

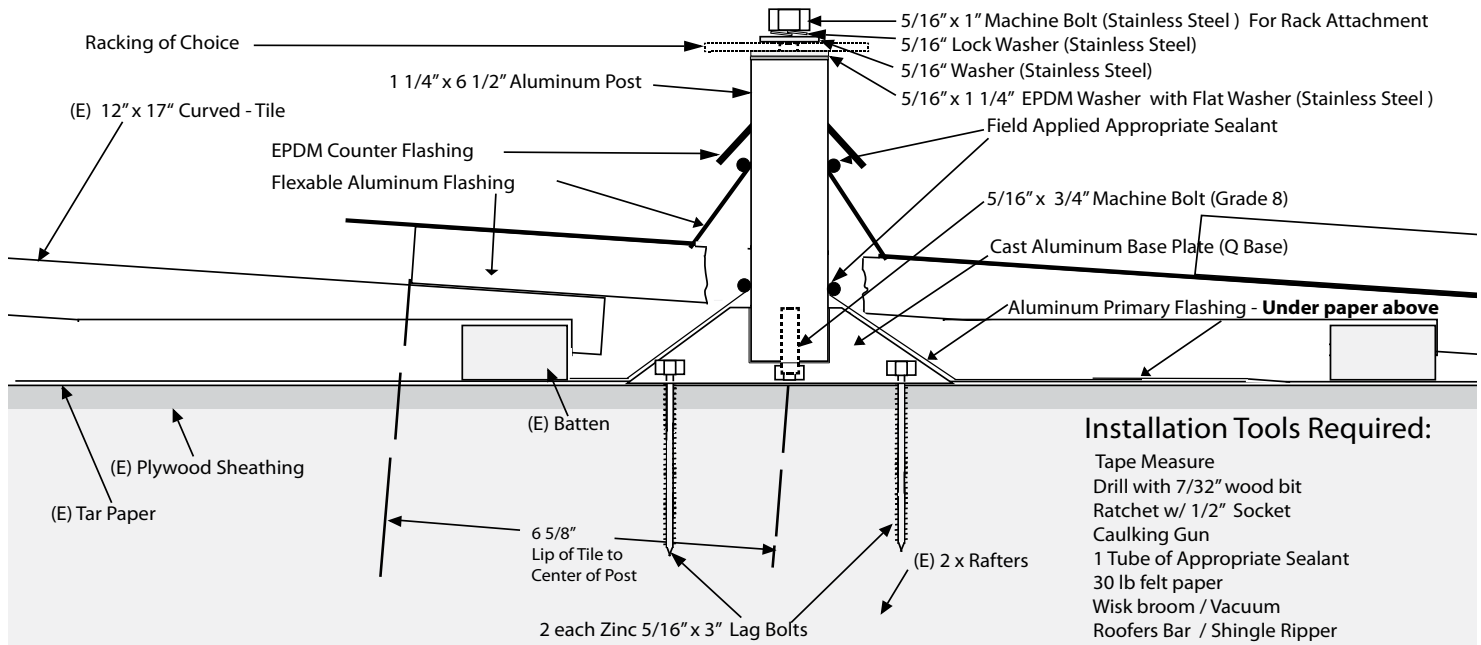
Quick Mount PV[®]

Your *Solution* in Mounting Products

Solar • H₂O • Conduit • HVAC • Custom

Universal Tile Mount Specifications

All Patents Pending



Installation Tools Required:

- Tape Measure
- Drill with 7/32" wood bit
- Ratchet w/ 1/2" Socket
- Caulking Gun
- 1 Tube of Appropriate Sealant
- 30 lb felt paper
- Wisk broom / Vacuum
- Roofers Bar / Shingle Ripper

Lag Bolt Specifications

	Specific gravity	2 each 5/16" shaft 2.5" thread depth	5/16" shaft 1" thread depth
Douglas Fir, Larch	.50	1330	266
Douglas Fir, South	.46	1175	235
Engelmann Spruce (MSR 1650 f & higher)	.46	1175	235
Hem, Fir	.43	1060	212
Hem, Fir. (North)	.46	1175	235
Southern Pine	.55	1535	307
Spruce, Pine, Fir	.42	1025	205
Spruce, Pine, Fir (E of 2 million psi and higher grades of MSR and MEL)	.50	1330	266

Sources: Uniform Building Code; American Wood Council

Notes: 1) Thread must be embedded in a rafter or other structural roof member.

2) Pull-out values incorporate a 1.6 safety factor recommended by the American Wood Council.

3) See UBC for required edge distances.

