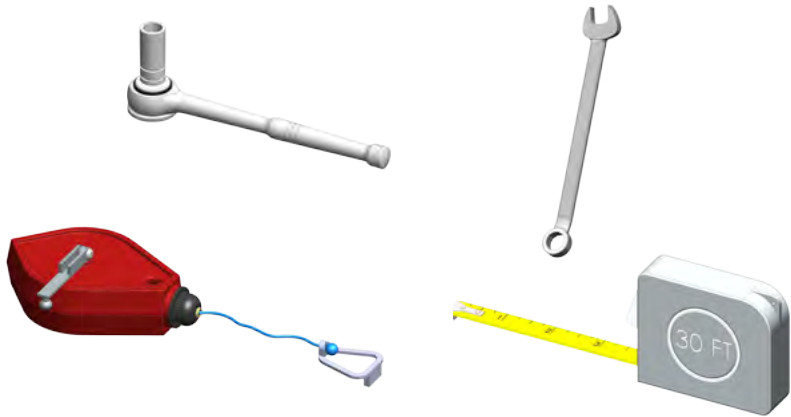




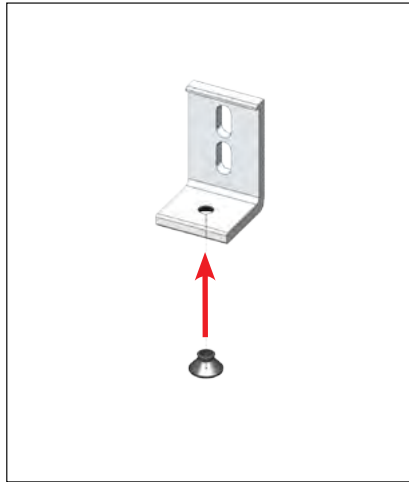
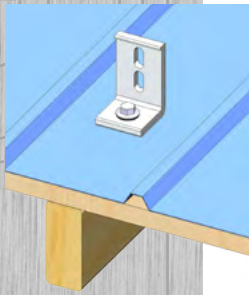
Materials Needed for Assembly

Item No.	Description of Material/Part	Quantity
1	Simple Seal Bushing	1
2	L-102-3" Bracket * (other options available)	1
3	5/16" EPDM Bonded 304-18.8 SS Washer	1
4	Fastener (to be determined)	1

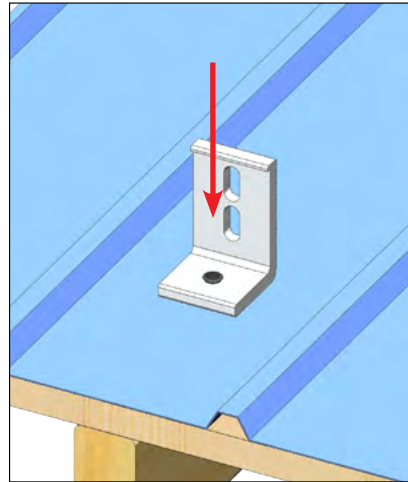
Required Tools



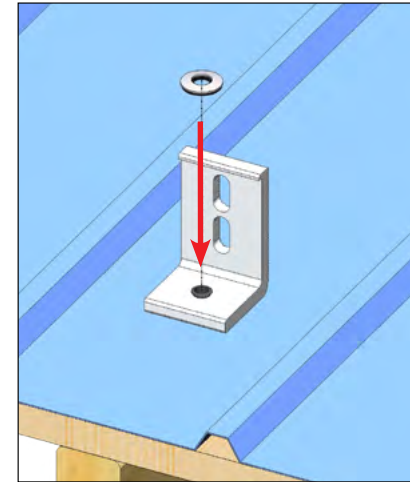
EcoFasten Solar



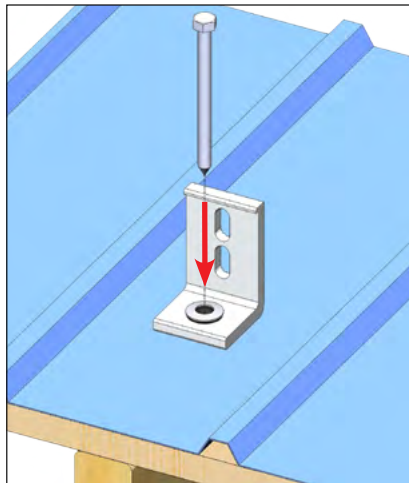
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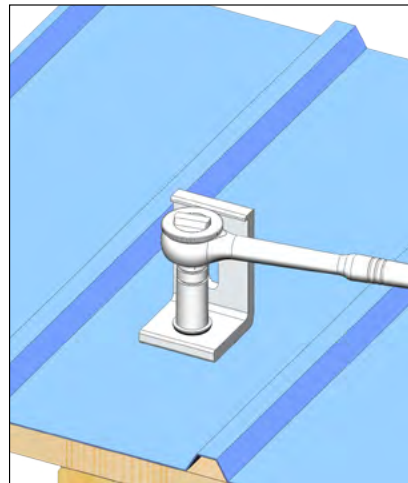
2



