

Should I shovel the snow off my roof?

For those of you that are wondering "When should I shovel the snow off my roof?" Here is a quick rule of thumb to help you determine if you may need to be concerned.

Basic calculation – (for a quick analysis only) This calculation uses a 25% moisture density which may be conservative for our current snow fall. As a rule of thumb, saturated snow weighs about 20 pounds per cubic foot. The moisture content of snow can range from about 1% to about 33% so snow can weigh from about 1 pound per cubic foot to over 21 pounds per cubic foot.

$$(S)(1.25)=P$$

S=Inches of snow on the roof

1.25= Weight of 1 sq ft of snow for each 1" of depth

P= Pounds per square foot

Example:

If my roof has 20" of snow, what would that equate to?

$$(S)(1.25)=P$$

$$(20'')(1.25 \text{ lbs/sq ft}) = \mathbf{25 \text{ lbs/ sq ft}}$$

Any ice build-up on the roof needs to be added to this formula. Use 5.2 lbs for every inch in thickness.

In this example the roof would be ok.

You can always check your roof snow load yourself by weighing a one-foot (12") X one-foot (12") square of snow cut from your roof to determine if your snow load is getting close to your design roof snow load of 40 lbs per square foot. This would include any ice build-up on the roof.

Notes:

1. Structures constructed with building permits are designed for 40 lbs/sq ft minimum roof snow load. Older roofs may be of concern and may not meet this minimum roof snow load.
2. Until recently, manufactured homes were designed for a roof snow load of 30 lbs/sq ft. Look at the certification label (a metal label affixed to the manufactured home) to verify your roof snow load.
3. Flat roofs are more of a concern (Less than 3/12 pitch). Flatter roof pitches tend to hold more snow moisture.
4. If we receive excessive rainfall, the weight of the roof snow can increase rapidly.
5. If your structure is in question, it is best to consult a licensed engineer.

Please be aware of the potential dangers of shoveling or raking snow from a roof. Besides the potential damage to the roofing materials and structure, there are such factors as a person sliding off the roof, falling off a ladder, overexerting themselves, or injury from snow sliding on top of them.

In summary, the City of Coeur d'Alene does not make recommendations on when to remove snow from roofs. It is up to the individual property owner to consider the benefits and dangers of snow removal and decide their own course of actions. Remember that, as a rule of thumb, saturated snow weighs about 20 pounds per cubic foot and then consider the depth and relative moisture content of your snow and the capacity of your roof structure in making your decision to remove snow or not.