**Note: To maintain waterproofing of substrate it is important to make sure the Aluminum Primary Flashing is properly placed over the Q Base, and under the course of paper above. If the paper above does not reach due to layout, place an additional piece of roofing paper over the Primary Flashing and under the next course of paper above. (See instructions on page 4)



Know Your Roof

It is a good idea to do a thorough roof evaluation prior to your project installation. At this time you should do a layout on the roof confirming everything on the drawing will fit as it is intended. Any irregularities should be noted now, so that you can deal with them simply on install day. The quality of the roofing should be determined, so that any repairs or replacement can happen before or in conjunction with the installation. Remove a tile and see what is underneath. On a tile roof it is important to know as much as possible about: the manufacturer of the tile, the size of the tile, age of tile, type of substrate (plywood or oriented strand board [OSB]) the rafter size and spacing, age of roof structure, who roofed it, who built it, etc.

Photos should be taken of all of the roof variables and associated with the job file for any future reference either short term or long. If the roofing manufacturer is known, it is then easy to obtain the written manufacturer's installation instructions for the roofing materials you are dealing with. Typically the tile roof manufacturer puts a stamp of some sort on the back of each tile. This stamp can be defined by the roofing yard, or by a little on-line surfing. The manufacturer's instructions will spell out exactly what does and does not void the warranty of their roofing product. Officially, the roofing manufacturer's instructions supersede our instructions, as our product is weaving into theirs. It is also important to have their instructions in the job file, for any future reference.

Product Selection

The Quick Mount Universal Tile Mount is intended to fit within most curved tile roof systems, as well as most flat tile systems. Specifically it is sized to fit within a standard 12" wide x 17" tall concrete tile roof system of either standard weight or light weight, and flat or curved. It is used on Flat Tile roofs when the engineer or building department requires rafter mounting. It is used on most any Curved Tile roof and rafter mounted as a standard. Height extensions are not for use with this product. Custom lengths can be ordered. (Coming Soon: Universal Tile Instructional Video at www.quickmountpv.com/tech.php)

Waterproofing

On a tile roof it is actually the building paper below the tiles that is waterproof. The tiles are considered water resistant. It is assumed that water will travel under the tiles. The tiles are there for aesthetics, thermal absorption, and to protect the building paper from U.V. and the elements. It is imperative to follow standard roofing practices with the paper. The Aluminum Primary Flashing that we provide needs to go over our Q Base Mounting Base Plate with the long side of the flashing upslope, above the mount. On the upslope side of the mount, the Aluminum Primary Flashing must extend under the existing lap in the paper course directly above the mount. In the common occurrence that the paper is too far up the roof to reach, you must supply and install another piece of building paper (usually 30 lb.) under the row of paper above, and over the top 2 inches of Aluminum Primary Flashing. This paper should be wider than the Aluminum Primary Flashing, and either stapled down or nailed. If a batten board is in the way, pry it up and slip the paper under the batten. Alternatively three coursing the flashing into the paper is also an acceptable method. Please consult the NRCA's best practices for material specifics, and methods within your geographic area.

How Many Mounts Per Module?

There are two questions that must be asked when adding anything to a roof.

1. Can the roof / building / foundation handle the additional load?
2. What is to keep the new load from blowing away?

It is assumed that a licensed solar installer can answer these questions. If he / she can't, he / she will need to find somebody that can. A licensed engineer is the easiest solution. Some of the racking manufacturers have guides to calculating a code compliant install as well. Many variables must be considered and determined to complete the calculation. The spacing between mounts has the variables of: strength of rail, distance between parallel rails, cantilever of modules over rails, pull out strength of mount, slope of roof, height of roof, wind zone, roof type, structural integrity of roof framing, etc. The only values in the variables above that we can provide is pull out strength and shear of mount. We provide structural test reports on all of our mounts as needed. You will need to do the calculation of variables as you are the only one who knows them all.

Further Resources

In the process of all the research we have done, we came up with what we call the "Wheel of Accountability". It is a graphical look at the many official entities that govern how waterproofing should be done. At our web site you can click on any wedge of the wheel and get the code snippets that pertain to that entity's focus on roof penetrations.