3



4



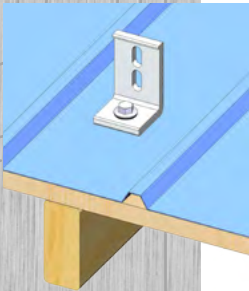
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Instructions

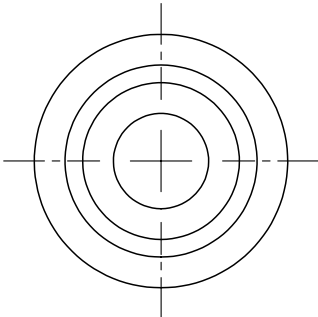
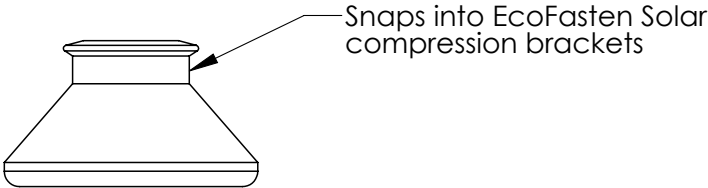
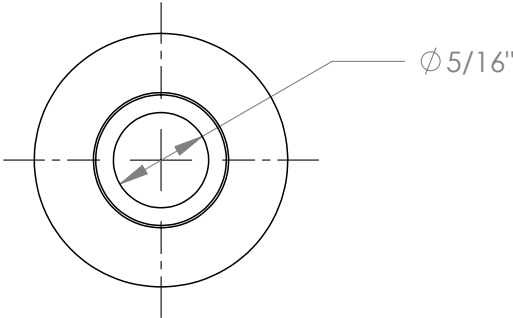
* For detailed product illustration and required tools, see previous page.

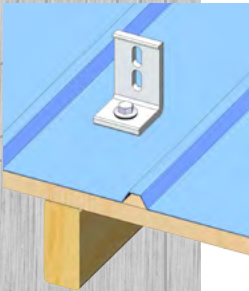
1. The cone shaped bushing is black in color and is packaged with the compression bracket. Insert this bushing into the bracket prior to installation. To do this, insert the tip of the cone in to the corresponding shape in the bottom of the compression bracket. The ridge around the tip of the cone will hold the bushing in place until the bracket is installed.
2. Place the compression bracket on roof surface above a supporting structural component, ensuring that the bushing sits flat against the roof surface.
3. Place a bonded EPDM/stainless steel washer over the exposed portion of the bushing, EPDM side down.
4. Insert the fastener that has been pre-approved for the project through the bonded washer and the bushing.
5. Tighten fastener until bracket is pulled down snug to the roof surface. The tension required will vary with the project roof deck, age, and type. Be sure not to over tighten the fasteners and strip the threads.

Consult an engineer or go to www.ecofastensolar.com for engineering data.

