



**By Cassie Park, P.E.**

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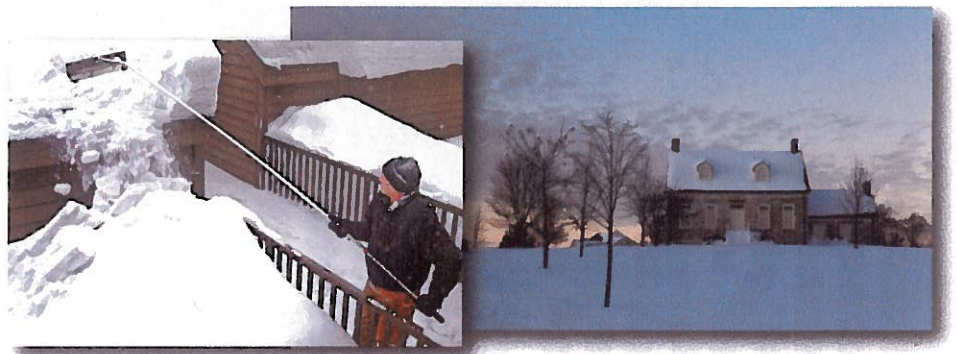
# No Need to Scurry at the First Sight of Flurries

**W**e've all heard the question on the evening news. As soon as a major snow storm is forecasted for the area (which is, thankfully, few and far between) and the first snowflake is spotted, there it is: Should I shovel the snow off of my roof? Unfortunately, the answer is never as simple as yes or no.

Commercial building roofs in the Washington Metropolitan area are designed to support a rather considerable amount of snow, typically around 30 pounds per square foot. Similarly, residential roofs are designed to support approximately 20 pounds per square foot. To put that in perspective, that's 5-7 feet of light, powdery snow, approximately 1 foot of dense, wet snow, or 4-6 inches of ice. However, snow that has melted and refroze, or heavy rain following a storm can significantly reduce these quantity guidelines.

Damage sustained by roofs and building structures during snow storms is not always solely due to the weight of the snow itself. More often than not, the weight of the snow reveals an area of damage (i.e. broken roof truss member) or shortcoming in the roof structure that was existing prior to the storm.

As snow accumulates, it is wise to keep an eye out for warning signs of potential structural distress. Telltale signs typically include leaks, new and/or worsening cracks in the walls or ceilings, bowed roofing members, and doors that will not open or close. Should any of these warning signs present themselves, it is best to consult with a structural engineer or building official. However, if the roof looks as if collapse is imminent, the building should be evacuated immediately.



If opting to remove snow from a building roof, the following items should be considered:

- Use utmost care when walking on roof surfaces. Wet membranes and ice deposits can be extremely slippery and the potential for falling is elevated.
- Shovels with rubber tips should be used to remove the snow from low-sloped roofs. Snow rakes should be used on pitched roofs. Shovels or snow removal tools with sharp edges or exposed metal should never be used, as these items could damage the roof covering.
- Remove snow in lifts, several inches at a time. Leave a few inches of snow on the roof covering to prevent scraping and possibly damaging the underlying roof covering.
- Never use salt or other sidewalk/drive-way ice melt products on roof surfaces. The chemicals in these products can severely damage membranes/coverings, drains, and drain conduits. Ice melt products specifically made for roofs are available; however, prior to use, it is best to consult with your roof covering manufacturer to avoid potentially voiding any existing warranties.

- Snow removal efforts should be concentrated at drain locations and/or gutters first. Prior to the storm, ensure the roof drainage provisions are clear of debris and ice and are able to properly drain surface water.
- Ensure snow is thrown off the roof surface, not piled along the edges or corners of the roof. Piled snow can overload the roof structure. Also, be sure the snow isn't piled up against the building wall, which may contribute to leaks.
- Consider hiring a qualified roofing contractor to remove the snow.

Performing routine inspection and maintenance of roofing structures and components throughout the year can help put building owners' and managers' mind at ease that the roof is ready for the winter and any forecasted storms. In any case, it is best to be mindful of impending weather conditions, knowledgeable about your roof structure, and have proper personnel on hand (i.e. experienced maintenance staff, trusted roofing contractor), should snow removal become necessary. 