17566

17567, 17640, 17641

ALL STONE COATED STEEL ROOF HOOK

FOR SIDE MOUNT RAILS; WIDE BASE; ADJUSTABLE

QuickBOLT

A DIVISION OF QUICKSCREWS INTERNATIONAL CORP

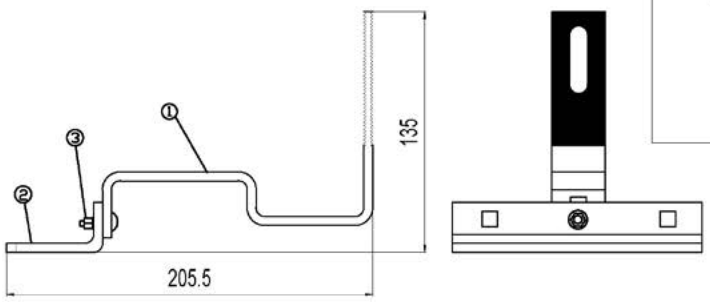
TABLE OF CONTENTS

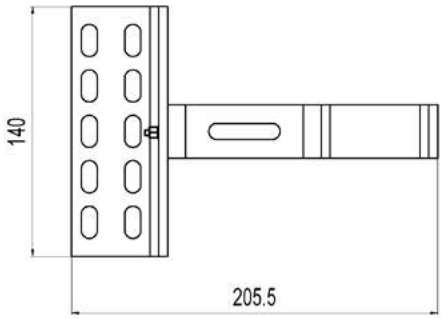
Quickscrews International Corp. has changed the name of its solar division from SolarRoofHook to QuickBOLT

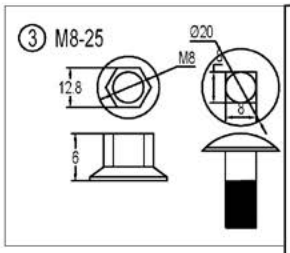
SPEC SHEET

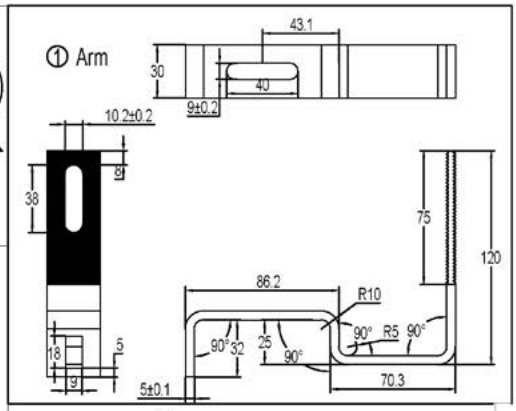
Part #	Box Quantity	Screw Size
17566	10 Hooks	N/A
17567	1 Hook	N/A
17640	10 Hooks; 20 Screws	5/16" x 3"
17641	1 Hook; 2 Screws	5/16" x 3"

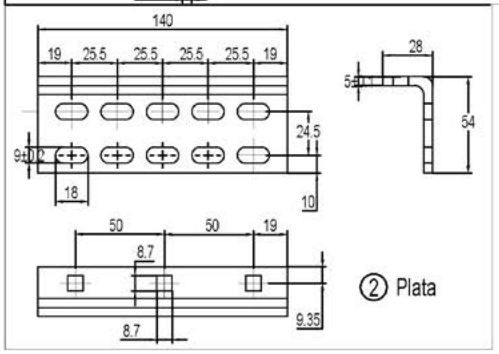
Hook Material: Stainless Steel (SUS304)
Hook Finish: Sandblasted











			Part #	Box QTY
Tolerance Range			17566	10 Hooks
			17567	1 Hook
Tolerance	mm		17640	10 Hooks, 20 5/16x3" Mounting Screws
6<	±0.1		17641	1 Hook, 2 5/16x3" Mounting Screws
6-30	±0.2	Design		Scale / Quantity
31-120	±0.3	Drawing		Material
121-400	±0.4	Confirm		Drawing No.
401-1000	±0.5	Verify		

Adjustability Range: 32.5mm - 45mm

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
QuickBOLT is a division of Quickscrews International Corp.