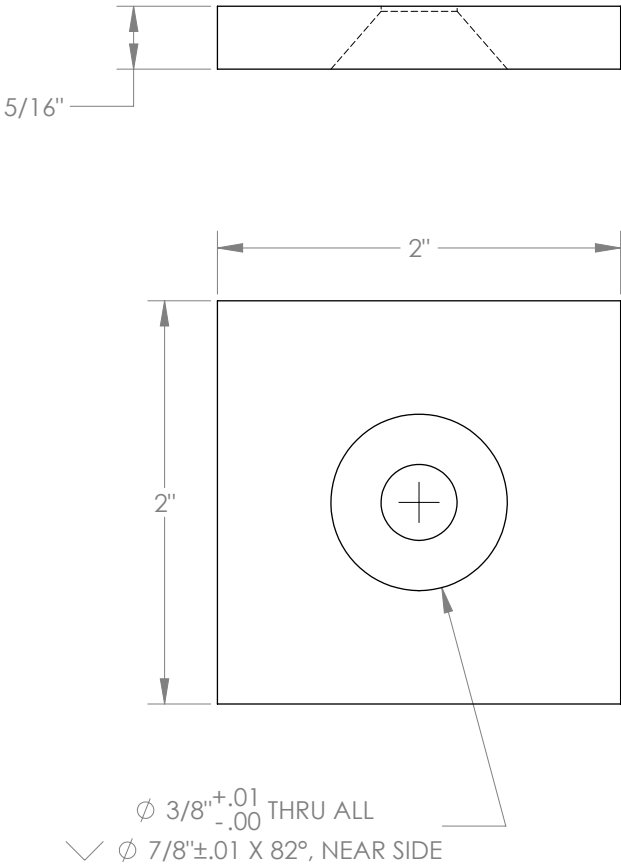


EcoFasten Solar

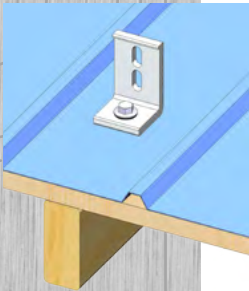




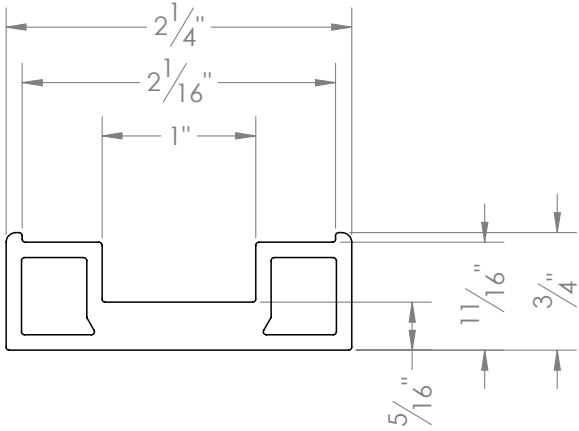
EcoFasten Solar



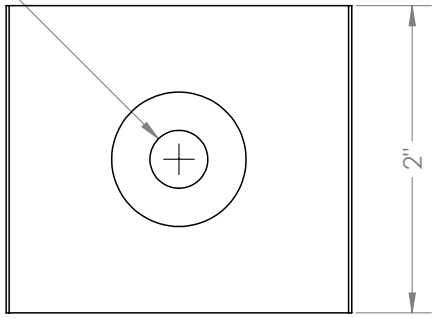
Compression Plate 2" X 2" Mill Aluminum

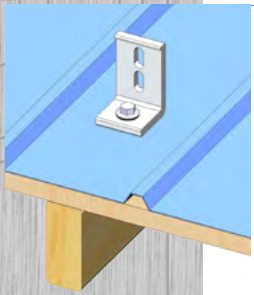


EcoFasten Solar

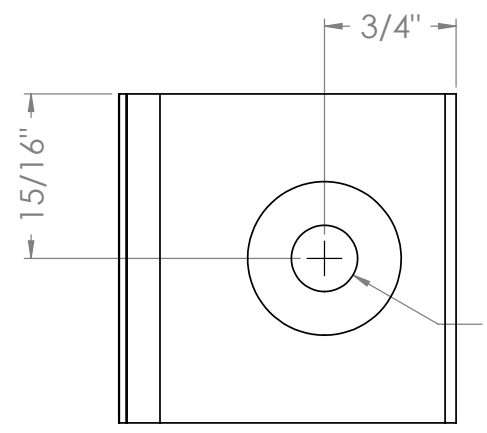
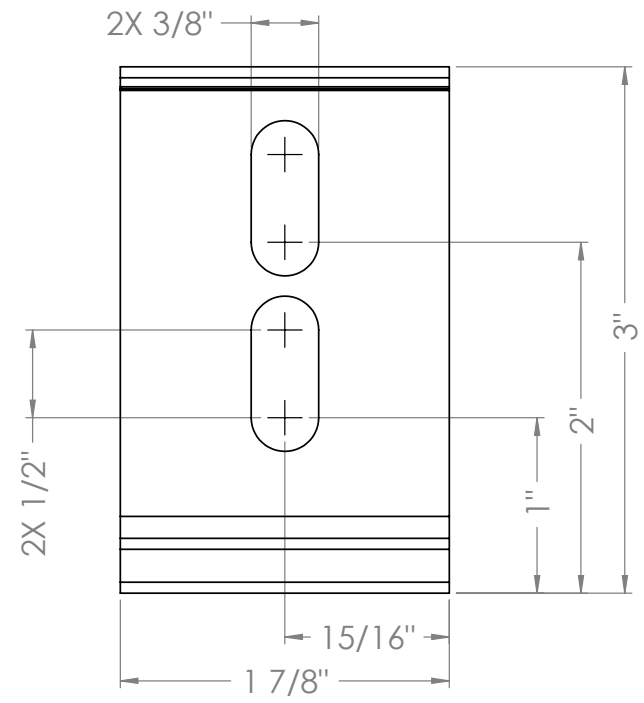
