16267

METAL MOUNT KIT
FOR METAL ROOFS

QuickBOLT

A DIVISION OF QUICKSCREWS INTERNATIONAL CORP

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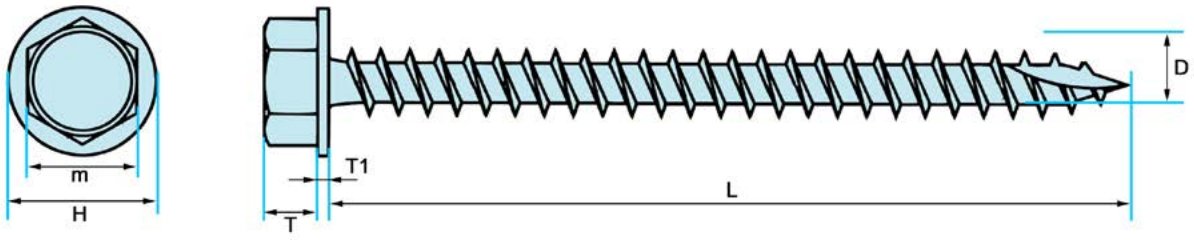
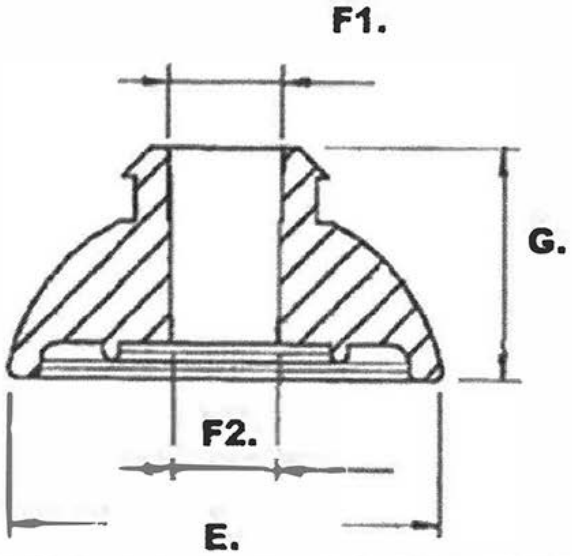
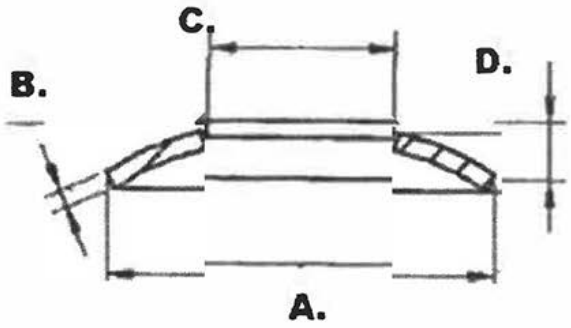
SPEC SHEET

Part #	Box Quantity	Screw Size
16267	HWH-T17 304 Screws (20); Umbrella Washers (20); Low Profile L-Foot (20)	5/16" x 3½"

Size	H	m	T	T1	D	PH	Thread Length	L
5/16" x 3-1/2"	15.84mm - 17.17mm	12.42mm - 12.70mm	5.28mm - 5.84mm	0.88mm - 1.40mm	7.57mm - 8.23mm	9 threads per in.	Full Thread	87.85mm - 89.85mm







PN# 16261

Umbrella Washer 8mm x 25mm

5830 Las Positas Road, Livermore CA 94551 | 3948 Airway Drive, Rock Hill SC 29732
Phone: (844) 671-6045 | Fax: (800) 689-7975 | www.quickbolt.com
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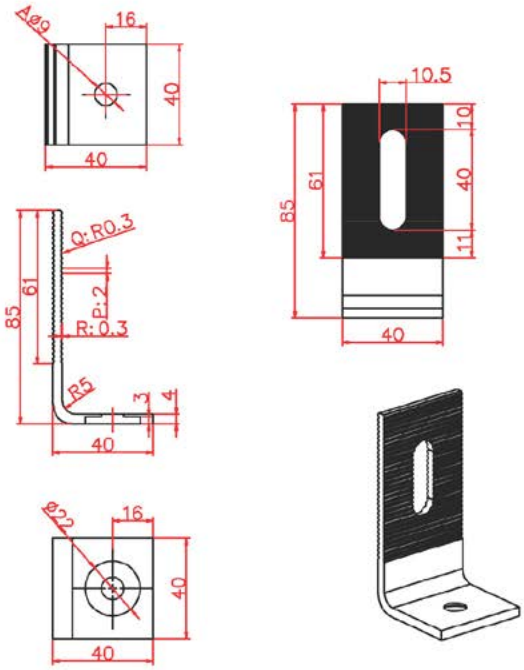
Natural color/Black	Customer	SolarRoofHook
15894SS		
15794SS		

