

QB-1

**SUPER-STRONG POST & BASE
FOR A VARIETY OF ROOF TYPES**

INSTALLATION GUIDE

REVISION: 2/12/24

VERSION: V3.1

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The super strong QB-1 system includes a base that can be attached to composition shingle, tile, metal shingle, shake, and slate rooftops. QB-1 is ideal for new construction residential projects, allowing for the roof to be shingled or tiled around the installed mount. Aluminum cone flashings sized to fit the post are also available.

FEATURES

- Modifiable EPDM conduit collar accommodates 1/2", 3/4" and 1" diameter conduit.
- Structural and deck attachment options available
- Malleable tile level flashing conforms to fit the shape of any tile profile
- Ideal solution for residential new construction projects
- Florida approved for any combination of 4.5" or 6" QB-1 Post, Base, and Flashing

FEATURES + BENEFITS

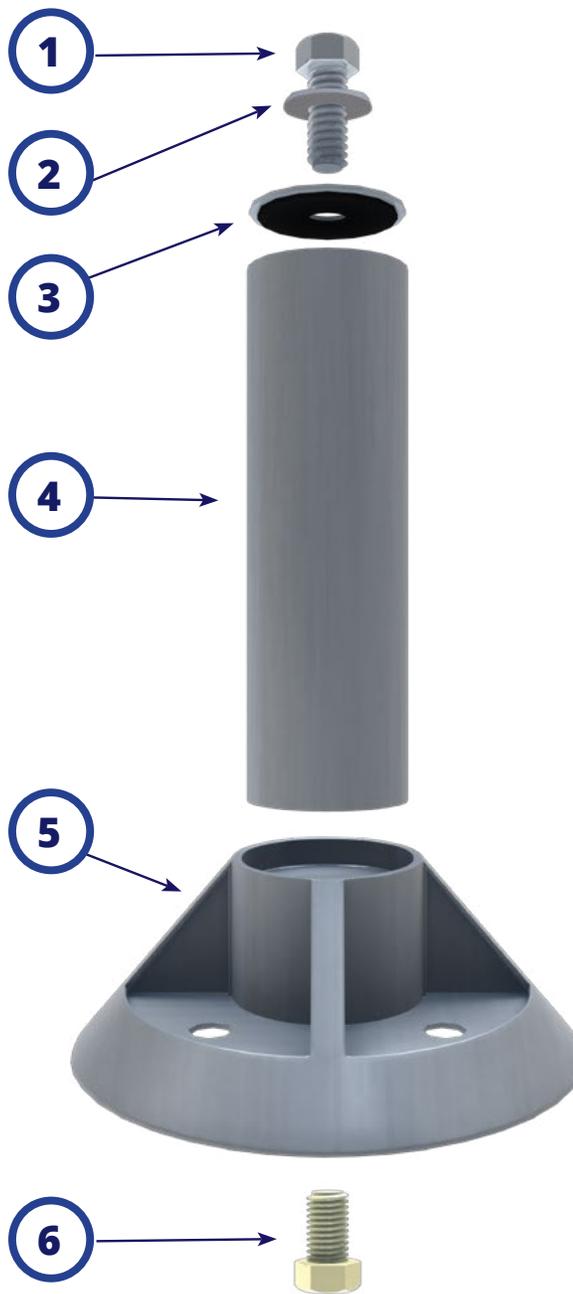
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QB-1 POST & BASE COMPONENTS

1. 5/16"-18 CAP SCREW
2. 5/16"-WASHER
3. 5/16" X 1-1/4" OD BONDED SEALING WASHER
4. QB-1 POST 4.5" AL MLL
(6.5" POST ALSO AVAILABLE)
5. QB-1 BASE AL
6. 5/16" SERRATED GRADE-8 CAP SCREW



FASTENERS

The QB-1 mount can be fastened to the roof deck or a structural member using two or four fasteners. Fasteners and mounting location should be determined by the engineer of record and approved by the AHJ prior to use, and shall have adequate pullout strength and shear capacity. It is the sole responsibility of the installer to verify compliance of this product with the AHJ prior to installation.

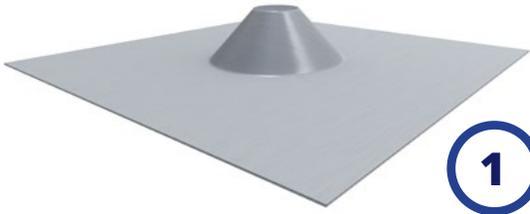
EcoFasten's 5/16"-4 lag bolts (not included) are compatible with the QB-1 for structurally attached installations.

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QB-1 FLASHING COMPONENTS



1. QB-1 FLASHING AL MLL 12X12"

2. QB-1 EPDM COLLAR 1.25" BLK

FLASHING THE QB-1

The QB-1 Mount is flashed to the roof using flashing and methods specific to the roof type. EcoFasten offers aluminum cone flashings and EPDM rubber post collars that can be combined in various configurations to flash the QB-1 post and base to a variety of roof types. Flashing may also be obtained from third parties.