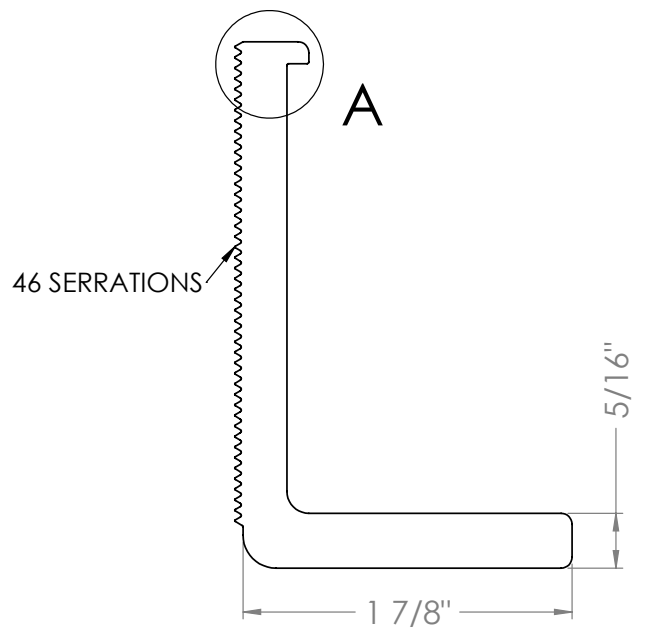


- ✓ $\phi \frac{3}{8}$ " THRU ALL
- ✓ $\phi \frac{7}{8}$ " X 82°, NEAR SIDE



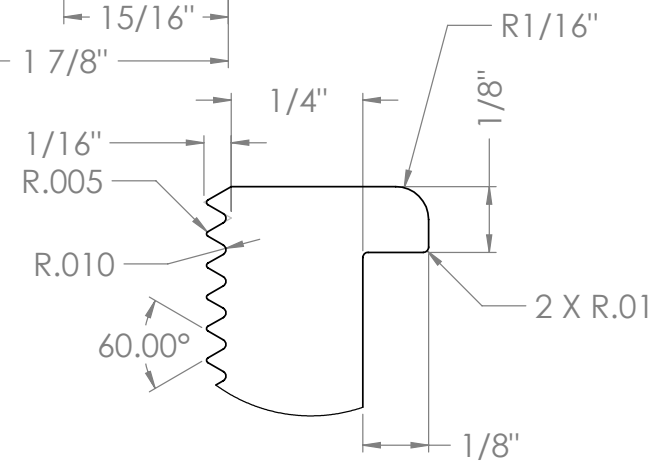


EcoFasten Solar

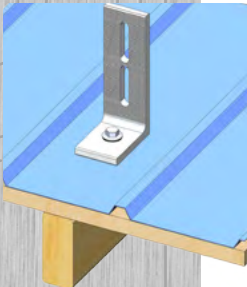


$\phi 3/8^{+.006}_{-.002}$

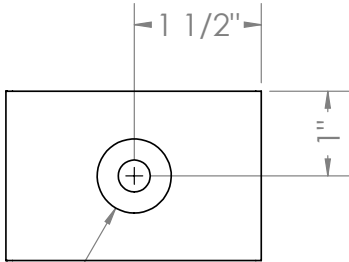
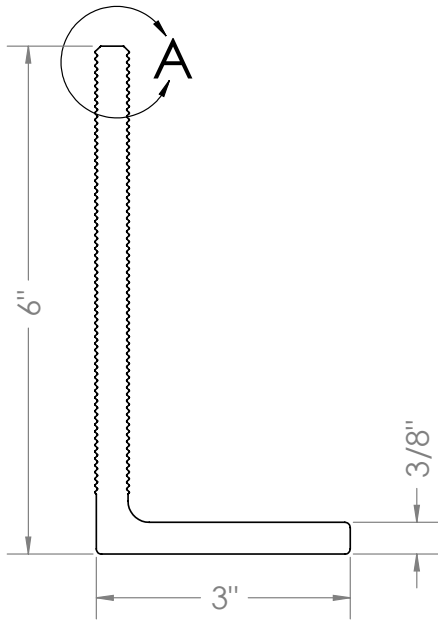
$\phi .875 \pm .010 \times 82^\circ$



