



PoreShield
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FOR IMMEDIATE RELEASE

New Technology, PoreShield™, provides proven long-term concrete pavement protection from chloride ion diffusion

Wisconsin Department of Transportation (WisDOT) study shows that PoreShield, the new concrete durability enhancer technology, significantly reduces chloride ion diffusion, the leading culprit of concrete damage

INDIANAPOLIS (January 26, 2021) – PoreShield™, the new concrete durability enhancer technology, has demonstrated long-term protection from chloride ion diffusion in pavement according to a study recently released by the Wisconsin Department of Transportation (WisDOT).

To measure the effectiveness of different treatments in preventing chloride ion diffusion, WisDOT funded a comprehensive study to analyze the protection of concrete joints in highways. Its findings were released in March 2020.

WisDOT evaluated seven products: standard penetrating sealers (versions of silane, siloxane, poly-alpha-methylstyrene and lithium silicate) and PoreShield Concrete Durability Enhancer on select sections of Interstates 94, 41 and 39. The study demonstrated that PoreShield was more than twice as effective as the penetrating sealers in reducing chloride ion diffusion when measured at least 0.5 inches below the surface (Figure 1).

“Although PoreShield is often compared to penetrating sealers, it performs very differently,” said PoreShield Technical Consultant Paul Imbrock, who helped develop PoreShield. “As demonstrated in this study, PoreShield is not only more effective at reducing chloride ion diffusion, but it also increases the service life to concrete five-to-nine times longer.”

Chloride ion diffusion is one of the leading culprits of concrete highway damage. This is most often a result of deicers applied to highways, meant to keep roads safe from snow and ice. Common deicers such as Calcium Chloride (CaCl_2) are effective at melting ice and snow at lower temperatures. However, CaCl_2 doesn't go away after the ice melts.

Deicers are primarily used in the winter months to keep pavements safe for travel. These chemicals are absorbed and ions diffuse into the pore network of concrete where they build up over time. In the warmer temperatures of spring, summer and fall months, these ions react with the calcium hydroxide that exists in the pores of all concrete. This reaction forms a product called calcium oxychloride, which expands and causes damage year-round.

Because PoreShield fills the concrete pores, it blocks the absorption and diffusion of ions and keeps deleterious ions, such as CaCl_2 , at the surface. This deters year-round calcium oxychloride formation which is a root cause of concrete damage stemming from winter deicers.

PoreShield is ideal for major highway projects, bridge construction and other large-scale roadway infrastructure applications. Unlike any other existing method, PoreShield does not undergo a chemical reaction or solidify. It is a soy methyl ester-polystyrene (SME-PS) material that remains fluid and protects concrete from the inside out with a flexible, hydrophobic barrier that is absorbed deep into the pores. With preventive and self-healing properties, this barrier stops any existing damage and deterioration from getting worse. This barrier makes PoreShield the most durable solution available to protect concrete against water, salt and freeze/thaw damage.

In addition to high performance, PoreShield is a sustainable, hazard-free and cost-effective solution. It is derived from soybeans, a renewable resource. It is low in VOC and reduces application time. PoreShield requires no personal protective equipment and eliminates the need for hazardous waste cleanup. Not only is PoreShield safer, faster and sustainable to use, it is also a smart investment. With reduced application and maintenance costs, combined with 10 or more years of protection, PoreShield is a cost-effective concrete durability enhancer for every budget.

This research was funded through the Wisconsin Highway Research Program by the Wisconsin Department of Transportation and the Federal Highway Administration. The full report is available at <https://wisconsin.gov/documents2/research/0092-18-01-final-report.pdf>.

For more information about PoreShield, visit: www.poreshield.com.

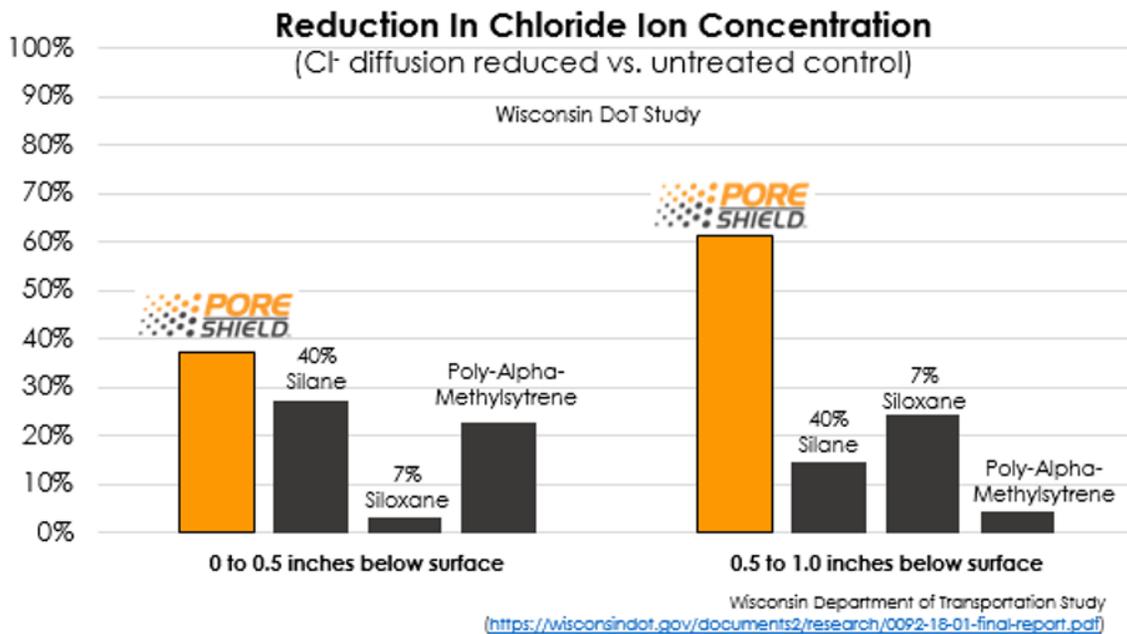


Figure 1. Reduction in Chloride Ion Concentration, Wisconsin Department of Transportation Study.

About PoreShield

PoreShield is a revolutionary concrete durability enhancer that protects concrete from the inside out. Where other technologies just coat the surface, PoreShield is absorbed deep into concrete pores, protecting concrete from premature damage. Created from a partnership between the Indiana Soybean Alliance and Purdue University, PoreShield is proven to stop deterioration in existing concrete infrastructure, making concrete last five-to-nine times longer. And as a preventative measure, PoreShield stands alone – providing maximum protection while reducing maintenance costs, replacements rates, and even lowering the carbon footprint with a non-toxic and hazard-free product profile.

About Indiana Soybean Alliance

The Indiana Soybean Alliance works to enhance the viability of Indiana soybean farmers through the effective and efficient investment of soybean checkoff funds that protect and promote the interest of Indiana soybean farmers. The ISA works to assist soybean farmers through its strategic initiatives of market development; environmental, social and economic sustainability; value creation and producer engagement. ISA is led by an elected, farmer board that directs investments of the soybean checkoff funds on behalf of more than 20,000 Indiana soybean farmers. Learn more at www.indianasoybean.com

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