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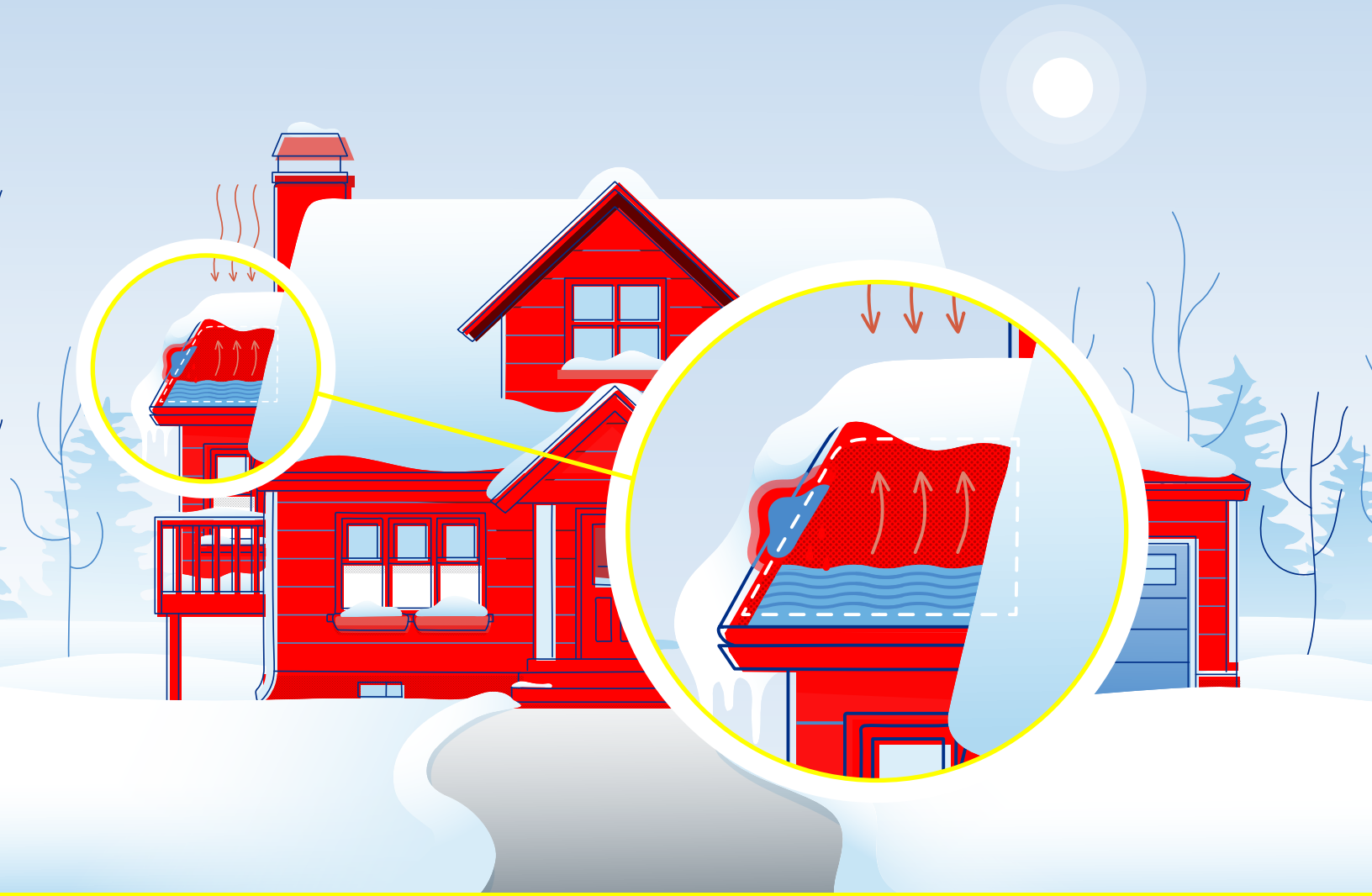
Protecting Your Home Against Snow & Ice:

Understanding Ice Dams



If you live in a part of Canada that experiences heavy snowfall and sub-zero temperatures through the winter season, your home but more specifically, your roof, may be vulnerable to ice dams.

Understanding how ice dams form and taking preventative measures can help minimize the risks and protect from winter-related damage.

An ice dam is a large mass of ice that develops at the lower edge of a roof, or in gutters and drains.

As melting snow or rain runs down the roof, it hits this mass of ice and backs up, sometimes under the roof shingles and into the home. This can lead to water damage, the growth of mould and mildew, and it can threaten the structural integrity of the roof.

Do Ice Dams Form?

Ice dams occur when a roof has uneven surface temperatures. This happens when warm air from inside the home escapes into the attic due to issues with insulation, ventilation, or air leaks.

As attic temperatures rise above freezing, this heats up the roof and melts the bottom layer of snow lying on the shingles. As that meltwater runs down the roof and reaches the colder eaves, it can refreeze and gradually build up into a dam. This ice barrier then traps further meltwater, which may find its way in through small cracks in the roof.

of Ice Dams

Ice dams typically occur when there's a lot of snow on a roof and can sometimes be tricky to spot. Here are some common signs to look out for:

- **Icicles hanging from the roof's edge:** This may indicate drainage issues and refreezing at the roofline
- **Water stains or moisture in the attic or ceiling:** This suggests that trapped water may be seeping into the home
- **Uneven snow melting on the roof:** This can indicate that heat is escaping due to insufficient insulation or air gaps
- **Blocked gutters:** This may be due to ice dams preventing the proper drainages
- **Ice buildup on exterior walls:** to ensure efficiency and reliability throughout the season

Early detection of these signs is vital in preventing damage from ice dams allowing you to act before any significant damage occurs.

Safe Ice Dam Removal

Ice dams can be difficult to remove from a roof. The goal is to make drainage paths through the ice to the lower edge of the roof, relieving the back-up of water underneath and preventing damage to the home. There are several ways to do this:

- **Electric heating cables:** Installing roof de-icing cables can create controlled meltwater pathways, helping to prevent buildup of ice or moisture that could damage the home.
- **Chemical de-icers:** Apply non-corrosive de-icers in small holes along the ice dam's edge to encourage safe drainage.
- **Manual ice-removal:** This should be a last-resort option for homeowners, as the process is dangerous and can cause excess damage to the roof.

For large or stubborn ice dams, the best course of action is to engage a licensed and insured professional with the proper equipment and training to get the job done safely.

Ice Dams

This starts with maintaining a well-insulated, properly ventilated, and airtight home. By reducing heat loss from living spaces, homeowners can ensure a consistent roof temperature, minimizing the risk of uneven snowmelt and refreezing. The **Institute for Catastrophic Loss Reduction (ICLR)** suggests the following ice dam prevention strategies:

- **Upgrade insulation:** A well-insulated attic (using insulation with a high R-value) helps keep warm air inside the home, preventing roof temperature fluctuations
- **Seal air leaks:** Fill in any gaps inside the attic in key areas such as around attic doors, light fixtures, vents, and chimneys to stop warm, moist air from escaping
- **Maintain roof drainage:** Keep gutters, downspouts, and scuppers clear of debris to ensure proper water flow
- **Trim overhanging trees or vegetation:** This reduces the buildup of branches, leaves and twigs on the roof and in gutters, helping to prevent drainage issues

By making these proactive improvements, homeowners can reduce the risk of ice dams and **ensure their homes can withstand winter's challenges**.

Ice dams may be a common winter challenge, but by staying vigilant and proactive, homeowners can enjoy a worry-free winter while keeping their home safe and sound for years to come.