3M News Center

3M’s Corrosion Protection Technology Used to Coat Rebar in New I-35W Bridge

Number of bridge replacements expected nationwide signals potential demand for concrete reinforcing steel materials

ST. PAUL, Minn.--(BUSINESS WIRE)--3M has been selected as one of the suppliers of corrosion protection for rebar in the new Interstate 35W bridge, soon to open in Minneapolis. 3M’s Scotchkote™ 413 Fusion Bonded Epoxy Coating was applied to the concrete reinforcing steel to extend the life of the bridge deck by protecting the rebar from corrosion. Rebar supplier Simcote coated the steel with Scotchkote Epoxy for the bridge project.

“High-strength concrete, reinforced with epoxy coated reinforcing steel, is one of the factors that can increase the service life of the new 35W bridge,” said Thomas Vaughan, manager with 3M Corrosion Protection Products Division. “3M technology provides an extremely effective epoxy coating that will help maintain the integrity of the concrete.”

According to Vaughan, only about five percent of concrete reinforcing steel nationwide is epoxy coated. The 35W bridge collapse, which compelled closer inspections of bridges, coupled with record transportation funding is spurring a boom in bridge projects, according to the American Road & Transportation Builders Association.

Simcote Inc. was the St. Paul-based company that coated the rebar with 3M’s epoxy. In Minnesota alone, three bridges have been closed following inspections that revealed extensive corrosion, and more are slated for replacement.

Designed for corrosion protection of reinforcing steel, Scotchkote epoxy coating is a highly cost effective alternative to stainless steel and is resistant to corrosive agents such as de-icing salts, airborne salt spray, seawater, harsh chemicals, acid rain, carbonation, contaminated aggregate and concrete additives. Corrosion-resistant rebar is important in Minnesota and in states throughout the ‘Salt Belt’, where harsh road salts are used.

Wes Wojski, plant manager, Simcote in St. Paul, explains that, “Epoxy coating applied to rebar must have superior flexibility, because the rebar is bent after the coating is applied.” He said of the company’s decision to use Scotchkote epoxy as one of the coatings, “It is one of the easiest powders to apply and offers excellent flexibility. It’s also very consistent and reliable.”

Simcote has several more bridge projects lined up, including the Wakota bridge on I-494 spanning the Mississippi River.

3M Scotchkote™ 413 Fusion Bonded Epoxy Coating is applied to clean, preheated steel as a dry powder, which then melts and cures to a uniform coating thickness. This bonding process provides excellent adhesion and coverage on concrete reinforcing steel bar and other steel members of any size or shape. The coating meets or exceeds all industry standards, including FHWA requirements, ASTM A 775/A 775M, and AASHTO M 284 and AASHTO M 254.

3M Corrosion Protection Products Division provides 3M Scotchkote™ Fusion Bonded Epoxy Powders and Scotchkote™ Liquid Epoxy Coatings for corrosion protection of steel pipelines and associated fittings used in the oil, gas, water and construction markets. For more information about Scotchkote, visit http://solutions.3m.com/wps/portal/3M/en_WW/CorrosionProtection/Home/.

Editor’s note: The steel contract for the 35W bridge was awarded to Gerdau Ameristeel, which then contracted the coating of the steel to Simcote. Both companies have operations in St. Paul, Minn. Simcote applied epoxy coating to 6,000 tons of steel used in the 35W bridge.

About 3M

A recognized leader in research and development, 3M produces thousands of innovative products for dozens of diverse markets. 3M’s core strength is applying its more than 40 distinct technology platforms – often in combination – to a wide array of customer needs. With $24 billion in sales, 3M employs 79,000 people worldwide and has operations in more than 60 countries. For more information, visit www.3M.com.

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