

INSIGHTS

Moreton & Company Safety & Loss Control Bulletin



Winter slip and fall conditions are different than conditions the rest of the year. They're worse.



Make Slip and Fall Prevention Plans Now for the Coming Winter Season

Winter is here, along with the snow and ice it brings. That means more potential for slips and falls outdoors and indoors. Slick tile, wet carpet, and ice and snow on the parking lot and sidewalks all create extra risk. Without regular attention to keeping walking surfaces clear and dry those hazards can lead to serious injury to employees and visitors alike.

Entry Areas

Entrances and lobbies have a significant pattern of slips and falls in the winter and need double the attention they get the rest of the year. Surfaces such as polished stone, tile, and vinyl are more slippery when wet than sidewalks, so conspicuous 'CAUTION' or 'WET FLOOR' signage should be posted in those areas.

Lay durable "walk-off" mats at every entrance during periods of rain or snow. These are rubber backed carpets that trap water and debris. They can be easily removed and cleaned as water, dirt, and mud accumulate. You can lay two mats end-to-end creating a longer walk-off area. Monitor walk-off mats and carpets for frays, tears or wrinkles and that edges and corners lay flat

Snow and Ice Removal

Every effort should be made to maintain safe outside walking surfaces for pedestrian traffic.

Prior to the first snowfall, take time to inspect parking lots, sidewalks, steps, ramps, docks, and other walking surfaces exposed to snow and ice. They should be in good repair and free of defects.

Someone in your organization should be designated to monitor the weather forecast. They may be the same person responsible for clearing snow outside, and additional workers can be notified as more help is needed. This person or team should be clearing snow before the first employees or visitors arrive for the day.

All walking surfaces should be inspected regularly for snow accumulation and monitored for black ice or refreezing of the previous day's snowmelt. By doing this regularly and systematically, you may recognize areas that need more frequent attention.

It's prudent to document the date and times of your shoveling, visual checks, and general conditions on a 'Snow Removal Log.' If necessary, that record of your responsiveness to conditions can help provide a defense in the event of any legal action following an incident or injury.

Block off walking areas under roof overhangs if falling snow from the roof could be a hazard.

Map Your Drainage

Icy parking lots and sidewalks are potentially your greatest liability. You should do everything you can to keep them as clear and dry as possible. It's critical that you plow and pile snow where ice build-up from the melting snow is eliminated or kept to a minimum.

Take a long, careful look at your parking lot. From different vantage points on the lot, judge where water from melting snow would flow and freeze. Are there areas where, because of slope or other impairments, the drainage would accumulate? The snow pile should be positioned where it will not drain onto large portions of the parking lot, street, or sidewalk or create an "ice-dam" allowing large pools to form and freeze. This will likely be near the lowest elevation of the lot and near, but not on top of, drains.

If you use an outside contractor for snow removal, insist that you meet and plan snow piles together prior to the first storm. The spot where they pile snow with the first snowfall is likely the spot they'll use all winter, so designate and clearly mark the parking spaces set aside for snow piles.

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Use care to keep curb openings and catch basins free of accumulation to allow continuous drainage. Pushing snow onto grassy areas may prevent accumulation of water and ice on the pavement. Areas where ice may be unavoidable should be blocked off to the public.

Keep snow piles away from the building's entrances and walkways, and away from hydrants or fire department connections. Avoid making snowbanks that block ATMs, fire exit doors, or bus stop access. Snow piles should be placed where they will not obstruct driver's views at intersections.

Finally, don't let downspouts direct roof drainage across walkways. When inadequate drainage could lead to ice forming on walkways, those areas should get attention early and safety cones should be put out to give notice to pedestrians

Personal Health and Safety

Shoveling snow can be as hazardous as the snow and ice itself. Care should be taken to avoid injury from exposure, overexertion, poor body mechanics, and falls. Remember, these basics:

- **Before you start, stretch the muscles you will use.** Stretch your legs, your back, and your shoulders. Pace your shoveling - start slowly and ramp up as your body warms up.
- **Don't overdress and wear boots with good traction.** If you overdress you will soon be wet with perspiration and that makes you colder. Wear loose-fitting layers that you can peel off as you heat up. Boots with slick soles are worse than no boots at all. Consider slipping on some ice cleats for extra slip-resistant traction.
- **Focus on good body mechanics.** Hold the snow shovel close to your upper body. Use your legs to lift, keep your back straight as you move from the squat position to an upright position and avoid twisting your upper body.
- **Stay hydrated.** It's just as important in the winter as it is in the summer.
- **Rest as you need it.** With each snowfall you may lift hundreds, or even thousands of pounds of snow. Remember, fatigue leads to injury.
- **Don't move snow twice and move it the shortest distance possible.** Know where you will be moving the snow to and plan your shoveling pattern beforehand.
- **Be thorough, but don't do more work than necessary.** On a sunny day, clear an area, spread deicer if necessary, and then let the sun do the rest. Surfaces exposed in shoveling will be less reflective than the blanket of snow and any remaining snow on those darker surfaces will warm and melt more easily.
- **Go easy on the deicer.** Once the area is clear, all you need is a thin scattering to keep it that way (see 'Deicing,' below). If you're scattering by hand, throw the pellets low along the ground so they bounce and roll into a uniform layer.
- **Maintain your equipment.** Keep the leading edge of the snow shovel straight and flat. Secure or replace a loose or splintered shovel handle

