



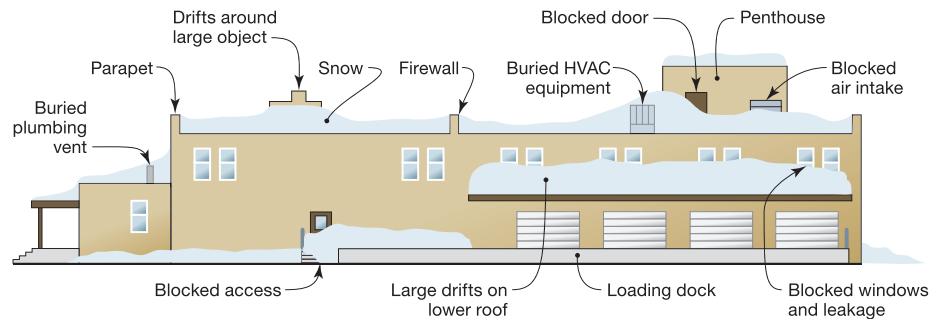
Global Risk Solutions

Snow Drifts on Roofs

Snow drifting can easily result in the significant additional loading on a localized portion of a roof. In the past, engineers have not sufficiently appreciated the problem with snow drifting as roofs are usually designed with a factor of safety ranging from 1.5 to 2. At best a roof designed to code could probably sustain 50 pounds per square foot (psf) of snow, assuming it was designed, constructed, and maintained properly. One foot of snow can weigh from 3 psf when dry and in excess of 22 psf when heavy and wet. However, drifting loads can easily exceed 50 psf with some snow drift loads having been recorded in the range of 300 psf. Uneven loading of the roof is a recipe for disaster.

Risk and loss potential

Snow drifts can result in roof collapse, leaks, and damage to equipment. Snow drifts can accumulate on many roof types from leeward or windward winds and are caused by roof elevation changes, parapet walls, gable roof lines, roof mounted equipment or a combination of these factors. Unheated, unoccupied buildings are also susceptible to roof snow drifts.



From "Risk Management Series : Snow Load Safety Guide" from FEMA.

Risk solutions

Pre-winter (snow event) prevention

- Have a written emergency response plan available for key personnel
- Determine the maximum depth of snow the roof can sustain
- Inspect the roof for general condition, clear scuppers and drains, gutters and downspouts
- Determine the most likely direction of the wind and where drifts may accumulate
- Contract with a company experienced in roof snow removal
- Learn how to safely remove snow from roofs. See link below for additional guidance.

Post snow event prevention

- Regularly monitor the snow depth
- Remove snow in layers before it reaches 50% of the maximum sustainable depth

Signs of an imminent roof collapse - immediately evacuate if present

- Sagging roof members
- Cracked wood supports
- Stuck doors or windows
- Doors that pop open
- Popping or creaking sounds
- Sagging pipes or conduit

References

[QBE North America Global Risk Solutions](#)

[FEMA Snow Load Safety Guide](#)

QBE North America

55 Water Street
New York, NY 10041

Tel: 212.422.1212
Fax: 212.422.1313
qbena.com

 @QBENorthAmerica

QBE North America and its subsidiaries and affiliated companies make no warranties or representations as to the accuracy of the information provided herein, assume no liability in connection with your use or non-use of such information and do not guaranty that the information includes all possible risks or unusual circumstances that may occur. Reliance upon, or compliance with, any of the information, suggestions or recommendations contained herein in no way guarantees the fulfillment of your obligations under your insurance policy or as may otherwise be required by any laws, rules or regulations. QBE and the links logo are registered service marks of QBE Insurance Group Limited. © 2017 QBE Holdings, Inc.