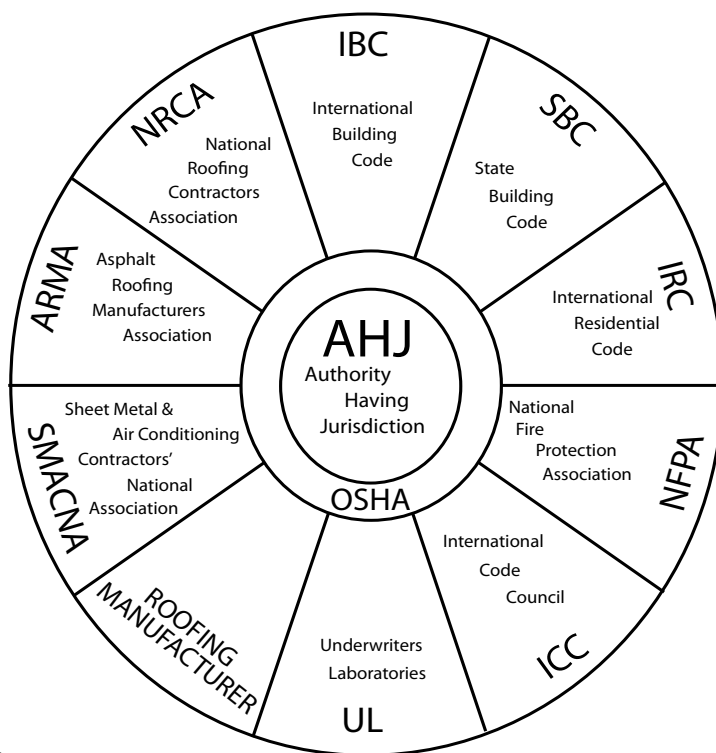
Please don't hesitate to use it to your advantage. And of course if you have any feedback pro or con, let us have it. Take photos of your jobs using Quick Mount Products and submit them to us! We'll put them up in our web gallery. Submit them to info@quickmountpv.com
Subject - Gallery Photo

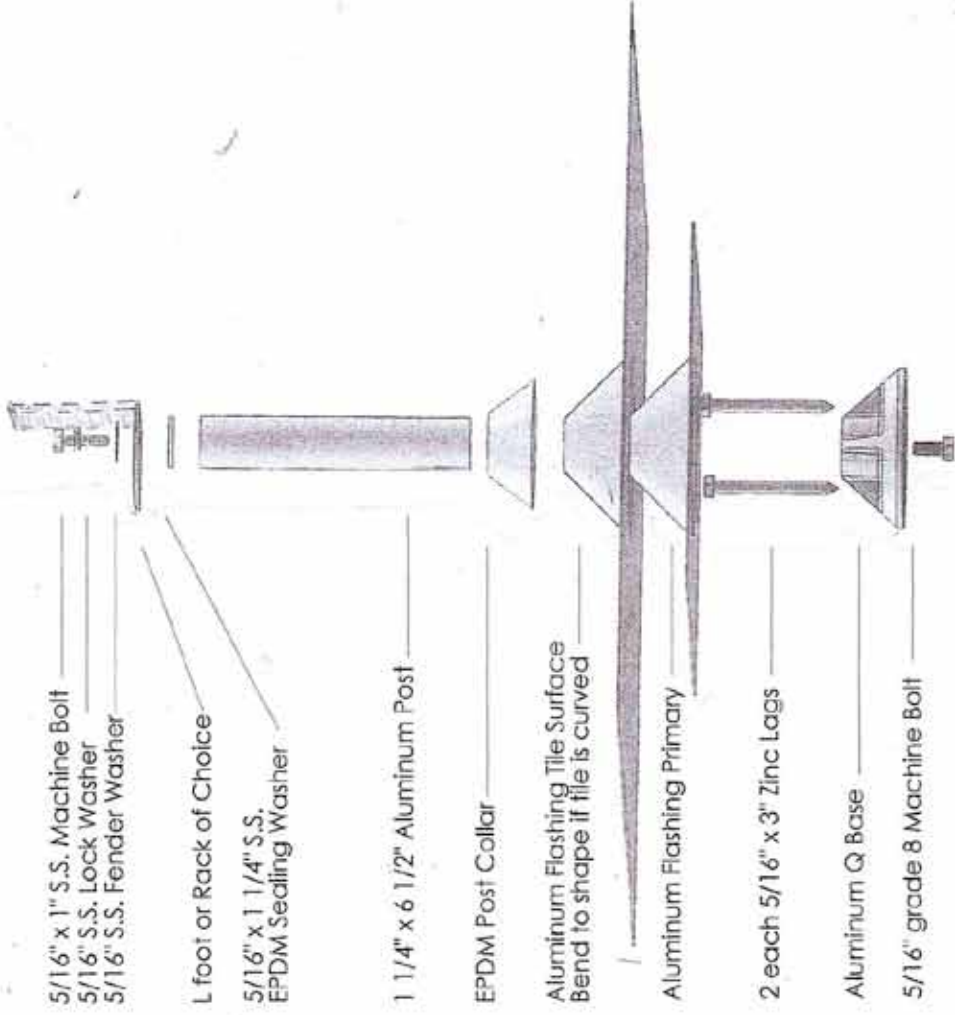
Product Includes

The units are sold in 12 packs. Each 12 pack includes the mounting hardware, the mount, the substrate waterproofing, and the flashing to install 12 mounts, with written instructions.

