

17578

17579, 17600, 17601, 17616, 17617

ALL TILE ROOF HOOK FOR BOTTOM MOUNT RAILS; ADJUSTABLE



A DIVISION OF QUICKSCREWS INTERNATIONAL CORP

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SUCH AS: WATER, UPLIFT, COMPRESSION, ETC.

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UL CERTIFICATION

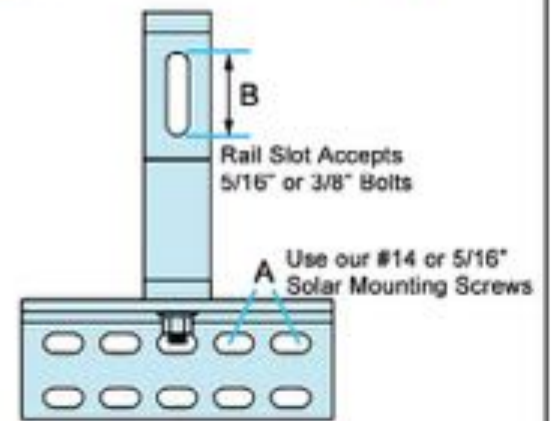
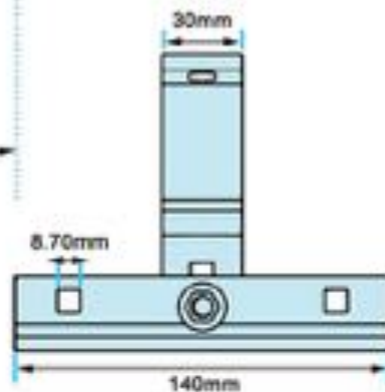
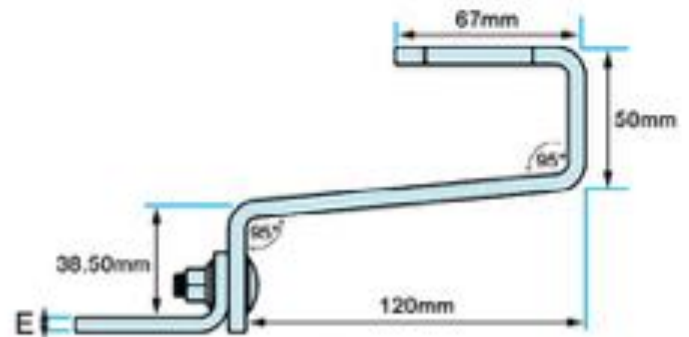
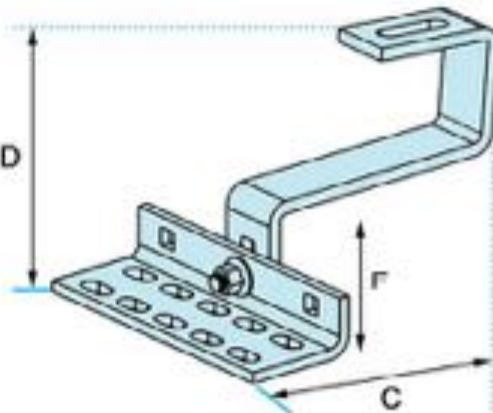
PROOF OF UL CERTIFICATION

SPEC SHEET

Part #	Box Quantity	Screw Size
17578	10 Hooks	N/A
17579	1 Hook	N/A
17616	10 Hooks; 20 Screws	5/16" x 3"
17617	1 Hook; 2 Screws	5/16" x 3"
17600	10 Hooks; 20 Screws	#14 x 3"
17601	1 Hook; 2 Screws	#14 x 3"



Letter	Description	Size/Length
A	Mounting Screw Slot	9mm x 18mm
B	Rail Slot Size	10mm x 38mm
C	Length of Roof Hook	179.54mm
D	Bottom End to Top End	90mm - 102mm
E	Thickness	6mm
F	Adjustability Range	34mm - 48mm



5830 Las Positas Road, Livermore CA 94551 | 3948 Airway Drive, Rock Hill SC 29732
 Phone: (844) 671-6045 | Fax: (800) 689-7975 | www.solarroofhook.com