This guide provides instructions for installing and flashing the QB-1 as part of the new construction process of a composition shingle or tile roof, using flashing products available from EcoFasten.

For QB-1 installation and flashing guidelines on other roof types, see below:

SHAKE & SLATE ROOFS INSTALLATION MANUAL:

[Installing QB-1 on Shake & Slate Roofs](#)

METAL SHINGLE INSTALLATION MANUAL:

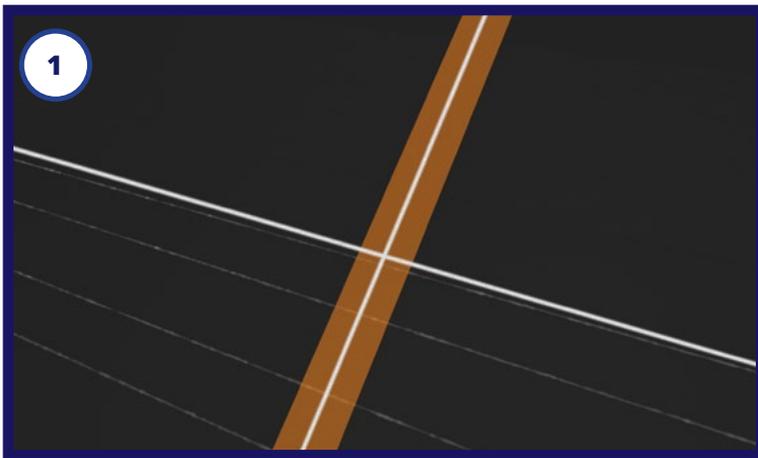
[Installing QB-1 on Metal Shingles](#)

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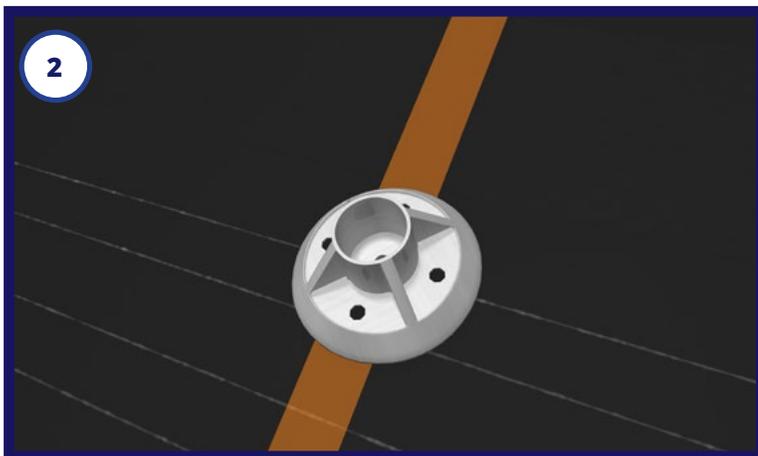
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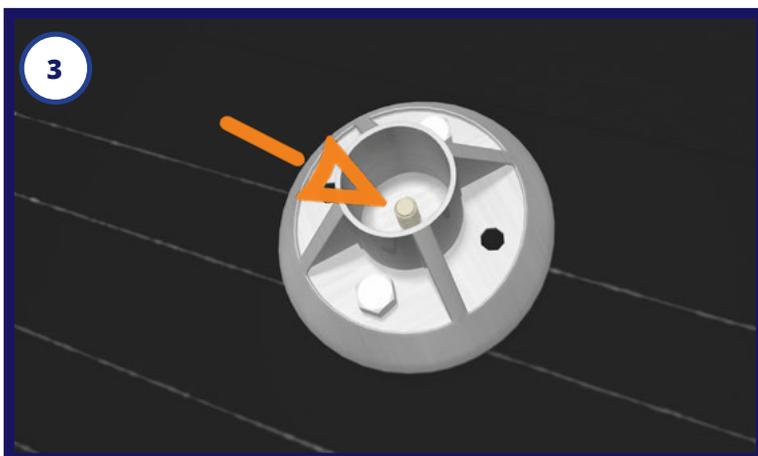
INSTALLING QB-1 ON NEW CONSTRUCTION COMPOSITION SHINGLE ROOFS



1. Begin the installation process on new composition after the felt has been installed and before the shingles have been installed. Based on your array design, locate each row of mounts and mark them off on the roof using a chalkline. If mounting to a rafter, mark off the center of the rafters as well.



2. Align QB-1 Base vertical holes over center rafter mark and horizontal holes over the snapped row line. Mark holes for drilling. Remove QB-1 Base and drill two 7/32" pilot holes into the rafter. To mount directly to the deck, follow the recommendations of the engineer of record.