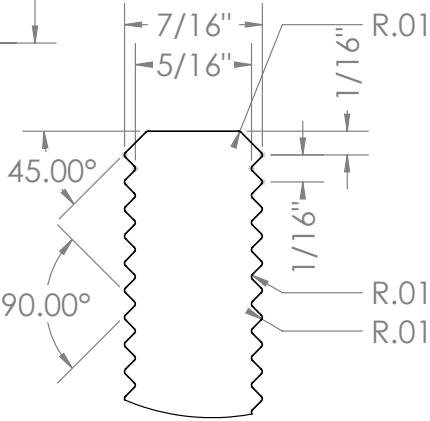
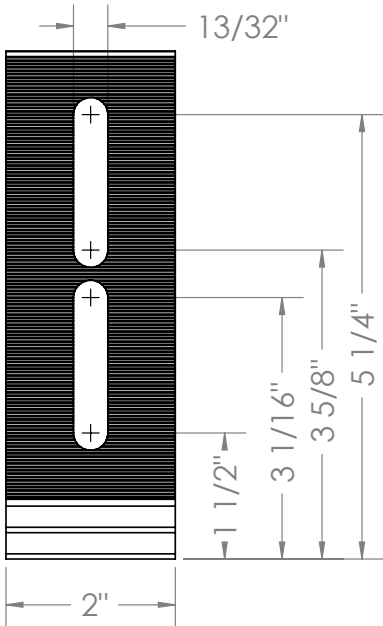
DETAIL A
SCALE 3 : 1



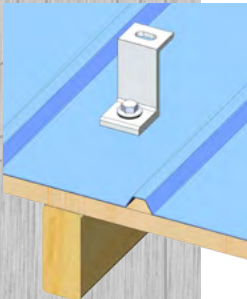
EcoFasten Solar



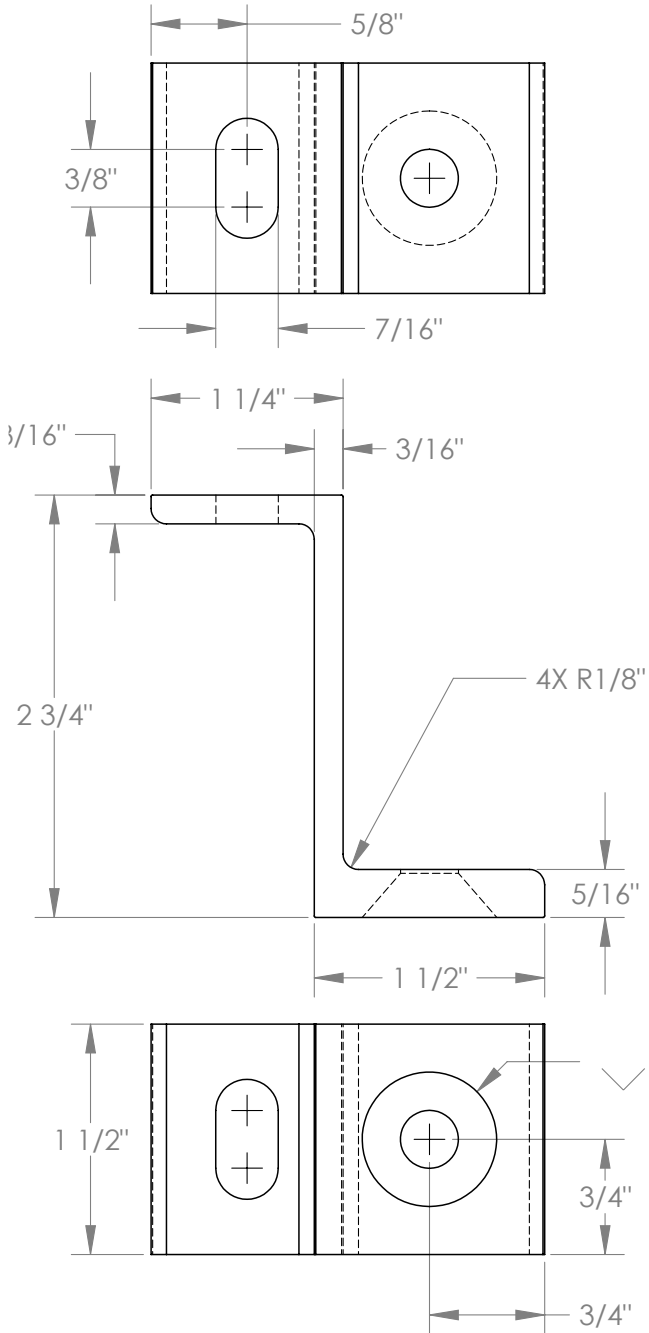
$\phi 3/8^{+.01}_{-.00}$ THRU ALL
 ✓ $\phi 7/8^{(\pm.01)}$ X 82°, NEAR SIDE