UL CERTIFICATION

CERTIFICATE OF COMPLIANCE

Certificate Number	E493748
Report Reference	E493748-20170817
Date	2023-April-07
Issued to:	QuickBOLT a Division of Quickscrews International Corp 5830 Las Positas Rd Livermore CA, 94551 US
This is to certify that representative samples of	MOUNTING SYSTEMS, MOUNTING DEVICES, CLAMPING DEVICES AND GROUND LUGS FOR USE WITH PHOTOVOLTAIC MODULES AND PANELS - COMPONENT See Addendum Page for Product Designation(s).
	Have been evaluated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.
Standard(s) for Safety:	UL 2703, 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 https://iq.ulprospector.com for additional information

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Recognized Component Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

Deborah Jennings-Conner, VP Regulatory Services

UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at http://ul.com/aboutul/locations/

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CERTIFICATE OF COMPLIANCE

Certificate Number	E493748
Report Reference	E493748-20170817
Date	2023-April-07

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

Models:

USR – Component, Roof Mounting Hook Units, Models 15891 15893 15987 16000 16317 16318 16319 16320 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 17544 17545 17546 17547 17548 17549 17550 17551 17552 17553 17554 17555 17556 17558 17559 17560 17566 17567 17568 17569 17570 17571 17572 17573 17574 17575 17576 17577 17578 17579 17580 17585 17586 17587 17588 17589 17592 17596 17597 17598 17599 17600 17601 17606 17607 17608 17609 17610 17611 17612 17613 17614 17615 17616 17617 17618 17620 17621 17622 17623 17624 17625 17626 17627 17628 17629 17630 17631 17632 17633 17636 17637 17638 17639 17640 17641 17642 17643 17646 17647 17648 17649 17650 17651 17652 17653 17654 17659 17664 17667 17669 17670 17671 17672 17673 17678 17679 17680 17681 17686 17687 17688 17689 17700 17701 17702 17703 17704 17705 17706 17707 17708 17709 17710 17711 17712 17717 17718 17750 17751 17752 17753 17759 15891-10 15891BLK-10 15987A 15987B 17667SS 17672SS 17680SS 17688SS 17713SS 17720 17721SS 17723 17724SS 17726 17727SS 17729 17730SS 15894SS 15891SS 15987BSS 17660 17661 17662 17663 17747 17748

Deborah Jennings-Conner, VP Regulatory Services

UL LLC

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INSTALL INSTRUCTIONS

RECOMMENDED MATERIALS

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

INSTALLATION INSTRUCTIONS

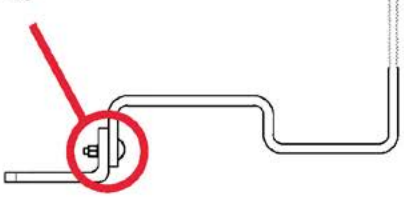
1. Remove the tiles from the install area
2. Locate and mark the rafters
3. Place the mount and predrill holes
4. Fill the predrilled holes with sealant
5. Drive the Mounting Screws
6. Place the tiles back over the roof mount

ADJUSTABLE HOOKS

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

TORQUE REQUIREMENTS

M8 Bolt requires 15 minimum torque ft-lb



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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

ENGINEERING REPORT

APPLIED MATERIALS & ENGINEERING, INC.
980 41st Street
Oakland, CA 94608
Tel: (510) 420-8190
FAX: (510) 420-8186
e-mail: info@appmateng.com

April 14, 2022 Project No.: 1220244C

Mr. Rick Gentry
Quickscrews International
5830 Las Posita Road
Livermore, CA 94551 Email: RGentry@quickscrews.com

Subject: PV Mount Low Profile L- Foot (Parts #17566, 17567, 17640, 17641)
Laboratory Load Testing

Dear Mr. Gentry:

As requested, Applied Materials & Engineering, Inc. (AME) has completed load-testing the PV Mount L- Foot Part #17566. The purpose of our testing was to evaluate the tensile (uplift) and compression load capacity of the PV Mount L-Foot attached to 1/2" OSB.

