



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. Reports recently published by the University of Kansas, and other agencies, shed new light on the degree of physical and chemical damage certain types of deicers cause. They found:

- At lower concentrations, sodium chloride/rock salt (NaCl) and calcium chloride (CaCl₂) have a relatively small negative impact.
- At low concentrations magnesium chloride (MgCl₂) and calcium magnesium chloride (CMA) can cause measureable damage.
- At higher concentrations, NaCl has a greater but still relatively small negative effect.
- At high concentrations, CaCl₂, MgCl₂ and CMA can attack cement paste causing significant damage that results in the loss of material, reduced strength and increased porosity.

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. 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. It can be swept or vacuumed off of rugs placed at entryways to collect sand before it is tracked into buildings or it can be swept into the paver joints.

Sand offers other distinct advantages over ice melt chemicals. Ice is most slippery when wet. Unlike deicing chemicals, sand provides traction as ice melts. Further, as deicers dissolve snow and ice, the chemicals create melt water. 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.

If using a deicer, we recommend only 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 and thoroughly rinsed off the pavement in the spring.

Commercial entrances, plazas and other areas subject to liberal applications of deicing chemicals require special consideration particularly if the base is impervious, such as cast in-place concrete or asphalt. 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.

Sand stabilizers and sealers may provide added protection. Sand stabilizers help shed water from the surface by sealing the joints between pavers. Penetrating type sealers are formulated to provide protection against deicing salts and other harmful environmental elements. Please contact our office for a specific recommendation.

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. *Please note that our warranty only covers the use of sodium chloride as a deicer.* (Updated June 2012)

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