

ESDEC, INC. TEST REPORT

SCOPE OF WORK

UL 441 TESTING ON ECOFASTEN'S GF1 FLASHING WITH CLICKFIT LFOOT

REPORT NUMBER

104594388LAX-001

ISSUE DATE

17-MARCH-2021

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GFT-OP-10a (21-June-2019)

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SUMMARY REPORT

17-MARCH-2021

Intertek Report No.: 104594388LAX-001

Intertek Project No.: G104594388

Yann Schwarz
ESDEC, Inc.
28357 Industrial Blvd.
Hayward, CA 94545

Ph: 510 225-0973
Email: yann.schwarz@esdec.com

Subject: Project Summary of the Rain Testing per UL 441 on Ecofasten's GF1 Flashing with Clickfit L-Foot

Dear Mr. Yann Schwarz

Intertek was contracted by ESDEC, Inc. to perform testing in general accordance with UL 441 on Ecofasten's GF1 flashing and Clickfit's L-Foot photovoltaic (PV) module attachment. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at ESDEC's test facility at 28357 Industrial BLVD, Hayward, CA 94545.

This letter report represents the summary of our evaluation of the above referenced product(s).

UL 441, Safety for Gas Vents, Section 27: Rain Test

This letter report does not constitute certification of this product or any opinion or endorsement by this laboratory. If there are any questions regarding the results contained in this report, or any of the other services offered by Intertek, please do not hesitate to contact your dedicated Intertek Project Manager.

Completed by:	Deep Vora	Reviewed by:	Samantha Doshi
Title:	Project Engineer	Title:	Team Lead - Solar
Signature:		Signature:	
Date:	March 17, 2021	Date:	March 17, 2021

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SUMMARY REPORT

SECTION 1

MATERIAL SOURCE/INSTALLATION

The test specimen was provided by the client. The specimen was installed onto a Spruce-Pine-Fir wood deck. The test deck measured 3’ wide by 3’ high and was constructed of #2 Spruce Pine Fir nominal 2x4 lumber. One rafter was centered on deck for bolt attachment. The rafters were attached to the top and bottom plates with 3” long roofing screws. A sheet of nominal 15/32” thick plywood was secured to the studs with #8 x 1-5/8” roofing screws. The test deck was then covered with #15 felt paper and three-tab asphalt shingles.

Description/Installation (Clickfit’s L-Foot and GF1 Flashing by Ecofasten): The test specimen was composed of an 8” x 12” x 0.03125” thick galvalume flashing and an approximately 1.5” wide by 2.75” high extruded aluminum L-foot. The underside of the L-foot was secured with one 5/16”x 4” lag bolt with a EPDM backed washer through the L-foot, flashing and into the center rafter of the test deck. The Clickfit L-Foot and GF1 flashing were installed without sealant.

Clickfit L-Foot Part numbers covered by this test report are as follows:

Part Number	Description
2012022	CF UNIV L-FOOT MLL 3”

SECTION 2

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Jae Hendrickson	ESDEC, Inc.

SECTION 3

TEST RESULTS

The temperature during testing was 22°C (71°F) and the humidity was 55%. The results are tabulated as follows:

Test Specimen #1 (Clickfit L-Foot and GF1 Flashing by Ecofasten):

TITLE OF TEST	RESULTS	ALLOWED	NOTE
Water Penetration, Per UL 441 - One hour of water spray	Pass	No leakage	1, 2, 3

General Note: All testing was performed in accordance with the referenced standard(s).

Note 1: Tested at 2/12 pitch

Note 2: Test results are applicable for asphalt shingle roofs having a slope of 2:12 or greater

Note 3: No sealant was used in this test. Any roofing manufacturer approved sealant is allowed

SUMMARY REPORT

SECTION 4
PHOTOGRAPHS



Photo No. 1

Unassembled Test Specimen (including 1 lag screw, 1 flashing, and 1 aluminium L-foot)

