

ICE DAMS IN GUTTERS: A MYTH IN THE MAKING

The truth about gutters and their relationship with ice dams

In 2011, Ice Dam Company owner Steve Kuhl wrote a nationally published article about ice dams for the Journal of Light Construction. One of the topics that received the most attention was the notion that *gutters have nothing to do with ice dams*. Here is a deeper look at that assertion.

There is a great deal of confusion and misinformation about the relationship between gutters and ice dams. Many people are under the misconception that gutters cause ice dams or that gutters filled with ice can cause water to back up into homes. Not true. We repeat. Gutters have nothing to do with ice dam formation or severity. For this reason, buying systems that heat gutters in order to prevent ice dams is a total and complete waste of money.

We know that ice dams occur when:

1. Escaped heat from the inside of the home warms the roof deck.
2. Melting snow results in water that runs down to a cold, unheated area of the roof (frequently the eave, as shown below).
3. That water freezes, forming ice. After many of these cycles, that ice piles up to form an ice dam.

Study the illustrations below. These are identical eave designs, one with gutters, the other without. The Area B in the diagrams below is referred to as the 'cold edge' of the eave because heat from the interior of the home doesn't travel that far. Fact One: Whether or not a home has gutters, a cold edge will still exist and this is where ice dams form. Fact Two: leaks from ice dams occur in Area A, at the leading, top edge of the ice dam where water—with nowhere else to go—is forced up under the roofing material and into the home. Put another way, if the home in Figure 2 had bad leaks inside, those leaks would not be eliminated whatsoever if we took a chainsaw and cut off the gutters along the red dashed line (C). Moreover, if we heated the gutters using a fancy electrical system, the likelihood of ice dams and the subsequent leaking would NOT be effected. Spend money on heat cables for the lower edge of your roof, not on heating the gutters only. High quality heat cables can be quite effective in preventing ice dams.

Figure 1: Ice Dam Without Gutters

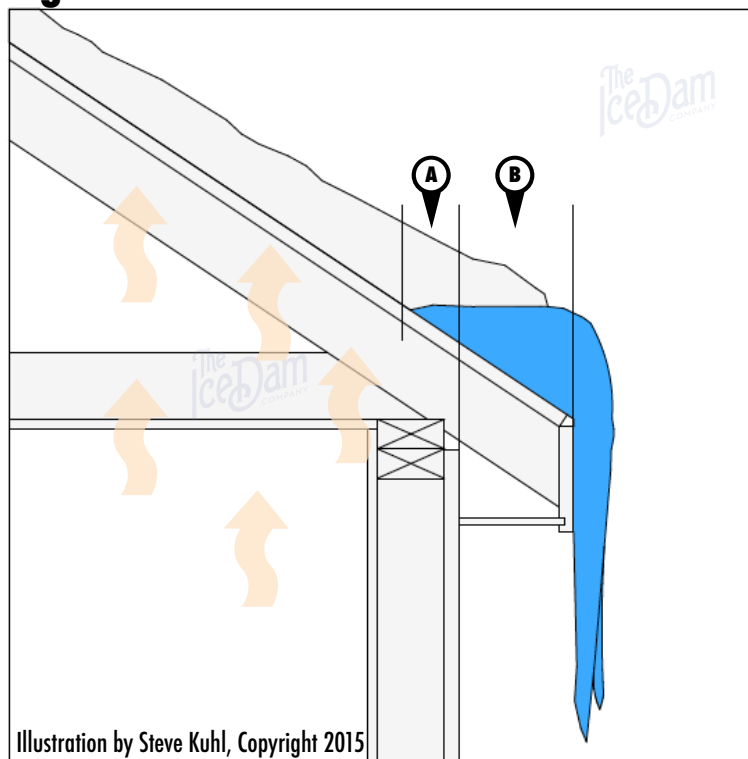
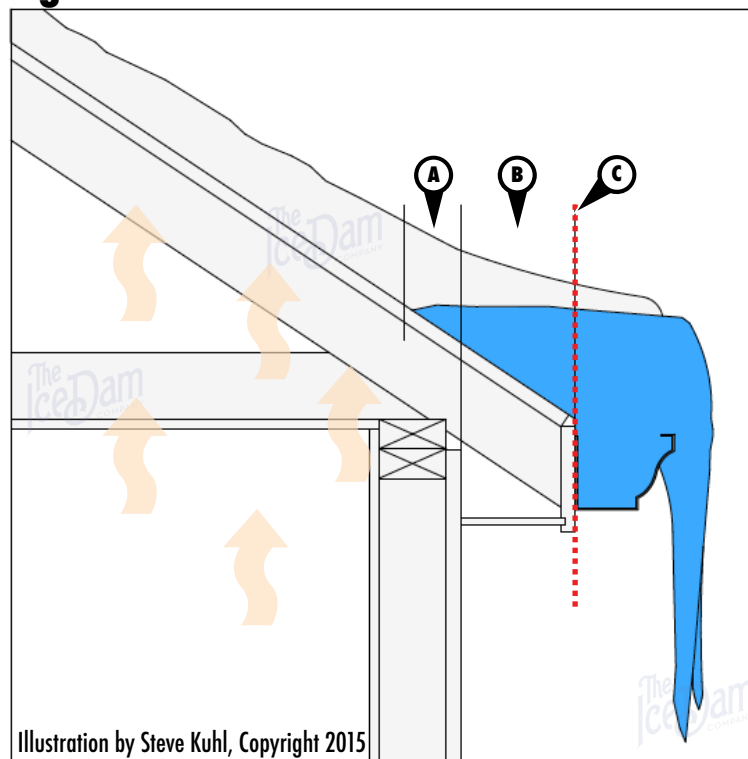


Figure 2: Ice Dam With Gutters



None of this is to suggest that ice in gutters are harmless. We have seen many gutters damaged or destroyed by ice dams and that is a problem most homeowners would like to avoid. The point here is that, all else held equal, if a home is likely to get ice dams the addition or deletion of gutters will be of no consequence to the formation or severity of said ice dams. Likewise, for this reason, installing heated gutters or adding heating systems to existing gutters will have no effect whatsoever on the occurrence or severity of ice dams.