

Promoting Use and Advancing Quality of Epoxy-Coated Reinforcing Steel.



Welcome

Can you imagine a situation where every road was unpaved and there were no highways?

In the book "The Big Roads: The Untold Story of the Engineers, Visionaries, and Trailblazers Who Created the American Superhighways," Earl Smith argues how 47,000 miles of highways have dramatically changed our lives.

In the 1890s, General Roy Stone, a Civil War veteran and civil engineer from New York, stated that Americans "have the worst roads in the civilized world," and that their condition was "a crushing tax on the whole people, a tax the more intolerable in that it yields no revenue...Spending nothing on bad roads costs more than spending money to make them better," he argued, "in squandered productivity, spoiled crops, high food prices." Others noted that bad roads "are so disastrously expensive that only a very rich country, like the United States, can afford them."

In the 1920s, Thomas MacDonald, a gifted engineer from Iowa, understood that roads were a key ingredient in America's economic development. MacDonald succeeded in bringing about the Federal Highway Act of 1921, the first coherent plan for the nation's future roads.

Credit for funding the highway system is generally given to President Eisenhower, who in 1959 signed the highway bill, approving funding. He apparently did not know that in 1944 Congress had passed a bill for the "National System of Interstate Highways," which provided that one quarter of each year's federal appropriation to the states for roads would be used in cities.

What is surprising about the book is that many of the same arguments used in the 1910s for the transportation system are being used today. For example: should urban connectiveness or interstate commerce be favored, and what should be the source of revenue for the development and maintenance of our roadways? I highly recommend this book as it gives a wonderful insight into the legacy that we have been left.

Projects Using Epoxy-Coated Reinforcing Steel Wanted

EIG wants to feature your project in upcoming editions of Anti-Corrosion Times and our Project Gallery. All project types are welcome. Please send basic information on the project and information on how to access photography (construction and/or finished, all photo credits) to info@epoxy.crsi.org.

Projects



Craigflower Bridge

View Royal and the District of Saanich, BC

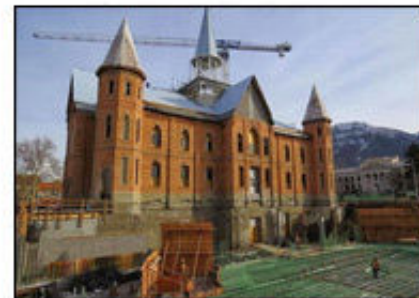
The new three-lane Craigflower Bridge near Victoria, BC opened in 2014. Spanning between View Royal and the District of Saanich, the 394 ft long bridge is designed to provide a 75-year service life. It utilizes epoxy-coated reinforcing steel in the deck structure and sidewalks on both sides of the bridge. The bridge is designed to be useable following a major earthquake.

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Provo City Center Temple

Provo, UT

The Provo City Center Temple is being constructed after a major fire gutted the 129-year-old Tabernacle. During reconstruction, the remaining structure was fortified with six to 10 inches of reinforced concrete, combined with three rows of brick. The rebuilding required excavation of 40 feet under the existing building, providing a 245car underground parking area. The underground parking structure is being constructed using epoxy-coated reinforcing steel.



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Amelia Earhart Memorial Bridge

Atchison, KS and Winthrop, MO

The \$54 million Amelia Earhart Memorial Bridge spans 2,500 feet over the Missouri River between Atchison, KS and Winthrop, MO, on U.S. 59. Designed for a 100-year design life, it handles twice the capacity of the former bridge for U.S. 59 crossing the Missouri River.

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FOR INSPIRATION

"The pessimist complains about the wind; the optimist expects it to change; the realist adjusts the sails."

— William Arthur Ward

New Publications from the Epoxy Interest Group

The following document may be downloaded from www.epoxyinterestgroup.org or if you wish hard copies, please contact us at info@epoxyinterestgroup.org.



Summary Report: Corrosion-Resistant Reinforcing Steel in Concrete

This four-page report summarizes work from the University of Utah where various reinforcing bars, including epoxy-coated reinforcing steel, were tested according to the Florida Method of Test for an Accelerated Laboratory Method for Corrosion Testing of Concrete Using Impressed Current. The report states that "The data suggests that even improperly handled and placed epoxy-coated reinforcing steel is the superior choice for designers looking to achieve 100year life cycles."



Evaluation Of Corrosion-Resistant Reinforcing Steel - Research Summary

This six-page report contains data on corrosion tests conducted on several types of reinforcing steel. This summary focuses on the corrosion results from cracked concrete test specimens. The report found that the epoxy-coated bars exhibited total corrosion currents 95 times less than that of the carbon-steel bars.

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Questions from the Field

Question: *What grades of steel may be used for the manufacture of epoxy-coated reinforcing steel?*

Answer: ASTM A775 is the most commonly used specification for epoxy-coated reinforcing steel. ASTM A934 is less frequently used, and requires steel to be fabricated prior to coating. Both of these specifications permit steel meeting ASTM A615 and A706 to be used in manufacture of epoxy-coated reinforcing steel.

Steel meeting ASTM A615 is available in grades 40, 60, 75 and 80 ksi, while steel meeting ASTM A706 is available in grades 60 and 80 ksi. Steel meeting ASTM A706 has higher ductility than steel meeting ASTM A615 and this is generally used where seismic designs are required.

The most common grade of steel meeting ASTM A615 and A706 is 60 ksi. Availability of other steel grades should be discussed with your coated-reinforcing steel supplier.

Please [contact EIG](#) if you wish to discuss this further.

Editor's Note:

We hope that you find the information in our newsletter useful. Please [contact us](#) if additional information is required.



933 North Plum Grove Road, Schaumburg, IL 60173-4758 -- Phone: 847.517.1200 -- Fax: 847.517.1206
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