INSTALL INSTRUCTIONS



RECOMMENDED MATERIALS

- Rafter locator
- Chalk or crayon
- Drill Bit
- Sealant compatible with roofing materials



INSTALLATION INSTRUCTIONS

1. Remove the tiles from the install area
2. Locate and mark the rafters
3. Place the mount and predrill holes
4. Fill the predrilled holes with sealant
5. Drive the Mounting Screws
6. Place the tiles back over the roof mount



ADJUSTABLE HOOKS

- Adjust the mount as needed either before or after installation
- The ideal location for the mount on Curved Tiles is over the valley of the tile to minimize drainage



IF USING GALVA FLASHING

1. Make a cut in the paper
2. Apply sealant to the underside of the Galva Flashing
3. Slide the Flashing underneath the paper or nail down edges
4. Cover the edges of the Galva Flashing with sealant



PN 15890



BUILDING CODE LETTER



February 26, 2019

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.

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

ENGINEERING REPORT



APPLIED MATERIALS & ENGINEERING, INC.

980 41st Street
Oakland, CA 94608

Tel: (510) 420-8190
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April 1st, 2015

Mr. Rick Gentry
SolarRoofHook
a division of Quickscrews International Corp.
5830 Las Positas Road
Livermore, CA 94551

Project Number 115169C

Subject: STA18038 All Tile Adjustable 180° Roof Hook Laboratory Load Testing

Dear Mr. Gentry:

As requested, Applied Materials & Engineering, Inc. (AME) has completed load-testing the All Tile Adjustable 180° roof hook (see Appendix A, Figure 1). The purpose of our testing was to evaluate the compressive, and tensile (uplift) load capacity of the All Tile Adjustable 180° roof hook attached to a 2"x4" Douglas Fir Rafter using two #14x3" screws.

SAMPLE DESCRIPTION

Mockup samples were assembled in our laboratory on March 26th & 27th, 2015. Mockup configuration consisted of three 16" long rafters at 4.5" o.c., screwed to 1/2" Structural I plywood. The All Tile Adjustable 180° roof hook is attached through the plywood into a rafter with two fasteners. The roof hook is positioned in the center of the base plate with the fasteners installed at the farthest end.

TEST PROCEDURES & RESULTS

I. Compressive Load Test

A total of three tests were conducted for compressive load capacity on March 26th, 2015 using a United Universal testing machine. Samples were rigidly attached to the testing machine and a compressive load was applied to the hook. The samples were loaded in compression at a constant rate of axial deformation of 0.09 in./min. without shock until the hook was bent and came in contact with the test board, displacement at maximum load was recorded. Based on the above testing, the average maximum compression load of the All Tile Adjustable 180° roof hook attached to a 2"x4" Douglas Fir rafter using two #14x 3" screws was determined to be 301 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 rafter was tested in accordance with ASTM D2395, Method A (oven-dry). The specific gravity and moisture content were determined to be 0.375 and 13.9 %, respectively.

Mr. Rick Gentry
QUICKSCREWS INTERNATIONAL
5830 Las Positas Road
Livermore, CA 94551

Project Number 115169C

2. Tensile (Uplift) Load Test

A total of three tests were conducted for compressive load capacity on March 27th, 2015 using a United Universal testing machine. Samples were rigidly attached to the testing machine and an uplift load was applied to the hook. The samples were loaded in tension at a constant rate of axial deformation of 0.09 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 All Tile Adjustable 180° attached to a 2"x4" Douglas Fir rafter using two #14x3" screws was determined to be 2041 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 rafter was tested in accordance with ASTM D2395, Method A (oven-dry). The specific gravity and moisture content were determined to be 0.388 and 15.6 %, respectively.

Respectfully Submitted,

APPLIED MATERIALS & ENGINEERING, INC.

