



THOMPSON CREEK™  
WINDOW COMPANY



## Ice Damming

A Comprehensive  
Guide to Ice Dams

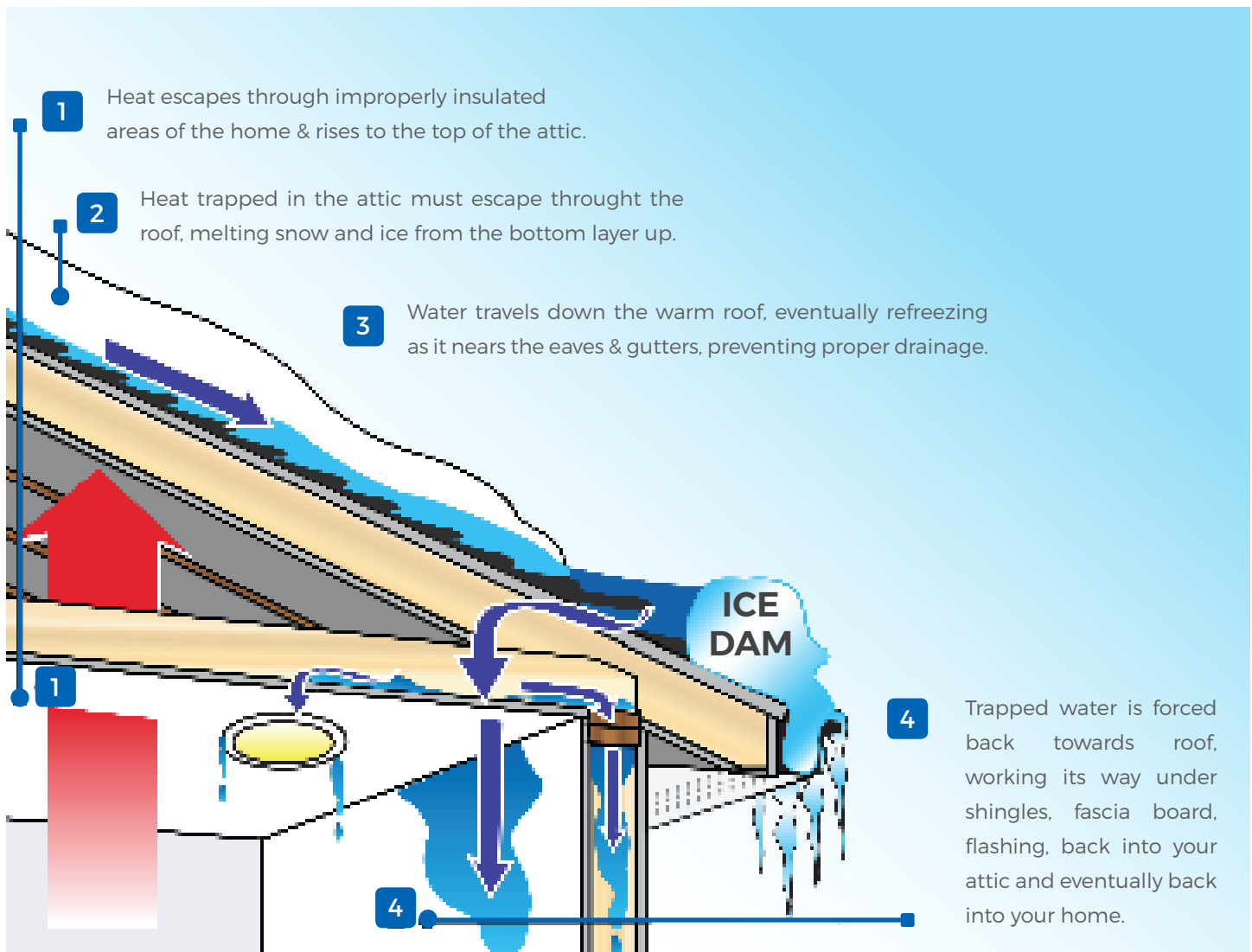
## What is an Ice Dam?