SAMPLE DESCRIPTION

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

Two 5/16" Ø x 3" QuickBOLT (P #HWH-T17, 16988) screws were 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. Compression Load Test

A total of three tests were conducted for compression load capacity 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 attached to 1/2" OSB was determined to be 1622 lbf. Detailed results are provided in Table I; load deflection curves are attached. Test setup and mode of failure are provided in Appendix B.

Mr. Rick Gentry
Quickscrews International
PV Mount Low Profile L- Foot (Parts #17566, 17567, 17640, 17641) Laboratory Load Testing
April 14, 2022

The specific gravity and moisture content of the rafters were tested in accordance with ASTM D2395, Method A (oven-dry). The average specific gravity of the three samples were determined to be 0.398.

2. Tensile (Uplift) Load Test

A total of three tests were conducted for tensile (uplift) load capacity 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 818 lbf. Detailed results are provided in Table I; load deflection curves are attached. Test setup and mode of failure are provided in Appendix B.

The specific gravity and moisture content of the rafters were tested in accordance with ASTM D2395, Method A (oven-dry). The average specific gravity of the three samples were determined to be 0.417.

Respectfully Submitted,

APPLIED MATERIALS & ENGINEERING, INC.

Ryan King
Lab Supervisor

Reviewed by:

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

TABLE I

COMPRESSION TEST RESULTS

PV MOUNT LOW PROFILE L-FOOT LABORATORY LOAD TESTING
PARTS #17566, 17567, 17640, 17641

PROJECT NUMBER 1220244C

Test No.	Maximum Uplift Load (lbs)	Displacement At Maximum Load (in.)	Mode of Failure	Test Rafter Specific Gravity
7188	1807	0.70	Bent L-Foot	0.426
7189	1966	0.52	Bent L-Foot	0.407
7190	1092	0.71	Bent L-Foot	0.362
Average	**1622**	**0.64**	..	**0.398**

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APPLIED MATERIALS & ENGINEERING, INC.

Compression Testing

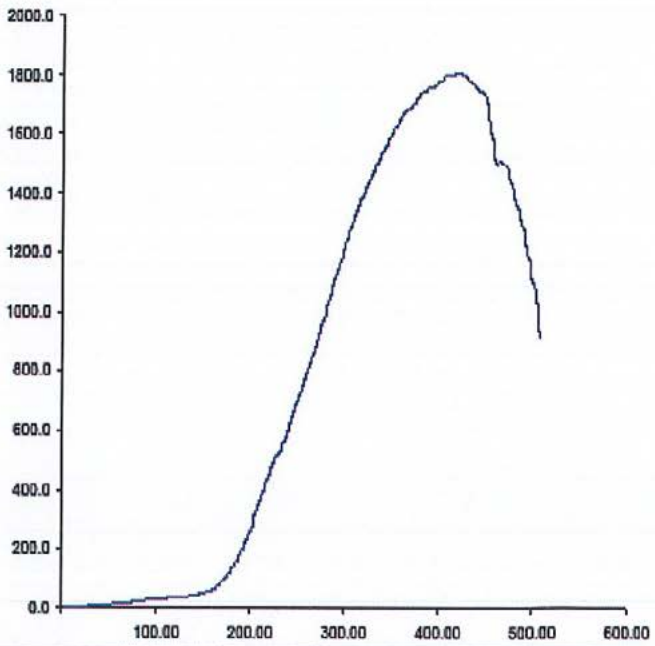
Specimen ID C1
Test Number 7188
Report Number 1435
Test Date 4/7/2022 12:16:02 PM

	Test Results
Peak Force (lbs)	1,607.06
Deflection @ Break (in)	0.70

Testing Machine SMART Tester
Load Cell S/N (TVI114620), Units (LBS) 33721
Preload Value (-Lbs) 1
Crosshead Speed (Inches / min) or Rate
Extension or Position Measured by EZ 2-1 (5549)

By : _____ Date : _____

Force (-Lbs) vs Extension (-Inches)



Customer Name Quickbolt
Sample Type PV Testing
Date Tested 4/7/22
Project Number 1220244C
Date Received
Operator J.Padilla

Template No 121 12-Apr-22
Applied Materials &Engineering

Applied Materials &Engineering 960 41st. Street Oakland, CA 94542 Tel FAX

APPLIED MATERIALS & ENGINEERING, INC.