Reviewed By:


Mohammed Fayaz
Laboratory Manager



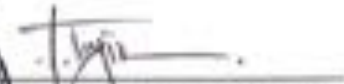

Armen Tajirian, Ph.D., P.E.
Principal

TABLE I

COMPRESSIVE LOAD TEST RESULTS

ALL TILE ADJUSTABLE 180° ROOF HOOK (PART # STA18038)

PROJECT NUMBER 115169C

SAMPLE ID	MAXIMUM COMPRESSIVE LOAD (lbf)	DISPLACEMENT AT MAXIMUM LOAD (in.)	FAILURE MODE
C-1	308	2.0	Hook contact w/Plywood
C-2	291	2.4	Hook contact w/Plywood
C-3	304	2.1	Hook contact w/Plywood
AVERAGE	301	2.2	..

TABLE II

TENSILE (UPLIFT) LOAD TEST RESULTS

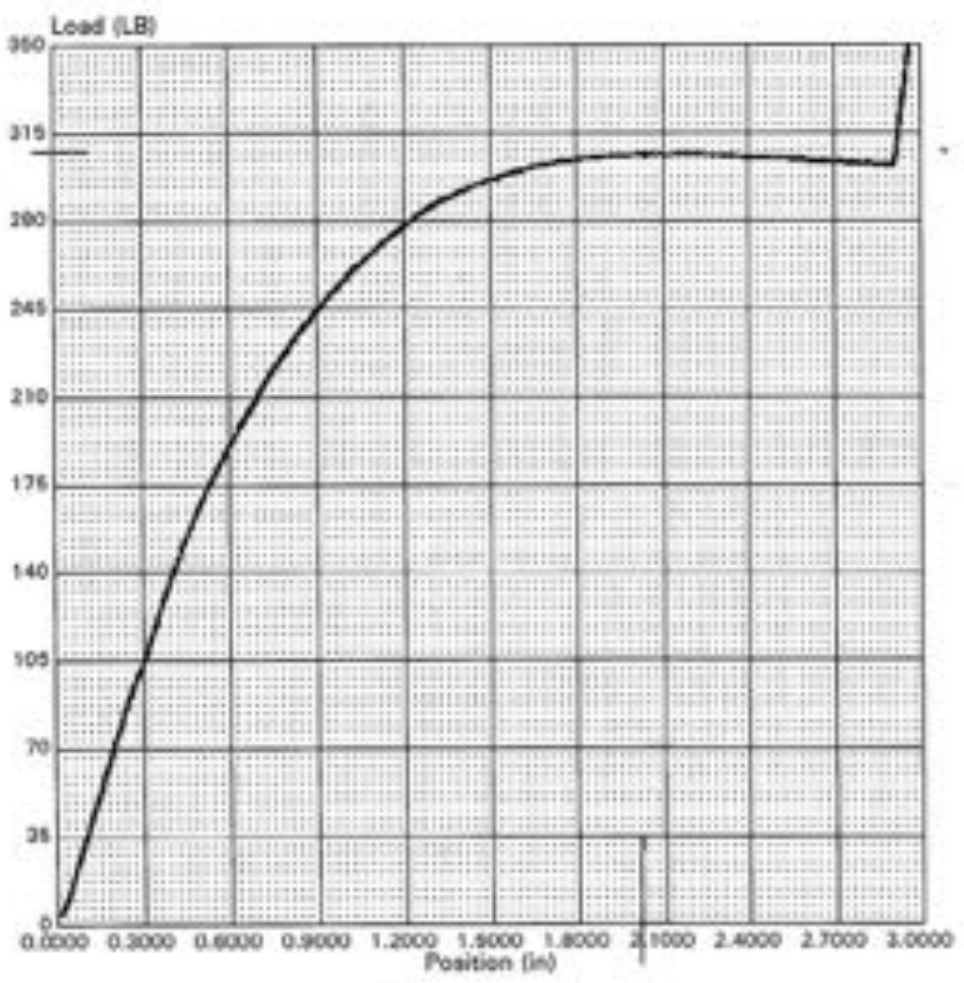
ALL TILE ADJUSTABLE 180° ROOF HOOK (PART # STA18038)

PROJECT NUMBER 115169C

SAMPLE ID	MAXIMUM TENSILE LOAD (lbf)	DISPLACEMENT AT MAXIMUM LOAD (in.)	FAILURE MODE
T-1	2216	7.2	Fastener pullout
T-2	1708	6.5	Fastener pullout
T-3	2199	7.2	Fastener pullout
AVERAGE	2041	6.9	..

