

Minimize damage from snow and ice accumulations on roofs

Most modern roofs are designed to support a certain “load per square foot” as determined by local building codes. A properly designed roof can reduce the risk of a roof collapse. Over time, however, even a properly designed roof could collapse from the weight of snow and ice. Listed below are some tips and awareness items to help you recognize and minimize the damaging effects of heavy snow and ice accumulations:

1. Be sure that roof drains, downspouts, gutters or other water removal systems are not clogged.
2. Identify and repair roof leaks. Leaks can damage the structural integrity of the roof and underlying structure (especially on a flat roof).
3. Identify and correct any areas of standing water/ponding on flat roofs. Standing water will affect the roof load in that area.
4. Be aware of any animal activity on and around your roof. Squirrels, raccoons or other critters can cause serious damage to the roof and roof support structure as they look for protection from the cold.
5. Be aware of the warning signs of an overloaded roof:
 - a. Sagging or bowed roof supports or roof decking.
 - b. Bends or ripples in metal structural members.
 - c. Sagging or bowed utilities or equipment attached to or hanging from the ceiling (such as electrical conduit or sprinkler piping).
 - d. Sagging or misaligned door or window frames.
 - e. Cracks in walls (plaster or masonry).
6. Be aware that adding any new loads to an existing roof (such as an additional HVAC unit) will decrease the amount of any additional load (i.e. snow/ice) the roof was designed to support.
7. Be aware that snow may not accumulate uniformly across a roof. Look for heavier snow accumulations or drifts around dormers, parapets or other roof structures that may disrupt the natural flow of the wind (these will be the same areas that trap leaves or other debris at other times of the year).
8. Be aware that rain on top of snow will make the roof load much heavier.
9. Be aware that a “new roof” (i.e. top layer of roofing material exposed to the elements) does not imply that the roof support structure is sound or that it will support loads for which it is not designed.

Other items to consider:

1. Motorized or other powered devices should not be used to clear snow from a roof because these devices may damage the roof.
2. Be sure that downspouts do not drain directly onto a sidewalk (or other areas of high pedestrian travel) because the discharge water may freeze on the sidewalk.
3. Be aware of and carefully remove, if possible, any icicles that may pose a threat to people on the ground (especially the person removing the icicles!).
4. Never allow anyone to climb onto a roof without following proper fall protection and/or ladder safety guidelines as recommended by OSHA. Always exercise extreme caution when walking on wet/slippery ladders and roofs!
5. Snow may be safely dislodged from a roof while standing on the ground (or on a suitable, stable ladder) by using a “snow rake” (commonly available from hardware stores).
6. Consider calling a qualified contractor to remove heavy snow loads to avoid damage to your roof.



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