



Winter Weather Considerations

Avoiding Ice & Snow Damage During the Winter Months

by William Meyers, communications director, RCI, Inc.

Winter has two faces: a snowy wonderland and a serious threat to rooftops. Blizzards, freeze-thaw cycles, and frigid temperatures place extraordinary stresses on commercial roofing systems, and while most are designed to withstand harsh wintry conditions, roof failures can occur when these systems are pushed beyond their limits.

"Heavy snow is a major concern," says Blair Baxter, Baxter Roof Consultants, Calgary, Canada. "Clogged drains and leaks are others." According to Baxter, snow loads of just two to four feet can be hazardous, depending on the building deck.

For a concrete deck, a two- or three-foot load of snow usually is not a problem. But for roofs constructed of economical light-gauge steel, often used in strip malls and warehouses for instance, collapse is a genuine danger. Snow loads of a few feet could be hazardous and snow removal may be indicated.

RCI Inc., an international association of professional consultants, architects, and engineers who specialize in the specification and design of roofing, waterproofing, and exterior wall systems, is offering tips to building owners, facility managers, and property supervisors on how to keep their building secure this winter.

"As a general rule, if you can't open the door of the building the snow load may be too heavy," says Baxter. Baxter is an RCI member as well as a registered roof consultant (RRC). "When snow removal is necessary, using the wrong shovel on a single-ply roof can be a big mistake," says Baxter. "Many roofs are ruined that way." According to Baxter, the best safeguard against winter calamities is routine inspections just before and just after winter. Minor problems with drains, flashings, copings, and so forth can be repaired before winter. Spring is the time for identifying major defects such as split membranes caused by wintry weather. Major roof repairs or reroofing should

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be scheduled for the summer and fixed well before winter arrives.

A building's drainage is also at risk during wintry weather. Snow and ice can obstruct drains and build up during freeze-

thaw cycles. This ice can get under flashings, copings, drains, and joints and wreak havoc on all types of roofing systems. A roof consultant, with experience and knowledge, can identify and correct problems before they become catastrophic.

"Most buildings are designed to withstand the worst-case scenarios of wintry weather," says Ray Wetherholt, PE/RRC/RWC, of Wetherholt and Associates, Kirkland and Olympia, Wash., "but if a design flaw becomes apparent, extraordinary measures may be required in the winter." For example, heating tape may need to be installed around drains to alleviate ponding and ice build-up. "Because of the energy costs to melt ice and snow, heat tape is not an ideal solution but may be the only way to avert a disaster if the building is prone to this problem," says Wetherholt, who is also an RCI member.

Each type of roofing system presents its own strengths and weak-

nesses. An RCI member can determine when a roof is no longer reliable, or can assist the owner or property manager in obtaining the routine maintenance required for the roof to survive another winter. Building owners often replace their roofs as soon as the warranty expires even though it could provide several more years of reliable service life. An experienced RCI member can assess the condition of the roof and may recommend maintenance to keep the roof viable for an additional number of years.

By their code of ethics, RCI roof consultant members are objective in their selection of roofing products. They know how to cooperate with manufacturers to obtain accurate technical information about the reliability and performance of roofing products and their suitability for a particular application. Additionally, many of the association's members hold the professional designation of Registered Roof Consultant (RRC)[®], these consultants have demonstrated skills through written exam, character reference, and documented experience.