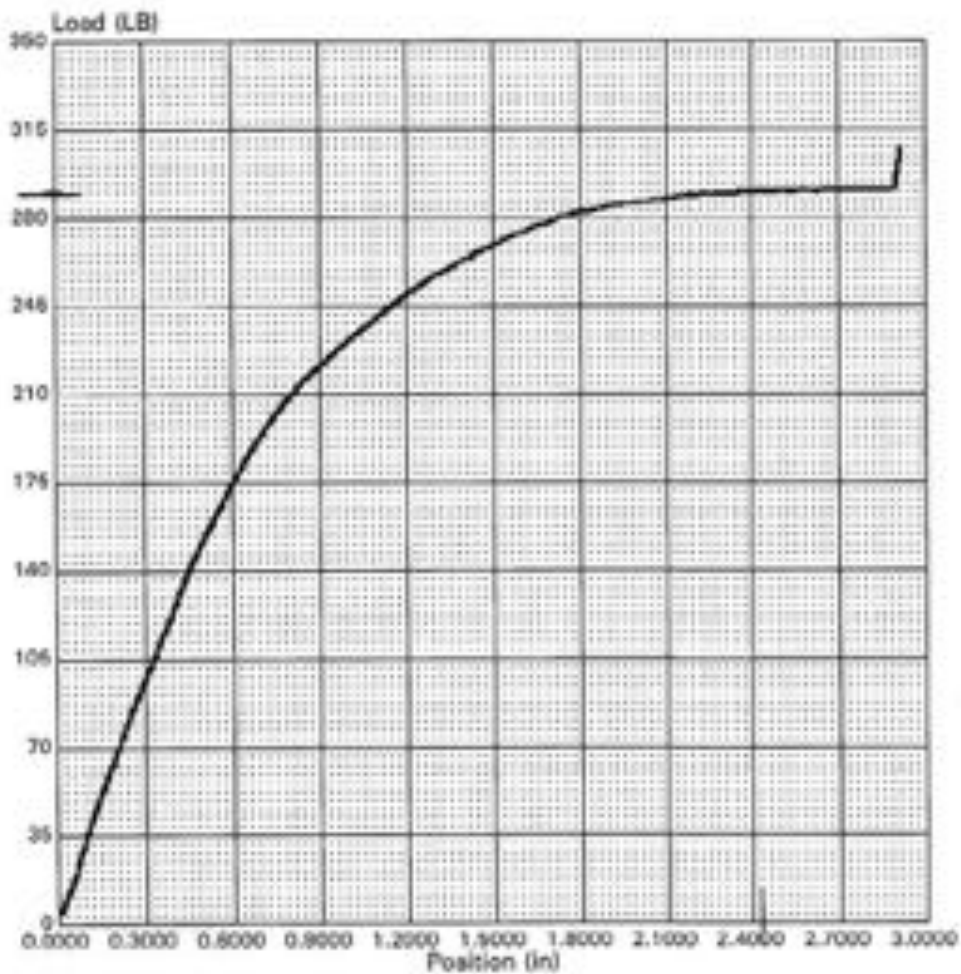
Initials: DS Date: 3/26
 LAB EQUIPMENT USED
 Compression Machine:
 ELE SN 070100000077 _____
 ELE SN 00-13 _____
 SAJEC SN 400N/1075 _____
 United SN 890212 X _____
 Measurement:
 Caliper SN _____
 Other:

