

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



Welcome

Over the past 38 years, epoxy-coated reinforcing steel has been used in over 850 million square feet of bridge decks and almost 71,000 bridges in North America. In addition, epoxy-coated reinforcing steel has been used in many parking garages, marinas and balconies.

The performance of epoxy-coated reinforcing steel has been excellent; however, the industry continues to look at ways to improve product performance. On the outside, epoxy-coated reinforcing steel looks pretty much like it did in the 1970s; however, substantial changes have been made. These changes improve the jobsite and in-concrete performance. Changes have also been made to the ASTM specifications as new information has been developed regarding the performance of the epoxy-coated reinforcing steel.

In the mid 1990s, coating thicknesses were increased to reduce the risk of thin sections, particularly over rib areas. This increase in coating thickness reduces the risk of field damage. Substantial changes were also made to improve steel preparation prior to coating. Steel surface roughness, cleanliness and chloride contamination are now measured prior to coating. The bending characteristics of coatings have also substantially been improved by the powder manufacturers.

Almost all the industry participates in the 20-year-old Concrete Reinforcing Steel Institute (CRSI) Epoxy-coated Steel Certification Program. This independent inspection program uses unannounced visits from 3rd party inspectors and helps ensure that plants and their employees are trained, equipped, and capable of producing high quality epoxy-coated reinforcing bars. More information on this program may be found at <http://www.crsi.org/index.cfm/certification/plant>

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.

IN THIS ISSUE

ARTICLES

- New Publication from the Epoxy Interest group
- New FACEBOOK Page
- Questions from the field

PROJECTS

- I-40 Crosstown Expressway
- San Francisco-Oakland Bay Skyway Bridge
- Dulles Airport Aerotrain Terminals

CERTIFIED PLANTS

NEW EIG PUBLICATIONS

FOR INSPIRATION

“The prosperity, wealth and free movement that Americans enjoy today could not exist without decades of public investments in highways, roads, and bus and rail systems.”

— Robert J. Shapiro and Kevin A. Hassett



Projects

I-40 Crosstown Expressway

Oklahoma City, OK

The original I-40 Crosstown Expressway in Oklahoma was built in the early 1960s, but 50 years later it did not meet traffic demands. In 1988, Oklahoma DOT recognized significant issues with the 8,880 ft long twin bridges, which were the largest in the state. Repairs were costing over \$1 million annually that required frequent bridge closings. The traffic on the bridge was almost double the design ADT of 76,000.

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San Francisco-Oakland Bay Skyway Bridge

San Francisco, CA

The original San Francisco-Oakland Bay Bridge was built in 1936 and was the largest and most expensive bridge of its time. The original West Span, comprised of two suspension bridges, allowed easy passage for the Navy and merchant ships sailing to and from San Francisco. The East span connects Yerba Buena Island (YBI) and Oakland's shore. Connecting the East and West Spans at YBI is the world's largest-diameter bore tunnel, at 76-feet-wide and as tall as a four-story building. At the time, the West Span's center anchorage was taller than any building in San Francisco.



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Dulles Airport Aerotrain Terminals

Washington, DC

The Aerotrain at Washington Dulles Airport was initiated in October 2002 and the project opened in 2010. This train transports people from the Main Terminal Building and the A, B, and C Concourses. Prior to the construction, persons travelled from the Main Terminal to the Concourses in Mobile Lounges, which are large bus-like vehicles.

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New Publication 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

Epoxy Coated Reinforcing in Bridges (NEW)

This document describes the use of ECR in bridges and provides four examples in a 12-page brochure. (2011)

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Questions from the Field

Question: *How does epoxy-coated reinforcing steel compare with other corrosion protection systems?*

Answer: A recent report titled: “*Evaluation of Multiple Corrosion Protection Systems for Reinforced Concrete Bridge Decks,*” was published by Kansas University in 2011, based upon extensive laboratory and field tests. Conclusions presented included:

1. The combination of conventional reinforcement and corrosion inhibitors is not as cost-effective as epoxy-coated reinforcement.
2. Epoxy coatings significantly reduce corrosion rates compared to conventional reinforcement.
3. For the exposure conditions seen on a typical bridge deck in Kansas, stainless steel reinforcement has a present cost over a 75-year design life that is 10 to 20 percent more expensive than epoxy-coated reinforcement

Editors Note:

We hope that you find information on this website useful and please contact us if additional information is required.