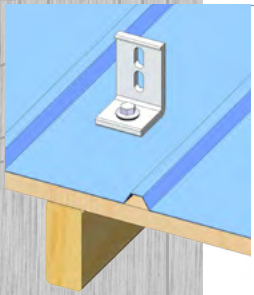
DETAIL A
SCALE 2 : 1



EcoFasten Solar



$\phi 3/8^{+.006}_{-.002}$ THRU ALL
 $\phi 7/8^{\pm.010}$ X 82°, NEAR SIDE



PART 1 – GENERAL

1.1 SUMMARY

- A. WORK INCLUDES
- Bracket that attaches directly to the roof.
 - Provide appropriate bracket and fasteners for the roof system.
- B. RELATED SECTIONS
- Section 07600: Flashing and Sheet Metal
 - Section 07500: Roofing
 - Section 07710: Roof Specialties
 - Division 1: Administrative and procedural requirements
 - Division 7: Thermal and Moisture Protection

1.2 SYSTEM DESCRIPTION

- A. COMPONENTS:
- Consists of bracket with at least (1) cone shaped bushing (1) bonded stainless steel and EPDM washer and (1) fastener.
 - Fasteners
 - To be of metal compatible with roof and this application.
 - Fasteners should be selected for compatibility with the roof deck.
 - Fastener strength should exceed or be equal to that of the allowable load of the system. See test data at www.ecofastensolar.com
 - Sealant (if required by roof manufacturer): to be roof manufacturer approved.
- B. DESIGN REQUIREMENTS:
- Bracket spacing to be recommended by project designer or building engineer.
 - Install fasteners as per designer's instruction and product type. It is important to design new structures or assess existing structures to make sure that they can withstand any added loads.

1.3 SUBMITTAL

- Submit manufacturer's written specifications.
- Submit standard product cut sheets.
- Submit installation instructions.
- Submit product specific load test data, showing ultimate and allowable load values specific to the roof deck specified for the project.

1.4 QUALITY ASSURANCE

Installer to be experienced in the installation of specified roofing material for no less than 5 years in the area of the project.

1.5 DELIVERY / STORAGE / HANDLING

Inspect material upon delivery. Notify manufacturer within 24 hours of any missing or defective items. Keep material dry, covered, and off the ground until installed.

PART 2 - PRODUCTS

2.1 MANUFACTURER

EcoFasten Solar®
 289 Harrel Street, Morrisville, VT 05661
 (877) 859-3947
www.ecofastensolar.com

2.2 MATERIALS

- A. Attachment Bracket
 6000 Series Aluminum (choose one)
- CP-SQ
 - F-111-A
 - L-102-3"
 - SL-102-6"
 - Z-101
 - Custom

- B. Bushing

- C. Fasteners (can be purchased from others) to be compatible with chosen roof application and meet specified pull out values as shown in load test data.

2.3 FINISH – Mill Finish

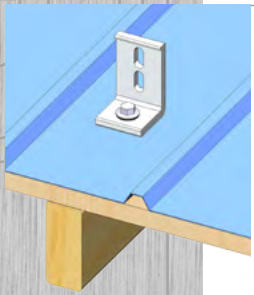
PART 3 - EXECUTION

3.1 EXAMINATION

- A. Substrate: Inspect structure on which brackets are to be installed and verify that it will withstand any additional loading that may be incurred.
- B. Notify General Contractor of any deficiencies before installing EcoFasten Solar brackets.
- C. Verify that roofing material has been installed correctly prior to installing solar attachment brackets.