**All Tile Adjustable 180
 Compression #1**



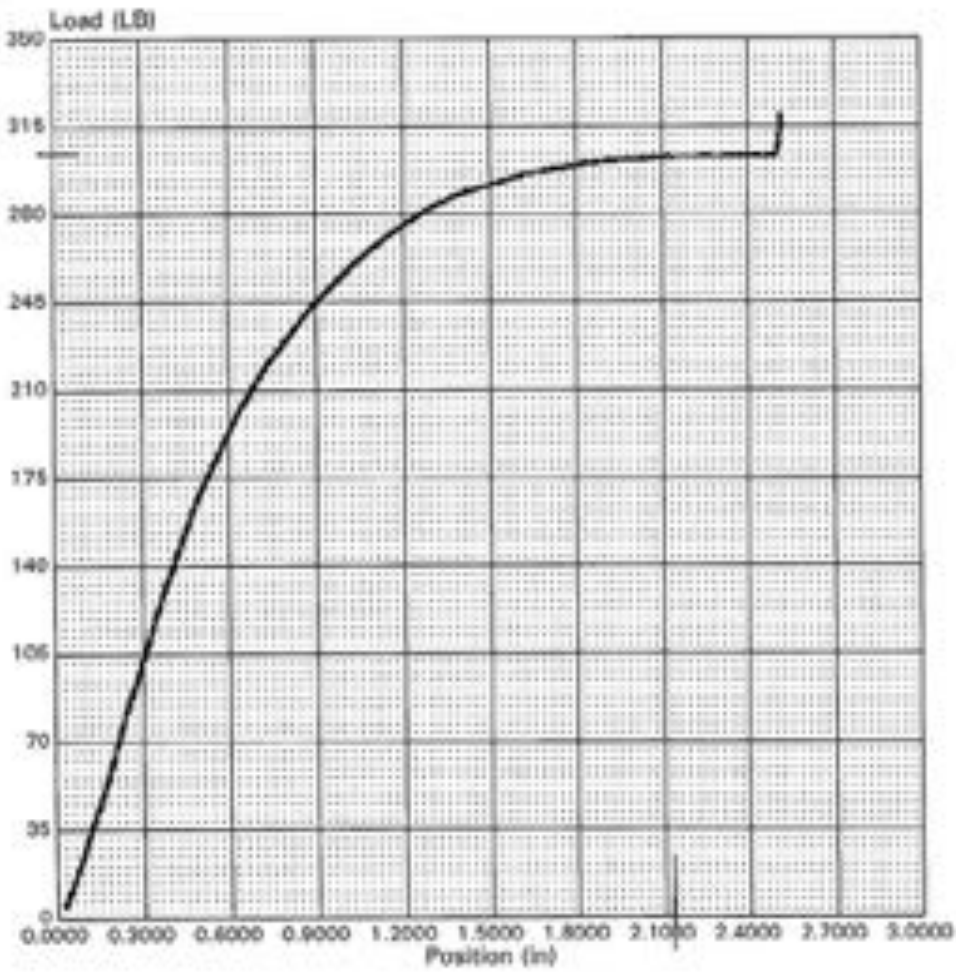
Initial: DS Date: 3/26
 LAB EQUIPMENT USED
 Compression Machine:
 ELE S/N 070100000077 _____
 ELE S/N 00-13 _____
 SATC S/N 400H/L1075 _____
 United S/N 890212 ✓
 Measurement:
 Caliper S/N _____
 Other:

