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Homeowner's Guide

Protecting Your Home from Ice Dams

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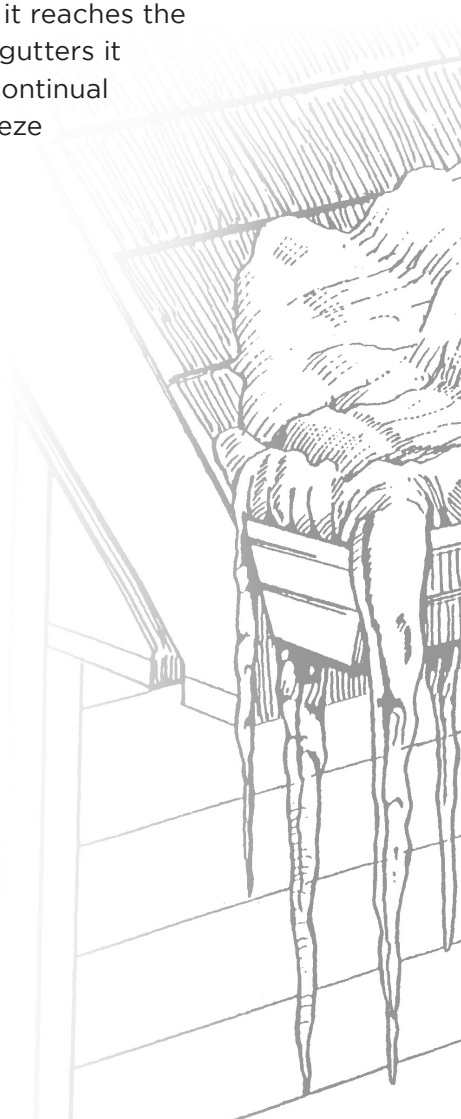
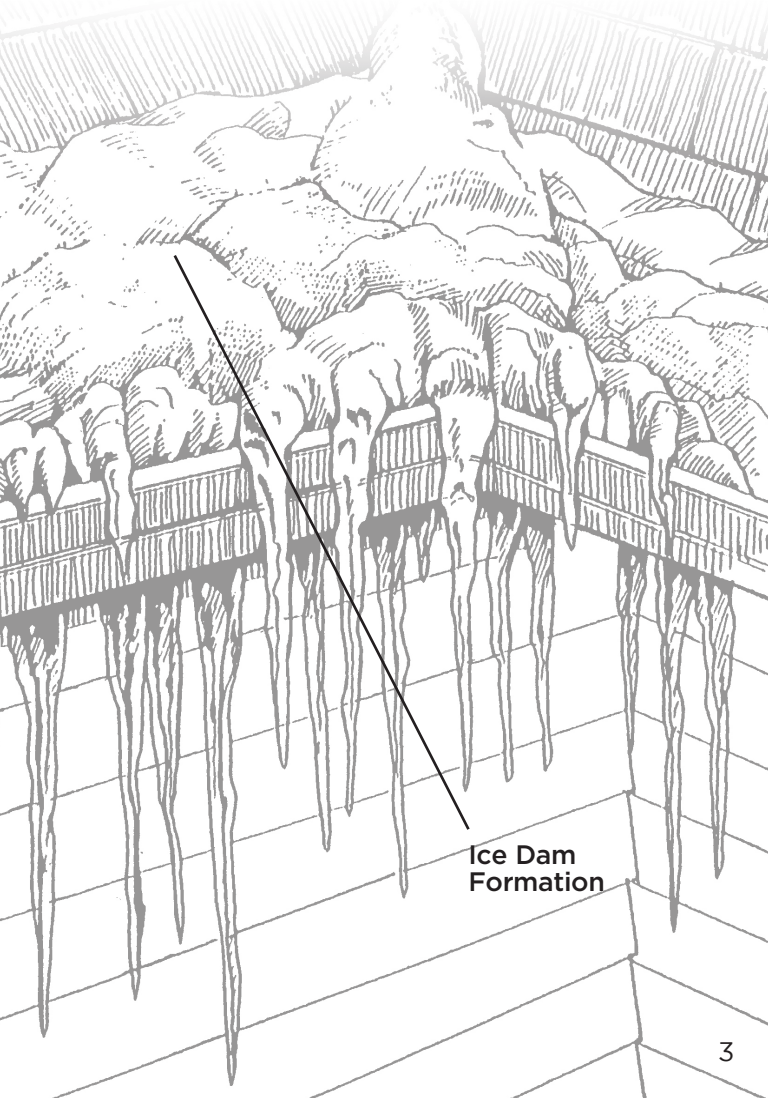
What Are Ice Dams?

