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A Safe Way to Keep Roads and Bridges Free of Ice



"Bridges may be icy" is a familiar warning to those who travel interstates in the northern half of the country and it is a warning that most drivers heed sensibly. There is a new solution for those treacherous surfaces. SafeLane (from Cargill) is a patented combination of aggregate and epoxy. Liquid deicer applied to it is stored inside and then automatically released when needed. SafeLane can protect bridge decks and roadways against frost and ice formations without your having to send out work crews in the icy weather.

"This proactive deicing program, using SafeLane overlay, offers significant economic benefits," comments Bob Persichetti, product manager for SafeLane overlay at Cargill Deicing Technology (CDT). "The increased traction helps reduce costly accidents. And there is a diminished need to have your trucks out in inclement weather. That means more efficient management of call-outs and overtime." The product uses less deicing chemical (up to 75%) and that, combined with SafeLane's protective overlay epoxy, is what reduces the effect of chloride and water intrusion, two invaders recognized as primary catalysts for bridge structure oxidation. SafeLane is a patented pavement overlay developed by Michigan Tech University and is based on Type III epoxy overlay and aggregate systems. Studies done by the university confirm that the product has traction characteristics better than asphalt and equal to concrete.



In Crandon, Wisconsin, the bridge over the Wolf River has always been a challenge in winter. There had been several accidents there and, in 2003, the county decided to remedy the situation. "We knew something had to be done," recalls Patrol Superintendent Ron Cole. "That bridge over the Wolf River is elevated and the deck would ice over very easily. Traditional salting was not working." They used Cargill's de-icing system to solve the problem, laying down the aggregate section by section on warmer days. "One advantage with this system has been that we could anti-ice on our schedule, not on the weather's," adds Cole. The de-icing liquid can be put down several hours, if not days, before the beginning of the actual weather event.

"Prior to the first bad winter weather, we went out and sprayed liquid deicer on the bridge," notes Cole. "The deck was clear as the snow began to fall and stayed that way well into the night. The deicer released as the weather hit and we knew the bridge was going to stay clear. In the past, we would have to make multiple passes and also check on the bridge several times. Now we don't have to make as many passes, and that means less overtime. Crews ended up applying magnesium chloride to the bridge only five times, fewer than half the typical number for a Wisconsin winter. One time I was out there and the bridge was white on both sides, and wet in the middle."

Perhaps the greatest benefit of the Cargill de-icing technique was for the people who use the bridge. In a typical year, there used to be several accidents at the bridge. When the overlay system was introduced there were no accidents reported from November to February. "We had no calls, no complaints and, most importantly, no accidents," says Cole. "That bridge had always been a headache but everything worked out great with this new system. And no one would call me in the middle of the night and make me get out of bed to take care of the bridge!"