All Tile Adjustable 180
 Compression #2



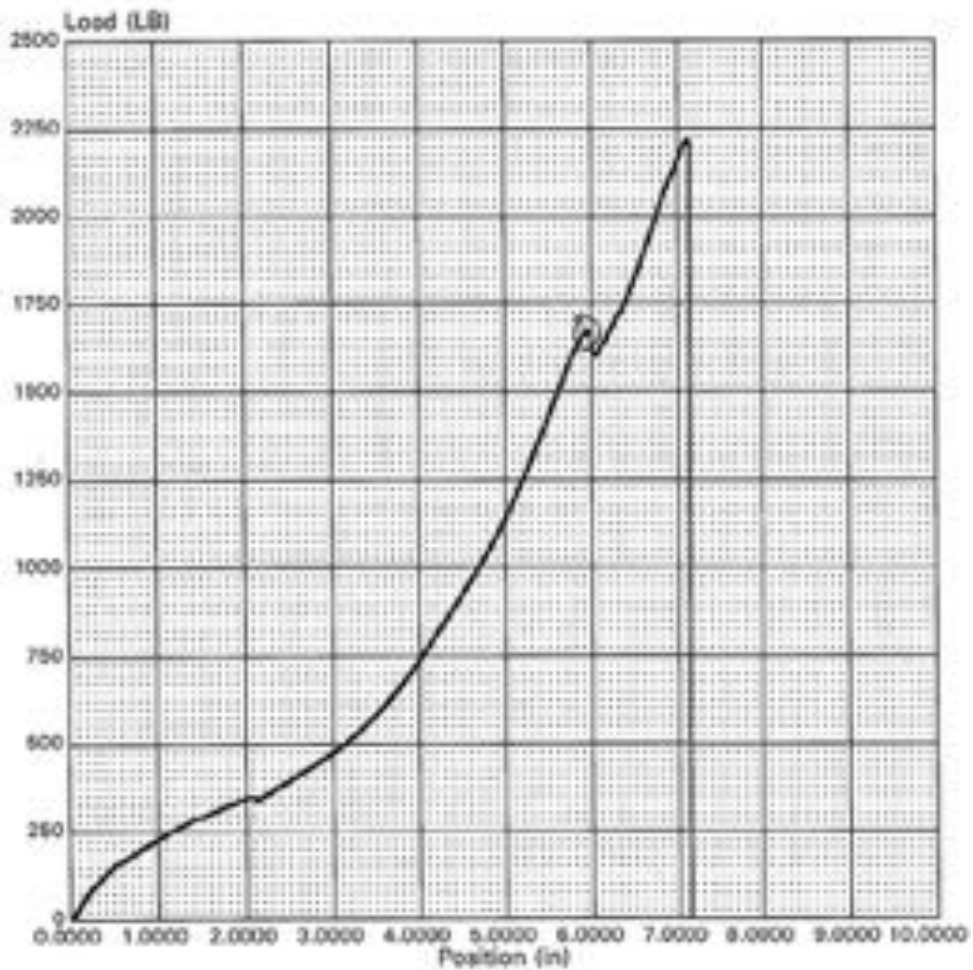
Initials: *DS* Date: *3/26*
LAB EQUIPMENT USED
Compression Machine:
ELE S/N 07010000077 _____
ELE S/N 00-13 _____
SAFEC S/N 400M/1035 _____
United S/N 890212 ✓ _____
Measurement:
Caliper S/N _____
Other: _____

