

TECHNICAL ADVISORY BULLETIN

To: GAF Residential Sales, GAF Contractors, GAF Field Services

From: Technical Services Department

Subject: Ice Dams... Their Cause And Preventative Measures



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What Is An "Ice-Dam"??

An ice dam is a build-up of ice at the eave that may eventually back-up water under the shingles. When snow on the roof melts, the water travels down the roof and freezes when it passes over the unheated eave. As the water continues to flow, it becomes blocked by the newly formed "ice dam". This water then freezes and the cycle continues. As more water freezes, it begins to back-up under the shingle tabs. As this continues further up the roof, the warmer attic space may prevent the water from freezing and this water may enter the house. **Fig. 1**

What Precautions Need To Be Taken?

There are 2 primary preventative measures that should be taken:

The first is to install a leak barrier such as StormGuard® or Weather Watch® Leak Barrier. These membranes help to prevent water from entering through the roof deck. Ice dam protection is required by most codes in northern climates and should be installed a min. of 24" beyond the "warm wall" of the house. **Fig. 2.** Additionally, for added protection, leak barriers should be installed at areas as noted in **Fig. 3** below.

The second measure is proper ventilation. Heat, moisture and condensation build up under roof decks.

- GAF recommends a continuous, balanced soffit and ridge system that meets the FHA/HUD-1/300 rule that calls for 1 sq. /ft. of net free ventilation per 300 sq. ft. of attic floor space. Adequate ventilation can lower the temperature of the attic, which will reduce the melting of snow of the roof surface.

What GAF Products Can I Use?

For a leak barrier, Weather Watch® or StormGuard® underlayment can be used as the eave protection membrane. These membranes can be installed at the areas as shown in **Fig. 3** below as well.

Note: While self-adhering leak barriers offer excellent, state of the art ice dam protection, extreme ice dam conditions may result in leaks when water backs up over the ice dam protection and flashings. In some extreme ice dam situations, especially if there is a "warm" roof deck (i.e. a heated, non-vented attic), hydrostatic pressure may build up which can force water through the roof system.

- **For ventilation, any Cobra® Ridge Vent** should be installed at the ridge for exhaust, and MasterFlow® Intake Soffit Vents at the soffits for intake. All products data sheets, specifications and application instructions are available online @ www.gaf.com.
- The latent damage from ice dams may not be immediately evident. For example, insulation could be getting wet and over time will lose its ability to perform properly. In addition, mold may begin to grow in the moist attic environment. Although ice dams are more prevalent at the eaves, they can (and do) occur anywhere on the roof, especially where there is a change in roof surface temperatures. These areas need special consideration by roofers, specifiers or builders.

Other Considerations:

Where Can I Get More Information?

GAF Technical Services Can Assist You... with these and other questions you may have regarding your new roof installation. GAF Technical Services can be contacted at **800-ROOF-411** (800-766-3411). Also, the GAF website is a great resource for just about any question you may have or for additional information you may require. Please visit www.gaf.com to find the latest information on our products and their installation.

Important: This document supersedes any prior GAF Technical Advisory Bulletins on this topic. Please always check www.gaf.com to make sure you have the most up to date information.

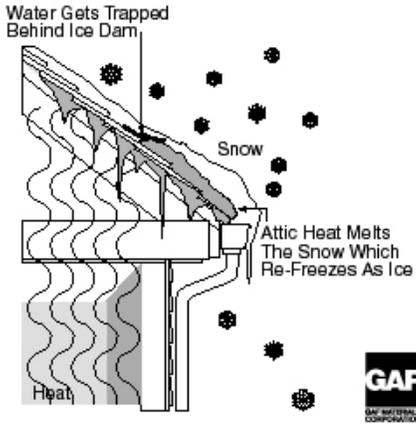


Figure 1

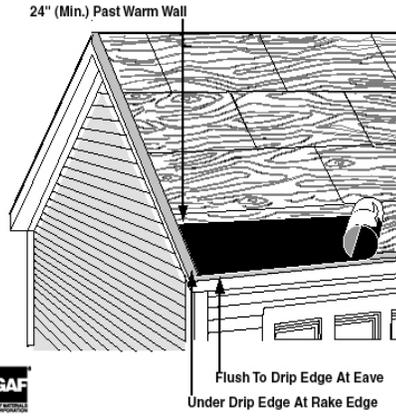


Figure 2

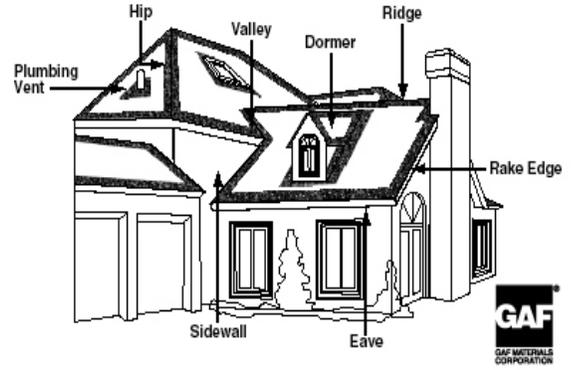


Figure 3