Compression Testing

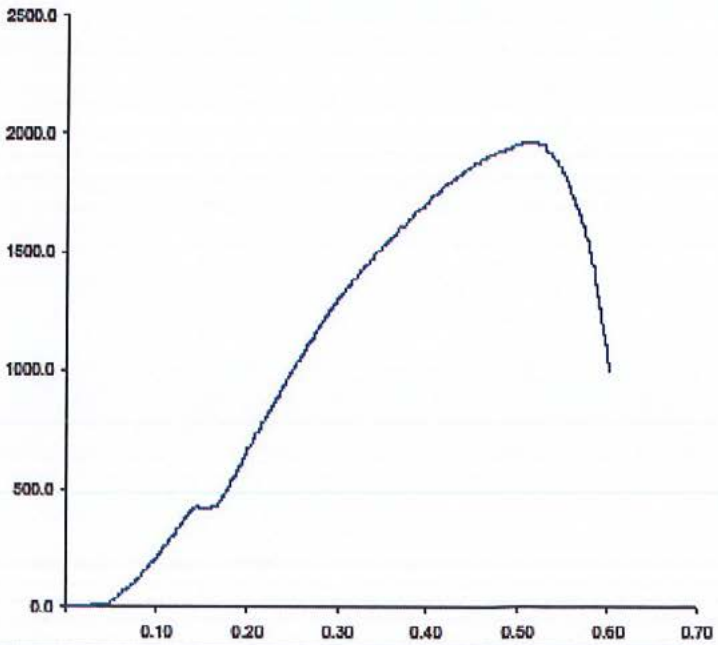
Specimen ID C2
Test Number 7189
Report Number 1435
Test Date 4/7/2022 1:03:41 PM

	Test Results
Peak Force (lbs)	1,966.16
Deflection @ Break (in)	0.52

Testing Machine SMART Tester
Load Cell S/N (TVI114620), Units (LBS) 33721
Preload Value (-Lbs) 1
Crosshead Speed (inches / min) or Rate
Extension or Position Measured by EZ -2-1 (5549)

By : _____ Date : _____

Force (-Lbs) vs Extension (-Inches)



Customer Name Quickbolt
Sample Type PV Testing
Date Tested 4/7/22
Project Number 1220244C
Date Received
Operator J.Padilla

Template No 121 12-Apr-22
Applied Materials &Engineering

Applied Materials &Engineering 960 41st. Street Oakland, CA 94542 Tel FAX

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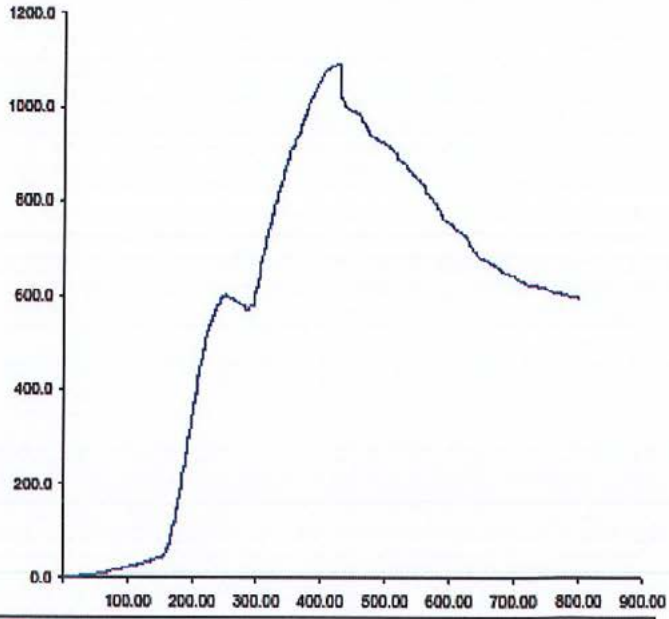
APPLIED MATERIALS & ENGINEERING, INC.