All Tile Adjustable Compression #3



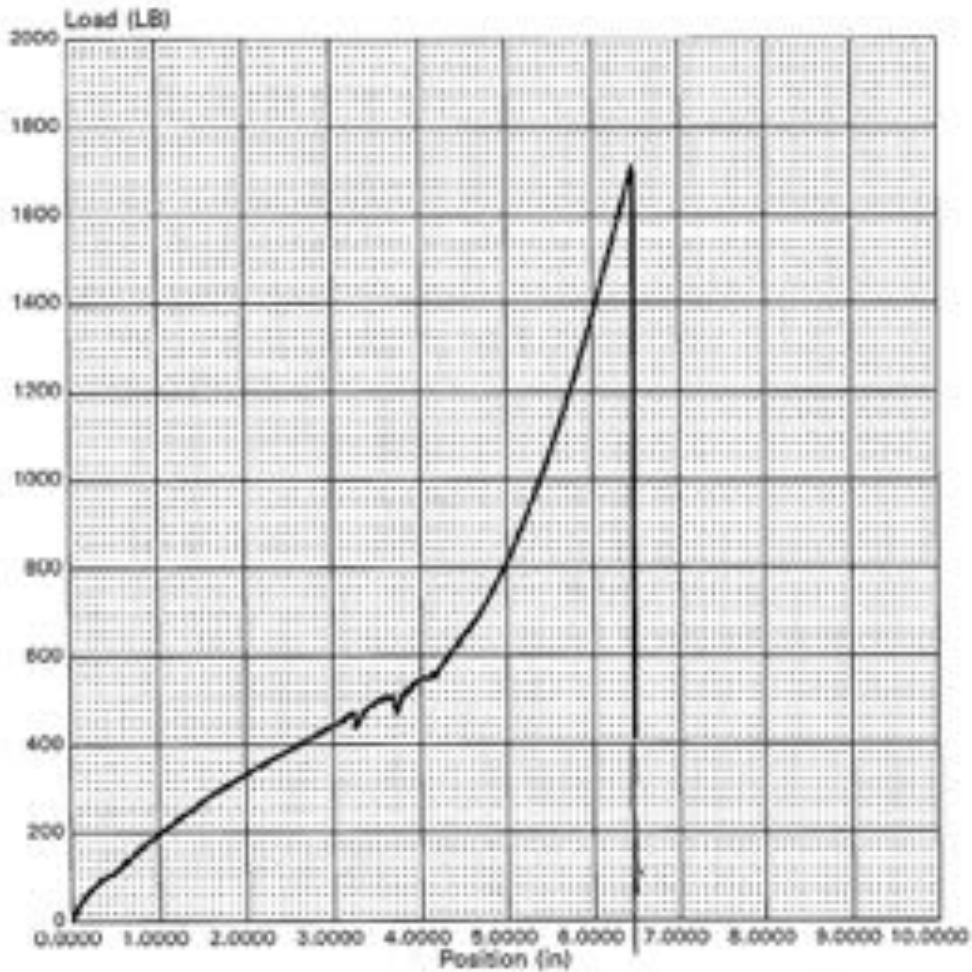
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 LAB EQUIPMENT USED
 Compression Machine:
 ELE S/N 0701-00000377 _____
 ELE S/N 00-13 _____
 SATEC S/N 400NVI 10/15 _____
 United S/N 890212 X
 Measurement:
 Caliper S/N _____
 Other: _____

**All Tile Adjustable 180
 Uplift #1**



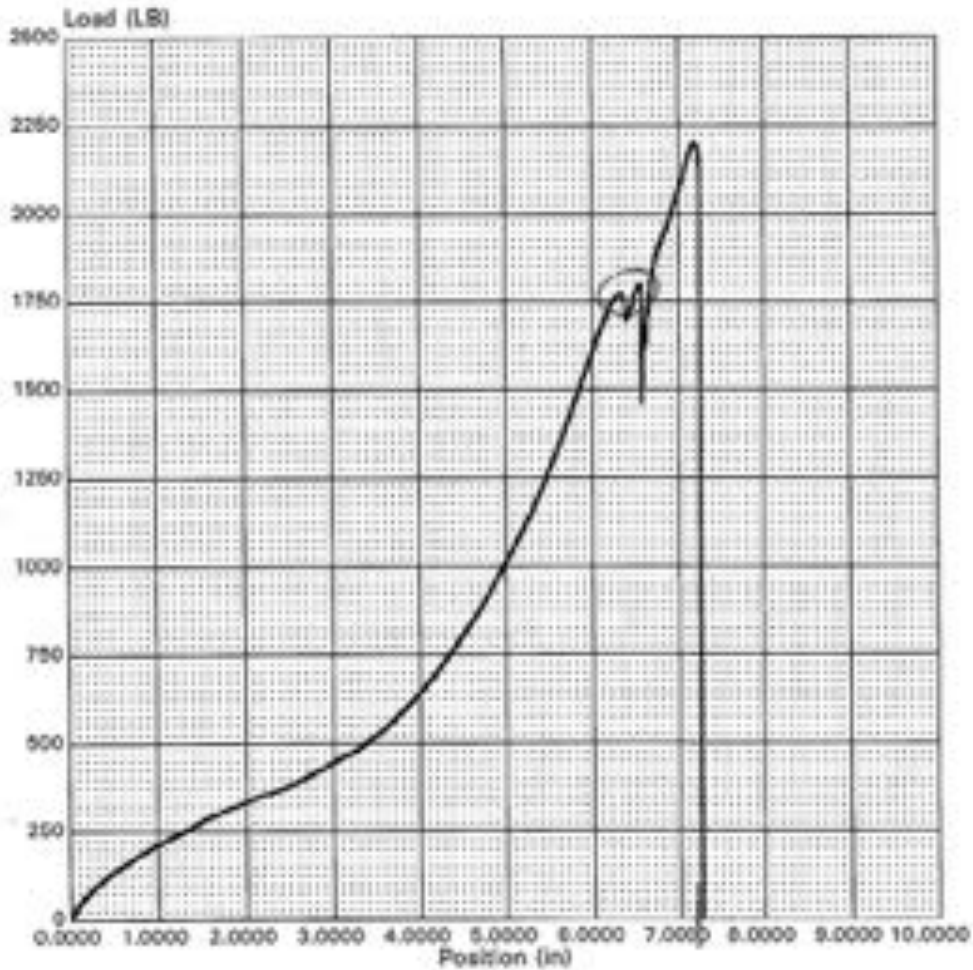
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LAB EQUIPMENT USED
Compression Machine:
ELE SN 07010000077 _____
ELE SN 00-13 _____
SATEC SN 4001N1075 _____
United SN 890212 X
Measurement:
Caliper SN _____
Other:

