

Tech Bulletin

SnapNrack Product

Bulletin By: Timothy Vaughn-Product Manager

Corrugated Roof Block

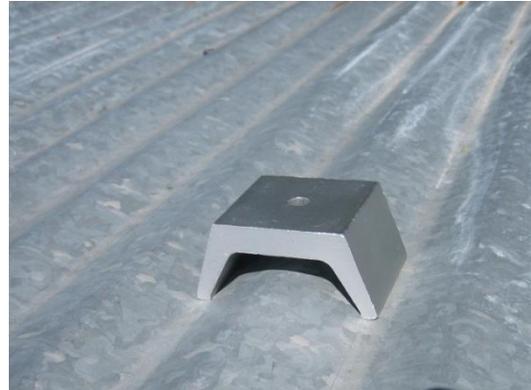
part number 015-09989

The Corrugated Roof Block was designed to allow the attachment of the L-Foot directly to a structural member covered with a corrugated type metal roof without collapsing or crushing the ridge in the metal roof material. The design is simple and low cost, but very effective.

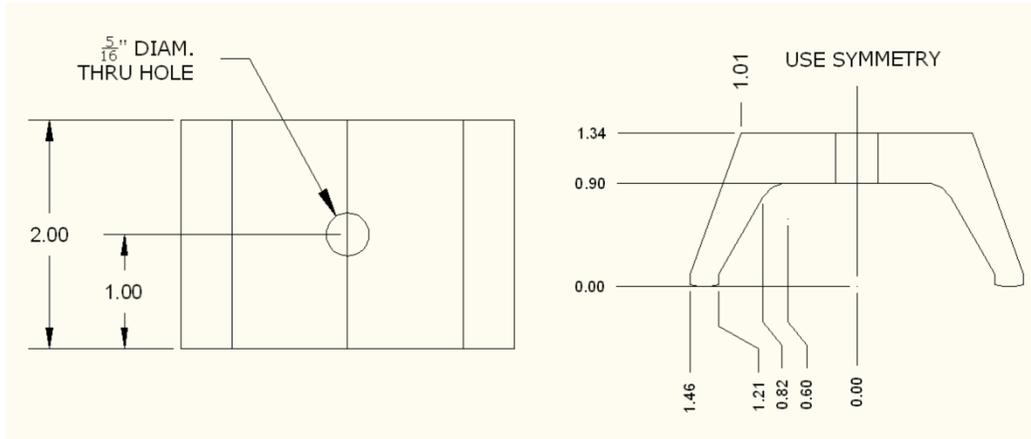
The aluminum roof block has a shape that will work with several metal roof designs including the two below.



This metal roof design is known as a "K" Panel. A similar design is a "U" panel.



This metal roof is a standard rounded ridge corrugated design that is used worldwide.



Metal beam attachment with thru bolts

Installation is accomplished by first locating the structural support beam and drilling a hole through both the roof metal and the structural beam at the desired attachment location. The bolt diameter should be a 5/16" and the length can vary depending on the metal thickness. We strongly recommend all stainless steel hardware.

Roof sealant is not included with the block and we recommend the following. File the hole and surrounding area between the block and roof surface with an appropriate roof sealant. We recommend a Urethane based roof sealant for optimal durability and long life. Do not use old style roof plastic sealant (tar).



Wood beam attachment with lag bolts

This installation technique is similar to any other wood roof attachment. The key difference is that you must first drill a hole in the metal roof material and then drill a pilot hole in the wood beam. The lag bolt diameter is also a 5/16" bolt (same as above) and will vary with the wood thickness and type of wood. For pull out strength of lag bolts please see the reference chart below.



Note: the Corrugated Roof Block is designed to be installed over the high ridge of the corrugation, and be directly bolted into an underlying structural member. If a structural member, either a rafter or sufficiently strong purling, is not positioned directly under the high ridge, then additional blocking must be installed to provide a strong connection to the building's frame.

5/16" Lag Bolt pull-out per inch

Measurement is in pounds for actual withdrawal of the bolt.
This has nothing to do with shear strength of the bolt.

| Type of lumber | Specific gravity | Pounds per inch of thread depth |
|-----------------------------------|------------------|---------------------------------|
| Douglas Fir, Larch | 0.50 | 266 |
| Douglas Fir, Southern | 0.46 | 235 |
| Engelmann Spruce, Lodge pole Pine | 0.46 | 235 |
| Hem, Fir, Redwood (close grain) | 0.43 | 212 |
| Hem, Fir (Northern) | 0.46 | 235 |
| Southern Pine | 0.55 | 307 |
| Spruce, Pine, Fir | 0.42 | 205 |

Information provided by: American Wood Council, NDS 2005, Table 11.2A

Notes:

- 1: Thread must be embedded in the side grain of the rafter or other structural member.
- 2: Lag bolt must be threaded in the center 30% of the rafter.
- 3: The above is for dry lumber only.
- 4: Bolt head must be installed flush to the surface for full strength.
- 5: Installation of hex head bolts should always include a flat washer.

The above information is provided as a reference only. For actual design specifications a licensed structural engineer should be consulted.

For questions or assistance please contact AEE Solar Technical Support.