

ESDEC, INC.

MIAMI-DADE

TEST REPORT

SCOPE OF WORK

TAS 100(A) TESTING ON ECOFASTEN CLICKFIT SMART FOOT, SOLAR PANEL ROOF ATTACHMENT

REPORT NUMBER

P2426.01-301-18 R0

TEST DATE

10/12/2022

ISSUE DATE

11/02/2022

RECORD RETENTION END DATE

10/12/2032

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2524 E. Jensen Ave
Fresno, California 93706

Telephone: 559-233-8705
Facsimile: 717-764-4129
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TEST REPORT FOR ESDEC, INC.

Report No.: P2426.01-301-18-R0

Date: 11/02/22

REPORT ISSUED TO

ESDEC, INC.

28357 Industrial Boulevard

Hayward, California 94545

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Esdec, Inc. to perform TAS 100(A) testing in accordance with Miami-Dade County requirements on their EcoFasten ClickFit SMART FOOT, Solar Panel Roof Attachment. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at the Intertek B&C test facility in Fresno, California.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

For INTERTEK B&C:

COMPLETED BY:	Ricardo Cortez	REVIEWED BY:	Tyler Westerling, P.E.
TITLE:	Technician	TITLE:	Operations Manager
SIGNATURE:		SIGNATURE:	
DATE:	11/02/22	DATE:	11/02/22

RC:bbb

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SECTION 2

TEST METHOD(S)

The specimens were evaluated in accordance with the following:

TAS 100 (A)-95, *Test Procedure for Wind and Wind Driven Rain Resistance and/or Increased Windspeed Resistance of Soffit Ventilation Strip and Continuous or Intermittent Ventilation System Installed at the Ridge Area.*

SECTION 3

CALIBRATION

Windstream, water supply, and water distribution calibration were performed prior to testing.

SECTION 4

MATERIAL SOURCE

Test specimens were provided by the client. Representative samples of the test specimens will be retained by Intertek B&C for a minimum of ten years from the test completion date.

SECTION 5

EQUIPMENT

Equipment calibration records are available for review at 130 Derry Court, York, PA 17406.

SECTION 6

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Jae Hendrickson	Esdec Inc.
Ricardo Cortez	Intertek B&C
Lucas Jawien	Intertek B&C
Jarod Hardman	Intertek B&C

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SECTION 7

TEST SPECIMEN DESCRIPTION

Roof Deck Description: An 8' 0" wide by 6' 0" long roof deck on a 2:12 slope was utilized. The roof deck did not utilize a ridge vent. The roof deck consisted of #2 Spruce-Pine-Fir nominal 2x4 rafters sheathed with 7/16" Oriented Strand Board (OSB). The rafters were spaced 24" on center. The OSB was secured to the rafters with #8 x 1-5/8" drywall screws spaced 6" on center around the perimeter and 12" on center at the intermediate supports. The OSB sheathing was covered with dimensional asphalt shingles.

Description/Installation (EcoFasten ClickFit SMART FOOT): The test specimen was composed of a die-cast aluminum roof attachment approximately 3" x 3-3/4" x 3-1/2" tall with a flashing system using either a gray or black sealant. The roof attachment was fastened to the test deck with #14x3" stainless steel structural wood screws with EPDM backed stainless steel washers. Two (2) structural wood screws were used when installing directly into rafters. Six (6) structural wood screws were used when installing directly into the deck. No pilot holes were drilled.

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SECTION 8

TEST RESULTS

Protocol TAS 100(A)-95, *Test Procedure for Wind and Wind Driven Rain Resistance and/or Increased Windspeed Resistance of Soffit Ventilation Strip and Continuous or Intermittent Ventilation System Installed at the Ridge Area.*

Test Date: 10/12/2022

The temperature during testing was 28°C (80°F). The results are tabulated as follows:

Test Procedure: The wind speed intervals were conducted as follows:

Interval No.	Wind Speed (mph)	Time (min)	Water Spray
1	35	15	On
2	0	5	Off
3	70	15	On
4	0	5	Off
5	90	15	On
6	0	5	Off
7	110	15	On
8	0	5	Off

Test Results: The TAS 100(A) test results are as follows:

Wind Speed	Results
35 mph	0 oz.
70 mph	0 oz.
90 mph	0 oz.
110 mph	0 oz.