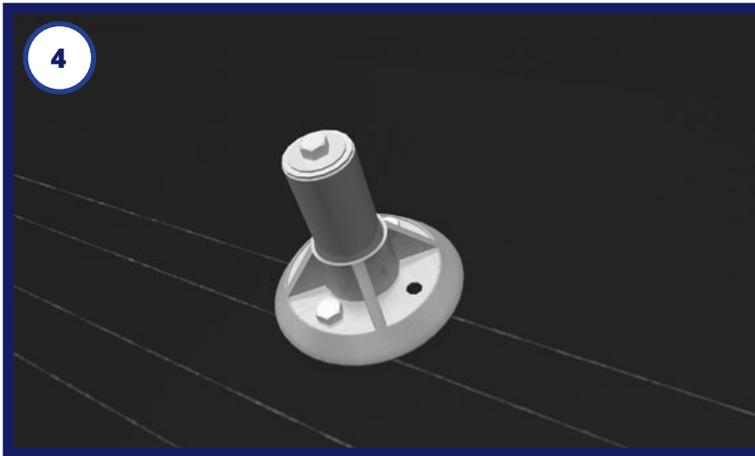
3. Backfill pilot holes with a sealant compatible with the roofing material. Insert the grade-8 cap screw through the hex slot on bottom of the QB-1 Base. Place QB-1 Base over drilled pilot holes and secure fasteners in place to a solid, snug fit.

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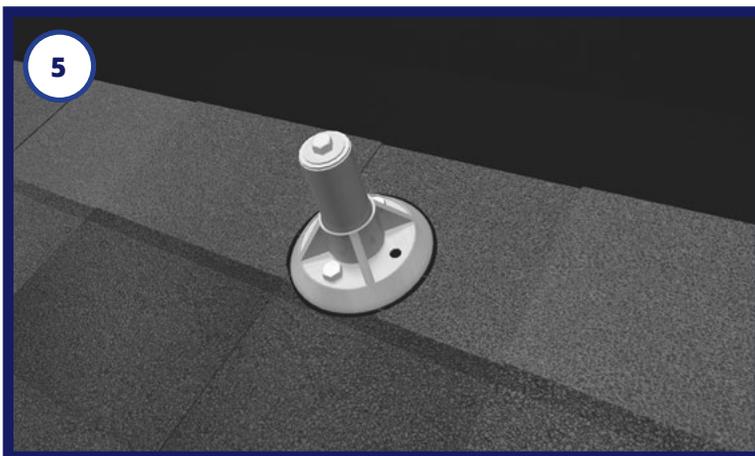
INSTALLATION GUIDE



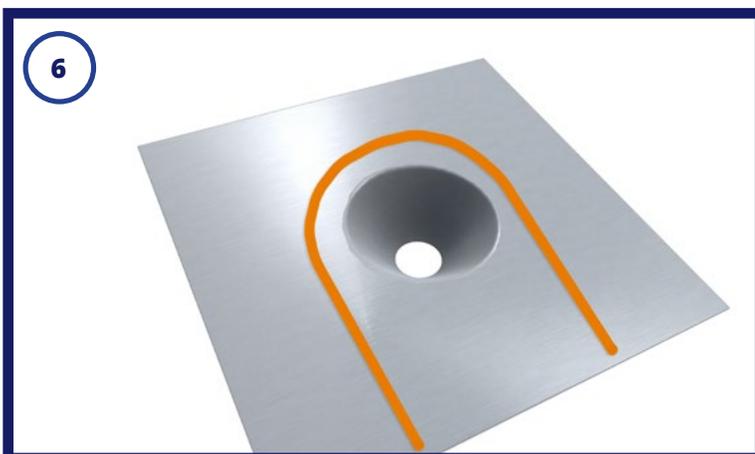
INSTALLING QB-1 ON NEW CONSTRUCTION COMPOSITION SHINGLE ROOFS



4. Secure post to QB-1 Base by completely screwing post into captive grade-8 cap screw. Install hardware to seal off the top of the post.



5. Install shingles on the roof up to the point that the shingles reaches the installed mount. Cut a hole or half circle in the shingle course around the QB-1 Base.



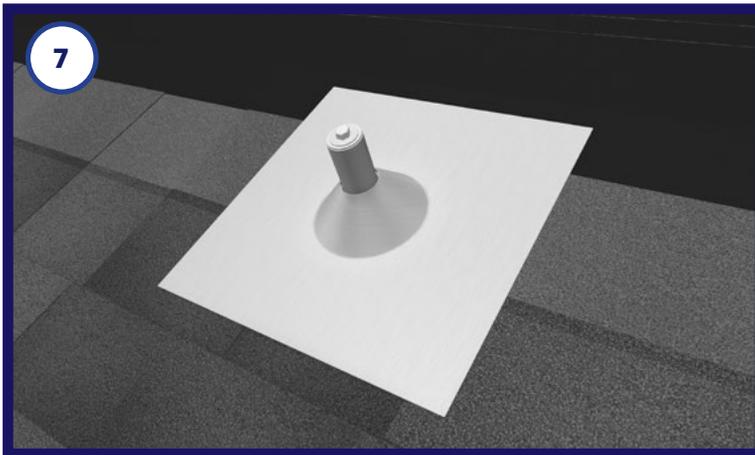
6. Apply sealant compatible with the roofing material on the underside of the 12 x 12" flashing in an upside down U shape. (Opening of U facing down slope)

