

Loss Prevention Safety Tip



Loss Prevention
Program

By Red River Mutual

HEAVY SNOW LOADS ON FARM BUILDINGS

Farm building safety should not be neglected during the winter, especially with the threat of snow loads which can cause the roof on a farm building to collapse.

When heavy snow meets fierce winds, even the best-engineered buildings can collapse. That's why it's important to calculate your roof load and be adequately insured for this type of situation.

How snow load can damage your buildings

Snow load is the downward force on a building's roof by the weight of accumulated snow and ice. The roof or the entire structure can fail if the snow load exceeds the weight the building was designed to shoulder, or if the building was poorly designed or constructed.



It doesn't take a blizzard to cause problems. An imbalance of drifting snow can cause one part of a roof to give, causing a domino effect.

How much snow is too much?

Calculating the roof load on your barn takes more than an educated guess. An estimate of roof snow load can be made by using the following formula:

Calculated Roof Loading (lb/ft²) = Depth (ft) x Density (lb/ft² /ft depth)

The approximate density (lb/ft²/ft depth) is:

- 5-20 for light snow
- 20-40 for packed snow
- 40-58 for packed snow with ice
- 58 for ice

For example, a roof with 3 feet of light snow has an estimated roof load of 60 pounds per square foot (3 ft depth x 20 lb/ft²/ft depth density = 60 lb/ft²).

You should know the roof weight limits for your barns and outbuildings. If necessary, rebuild or fortify them to withstand worst-case scenario snow loads and meet local building standards.

Removing snow

Some roof failures can be prevented with careful snow removal. The following tips will help with removing snow and ice from roofs and other areas:

- Consider hiring professionals to do the job. The combination of heights plus ice makes this one of the more dangerous maintenance tasks.
- If you don't hire professionals, have someone outside with you in case anything does go wrong.
- Use a telescoping snow rake for pitched roofs (available at most hardware stores) to remove snow from your roof.
- Start from the edge and work your way into the roof.
- Try to shave the snow down to 2 or 3 inches on the roof instead of scraping the roof clean, which will risk damage to your shingles or other roof covering.

- To avoid unbalanced snow load, do not remove all the snow from one side but take snow off from both sides gradually.
- Keep in mind metal tools conduct electricity if it touches a power line, stay well clear.
- Remove large icicles carefully if they're hanging over doorways and walkways. Consider knocking down icicles through windows using a broom stick.
- Wear protective equipment when performing any of these tasks.
- Keep gutters and drains clean, free of ice and snow and keep downspouts clear at ground level.



See more loss prevention tips at www.preventingloss.com

While the safety recommendations in this report are based on apparent and obvious conditions that were found at the time of inspection, the report does not purport to identify all hazards or guarantee compliance with any standards, codes, ordinances or regulations. It is not legal or expert advice, and should not be used in place of consultation with appropriate professionals. Any person relying on this information does so entirely at their own risk. Red River Mutual denies all responsibility for any liability, loss, injury or risk which is incurred as a direct or indirect result of the use of any of the recommendations in this report.