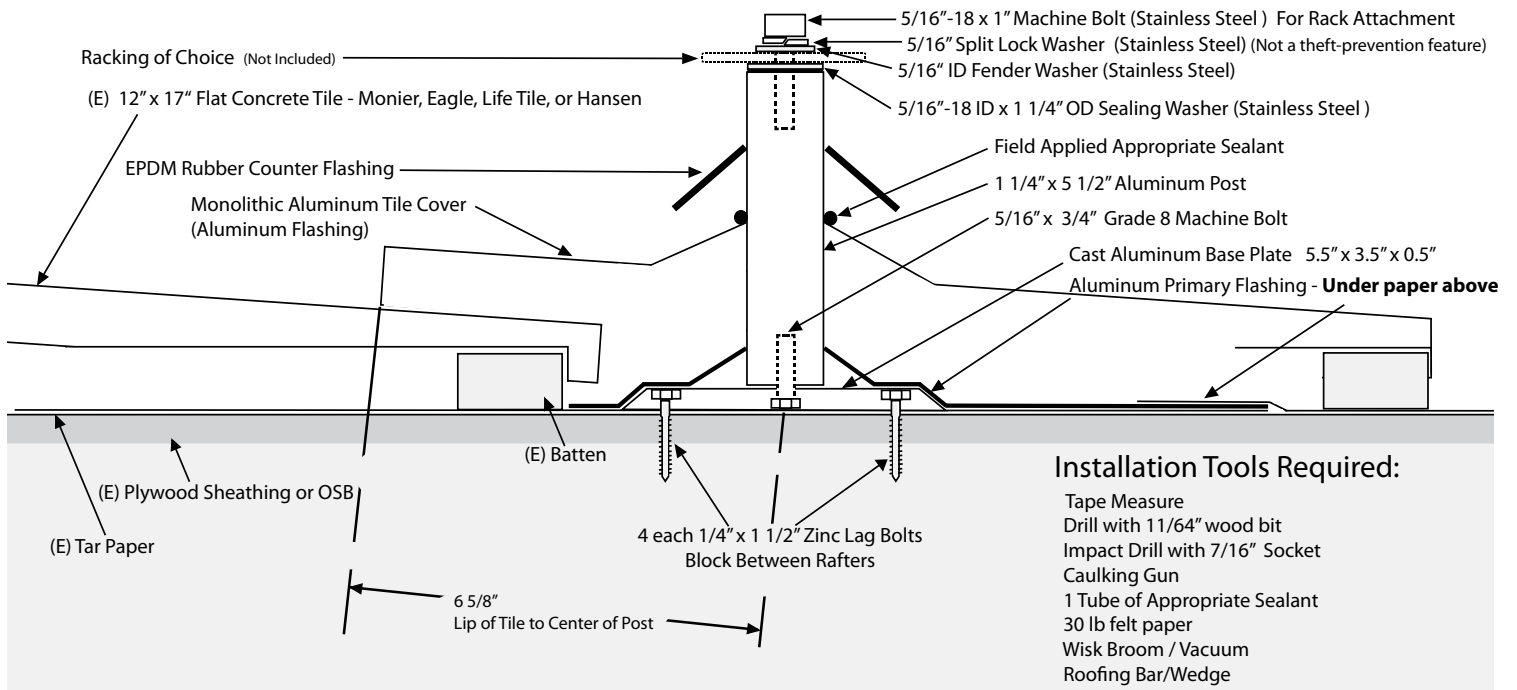


Quick Mount PV[®]

Your *Solution* in Mounting Products
 Solar • H₂O • Conduit • HVAC • Custom

Flat Tile Mount Specifications -A-

All Patents Pending



Lag pull-out (withdrawal) capacities (lbs) in typical lumber:

Lag Bolt Specifications

	Specific Gravity	4/ea 1/4" shaft per 1" thread depth	1/4" shaft per 1" thread depth
Douglas Fir, Larch	.50	900	225
Douglas Fir, South	.46	828	207
Engelmann Spruce, Lodgepole Pine (MSR 1650 f & higher)	.46	828	207
Hem, Fir	.43	716	179
Hem, Fir, (North)	.46	828	207
Southern Pine	.55	1040	260
Spruce, Pine, Fir	.42	692	173
Spruce, Pine, Fir (E of 2 million psi and higher grades of MSR and MEL)	.50	900	225