Snowblowers

Every winter, thousands of people suffer serious hand and finger injuries due to careless handling of snowblowers. Only authorized personnel should be allowed to operate snowblowers and those operators should have safety training specific to that task and equipment. There are basic precautions they should always keep in mind.

- Remove or mark obstructions prior to snowfall to avoid damaging equipment or launching projectiles out the discharge chute.
- Never start a snowblower inside a garage or shed. Dangerous carbon monoxide will accumulate quickly.
- Direct the snowblower's discharge away from people, traffic, windows, parked cars, and drain openings.
- Keep all shields and guards in place as designed.
- Wear hearing protection and anti-fogging eye protection. A loud engine can cause cumulative damage to your hearing, and debris thrown up with the snow can hit your eyes

To keep the snowblower from clogging, move snow two or three times during a heavy snowfall, rather than waiting hoping to be out in the weather only once. Make narrow passes through deep snow so you're pushing less material through the mechanism. Lubricating the auger, impeller, and chute with cooking oil spray can help prevent snow build-up and icing.

Even with precautions heavy, wet snow can still clog snowblowers. To avoid serious hand or finger injuries or amputation, turn the engine 'OFF' and use a clearing tool or stick to clear the clog. Never clear a clogged auger, impeller or discharge chute with your hands or feet. The moving parts could have residual energy and suddenly rotate a partial turn when it is freed, causing serious injury or trapping part of your body. See that the auger and discharge blades have stopped turning before attempting to clear a clog.

Deicing

Snowpack and ice build-up can occur before walkways have been cleared of new snow. Attempting to remove ice and dense snowpack by force alone can lead to unnecessary fatigue and injuries and damage to asphalt or concrete walks. The best solution for those conditions may be a chemical deicer.

A misconception about deicing is that it eliminates shoveling. Deicers are only meant to break the bond between the ice and the walking surface below to facilitate removal. It is not intended to melt all the ice and leave the walkway clear. Melting every bit of ice and snow on walkways and pavement is not practical, requires too much deicer, and can be harmful to people, pets, vegetation, and metal fixtures.

When deicer pellets come into contact with moisture they form a brine solution and penetrate the ice layer, dispersing the brine under the ice. Once the brine spreads outward and breaks the bond between the pavement and the ice, removal becomes much easier. The sooner deicer is applied the more effective removal will be. Whenever possible, apply it as the snow or ice starts.

Use only enough deicer to break the ice/pavement bond. A thin layer of pellets is more effective, prevents uneven distribution and build-up, and reduces seasonal costs

About Deicers

There is a variety of deicers available, and there are important differences.

Sodium Chloride (rock salt) is comparatively inexpensive, but is only effective down to approximately 15°F. It is damaging to concrete and plants and unhealthy for pets.

Potassium Chloride works similarly to rock salt but is a less toxic option.

Calcium Chloride is, in general use, the best choice. Calcium chloride:

- Works at lower temperatures, down to -20°F
- Has an exothermic reaction with moisture, creating heat, so it goes to solution quicker, dissolving ice more aggressively.

- Uses less material, melts more ice, and its residue has a longer-lasting effect than other deicers
- Is less toxic, the least harmful to surfaces, and even beneficial to soil
- In its natural state it is a liquid, and so when it returns to liquid it leaves little or no white staining like sodium chloride or potassium chloride do

Simple alternatives include sand or kitty litter. Sand provides some friction (until the next freeze), but doesn't actually melt ice and could create its own slip hazard when it dries. When kitty litter gets saturated it turns slippery and is a mess to clean up.

Anti-icers are simply salts in solution. They are applied before snow falls or ice forms to prevent build-up, so they require constant monitoring of snow predictions to be applied prior to snowfall.

Snow Removal Log

Date	General Conditions (temperature, recent snowfall, ice, etc.)	Corrective Action (plowing, shoveling, deicing, etc.)	Time (completed)

Additional Snow Removal Logs are available from a Moreton & Company Safety & Loss Control Specialist.

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