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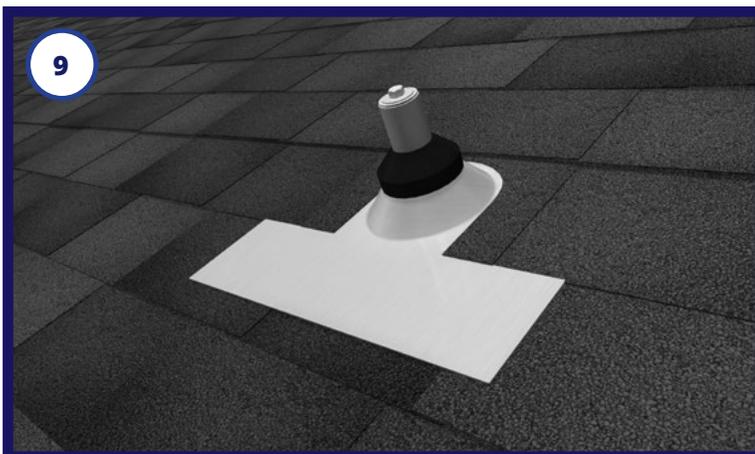
INSTALLING QB-1 ON NEW CONSTRUCTION COMPOSITION SHINGLE ROOFS



7. Install 12 x12" flashing over the mount.



8. Allow roofing to proceed to next shingle course. Use a hooked blade to cut a space out of the shingle that overlays the flashing around the flashing cone.



9. Apply sealant where post and flashing meet. Install EPDM post collar. Attach desired bracket or L-foot to the top of the post using included racking hardware.

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INSTALLING QB-1 ON NEW CONSTRUCTION COMPOSITION SHINGLE ROOFS



10. Install desired bracket or L-Foot using the included racking hardware. Take care to install 1-1/4" bonded sealing washer directly to the top of the post to keep out water. Install the L-foot to the top of this washer.

NOTE: It is important to seal off the post from water intrusion if not installing racking right away

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INSTALLING QB-1 ON NEW CONSTRUCTION TILE ROOFS



1. Based on your array design, locate each row of mounts and mark them off on the roof using a chalkline. When possible, locate the rows near the center of the tile courses. If mounting to a rafter, mark off the center of the rafters as well.



2. Align QB-1 Base vertical holes over center rafter mark and horizontal holes over the snapped row line. Mark holes for drilling. Remove QB-1 Base and drill two 7/32" pilot holes into the rafter. To mount directly to the deck, follow the recommendations of the engineer of record.



3. Backfill pilot holes with a sealant compatible with the roofing material. Insert the grade-8 cap screw through the hex slot on bottom of the QB-1 Base. Place QB-1 Base over drilled pilot holes and secure fasteners in place to a solid, snug fit.

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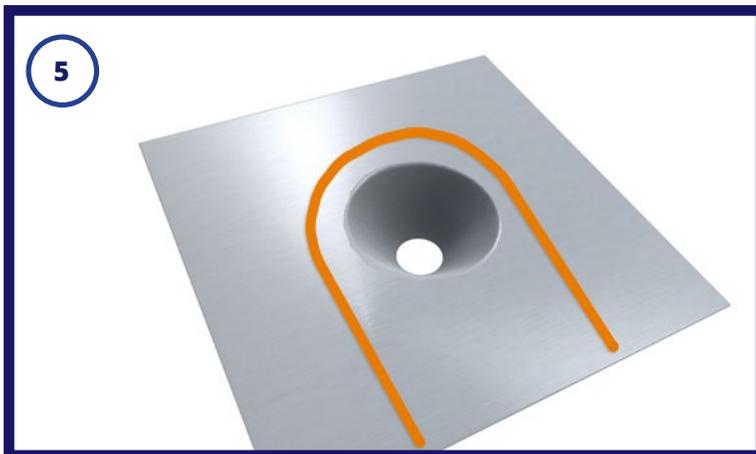
INSTALLATION GUIDE



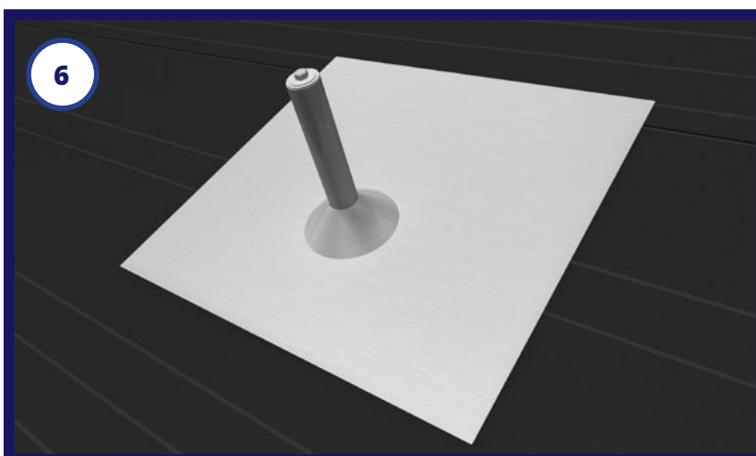
INSTALLING QB-1 ON NEW CONSTRUCTION TILE ROOFS



4. Secure post to QB-1 Base by completely screwing post into captive grade-8 cap screw. Install racking hardware to seal off the top of the post.