All Tile Adjustable 180
Uplift #2



Initials: DS Date: 3/27
LAB EQUIPMENT USED
Compression Machine:
ELE S/N 07010000077 _____
ELE S/N 00-13 _____
SAFE S/N 400HV,1075 _____
United S/N 990212 X
Measurement:
Caliper S/N _____
Other: _____

All Tile Adjustable 180 Uplift #3



CERTIFICATE OF COMPLIANCE

Certificate Number 20180725-E493748
Report Reference E493748-20170817
Issue Date 2018-JULY-25

Issued to: SolarRoofHook, a Division of Quickscrews International Corp
5830 Las Positas Rd, Livermore CA 94551

This is to certify that
representative samples of

COMPONENT - MOUNTING SYSTEMS, MOUNTING DEVICES,
CLAMPING DEVICES AND GROUND LUGS FOR USE WITH
PHOTOVOLTAIC MODULES AND PANELS
Refer to Addendum Page for Models/Product.

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety:

UL 2703 Standard for Mounting Systems, Mounting
Devices, Clamping/Retention Devices, and Ground Lugs for
Use with Flat-Plate Photovoltaic Modules and Panels.

Additional Information:

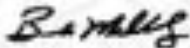
See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's
Certification and Follow-Up Service.

The UL Recognized Component Mark generally consists of the manufacturer's identification and catalog
number, model number or other product designation as specified under "Marking" for the particular
Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products
that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark:
RM may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is
required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual
recognitions.

Recognized components are incomplete in certain constructional features or restricted in performance
capabilities and are intended for use as components of complete equipment submitted for investigation rather
than for direct separate installation in the field. The final acceptance of the component is dependent upon its
installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.



Bruce Mahanovich, Director North American Certification Program

UL LLC

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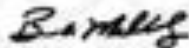
CERTIFICATE OF COMPLIANCE

Certificate Number 20180725-E493748
Report Reference E493748-20170817
Issue Date 2018-JULY-25

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Models/Product

USR – Component, Roof Mounting Hook Units, Models 15891 15893 15987 16000 16988 16990
16991 16993 17508 17509 17510 17511 17512 17513 17514 17515 17516 17517 17518 17519 17520
17521 17522 17523 17524 17525 17526 17527 17536 17537 17538 17539 17540 17541 17542 17543
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17629 17630 17631 17632 17633 17636 17637 17638 17639 17642 17643 17646 17647 17648 17649
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17687 17688 17689 17700 17701 17702 17703 17704 17705 17706 17707 17708 17709 17710 17711
17712 17717 17718 17759 15891-10 15891BLK-10 15967A 15967B 17667SS 17672SS 17680SS
17688SS 17713SS 17720 17721SS 17723 17724SS 17726 17727SS 17729 17730SS 15894SS
15891SS 15987BSS.



Bruce Malvern, Director North American Certification Program

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