Ice dams are formed when heat from the inside of a home escapes into the attic and warms the roof decking during the winter. This heat, combined with heat from the sun, can melt snow on the roof. Melting snow on the upper roof and in the valleys then runs down toward the eaves as water. When it reaches the cold eaves and gutters it refreezes. The continual thaw and re-freeze process creates ice dams.

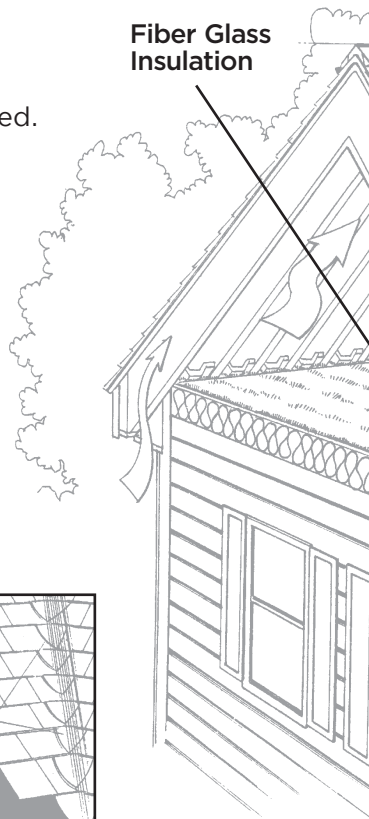


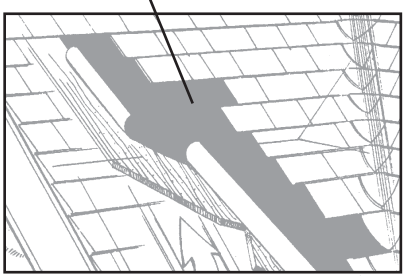
The result is water backing up under the roof shingles or behind fascia boards where it can soak through the roof decking or wall sheathing, causing damage to attics, ceilings and walls.