4mm Thick



Technical requirement : The dimensions of the hooks are in accordance with the drawings.
Surface smooth, without burr.

Baiting tolerance	± 2 mm	Material:	304SS	Mapper:	
Hole tolerance	± 0.5 mm				
Hole distance tolerance	± 0.5 mm	Date:	2017. 11. 28	Auditor:	
Form tolerance	± 2 mm				
Thicknessness tolerance	± 0.1 mm				
Angle tolerance	± 1° mm				

INSTALL INSTRUCTIONS

RECOMMENDED MATERIALS

- Rafter locator
- Chalk or a crayon
- Drill with a 3/16" drill bit

INSTALLATION INSTRUCTIONS

1. Locate the rafter and predrill the hole
2. Place L-Foot over umbrella washer and drive until it compressed and L-Foot is secure

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BUILDING CODE LETTER

March 22nd, 2023

To whom this may concern,

QuickBOLT is committed to excellence. The parts tested are durable goods, meaning the material composition and detailed specifications of the parts do not change. Therefore, all stamps are current. Any part tested will have the same results no matter what year the tests are performed. All testing and reports are current and valid with 2022 CBC standards.

SolarRoofHook is the previous name of QuickBOLT. Any test result referencing SolarRoofHook is referring to a QuickBOLT product.

All our parts were tested by a third-party test facility, in possession of a current engineering license for the state where the tests were performed for the following.

1. Uplift test
2. Downward load test
3. Lateral Test – Asphalt Mounts, and Metal Mounts only
4. ASTM E2440 and ASTM E330 Waterproof Tests - QuickBOLT only

The following is an excerpt from:

CALIFORNIA BOARD FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS
guide to Engineering & Land Surveying for City and County Officials
Page 12, Line 27

27. If the license has expired between the time the engineering documents were prepared and the time when the local agency's review is performed, do the documents need to be re-sealed by a licensee with a current license? (B&P Code §§ 6733, 6735, 6735.3, 6735.4)

As long as the license was current at the time the engineering documents were prepared, the documents do not need to be re-sealed prior to review by the local agency. However, any changes (updates or modifications) to the documents that are made following the review by the local agency would have to be prepared by a licensed engineer with a current license and those changes would have to be signed and sealed.

We trust the information provided will resolve any request for the test reports submitted to have a stamp from the current year.

Regards,

Rick Gentry
Executive Vice President

APPLIED MATERIALS & ENGINEERING, INC.
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August 4, 2021

Mr. Rick Gentry
Quickscrews International
5830 Las Posita Road
Livermore, CA 94551

Project No.: 1210481C

Email: RGentry@quickscrews.com

Subject: PV Mount Low Profile L- Foot (Part #16267) Laboratory Load Testing

Dear Mr. Gentry:

As requested, Applied Materials & Engineering, Inc. (AME) has completed load-testing the PV Mount L- Foot Part #16267. The purpose of our testing was to evaluate the tensile (uplift) and shear load capacity of the PV Mount L-Foot attached to 1/2" OSB.

SAMPLE DESCRIPTION

Mockup samples were delivered to our laboratory on July 12, 2021. Mockup configuration consisted of three 12" long rafters at 6"o.c., screwed to 1/2" OSB.

One 5/16" x 3-1/2" QuickBOLT (P #HWH-T17, 16989) was screwed through the low-profile L-foot, an umbrella washer, and then through the OSB. Details of the mount are provided in Appendix A.