Results: Pass

Note 1: *Tested at a 2:12 roof pitch.*

Note 2: *Six specimens were installed onto the test deck.*

Note 3: *Test results are applicable for three tab and dimensional asphalt shingle roofs having a slope 2:12 or greater.*

Note 4: *Test results are applicable for both rafter and deck mounting configurations.*

Note 5: *Test results are applicable for installing at butt joints, steps, or keyways.*

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SECTION 9

PHOTOGRAPHS



Photo No 1

Top Side of the Test Deck before Testing

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Photo No. 2

Underside of the Test Deck after Testing (no leaks)

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Photo No. 3

Test apparatus for TAS 100(A)

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Photo No. 4

Test specimens loaded for TAS 100(A)

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Photo No 5

Two conditions shown:

- Left – Installed onto Rafter with two structural wood screws (positioned over shingle step)
- Right – Installed onto Deck with six structural wood screws (positioned over shingle butt joint & step)

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Photo No 6

Top Side of the Test Deck After Testing



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SECTION 10

DRAWINGS

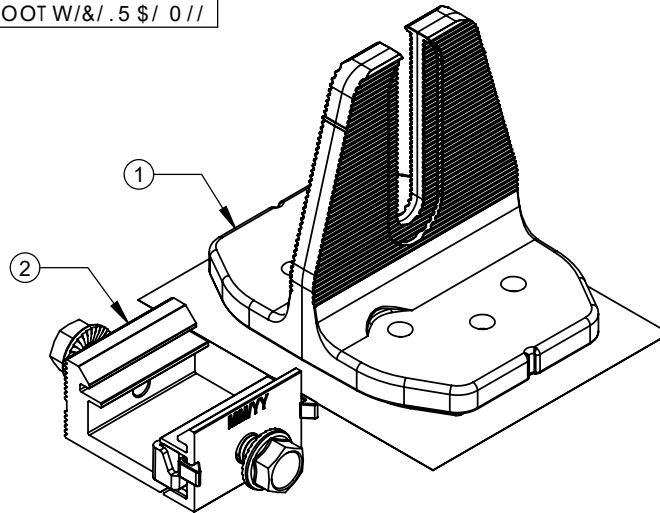
The test specimen drawings have been reviewed by Intertek B&C and are representative of the test specimens reported herein. Test specimen construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.

