



Ref. No. P1003

November 2003

Winterizing your Business

Exposure to slip and fall accidents increase

Winter conditions are a leading cause of slip-and-fall claims. It is especially important to pay particular attention to procedures for clearing and salting walkways and parking lots during the winter.

Any contract for snow removal or winter maintenance (salting, sanding) must clearly identify the responsibilities of each party. The responsibility to start snow removal or other maintenance must be clearly understood and documented. The criteria that trigger maintenance and the responsibility for detailed record keeping should be spelled out. Any insurance clauses or "hold harmless" provisions need to be understood.

Good procedures include logging weather conditions daily and recording remedial and maintenance activities. Special attention is warranted in areas where ice might accumulate, where there is a freeze/thaw cycle and along those critical walkway and parking lot access areas that visitors use.

Exposure to property damage from snow and cold increase

Roof collapse from snow load, damage to roof, fascia and eaves from ice damming and frozen fire protection systems are all hazards faced by building owners in winter months. The following highlights protection methods from these exposures:

Roof Collapse

There are effective safeguards to lessen the potential against roof collapses.

- Most important, keep the snow off the roof.
- Keep all drains clear and unblocked.
- Keep the roof well maintained and do repairs/replacements as soon as required.
- Keep workers trained and the proper equipment available for snow removal. Be prepared to hire a qualified contractor if staff is not qualified to do this work.
- Keep an updated winter emergency response plan in effect, especially for snow removal.

Ice Damming

When heat from inside a structure melts the snow on a roof, the resulting water can run down, under the blanket of snow, to the edge of the roof where colder conditions causes it to freeze again, forming ice. In time, a ridge of ice is created along the lower edge, or eave, of the roof. The water can also flow into the gutter where it can freeze and form a

block of ice that grows back over the gutter and forms the ice dam at the eave. If ice dams are not removed, water collects behind them and is forced under shingles or spill over to form icicles. This can result in costly damage, including wet (ineffective) insulation; stained interior finishes, and weakened structural wood members. The formation of icicles can also pose a hazard to pedestrians walking beside the building.

Changes in the daily temperature in the winter also can contribute to the problem. As the temperature climbs during the day, more snow will melt and accumulate behind the ice dam. At night time, lower temperatures can freeze the water.

The basic cause of ice dams is a warm roof. The solution is to maintain a "cold" roof. Among the ways to achieve a cold roof are:

- Sealing all bypasses.
- Having a well-insulated attic.
- Having adequate ventilation.

Freezing of fire protection sprinkler systems

Freezing of wet pipe sprinkler systems occurs most frequently because of a lack of adequate heat. However, open doors, windows, and vents; broken windows; cracks in walls; loose shingles and siding; and similar building maintenance defects are also responsible for a number of frozen systems each year.

The following procedures and safeguards will help prevent wet pipe systems from freezing during cold weather.

- Doors, windows, and vents should be closed when not in use or when resulting drafts will allow subfreezing air to contact sprinkler piping.

- Adequate heat should be provided to maintain the temperature at not less than 5°C (41°F) in the vicinity of sprinkler piping. Particular attention should be given to piping in attics, stairways, under floor areas, above ceilings, shipping rooms, and similar out-of-the-way areas where low temperatures might occur. Heat should be provided by extension of the existing heating system.
- Where sprinkler piping may be exposed to outside temperatures, such as when it is run between two buildings, the pipe should be heated or adequately insulated.
- If it is known that the sprinkler system is to be exposed to freezing temperatures, such as when a plant is being temporarily shut down and the heating system will be shut off, it will be necessary to drain the sprinkler system.
- If the sprinkler system is the antifreeze type, check the antifreeze solution to ensure that it has the proper proportions of antifreeze and water (see National Fire Protection Association (NFPA) Standard No. 13 for recommended solution percentages).

Ref No P1003 November 2003