Compression Testing

Specimen ID C3
Test Number 7190
Report Number 1435
Test Date 4/7/2022 1:28:00 PM

	Test Results
Peak Force (lbs)	1,092.14
Deflection @ Break (in)	0.71

Force (-Lbs) vs Extension (-Inches)



Testing Machine SMART Tester
Load Cell S/N (TVI114520), Units (LBS) 33721
Preload Value (-Lbs) 1
Crosshead Speed (Inches / min) or Rate
Extension or Position Measured by EZ .2-1 (5549)

By : _____ Date : _____

Customer Name Quickbolt
Sample Type PV Testing
Date Tested 4/7/22
Project Number 1220244C
Date Received
Operator J.Padilla

Template No 121 12-Apr-22
Applied Materials &Engineering

Applied Materials &Engineering 960 41st. Street Oakland, CA 94542 Tel FAX

TABLE II

TENSILE (UPLIFT) LOAD TEST RESULTS

PV MOUNT LOW PROFILE L-FOOT LABORATORY LOAD TESTING
PARTS #17566, 17567, 17640, 17641

PROJECT NUMBER 1220244C

Test No.	Maximum Uplift Load (lbs)	Displacement At Maximum Load (in.)	Mode of Failure	Test Rafter Specific Gravity
7172	747	-0.16	Bent L-Foot	0.453
7174	873	-0.02	Bent L-Foot	0.432
7187	834	-0.02	Bent L-Foot	0.365
Average	**818**	**-0.07**	"	**0.417**

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APPLIED MATERIALS & ENGINEERING, INC.

Tensile Test - XHD Control

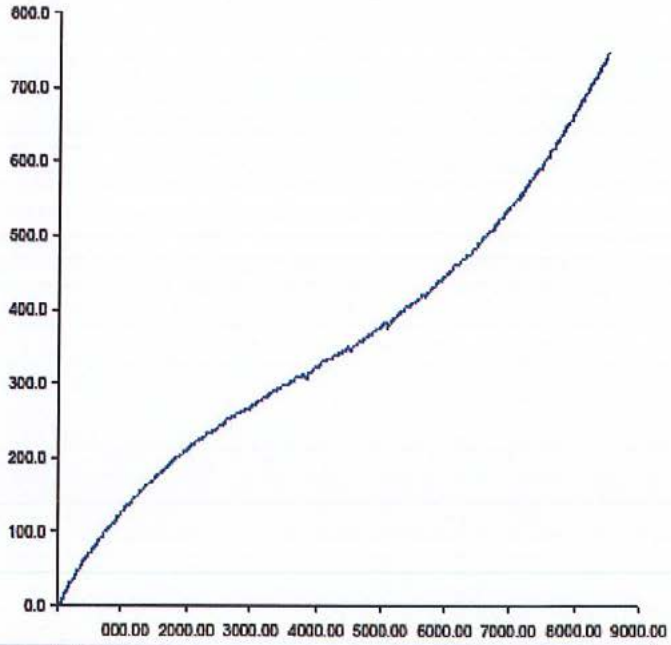
Specimen ID T1
Test Number 7172
Report Number 1432
Test Date 4/6/2022 2:49:03 PM

Test Results	
Deflection at Peak (inches)	-0.16
Tensile (lbs)	747

Testing Machine SMART Tester
Load Cell S/N (TVI114620), Units (LBS) 33721
Preload Value (Lbs) 1
Crosshead Speed (Inches / min) or Rate
Extension or Position Measured by MC150 (50877384_2)

By : _____ Date : _____

Force (Lbs) vs Time (Seconds)



Project Name Quickbolt
Project Number
Sample Date 4/1/22
Operator J.Padilla

Template No 7 12-Apr-22
Applied Materials &Engineering

Applied Materials &Engineering 960 41st. Street Oakland, CA 94542 Tel FAX

APPLIED MATERIALS & ENGINEERING, INC.

