

Know Your Composition Shingle Roof

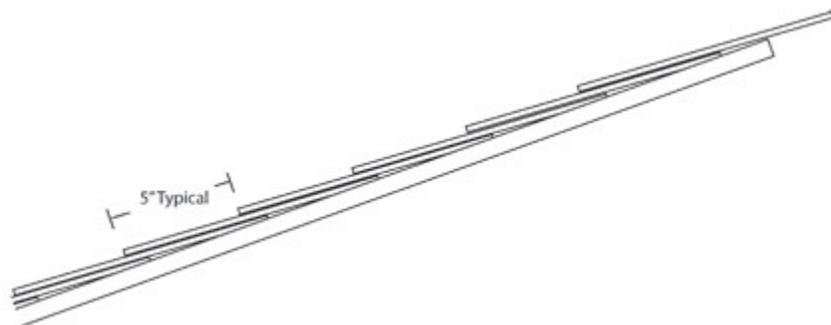
It is a good idea to do a thorough roof evaluation prior to your project installation. At this time you should do a layout of the roof confirming everything on the drawing will fit as intended. Any irregularities should be noted now, so that you can deal with them simply on install day. The quality of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

Photos should be taken of all of the roof variables and then kept with the job file for any future reference. Typically the building owner can look in a file and find the composition manufacturer. If not, take a piece to the roofing yard, as they can usually recognize the maker and the rough vintage. It is then easy to obtain the written manufacturer's installation instructions for the roofing materials you are dealing with. The manufacturer's instructions will spell out exactly what does and does not void the warranty of their roofing product. Most have a clause about roof temperature. This is commonly missed, but can easily be noted if you read the instructions. 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. If the manufacturer cannot be found, there is obviously no warranty in place.

On a roof that has a material and labor warranty in place (new roof), it is recommended to at least consult the roofer of record. Often the roofing contractor will void the labor portion of their warranty if another trade modifies their work. Give the roofing contractor the option of handling the roofing modifications, or at least give them the opportunity to inspect and approve the modifications you make. There will be fees to this roofer, but if it maintains the labor warranty it should be money well spent.

Product Selection

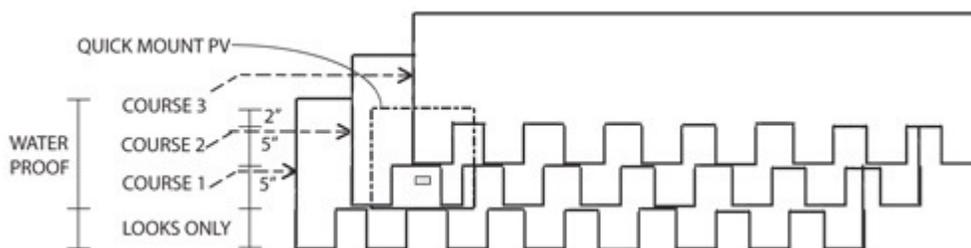
The Classic Composition Mount is intended to fit within most composition and wood shingle roof systems, but not all. Specifically it is sized to fit within a standard 5" to 5-1/2" row or course. To confirm that the Classic Composition Mount will match your roof, measure the course exposure of your roof. The "exposed" surface course height should measure no more than 5-3/4". If it turns out the roof tiles are a non-standard size greater than 5-3/4", the alternative method is to use a Quick Mount PV Classic Shake Mount instead. In this case, follow the directions for the Classic Shake Mount. (See Classic Composition Mount instructional video at www.quickmountpv.com/training/videos.html.)



High Definition Comp - Presidential

Irregular surface - If the penetration lands in a low between two highs, it is best to shim the low under the flashing with extra asphalt to level out the surface.

Irregular tooth pattern - If the shingles have a tooth pattern wherein the bottom edge jogs up and down to give it a higher profile look, it is important to understand that the excess shingle that hangs lower than the rest of the shingle is for looks only. The 5" rule starts at the top of the tooth. If a tooth interferes with the mount block, cut the tooth off.



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 keeps 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 who 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, shear 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 are pull-out strength and shear strength of mount. We provide structural test reports on all of our mounts, available on our website. You will need to gather the rest of the applicable information and do the calculations for your specific project.

Further Resources

In the process of all the research we have done, we came up with our "Wheel of Accountability". It is a graphical look at the many official entities that govern how waterproofing should be done. A description of each entity and links to their websites can be found at quickmountpv.com/waterproof/code-compliant.html.

Please don't hesitate to use The Wheel to your advantage. And of course if you have any feed back pro or con, please let us know. Take photos of your jobs using Quick Mount PV products and submit them to us at marketing@quickmountpv.com, we'll review them for inclusion in our online installation gallery.

Product Includes

Each box includes all necessary mounting hardware, mounts with flashing, and written instructions.

Alternative Attachment Methods

The Classic Composition Mount is intended to be attached into a lumber rafter. Mounts are usually laid out based on the location of the rafters. In some cases it is desired to place a mount where there is no rafter. In this case it is possible to place a block between rafters, then lag into the block. In the case of metal rafters, lumber blocking the rafters is a solution, but should be done per the building's engineer of record.

Shared Rail & 5" Rule

On a shared rail system, where the mounts must be in an exact spot, it is important to make sure the unit is flashed properly. Normally the vertical placement is guided by the exposed front edge of the shingle. If (on a 5" exposure comp shingle) the flashing is flush with this, then you have 5" of flashing over course one, 5" of flashing under course two, and 2" of flashing under courses two and three. This is important because if there is a vertical joint in course two, the water cannot find its way under the flashing because it extends under course three. When the flashing must be shifted to catch a shared rail, it is advised to shift

the mount up the roof only, leaving less flashing over course one, and more flashing under course three. If it is necessary to shift downward, it is advised to move down a whole course and then shift up accordingly.

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 manufacturer's 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 3500 and ChemLink M-1 but be sure to do your own research to confirm a compatible and appropriate sealant with the materials you are using.