

LET'S THINK ABOUT THIS: CONCRETE DAMAGE



“How should I respond to my clients who are insisting our company should pay to repair cracks and spalling damage on their concrete sidewalks? They are blaming the salt we are using.”

The three most widely used deicing products are chloride-based salts: sodium chloride (rock salt), magnesium chloride and calcium chloride, all of which are corrosive, primarily due to the chloride anion.

Problem: Cracking and spalling of concrete is typically a quality issue connected to the density, age and porosity of the concrete.

Root Cause: Concrete surfaces are naturally porous surfaces. Unless the surface is regularly and properly sealed, cracking and spalling is to be expected since a natural freeze-thaw cycle occurs every time snow or ice is melted by salt, the sun or other means. The resulting water content is absorbed in the pores of the concrete and can refreeze. When water freezes, it expands, which can cause cracking and spalling. Salt is also corrosive to the re-bar and reinforcing metals that are in the concrete, which is why you observe rust staining and eventual degradation of the concrete.

Solutions: If a property owner's goal is to maintain “like new as possible” conditions of their concrete surfaces, then an annual sealing and caulking program is required to help minimize moisture being absorbed, and subsequently freezing and expanding. Document, and communicate to your client all pre-existing conditions of the surfaces you will be managing. Doing this prior to ratifying your contract agreement and beginning your work will help you avoid “adopting” pre-existing conditions.

“Let's Think About This” answers questions that the SIMA staff receive. If you have a question you want Phill to “think about,” email him at psexton@witadvisers.com.