5. Apply sealant compatible with the roofing material on the underside of the 18 X 18" base flashing in an upside down U shape. (Opening of U facing down slope)



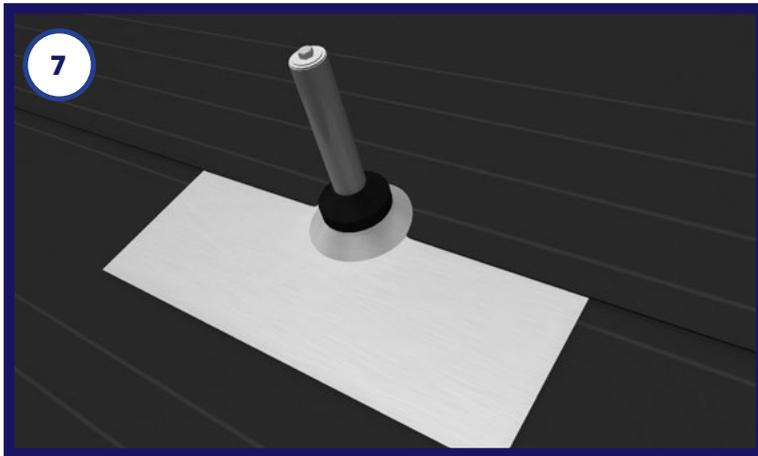
6. After underlayment installation, install 18 x 18" base flashing and secure into place following the roofing manufacturer and TRI guidelines.

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INSTALLING QB-1 ON NEW CONSTRUCTION TILE ROOFS



7. Waterproof over the base flashing according to roofing manufacturer instructions and TRI guidelines. Apply sealant where post and flashing meet, then install EPDM post collar.



8. Install tile and cut to allow post to pass through. Place cut tile back in position.



9. Install the tile-level flashing. It is possible to use the 18 x 18" flashing or other third party cone flashing. EcoFasten's 18 x 18" flashing is malleable, so it is possible to shape the flashing to conform to the shape of the tiles.

Apply sealant where post and flashing meet, then install EPDM post collar.

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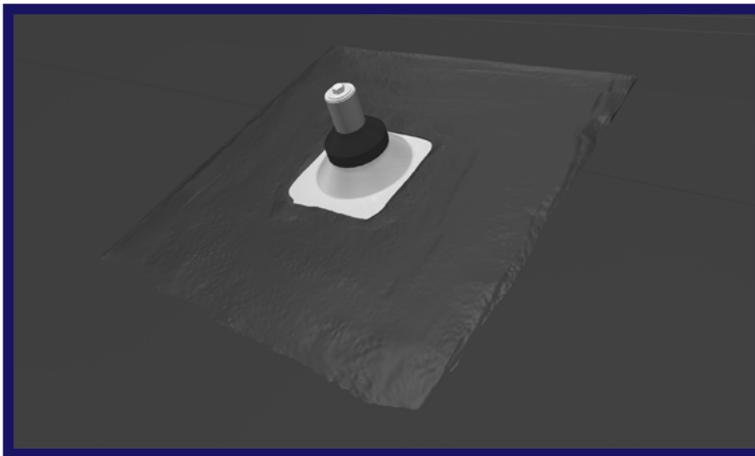


INSTALLING QB-1 ON NEW CONSTRUCTION TILE ROOFS



10. Install desired bracket or L-Foot using the included racking hardware. Take care to install 1-1/4" bonded sealing washer directly to the top of the post to keep out water. Install the L-foot to the top of this washer.

NOTE: It is important to seal off the post from water intrusion if not installing racking right away



NOTE: The TRI/FRSA guidelines indicate the sub-flashing being flashed using the three-course method on ALL FOUR SIDES. Alternative flashing methods may be approved by the AHJ.