Tensile Test - XHD Control

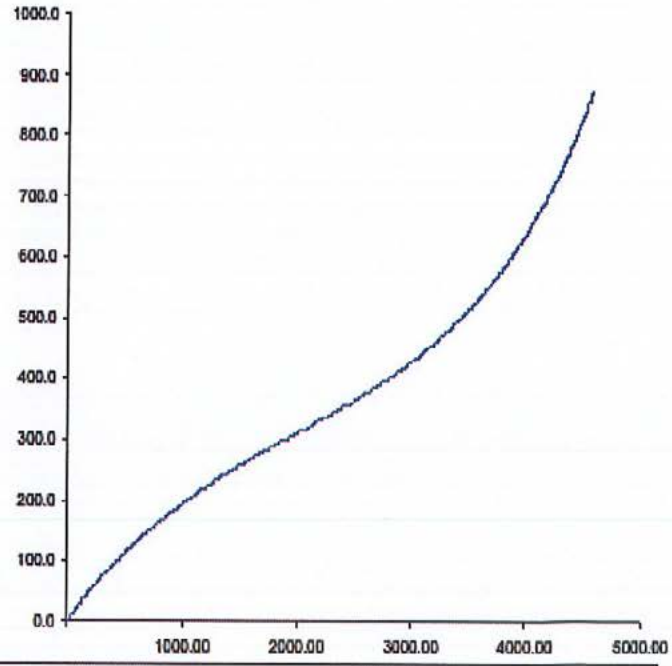
Specimen ID T2
Test Number 7174
Report Number 1432
Test Date 4/6/2022 4:09:15 PM

Test Results	
Deflection at Peak (inches)	-0.02
Tensile (lbs)	673

Testing Machine SMART Tester
Load Cell S/N (TVI114620), Units (LBS) 33721
Preload Value (Lbs) 1
Crosshead Speed (Inches / min) or Rate
Extension or Position Measured by MC150 (50677384_2)

By : _____ Date : _____

Force (Lbs) vs Extension (%)



Project Name Quickbolt
Project Number
Sample Date 4/1/22
Operator J.Padilla

Template No 7 12-Apr-22
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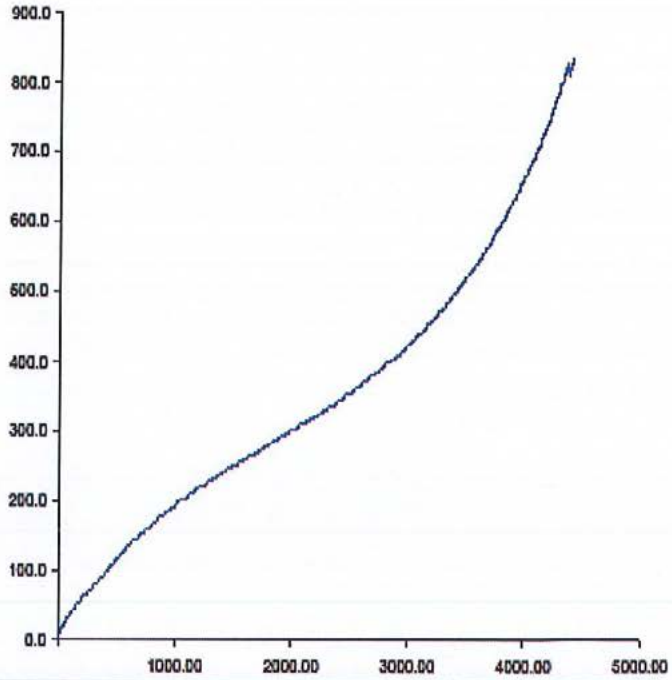
APPLIED MATERIALS & ENGINEERING, INC.

Tensile Test - XHD Control

Specimen ID T3
Test Number 7187
Report Number 1432
Test Date 4/7/2022 12:01:47 PM

Test Results	
Deflection at Peak (inches)	-0.02
Tensile (lbs)	834

Force (Lbs) vs Extension (%)



Testing Machine SMART Tester
Load Cell S/N (TVI114520), Units (LBS) 33721
Preload Value (Lbs) 1
Crosshead Speed (inches / min) or Rate
Extension or Position Measured by MC150 (50877384_2)

By : _____ Date : _____

Project Name Quickbolt
Project Number
Sample Date 4/1/22
Operator J.Padilla

Template No 7 12-Apr-22
Applied Materials &Engineering

Applied Materials &Engineering 980 41st. Street Oakland, CA 94542 Tel FAX

APPENDIX B

COMPRESSION TEST SETUP

PV MOUNT LOW PROFILE L-FOOT LABORATORY LOAD TESTING

PARTS #17566, 17567, 17640, 17641

PROJECT NUMBER 1220244C

Figure 1a. Test set up.