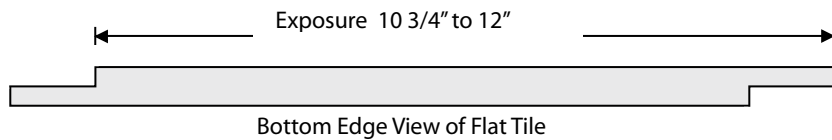
Know Your Roof

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 Flat Tile Mount is intended to fit within most flat tile roof systems, but not all. Specifically it is sized to fit within a standard 12" wide x 17" tall flat concrete tile roof system of either standard weight or light weight. To confirm that the Quick Mount Flat Tile Mount profile will match your roof, it is best to measure an existing roof tile. The "exposed" surface width (exposed surface not including left side gutter) should measure between 10 3/4" and 12" wide. The height should measure 17" +/- 1/2". [If it turns out the roof tiles are a non-standard size and the Quick Mount Flat Tile Mount does not fit, the alternative method is to use a Quick Mount Universal Tile Mount instead. In this case, follow the directions for the Quick Mount Universal Tile Mount and omit the step pertaining to the bending of the flashing. (Coming Soon: Universal Tile Instructional Video at www.quickmountpv.com/tech.php)



Product Includes

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

Blocking Instructions:

Because the flashing replaces a tile and dictates where the post will be, it will almost never be directly above a structural member. You must then install a wood block between rafters so your base plate has something solid to attach to. here's how:

1. Locate the desired penetration points on the felt paper below the tiles, and drive a nail between them, long enough to show through the bottom of the roof.
2. Go into the attic or area with access to the rafters, and locate the nail poking through.
3. Measure and cut a 2" x 6" board (the block) to fit perpendicularly between the rafters on either side of the penetration.
4. Push the 2" x 6" up between the rafters, covering your penetration area with the wider 6" side against the roof. This will most likely force the locating nail back up through the roof.
5. Face-nail the block from the outside of both rafters, into each end of the block. You should have a letter "H" configuration when you're done.
6. Walk back onto the roof, and drive the nail back into the roof and into the block. It will be covered by the base plate, so it's fine where it is. You are now ready to attach the base plate to the block.

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 gather the rest of the applicable information and do the calculations for your specific project.

Waterproofing

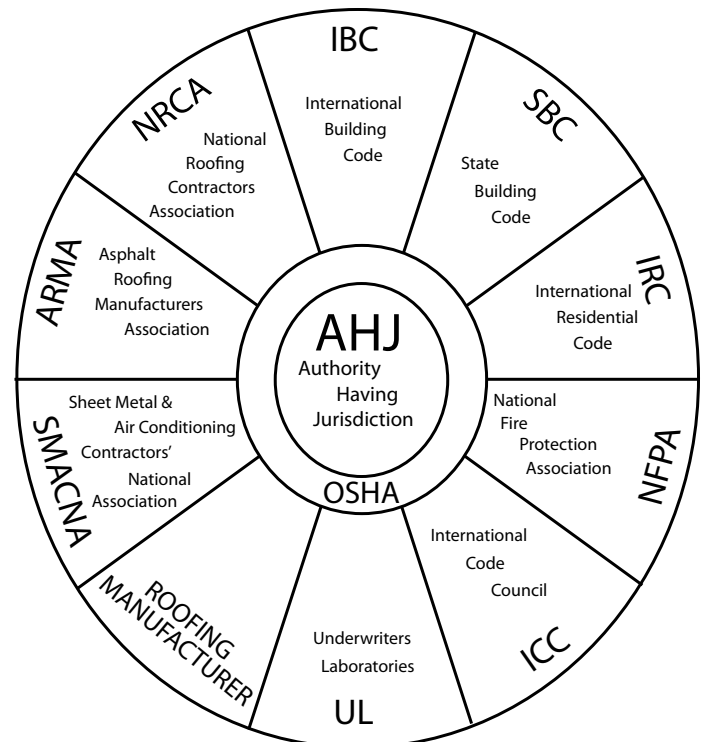
On a tile roof it is actually the building paper below the tiles that is waterproof. The tiles are considered water resistant. It is assumed that water will travel under the tiles. The tiles are there for aesthetics, thermal absorption, and to protect the building paper from UV and the elements. It is imperative to follow standard roofing practices with the paper. The Aluminum Primary Flashing that we provide needs to go over our Mounting Base Plate. On the top side of the mount, the 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 the Primary Flashing. This paper should be wider than the 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.