3.2 INSTALLATION

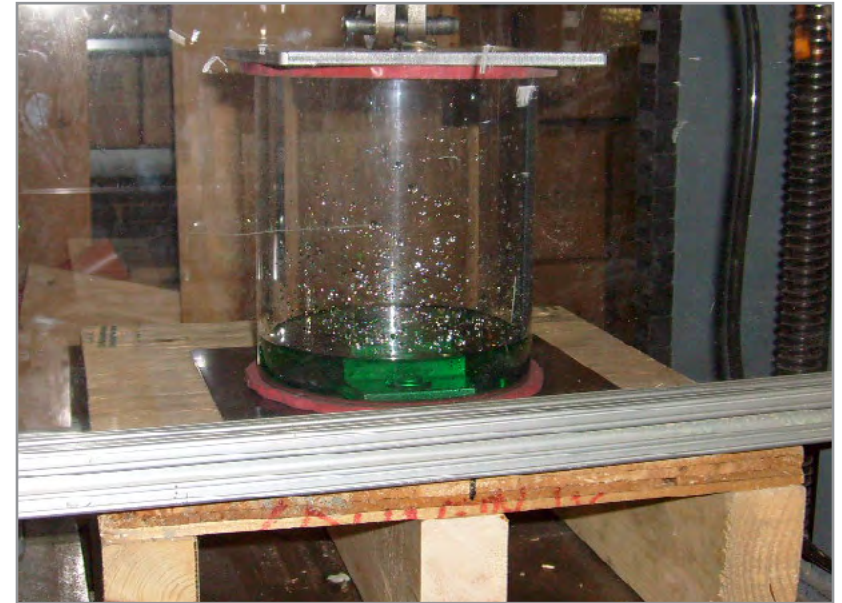
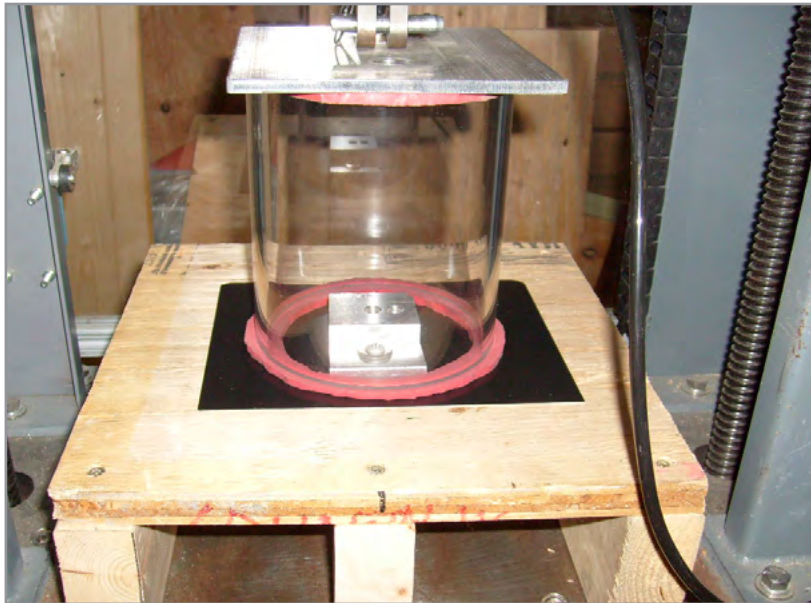
- A. Comply with architectural drawings and project engineer's recommendations for location of system. Comply with Manufacturer's written installation instructions for installation and layout.

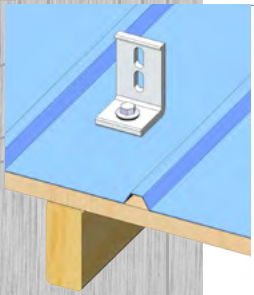


Simple Seal Leak Test

EcoFasten Solar leak tested the Simple Seal roof mount system so you can be sure your roof penetrations wont leak, even when under standing water. Our test apparatus encapsulates the entire bracket and seals against the roof material which allows us to flood the bracket and pressurize the system.

After the apparatus is flooded it's pressurized to 30psi and left to stand for over 10 minutes. This is equivalent to nearly 70ft of standing water.