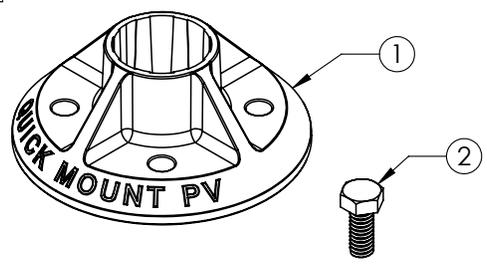
INSTALLATION

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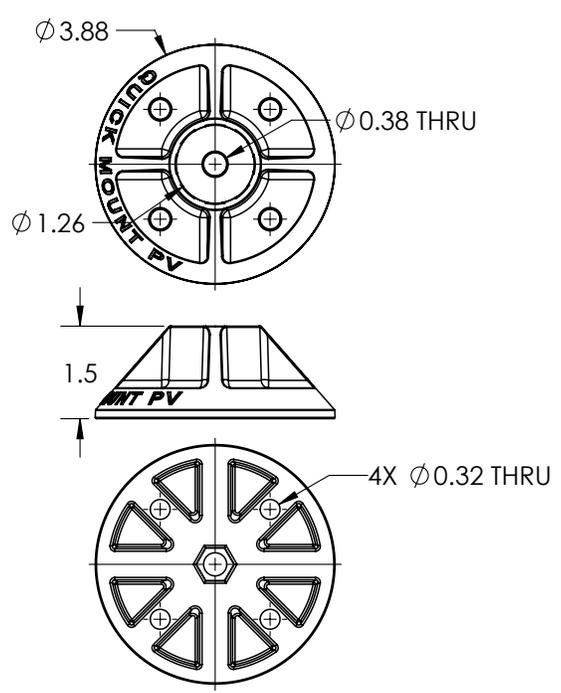
CUT SHEET: QB-1 BASE AL

PART NUMBER	DESCRIPTION
3017010	QB-1 BASE AL



ITEM NO.	DESCRIPTION
1	QBASE, 1-1/4" ID, FOR 5/16" HARDWARE
2	CAP SCREW, HEX HEAD, 5/16"-18 X 3/4" UNC-2A

1) QBASE, 1-1/4" ID, FOR 5/16" HARDWARE



Material	Aluminum
Finish	Mill

REV.- CS1

LINE DRAWINGS

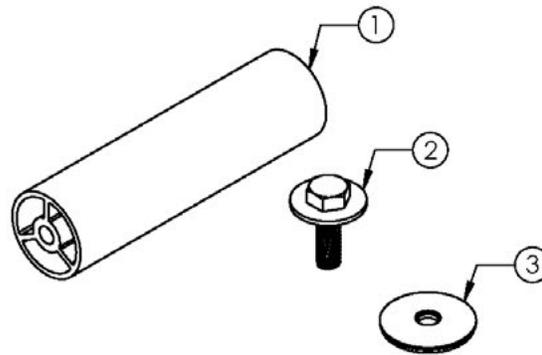
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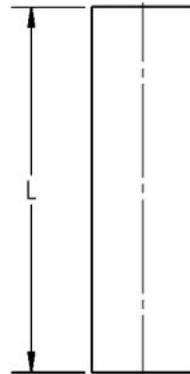
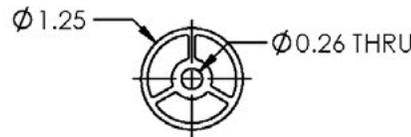
CUT SHEET: QB-1 POST AL MLL

PART NUMBER	DESCRIPTION	LENGTH (L)
3017011	QB-1 POST AL MLL 4.5"	4.5"
3017012	QB-1 POST AL MLL 6.5"	6.5"



ITEM NO.	DESCRIPTION
1	POST, MILL
2	CAP SCREW, 5/16"-18 X 1" UNC-2A, NYLON PATCH, W/ CAPTIVE WASHER, 1"OD
3	WASHER, SEALING, 5/16" ID X 1-1/4" OD, EPDM BONDED SS

1) POST, MILL



Material	Aluminum
Finish	Mill

REV.- CS1

LINE DRAWINGS

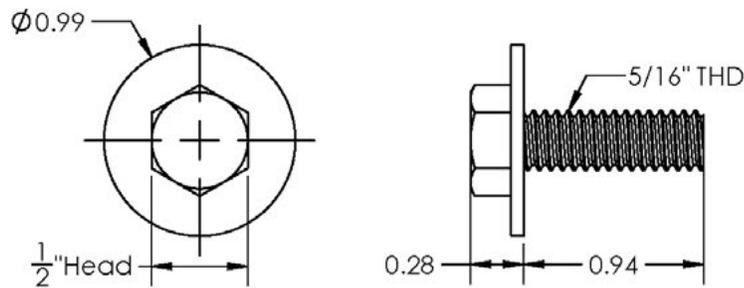
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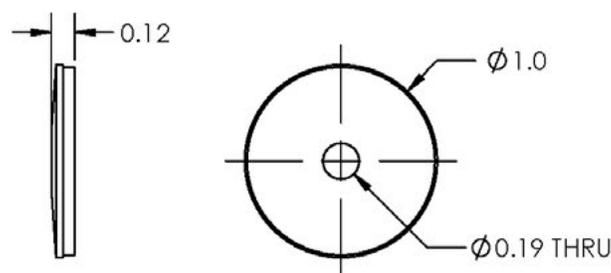
CUT SHEET: QB-1 POST AL MLL