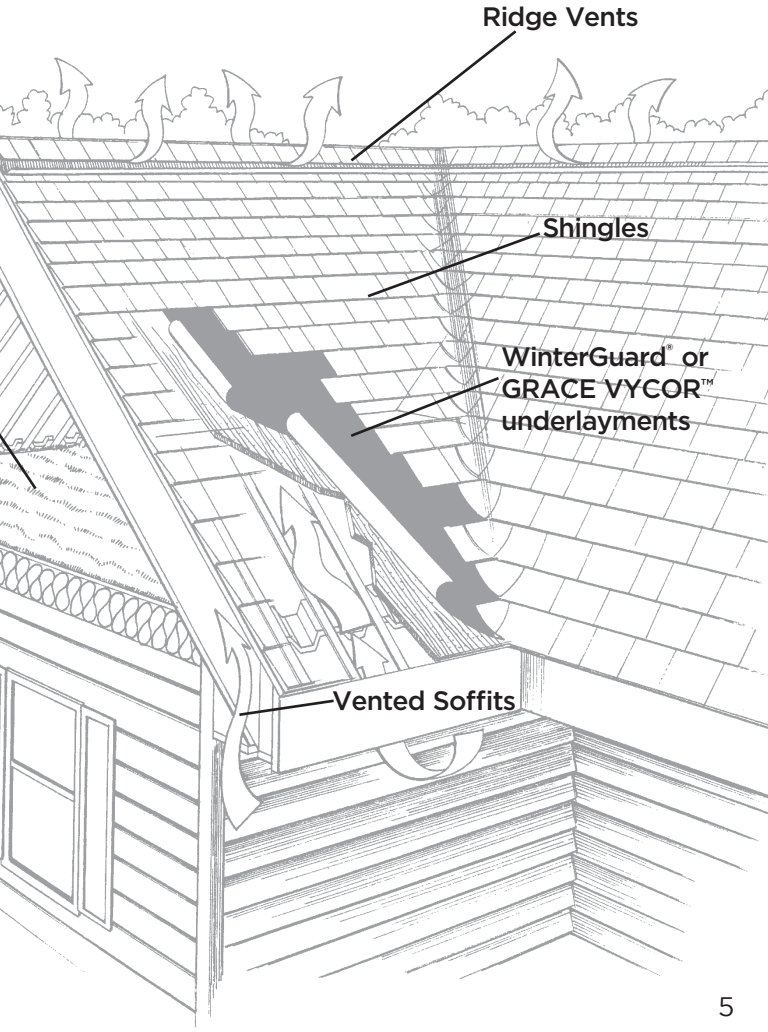
Ice Dam Defense

There are three ways to defend against the damage ice dams cause: insulation, ventilation and waterproofing shingle underlayment. All three work together. Insulation keeps heat from escaping from your home's living space into your attic. Ventilation removes the heat and helps keep the roof deck evenly cool to help prevent snow from melting on the roof. Finally, waterproofing shingle underlayment, such as WinterGuard® or GRACE VYCOR™ underlayments, is laid across the roof before roof shingles are applied. WinterGuard and WinterGuard® or GRACE VYCOR™ underlayments is warranted against leaks from dams that do form on the roof.





With existing roofs, waterproofing shingle underlayment is only an option if you remove the existing shingles or are building a new addition. Regardless, increasing the insulation R-value in the attic is always possible and ventilation can usually be added to your attic easily.



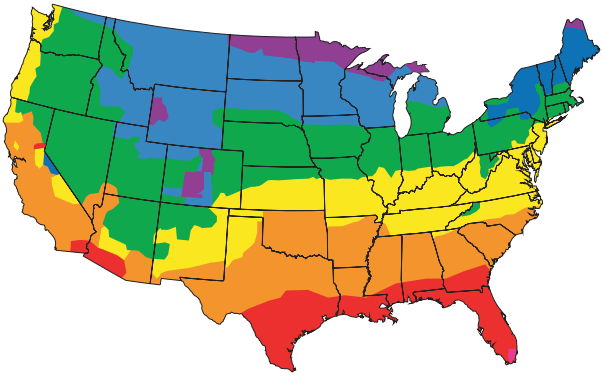
Insulation

An attic insulated to today's energy standards with fiber glass insulation minimizes heat escape through the ceiling, helping reduce the possibility of snow melting and refreezing at the base of the roof.

If your home was built before 1980, chances are it needs more attic insulation. The amount of insulation your house should have will vary depending on where you live, how your house is built and many other factors including your lifestyle. Insulation levels are recommended by geographic zones and are stated in R-values. R-value is the resistance to heat flow of a material. The higher the R-value, the greater the insulating power.

The following map and chart indicate recommended levels of insulation by geographic area.

Attic R-Values by Region



Zone	Department of Energy Recommendations	CertainTeed's Recommendations
	R-30 to R-49	R-49
	R-38 to R-60	R-60
	R-38 to R-60	R-60
	R-49 to R-60	R-60
	R-49 to R-60	R-60
	R-49 to R-60	R-60

R-values on the chart represent CertainTeed recommendations for meeting today's energy standards. Department of Energy thermal recommendations provide the basis for CertainTeed's insulation recommendations.