TEST PROCEDURES & RESULTS

1. Tensile (Uplift) Load Test

A total of three tests were conducted for tensile (uplift) load capacity on August 2, 2021 using a United Universal testing machine. Samples were rigidly attached to the testing machine and an uplift (tensile) load was applied to the mount. The samples were loaded in tension at a constant rate of axial deformation of 0.05 in. /min. without shock until failure occurred; displacement at maximum load was recorded.

Based on the above testing, the average maximum uplift load of the L- Foot attached to 1/2" OSB was determined to be 2069 lbf. Detailed results are provided in Table I. Test setup and mode of failure are provided in Appendix B, Figure 1.

The specific gravity and moisture content of the rafters were tested in accordance with ASTM D2395, Method A (oven-dry). The average specific gravity and average moisture content of the three samples were determined to be 0.492 and 0.8%, respectively.

Mr. Rick Gentry
Quickscrews International
PV Mount Low Profile L- Foot (Part #16267) Laboratory Load Testing
August 4, 2021

2. Shear (Lateral) Load Test Parallel to Rafter

A total of three tests were conducted for shear load capacity on August 3, 2021 using a United Universal testing machine. Samples were rigidly attached to the testing machine and a shear load (parallel to the rafter) was applied to the hook. The samples were loaded in compression at a constant rate of axial deformation of 0.1 in. /min. without shock until failure occurred; displacement at maximum load was recorded.

Based on the above testing, the average maximum uplift load of the L- Foot for each configuration attached to 1/2" OSB was determined to be 409 lbf. Detailed results are provided in Table II. Test setup and mode of failure are provided in Appendix B, Figure 2.

The specific gravity and moisture content of the rafters were tested in accordance with ASTM D2395, Method A (oven-dry). The average specific gravity and average moisture content of the three samples were determined to be 0.443 and 0.6%, respectively.

Respectfully Submitted,

APPLIED MATERIALS & ENGINEERING, INC.

Mohammed Faiyaz, P.E.
Senior Engineer

REGISTERED PROFESSIONAL ENGINEER
MOHAMMED FAIYAZ
C 84638
EXP. 03/31/22
CIVIL
STATE OF CALIFORNIA
8/16/21

Armen Tajirian, Ph.D., P.E.
Principal

Registered Professional Engineer (Civil)
CERTIFICATE NO.
72941
MOHAMMED
FAIYAZ
Date Signed 8/16/21
ARIZONA, U.S.A.

TABLE I

TENSILE (UPLIFT) LOAD TEST RESULTS

PV MOUNT LOW PROFILE L-FOOT LABORATORY LOAD TESTING
PART #16267

PROJECT NUMBER 1210481C

Test No.	Maximum Uplift Load (lbs)	Displacement At Maximum Load (in.)	Mode of Failure	Test Rafter Specific Gravity	Test Rafter Moisture Content (%)
5967 U-1	2142	0.83	Bent L-Foot/ Lag Pull out	0.504	0.8
5968 U-2	2091	0.71	Bent L-Foot/ Lag Pull out	0.489	0.9
5969 U-3	1973	0.73	Bent L-Foot	0.482	0.8
Average	**2069**	**0.76**	..	**0.492**	**0.8**

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TABLE II

SHEAR LOAD TEST RESULTS

PV MOUNT LOW PROFILE L-FOOT LABORATORY LOAD TESTING
PART #16267

PROJECT NUMBER 1210481C

Test No.	Maximum Shear Load (lbs)	Displacement At Maximum Load (in.)	Mode of Failure	Test Rafter Specific Gravity	Test Rafter Moisture Content (%)
6083 L-1	387	1.67	Bent L-Foot	0.448	0.6
6084 L-2	446	1.47	Bent L-Foot	0.464	0.6
6085 L-3	394	1.65	Bent L-Foot	0.416	0.6
Average	**409**	**1.60**	"	**0.443**	**0.6**

TENSILE LOAD TEST SETUP

PV MOUNT LOW PROFILE L-FOOT LABORATORY LOAD TESTING

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Figure 1a. Test set up.

Figure 1b. Typical failure mode.

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SHEAR LOAD TEST SETUP

PV MOUNT LOW PROFILE L-FOOT LABORATORY LOAD TESTING

PART #16267

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Figure 2a. Test set up.

Figure 2b. Typical failure mode.