Ice dams are most common in northern climates. An ice dam is a ridge of ice that forms at the edge of a roof and prevents melting snow (water) from properly draining off the roof. When temperatures drop back below freezing – usually at night – this water refreezes, eventually forming a “dam” for the water that will melt and refreeze in the coming days.

After several days of melting-freezing cycles, it's common for the melted water and ice to work up under the shingles until water enters the attic and eventually does damage to the ceilings, wall and contents. In cases where the ice dam goes unnoticed for an extended period of time, it can do significant damage to the building and its contents.

## What Causes Ice Dams?

Ice dams are a result of large amounts of snow on a roof melting and refreezing due to heat escaping through a home's attic and roof. They are a direct result of the combination of heat loss from a house, snow coverage, and outside temperatures low enough to refreeze. The gradual melting and refreezing of snow eventually forms a large ridge of ice at the edge of the roof or in/on gutters. The following illustration explains how ice dams are formed:



During Winter, attics should act as a buffer zone between the warm interior of your home and the very cold outside temperatures. The temperature inside your attic during this time of year should stay as close as possible to the temperature outside, or as close as possible to 32°F. As the temperature inside your attic goes up, the chances of ice damming increase.

## 1 How is Heat Escaping Through My Roof?

Heat escapes your home in several ways, through several areas. Heat loss can be the result of inadequate insulation, improper ventilation, or a combination of both.

A home with inadequate insulation may be losing heat through walls with little or no insulation, gaps around recessed lights, air vents, fireplace vents, heating ducts, and electrical outlets, and attic eaves/rafters with little or no insulation.

Improperly ventilated homes – specifically attics – can also lead to heat loss and result in the formation of ice dams. Attics without proper ventilation will trap pockets of hot air, which then escapes through the roof. A properly ventilated roof needs to have the right combination of functioning soffit, fascia, roof, and ridge vents to properly divert heat that is lost out of your attic.

## 2 What Other Problems are Caused by Ice Damming?

Ice damming can have a number of short-term and long-term effects, depending on the severity and frequency of the problem, such as:

### **Health Risks**

- > *Falling ice ridges & icicles*
- > *Risk of falling from ladders while dealing with ice dams*
- > *Low indoor air quality due to potential mold & mildew growth*

### **Structural Damage**

- > *Wood rot caused by water damage*
- > *Gutters, fascia, and/or soffit damage due to heavy ice ridges*
- > *Damaged insulation due to condensation in the attic/walls*

### **Energy Costs**

- > *Reduced energy efficiency of insulation in the attic & walls*
- > *Higher heating & cooling costs as a result of insulation damage*

### 3 What Can You Do to Prevent Ice Damming?

If you believe that your home is prone to ice damming – don't worry – there are steps you can take to try to fix the problem!

- ✓ Prevent warm, moist air from escaping your home by having vents, lights, outlets and other sources of air leakage properly sealed
- ✓ Have the insulating R-Value of your existing wall, ceiling, and attic insulation checked by a professional like Thompson Creek! Many older homes in our area are under-insulated.
- ✓ Provide adequate attic ventilation that properly cycles warm air out of your attic. If your attic does not have any ventilation, you may want to look into adding the correct combination of ridge vents, gable vents, and soffit.

### 4 What Not to Do...

- ✓ Do not routinely remove snow from your roof with a rake or shovel. This will likely lead to damage to your shingles
- ✓ Do not attempt to "chip away" the ice. Not only do you risk your own health from falling ice, but you could also damage your shingles and/or gutters
- ✓ Do not install mechanical equipment or water heaters in your attic. This presents a danger to your home and those living in it!
- ✓ Do not use salt or calcium chloride to melt the snow on your roof. These chemicals can corrode metal gutters, downspouts, and flashings. Water runoff from these chemicals can also damage nearby grass and plants.

### 5 Still Have Questions?

**If you still have questions about ice damming, feel free to call our Customer Service Department at 240-455-9482.**

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