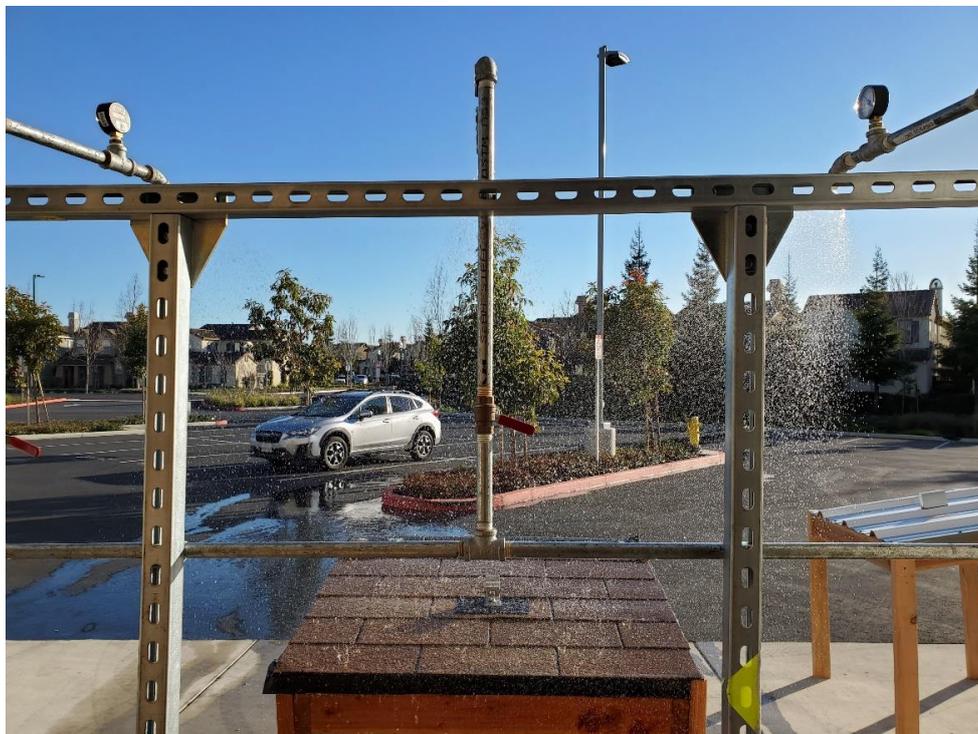


Photo No. 2

Test Specimen Under Test

SUMMARY REPORT



Photo No. 3
Test Specimen After Test

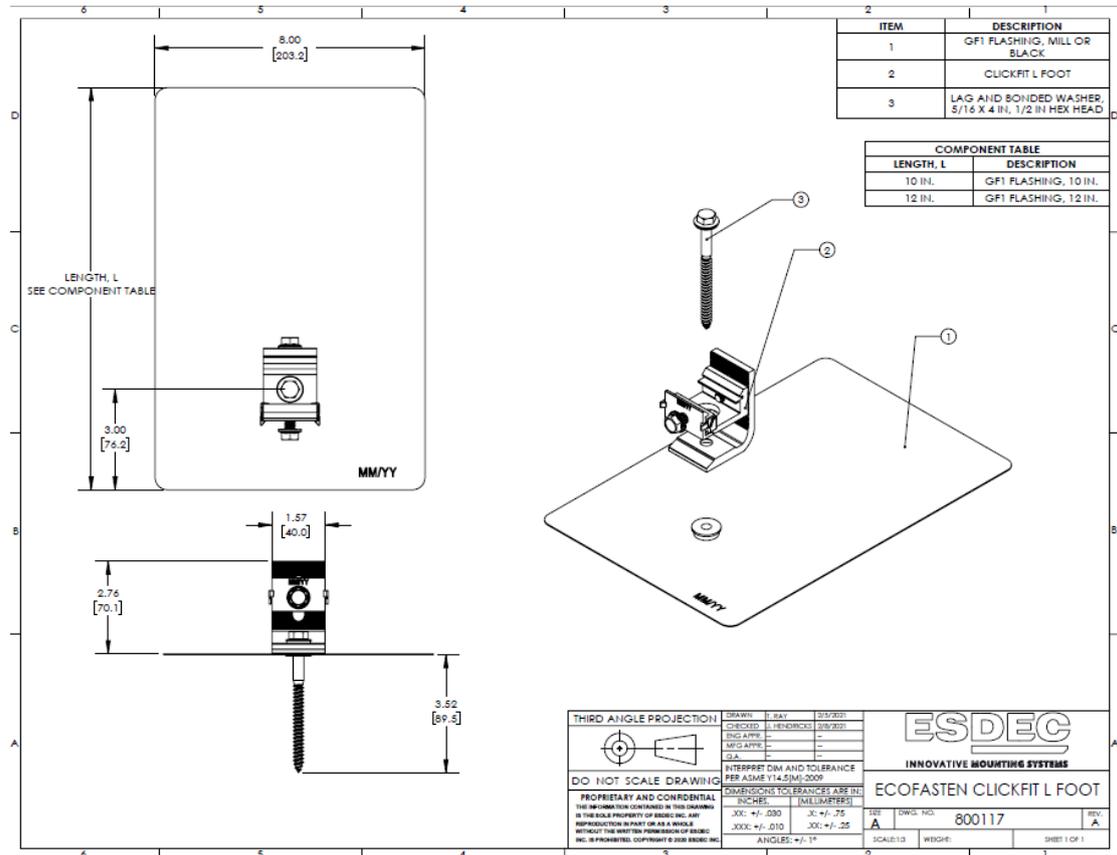


Photo No. 4
Underside of Test Desk After Test – no visible water penetration

SUMMARY REPORT

SECTION 5
DRAWINGS

The test specimen drawings have been reviewed by Intertek and are representative of the test specimen(s) reported herein. Any deviations are documented herein or on the drawings.



Drawing No. 1
Ecofasten Clickfit's GF1 flashing and L-Foot