



Deicing Chemical Advisory

While concrete pavers are considered to be robust in resisting the effects of deicing chemicals, chlorides can be harmful to concrete, steel and other building materials depending on the type, concentration and frequency of application. Recent studies have shed new light on the degree of damage deicers cause. A report published by the University of Kansas found:

Deicer		Effective Temp		Negative Impact	
Symbol	Type	F	C	Low Concentration	High Concentration
NaCl	Sodium Chloride	15°F	-9°C	Small	Medium
CaCl ₂	Calcium Chloride	-25°F	-32°C	Small	Significant
MgCl ₂	Magnesium Chloride	5°F	-15°C	Measurable	Significant
CMA	Calcium Magnesium Acetate	21°F	-6°C	Measurable	Significant
KCl	Potassium Chloride	0°F	-18°C	See Note	

Note: While not evaluated in this study, it is our opinion that Potassium Chloride based deicers can adversely affect concrete.

In light of this information, we recommend sand as the preferred method for providing skid and slip resistance. Ice is most slippery when wet. As deicers work to dissolve snow and ice, the chemicals create melt water worsening the condition of risk for slip and fall. As the melt water accumulates on the surface, it dilutes the deicer and re-freezes requiring additional applications of deicer. The nature of the process results in higher concentrations of deicing chemical being applied than the safe limits recommended by the deicer manufacturer.

Sand offers distinct advantages over deicing chemicals. Sand provides traction as ice melts. It can be applied liberally and as often as needed for traction control against slipping and skidding on pedestrian and vehicular pavements. Sand provides a visual reference of its presence and can be felt underfoot as a tangible medium aiding foot traffic. Clean, untreated sand has no corrosive effect on steel, metal, clay brick, cast in-place concrete or concrete pavers, and it can be swept into the paver joints or removed by conventional sweeping or vacuuming.

If using a deicer, we recommend sodium chloride. Other types should be carefully evaluated – including products that contain a blend of chemicals. Deicers should be applied sparingly in strict accordance with the rates and recommendations of the manufacturer. Once loosened, snow and ice should be promptly removed by plow or shovel to avoid a build-up in concentration of the deicing chemical. Do NOT use magnesium or potassium chloride.

The application of a penetrating sealer formulated to provide protection against deicing salts is highly recommended. Sand stabilizers and sealers may also provide added protection. Sand stabilizers help shed water from the surface by sealing the joints between pavers. Please contact our office for specific recommendations.

Areas subject to liberal applications of deicing chemicals, such as commercial entrances and plazas, require special consideration particularly if the base beneath the pavement is impervious such as cast in-place concrete or asphalt. In addition to sealing, subsurface drainage is desirable by incorporating weep holes, 2"-4" in diameter, drilled every 5'-6' o.c. to prevent saturation of the setting bed sand. Please contact Ideal's sales office for more information.

Pavers by Ideal® has been manufacturing high strength concrete pavers meeting the rigorous standards of ASTM C-936 since 1975. We have sold well over one hundred million square feet of pavers that continue to provide excellent performance in New England’s winter climate. We recommend this information be carefully evaluated relative to the claims of proprietary deicing products to maximize the life of your pavement.

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