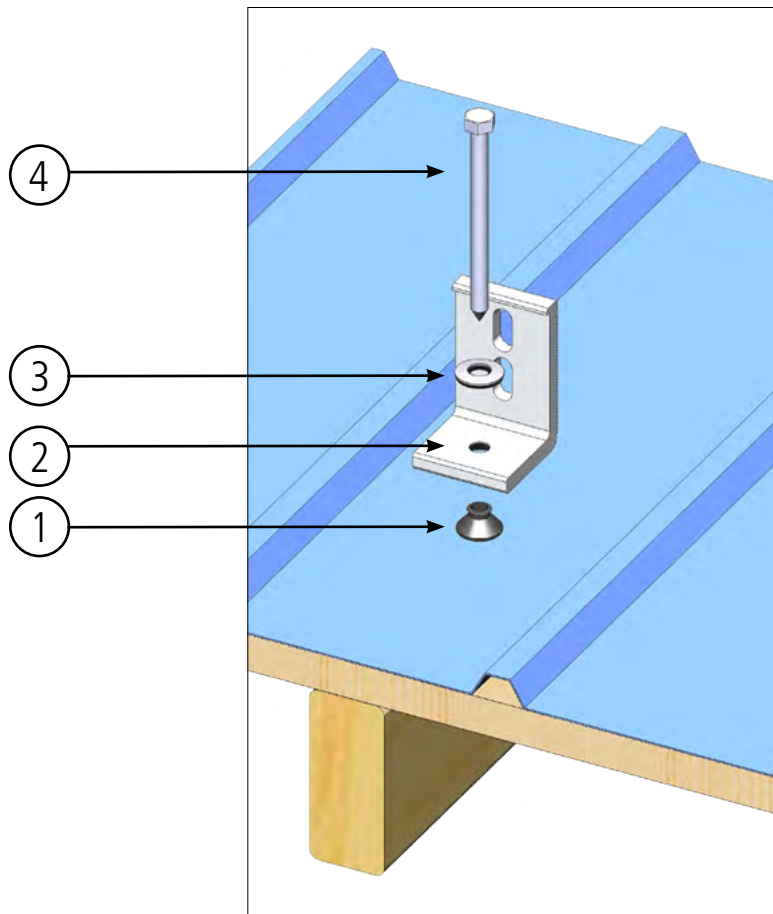
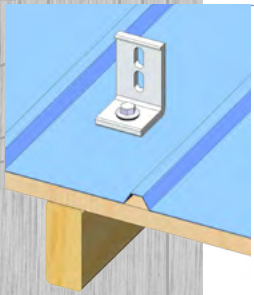


Simple Seal Leak Test (continued)

If there were a leak, the oversized holes in the roof deck and notches in the rafter would allow unrestricted flow to four paper towels that are stuffed around the fasteners. To make it clear if there was a leak the water is dyed green.

None of the paper towels show any indication of leaking. The Simple Seal system is 100% water tight.





List cost of assembly shown above

SIM-L-102-3	Uncoated aluminum (shown)	\$ 5.09
D145/16 x 4	4" stainless lag bolt (shown)	\$ 1.10

\$ 6.19

1 Simple Seal Bushing (shown)

2 Single Fastener Brackets: includes Simple Seal bushing (No. 1 in illustration), bonded washer, 3/8-16 x 1-1/4" bolt and flange nut

SIM-L-102-3	Uncoated aluminum (shown)	\$ 5.09
SIM-L-102-6	Uncoated aluminum	\$14.44
SIM-Z-101	Uncoated aluminum	\$ 5.68

Double Fastener Brackets: includes two Simple Seal bushings (No. 1 in illustration), two bonded washers, two 3/8-16 x 1-1/4" bolts and two flange nuts

SIM-L-202	Uncoated aluminum	\$ 9.58
SIM-Z-202	Uncoated aluminum	\$12.91

Adaptor brackets - single fastener

SIM-CP-SQ		\$ 3.74
SIM-F-111-A		\$ 3.99

Adaptor brackets - double fastener, includes two Simple Seal bushings and two bonded washers

SIM-F-202	includes one 3/8-16 x 1-1/2" set screw	\$12.51
SIM-F-203	includes one 3/8-16 x 1" flange bolt	\$12.51

3 EPDM bonded washer included with bushing (shown)

4 Fasteners

Lag bolts - 5/16" diameter stainless steel		
D145/16 x 3	3" stainless lag bolt	\$ 0.71
D145/16 x 4	4" stainless lag bolt (shown)	\$ 1.10
D145/16 x 5	5" stainless lag bolt	\$ 1.64

Self-drilling screws- 5/16" diameter stainless steel

GRK-Pherss	5/16 x 4" stainless	\$ 0.85
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Hanger bolt - for use with F-111-A and CP-SQ (optional)

HB-D56-16x6P		\$ 1.49
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