2) CAP SCREW, 5/16"-18 X 1" UNC-2A, NYLON PATCH, W/ CAPTIVE WASHER, 1"OD



Material	Stainless Steel
Finish	Mill

3) WASHER, SEALING, 5/16" ID X 1-1/4" OD, EPDM BONDED SS



Material	Stainless Steel/EPDM
Finish	Mill

REV.- CS1

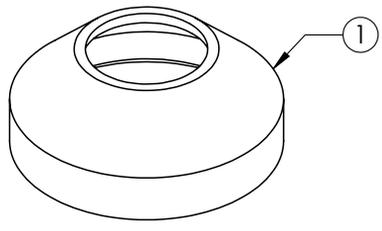
LINE DRAWINGS

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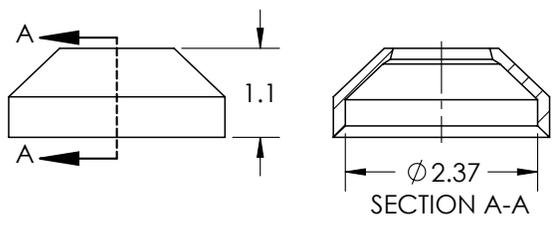
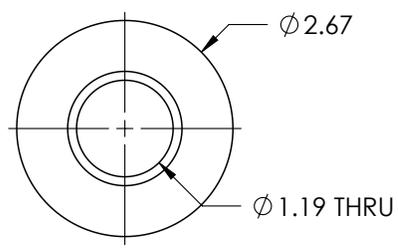
CUT SHEET: QB-1 EPDM COLLAR 1.25"

PART NUMBER	DESCRIPTION
3017015	QB-1 EPDM COLLAR BLK 1.25"



ITEM NO.	DESCRIPTION
1	COLLAR, COUNTER FLASHING, 1-1/4" ID

1) COLLAR, COUNTER FLASHING, 1-1/4" ID



Material	EPDM
Finish	Black

REV.- CS1

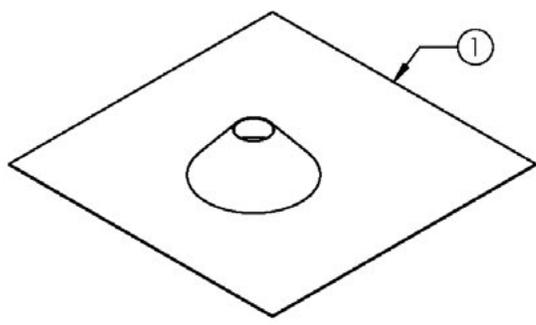
LINE DRAWINGS

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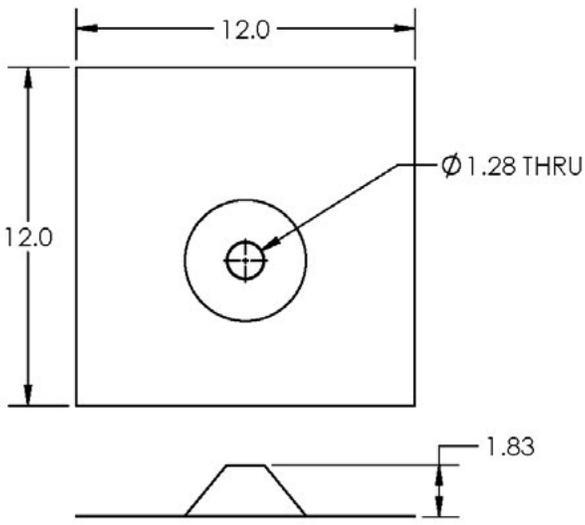
CUT SHEET: QB-1 FLASHING MLL

PART NUMBER	DESCRIPTION
3017013	QB-1 FLASHING AL MLL 12X12'



ITEM NO.	DESCRIPTION
1	FLASHING, CONE, 12" X 12" X 1.8", ALUMINUM, MILL

1) FLASHING, CONE, 12" X 12" X 1.8", ALUMINUM, MILL



Material	Aluminum
Finish	Mill

REV.- CS1

LINE DRAWINGS

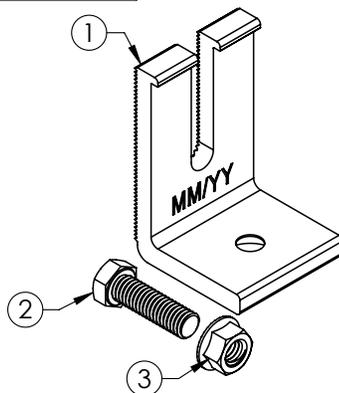
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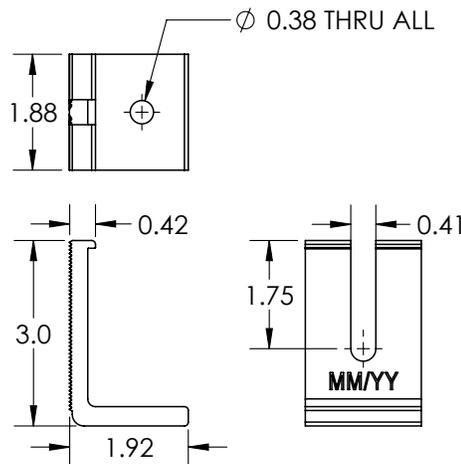
CUT SHEET: L-FOOT SCL-101 BLK 3"