CF SMART FOOT W/CLKR AL MLL

PART NUMBER	DESCRIPTION
2012028	CF SMART FOOT W/&/ .5 \$/ 0 //

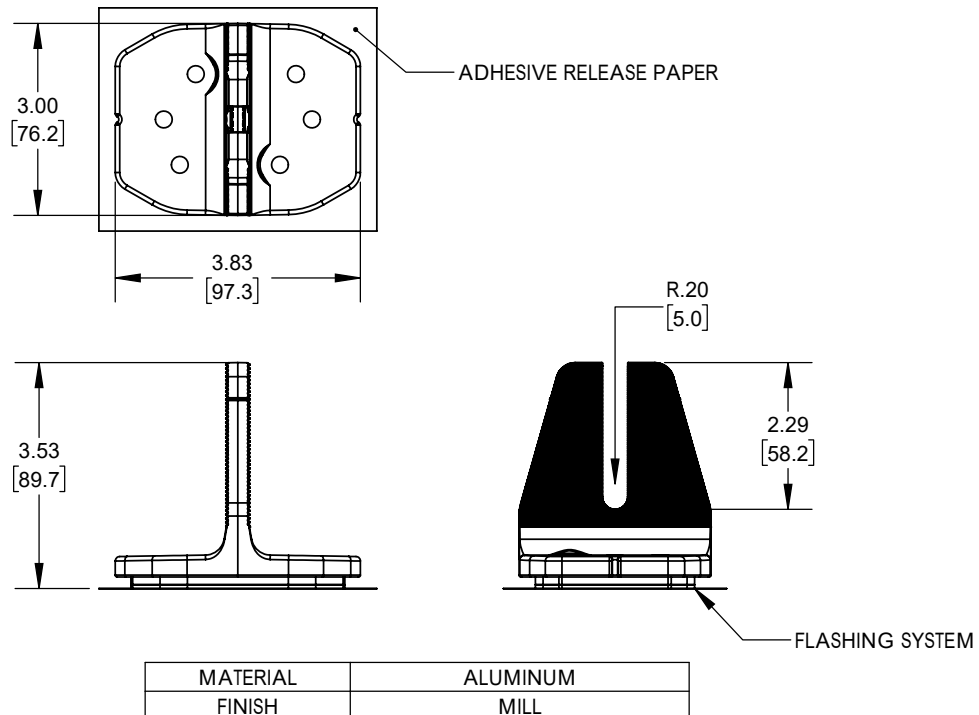


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 Date: 11/02/22
 Verified by: *RLT/CF*



ITEM NO.	DESCRIPTION
1	CLICKFIT SMARTFOOT
2	CLICKFIT RAIL ATTACHMENT ASSY W/MNT BOLT

1) CLICKFIT SMARTFOOT

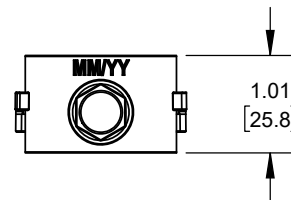
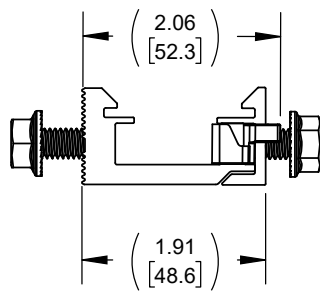
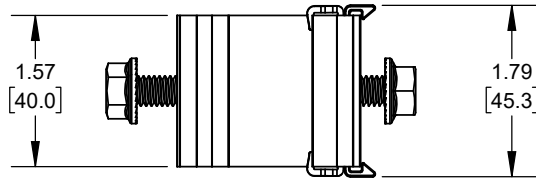


CF SMART FOOT W/CLKR AL MLL

2) CLICKFIT RAIL ATTACHMENT ASSY W/MNT BOLT




Report #: P2426.01-301-18
Date: 11/02/22
Verified by: *RAT*

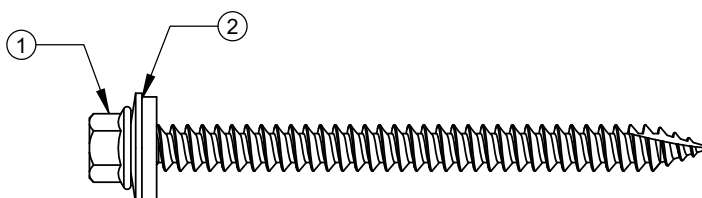


MATERIAL	ALUMINUM, STAINLESS STEEL, POLYMERIC
FINISH	MILL

SCREW #14X3" W/BW

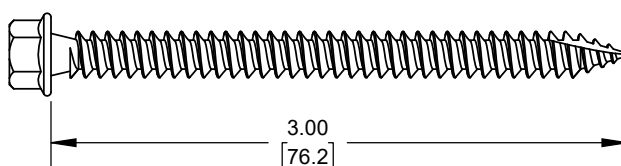
PART NUMBER	DESCRIPTION
3016018	SCREW, #14X3" W/BW

	Report #:	P2426.01-301-18
	Date:	11/02/22
	Verified by:	<i>RAT</i>

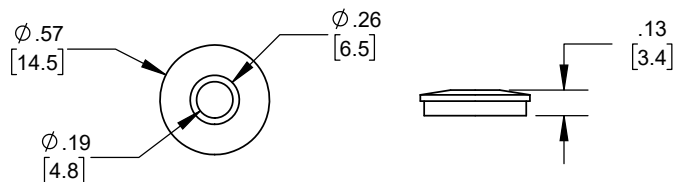


ITEM NO.	DESCRIPTION
1	STRUCTURAL WOOD SCREW, #14X3"
2	WASHER, SEALING, EPDM BACKED STAINLESS STEEL

1) STRUCTURAL WOOD SCREW, #14X3"



2) WASHER, SEALING, EPDM BACKED STAINLESS STEEL



MATERIAL	STAINLESS STEEL, EPDM
FINISH	MILL



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SECTION 11

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	11/02/22	N/A	Original Report Issue