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 excerpts 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, submit them to us, and we'll put them up in our web gallery. Submit them to info@quickmountpv.com Subject - Gallery Photo



5/16" x 1" SS Machine Bolt

Racking of Choice
(Not included)

5/16" Split Lock Washer
(Not a theft-prevention feature)

5/16" SS Sealing Washer

5/16" x 1" SS Fender Washer

Aluminum Post
5 1/2" x 1 1/4"

EPDM Rubber
Counter Flashing

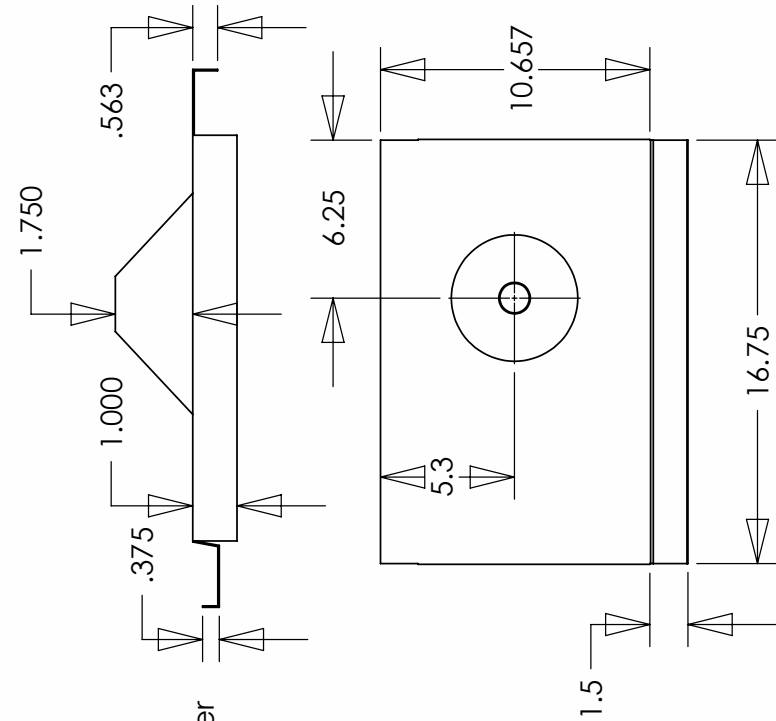
Secondary
Aluminum
Flashing

Primary Flashing

4 Lag Screws 1/4" x 1 1/2"

Cast Aluminum
Base Plate
5 1/2" x 3 1/2" x 1/2"

5/16-18 x 3/4" Grade 8 Bolt



TITLE: QM-PV-Tile, Flat B

COMMENTS

FILE NAME QMFTM

DATE 6/15/2011

REVISION 1

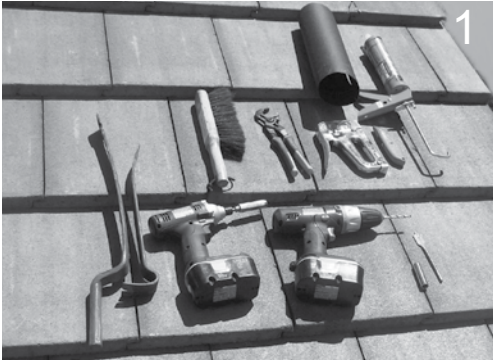
DRAWN BY P.W.J.



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FLAT TILE MOUNTING INSTRUCTIONS -A-



1 Tools required to install (see list on specification drawing, page 1).



2 Remove tile at location of mount. Measure up 6 5/8" to center of mount. Measure 5 1/2" from exposed edge of adjoining right tile to center of mount, and mark paper. At this point you should install rafter blocks below all mount locations (See blocking instructions on page 2).



3 Use the base plate as a template to mark the drilling of the four attachment holes. Remove base plate, drill 11/64" pilot holes through the deck/block. Fill holes with sealant appropriate for the roof.



4 Insert grade 8 bolt under base plate in hex slot so threads point upward. Place base plate over pilot holes and secure with the four 1 1/2" lag bolts.



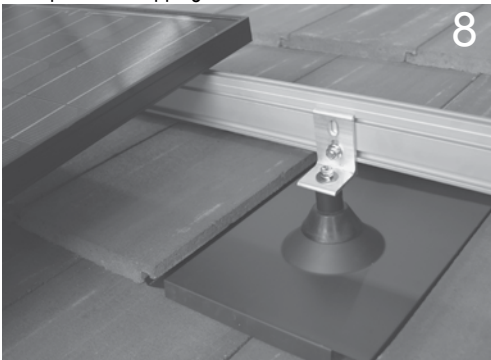
5 Place the Primary Flashing over the base plate, sliding the upper edge of the flashing under the course of felt paper above your base plate. If the next felt paper course is too high, you must place additional felt paper under its edge and over the Primary Flashing to continue the waterproof overlapping.



6 With the leading edge of tiles above still wedged up, lift left side tile and set aluminum flashing into place.



7 Insert post through flashing and secure to base on the Grade 8 bolt. Add sealant where post and flashing meet.



8 Slide on EPDM counter flashing. Following the specification drawing (pg1), place sealing washer between post and rack; use rack hardware to secure the rack of your choice**. Tighten to 13 foot pounds.

*** 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.