PART NUMBER	DESCRIPTION
3011018	L-FOOT SCL-101 BLK 3"



ITEM NO.	DESCRIPTION
1	L FOOT W/ STANDARD DIMPLE AND OPEN SLOT, 3 IN TALL BLK
2	SS HEX HD CAP SCREW, FULL THD, 3/8-16 UNC X 1.25 LONG
3	SS SERRATED FLANGE LOCK NUT, 3/8-16

1) L FOOT W/ STANDARD DIMPLE AND OPEN SLOT, 3 IN TALL BLK



Material	Aluminum
Finish	Mill

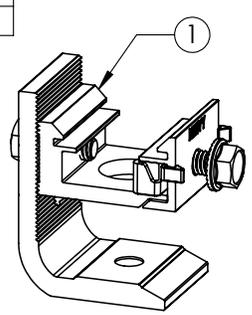
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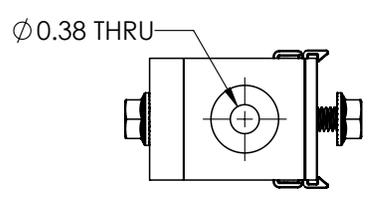
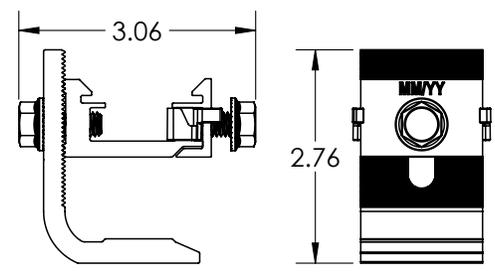
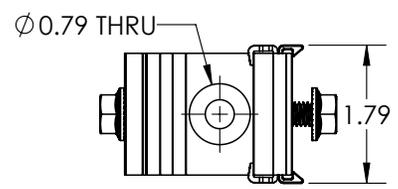
CUT SHEET: CF UNIV L-FOOT MLL 3"

PART NUMBER	DESCRIPTION
2012022	CF UNIV L-FOOT MLL 3"



ITEM NO.	DESCRIPTION
1	CLICKFIT L FOOT ASSEMBLY

1) CLICKFIT L FOOT ASSEMBLY



Material	Aluminum/Stainless Steel
Finish	Mill

REV.- CS1

LINE DRAWINGS

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SYSTEM COMPONENTS - QB-1

1. **QB-1 Base AL:**

Consists of (1) aluminum base with 1-1/4" ID, includes (1) 5/16" grade-8 cap screw.

2. **QB-1 Post AL MLL**

Posts available in 4.5" and 6.5" heights. Consists of (1) 1.25" wide post, (1) 5/16"-18 cap screw with nylon patch, (1) 5/16" captive washer, and (1) 5/16" x 1-1/4" OD EPDM bonded sealing washer.

3. **Flashing AL MLL:**

Consists of (1) 12" x 12" aluminum cone flashing, mill finish.

Post Collar:

Consists of (1) EPDM rubber slide-on post collar.

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5. **Fasteners:**

The QB-1 mount can be fastened to the roof deck or a structural member using two or four fasteners. Fasteners and mounting location should be determined by the engineer of record and approved by the AHJ prior to use and shall have adequate pullout strength and shear capacity. It is the sole responsibility of the installer to verify compliance of this product with the AHJ prior to installation. EcoFasten's 5/16" lag bolts are compatible with the QB-1 for structurally attached installations.

6. **Recommended Sealant:**

If required by roof manufacturer, sealant shall be roof manufacturer approved and compatible with EPDM rubber.

DELIVERY / STORAGE / HANDLING

Inspect material upon delivery. Notify manufacturer within 24 hours of any missing or defective items. Keep material dry, covered and off the ground until installed.

PATENTS

Visit www.efpatents.com for patent information.

FLORIDA PRODUCT APPROVAL

Florida approved for any combination of 4.5" or 6" QB-1 Post, Base, and Flashing.

QB-1TM

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DESIGN REQUIREMENTS

1. Bracket spacing to be recommended by project engineer.
2. Fasten attachment to structural member using two lag screws. For direct to deck attach, consult with the engineer of record and the AHJ.
3. It is important to design new structures or assess existing structures to make sure they withstand retained loads.

EXAMINATION

1. Notify General Contractor of any deficiencies before installing EcoFasten Solar brackets.
2. Verify that roofing material has been installed correctly prior to installing solar attachment bracket.

INSTALLATION

Comply with architectural drawings and project engineer's recommendation for location of system. Comply with Manufacturer's written installation instructions for installation and layout.

SPECIFICATIONS