Sealants

It is important to put a compatible sealant into any and all holes drilled into a roof. Most roofing manufactures list a suggested, approved sealant in their specifications. In the freeze-thaw zones, it is important to follow the manufacturers' rules for freeze-thaw conditions. Use the properly rated sealant for each specific application and condition. Some that may be more appropriate for asphalt/composition roofs include Geocell 2300 and ChemLink M-1 but be sure to do your own research to confirm a compatible and appropriate sealant with the materials you are working with.





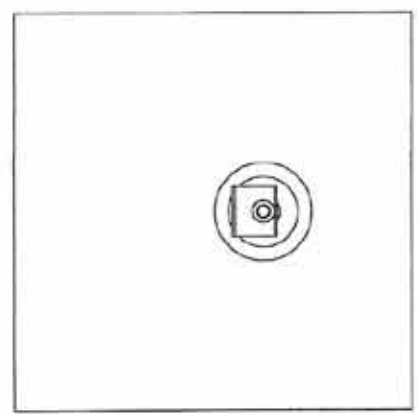
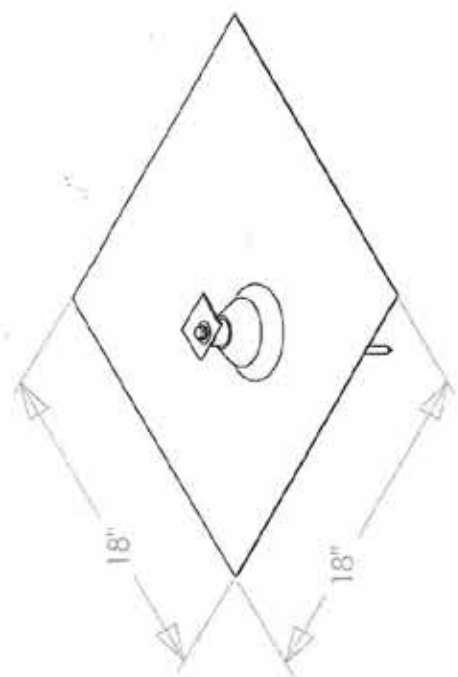
5/16" x 1" S.S. Machine Bolt
 5/16" S.S. Lock Washer
 5/16" S.S. Fender Washer

L foot or Rack of Choice
 5/16" x 1 1/4" S.S.
 EPDM Sealing Washer

1 1/4" x 6 1/2" Aluminum Post
 EPDM Post Collar

Aluminum Flashing Tile Surface
 Bend to shape if tile is curved

Aluminum Flashing Primary
 2 each 5/16" x 3" Zinc Lags
 Aluminum Q Base
 5/16" grade 8 Machine Bolt



SCALE 1:5

TITLE: QM-PV-Universal Tile Mount

COMMENTS FILE NAME QMUTM

DATE 5/1/11

REVISION 1

DRAWN BY F.K.



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Quick Mount PV®

UNIVERSAL TILE MOUNTING INSTRUCTIONS RAFTER INSTALLATION



1 Remove Tile at selected location of Mount.



2 Locate center of rafter and Mark with a felt pen.



3 Use a straight edge and measure up 6 5/8" from bottom of tiles to center of the Mount, over the center of Rafter.



4 Align Q Base over rafter center and drill 2 each 7/32" pilot holes. Place grade 8 Machine Bolt under Q Base in hex slot, threads pointing up. Lag Q Base into Rafter on Marks.



5 Carefully clean the building paper then install Primary Flashing in either a three course method, or properly lapped paper method. Now is a good time to apply sealant to the flashing opening.



6 Take care to do a quality installation – when using the paper method, cut a piece of paper 18" wide to slide under the course above, and over the Primary Flashing of the Mount.



7 Cut a hole in the tile removed, with room to get the post through. Replace tile in position. Insert post and tighten into place. install the 18" x 18" flashing, and apply sealant around the opening.



8 Pre bend the flashing to follow the contour of the tile if curved. Install counter flashing collar.

You are now ready for the rack of your choice. Follow all the directions of the rack manufacturer as well as the module manufacturer.

All roofing manufacturers' written instructions must also be followed by anyone modifying a roof system. Please consult the roof manufacturers' specs and instructions prior to touching the roof.