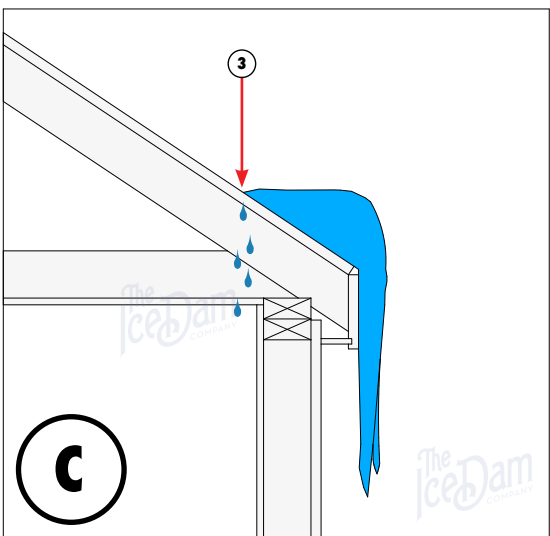
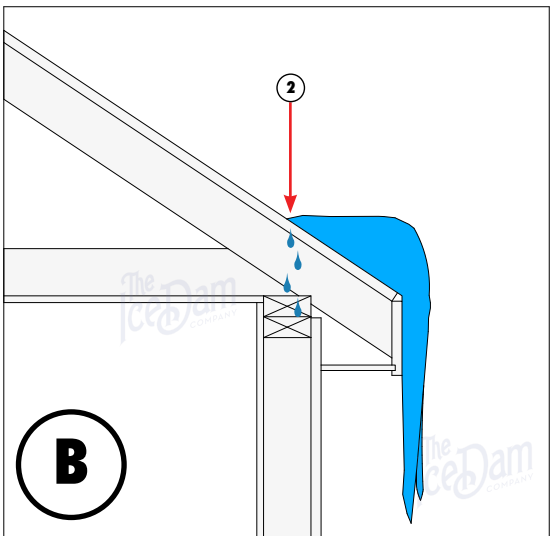
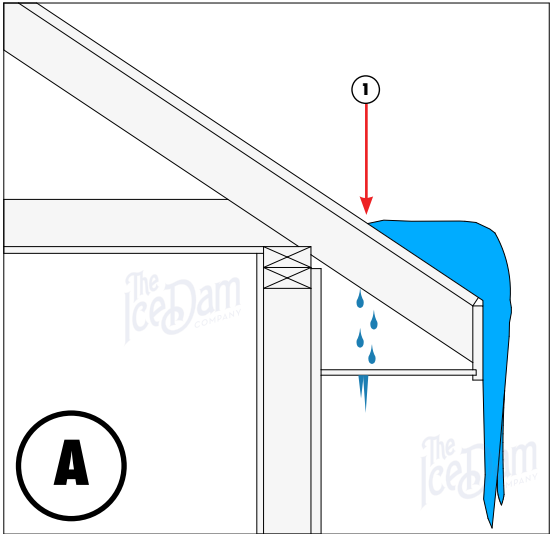




## EAVE DEPTH AND ICE DAMS: PART 1

How Eave Depth (Soffit Depth) Affects Ice Dam Formation and Severity



### GENERAL RULE: THE DEEPER THE EAVE, THE MORE TIME YOU HAVE

The purpose of this Case Study is to discuss the implications of eave depth on ice dams, in particular, how eave depth affects the sequence of events.

Notice that the eaves in Diagram A, B and C are different, with A being the widest. It's common for older homes to have smaller eaves due to the way we used to assemble exterior elements. Modern construction usually employs pre-fabricated trusses which lend themselves to wider eave construction, higher energy heels and increased space for ventilation. For this reason and others, homes built before 1945 are far more likely to suffer from ice dam issues. That's a topic for a different case study.

### SAME ICE DAM, VERY DIFFERENT RESULTS

Ice dams leaks originate off the back edge of the ice formation (Arrows 1, 2, 3). In the three examples shown, left, the ice dam is essentially the same size in terms of height and depth. Notice that in Diagram (A), if the ice dam causes leakage, said leakage would fall inside the soffit (Arrow 1), normally manifesting through the soffit in the form of little icicles through the soffit vents as tiny icicles. In Diagrams (B) and (C), the same ice dams will send water into the wall cavity or in through the ceiling. The timeframe from the time you notice neat looking icicles to when there is water dripping in through the ceiling is much longer on homes with larger eaves because ice progresses, or migrates, from the outside edge of the eave back towards the house. Wider eaves equals longer migration times. The take-away? If you have small eaves, say in the 3" to 6" range, there is very little time between the moment you notice an ice dam and when the water is showing up inside. To suggest that you should kick back and not worry upon seeing a large ice dam on the edge of your roof because you have deep eaves is silly. That is a bad plan. Keep your eyes peeled for the signs of an ice dam problem in order to avoid the headaches. Refer to Case Study #01, our famous "6 Ice Dam Warning Signs" for help in determining how bad your ice dam problem is.



This homeowner didn't notice the ice dam until she saw ice on the outside of her exterior wall.