Ventilation

The second thing to look for in your attic is the amount of ventilation that you have. It is important to have ventilation in the attic so any heat lost from the interior of the home is drawn up and out of the attic. Adequate attic ventilation will help the roof deck stay cool. Another benefit of having your attic ventilated is that it allows for moisture that rises into the attic from things such as bathing, cooking and the laundry to escape. Unchecked moisture can promote mold, mildew, and wood rot.

There are two common ways to ensure that excess moisture or heat can escape to the outside. One way is to use a power or mechanical ventilation system. The other way is through a natural, or static, ventilation system. A power ventilator is an electric powered fan installed at the roof or gable that runs by a thermostat or humidistat when the attic needs ventilation. Natural or static ventilation systems consist of simple vent or covered openings in your attic. These are typically ridge vents, gable, eave, or roof vents. Many ventilation experts agree that externally baffled ridge vents combined with vented soffits are a very effective method for ventilating an attic.

Where older construction doesn't permit ridge and soffit ventilation, powered fans can be a good alternative.

A properly designed ventilation system must have both intake vents in the soffit or in the eaves at the lower part of the attic, as well as exhaust ventilation, such as ridge vents, high in the attic at or near the ridge.

Cooler, dryer outside air typically enters through eave vents near the attic floor, forcing existing moisture-laden or heated air out through vents placed high on the roof or gable.

By ensuring proper insulation and ventilation, you will run less risk of the formation of ice dams, and you will substantially reduce the likelihood of damaging your attic components.

Waterproofing Underlayment

CertainTeed offers a variety of underlayment options for your needs in roofing. All of these CertainTeed underlayments are warranted to prevent water penetration for the warranted life of the new asphalt shingles applied over it (up to a maximum of 50 years). While shingle underlayment does not prevent the formation of ice dams, it will prevent backed up water from getting into the house where it is applied. Discuss shingle underlayment placement with your builder or contractor.

Waterproofing underlayment

GRACE VYCOR™ Series:
The most premium ultimate waterproofing solution

WinterGuard®:
Available in both sanded and granular surfaces

WinterGuard® PRO:
Specially formulated to resist high roof temperatures under metal roofs

Water-resistant underlayment

DiamondDeck®

RoofRunner®

RoofRunner® AIR

Special Cases

Many new homes feature cathedral or vaulted-ceiling roofs and skylights. Both present special cases for insulation that CertainTeed recommends you discuss carefully with your builder or contractor. Insulation manufacturers like CertainTeed have created high-performance fiber glass batts that are designed specifically for cathedral ceilings to provide higher R-values per inch than standard fiber glass batts.

In the case of skylights, quality workmanship and attention to detail are important in preventing ice dams and condensation which often lead to leaks. To avoid problems, make sure your builder or contractor properly insulates around the skylight and uses a moisture retarder to prevent condensation. In addition, applying waterproofing shingle underlayment around the skylight opening is recommended.

Warranty

All shingle manufacturers exclude from warranty coverage leaks caused by water backup behind ice dams, which can form on the eaves of the roof. These leaks can be easily prevented. Proper ventilation will minimize the chances of ice dam formation, and WinterGuard® waterproofing shingle underlayment, properly installed, will prevent leaks in spite of ice dam formation and will also prevent leaks from wind-driven rain.

Easy selection.

Long-term protection.

CertainTeed has been in the roofing business for more than 110 years, and has hundreds of thousands of satisfied homeowners. Building that level of satisfaction begins the moment you turn to us.

CertainTeed works only with the highest quality installers that we certifiy as SELECT ShingleMaster companies, like Pinnacle.

With Pinnacle, you will get a roof that's made from the highest quality materials and backed by one of the strongest warranties in the industry.

It's our promise to you:
Quality Made *Certain*, Satisfaction Guaran*teed*.

Pinnacle Roofing & Skylights

Premium Protection, Perfect Light

learn more at: PinnacleRoofingRI.com

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