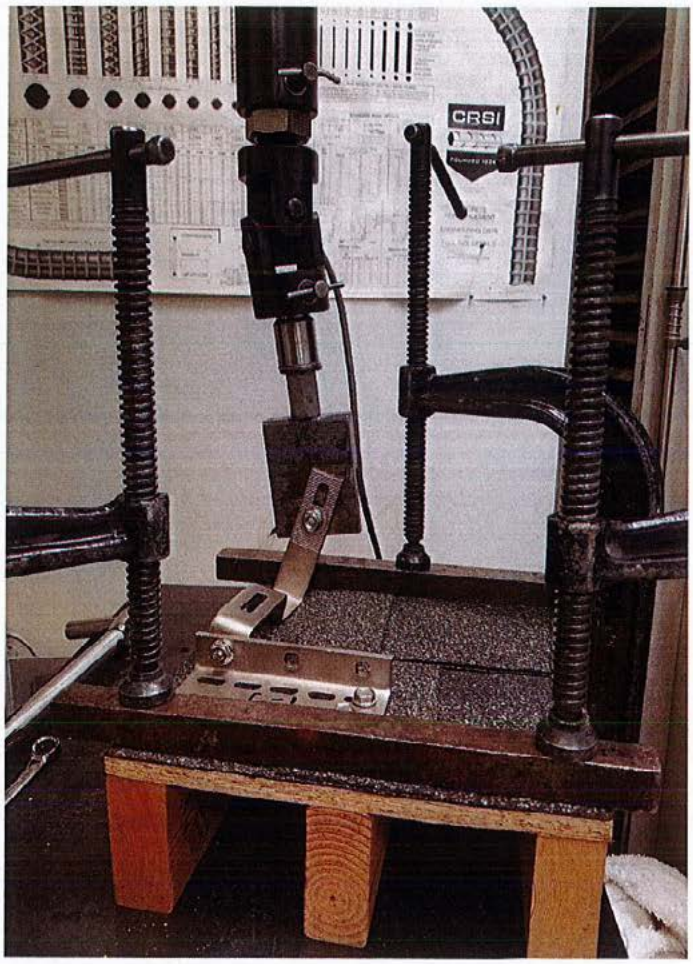


Figure 1b. Typical failure mode.

