

# SNOW GUARD PLACEMENT FOR METAL ROOFS



Snow guards are devices that are attached to the roof structure in order to provide uniform retention and control the snow from avalanching in large sheets. The snow guards need to be applied in sufficient quantity according to a prescribed pattern in order to be effective. Snow Guards are intended to reduce snow movement and provide for a controlled melt and breakdown of the snow mass into smaller sections. Snow guard placement will vary from region to region and will be influenced by roof pitch, the lengths of roof runs and roof features. Local installation customs may not be the best guide for placement.

Snow guards should never be placed beyond the bearing wall on an extended roof section. This can result in ice damming and cause structural damage. If there is an overhang, the snow guard should be placed over the bearing (exterior) wall. Otherwise, placement should be 12" to 18" above eave. Make sure that snow bar clamps are not placed on roof panel clip locations, which could restrict roof panel thermal movement.

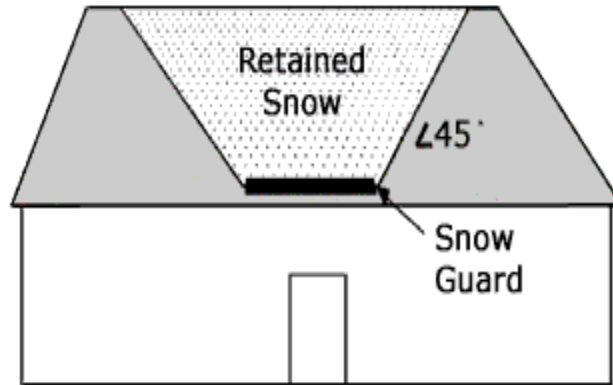
## **Design Considerations**

1. All loads incurred by the snow guard system will be transferred to the panels. Therefore, proper panel attachment to substrate/structure is necessary to prevent roof panels from sliding under snow load. New and existing structures must be evaluated to insure they can withstand retained snow loads. (In instances where there is an overhang at the eave edge, it is imperative to make sure that the overhang can hold the accumulated loading, otherwise, the first row snow guards should occur at the bearing wall.)
2. It is not recommended to place the snow guards in isolated areas such as doorways, vents and partial roof areas.
3. No snow retention system is capable of retaining 100% of snow and ice from falling off the roof.
4. Roof system should be a minimum of 24 gauge steel and have a seam height of at least 1". It is not recommended to use a clamp type system when the roof panel uses a separate seam cover or batten.

5. Clamp spacing varies depending on seam spacing (12" o.c. up to 42" o.c.). Clamps should be placed at every seam, so that the load is distributed evenly to every roof panel.
6. Designer/Architect, Installer, or Owner of the project should have knowledge of the local snow loads (ground snow load PSF), climatic conditions, roof slope, roof orientation, potential drifting, and roof design prior to installing snow guards.

### Installing Snow Guards Just Above Doors

It is not recommend installing snow guards over just doorways or on just portions of an eave. Snow builds up behind an obstruction at approximately a 45-degree angle out from the obstruction. This additional weight on the snow guard (or other obstructions such as vent pipes or light posts) will often overload the system unless the additional accumulation of snow is taken into account during the layout. In general, the additional weight on the snow guard or obstruction is double the normal load. Even more weight must be taken into consideration if the section is near a valley, in a drifting condition or subject to ice buildup.



### Pad Style Snow Guard Placement

Snow guards are generally placed first three rows 24 inches on center with the middle row staggered 12 inches starting at the outer wall or outer-most roof support. The remaining snow guards are evenly spaced to the top 10 feet of the rafter. The top 10 feet of rafter does not require snow guards except in extreme snow load areas.