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TENSILE LOAD TEST SETUP

PV MOUNT LOW PROFILE L-FOOT LABORATORY LOAD TESTING

PARTS #17566, 17567, 17640, 17641

PROJECT NUMBER 1220244C

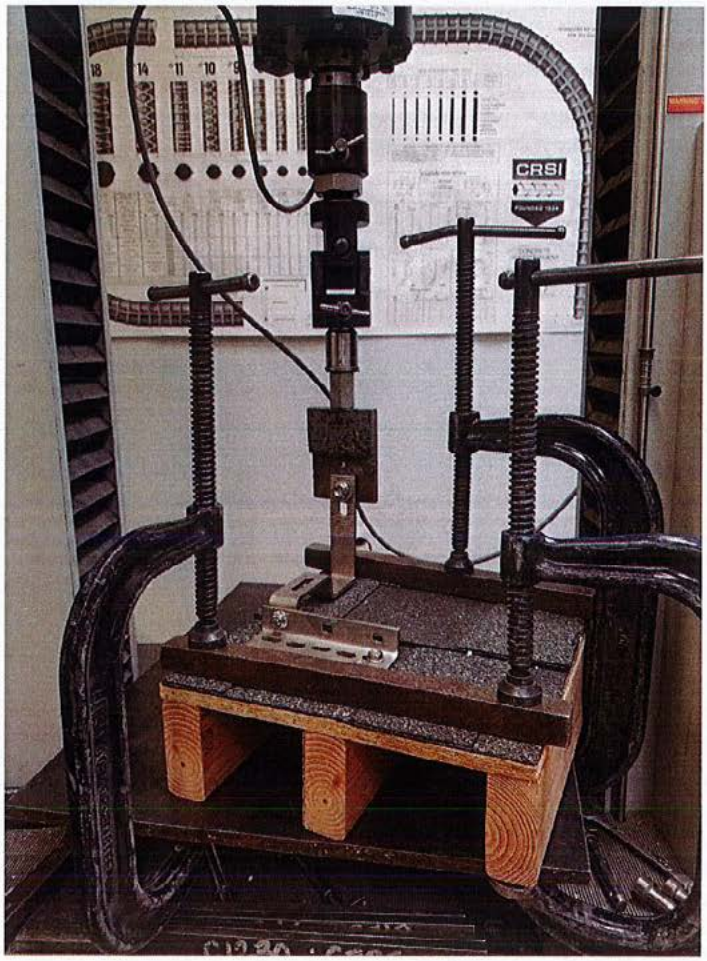

Figure 2a. Test set up.

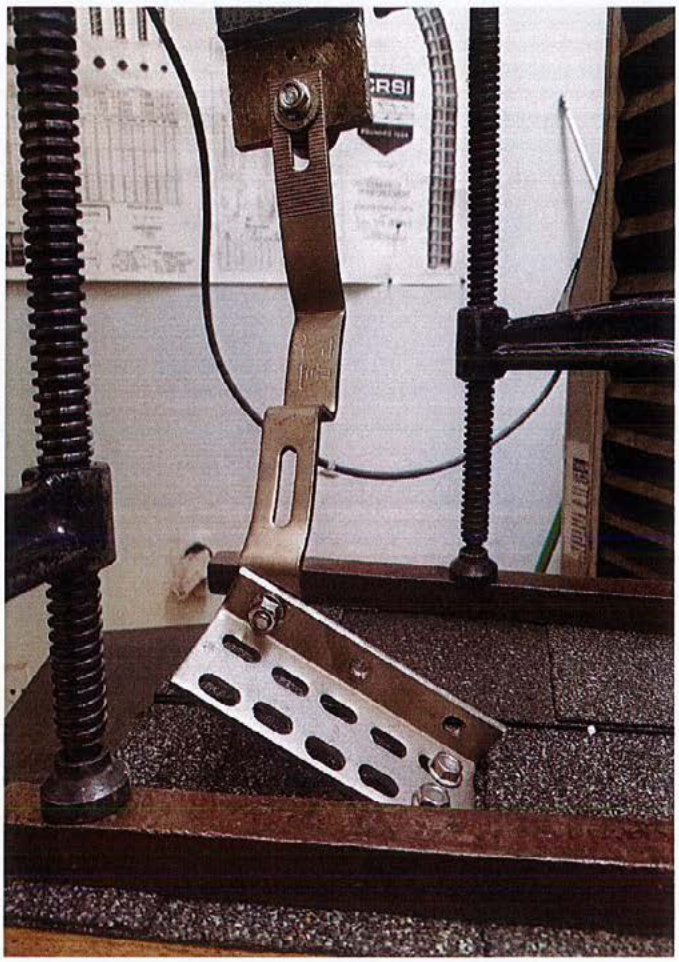

Figure 2b. Typical failure mode.

COMPATIBILITY LETTER

Westlake
Royal Roofing Solutions™

2801 Post Oak, Suite 600
Houston, TX 77056

T. 800.669.8453
WestlakeRoyalRoofing.com

August 17, 2022

To Our Valued Customers:

In regard to the Solar Roof Hooks that are manufactured by QuickBOLT, the product was developed and manufactured to meet the design needs and compatibility with our *Unified Steel™ stone coated roofing system and as such, should be deemed to be fully useable in the designated fashion prescribed by Unified Steel™, Westlake Royal Roofing Solutions and QuickBOLT.

Sincerely,

Rob Anderson

Robin Anderson
Technical & Strategy Development Manager

**Compatible with the following Unified Steel™ panel profiles – PINE-CREST Shake, COTTAGE Shingle, PACIFIC Tile, BARREL-VAULT Tile, & GRANITE-RIDGE Shingle*