

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



## Welcome

During the past year the Epoxy Interest Group (EIG) has been celebrating 40 years since the first structure was built using epoxy-coated reinforcing steel. As part of the anniversary activities, members of EIG have been visiting departments of transportation throughout the country to further understand the needs of these agencies. We learned that there are some misconceptions regarding the long-term performance of epoxy-coated reinforcing and other products. In response, EIG has been summarizing published studies on the long-term performance of structures containing epoxy-coated reinforcing bars. Additionally, data from laboratory studies is being presented for review via our website. These independently conducted studies point to the long life of structures containing epoxy-coated reinforcing steel, with repair and reduction of coating damage being a critical factor. The studies indicate that even if the bars are not perfectly coated, long lives may be expected.

EIG has learned the importance of maintaining quality of the bars during production, fabrication and installation. In response, EIG has increased efforts in education by providing two documents: one on the use and installation of epoxy-coated reinforcing steel and the other on inspection and acceptance. Members of EIG have also worked with the Concrete Reinforcing Steel Institute (CRSI) in improving plant quality procedures by developing National Standards. Development of these Standards required the use of open, consensus-based processes using a balanced committee structure.

Epoxy-coated reinforcing steel remains the first choice for corrosion-resistant reinforcing bars in North America. It is growing in use throughout the world in areas of the Middle East, India, China and Japan. The choice to use epoxy-coated reinforcing steel is based on more than 40 years of data from the field, as well as many different independent laboratory studies.

During the next 40 years, EIG will continue to assess data from real structures and consolidate this information in actionable summaries. We expect new coatings to become increasingly more resilient and the value of epoxy-coated reinforcing steel will remain higher than other systems.

**Epoxy-coated reinforcing steel remains the most popular reinforcing steel to protect against corrosion. Find out how this material is protecting structures at [www.epoxyinterestgroup.org](http://www.epoxyinterestgroup.org).**

## 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](mailto:info@epoxy.crsi.org).

## Projects

### Milton Madison Bridge

Madison, IN and Milton, KY

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### FOR INSPIRATION

*"Bridges become frames for looking at the world around us."*

— Bruce Jackson



In April 2014, a new half-mile Milton Madison bridge became the longest bridge to be slid laterally into place. This replaced the original bridge that was built in 1929 that carried US 421 across the Ohio River. Due to age and deterioration, the original bridge was found to be functionally obsolete and structurally deficient, restricting truck traffic from crossing. Approximately 484 tons of epoxy-coated reinforcing steel was used in the new deck to protect against corrosion.

**MORE** 

## Wonders of Wildlife (Bass Pro)

Springfield, MO

In 2014, the 235,000 sf Wonders of Wildlife (Bass Pro) will reopen in Springfield, Missouri, after major renovations. This zoo/aquarium consistently attracted more than 225,000 visitors annually. Epoxy-coated reinforcing bar is extensively used due to the water features and is included in the 250,000 gallon aquarium to bring quality spaces for the fish.



**MORE** 



## Shenandoah River Bridge

Jefferson County, WV

The new Shenandoah River Bridge rises 200 ft over the Shenandoah River in Jefferson County, West Virginia. The 1400 ft long bridge superstructure is supported by five lines of delta legs. Each leg covers a vertical and horizontal distance of 150 feet, creating a girder span of 300 feet between the delta legs. The bridge used 560,000 pounds of epoxy-coated reinforcing steel in the deck structure.

**MORE** 

## New Publications from the Epoxy Interest Group

The following document may be downloaded from [www.epoxyinterestgroup.org](http://www.epoxyinterestgroup.org) or if you wish hard copies, please contact us at [info@epoxyinterestgroup.org](mailto:info@epoxyinterestgroup.org).



### Use and Installation of Epoxy-Coated Reinforcing Bars

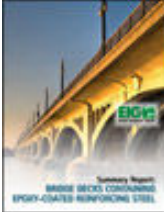
This 6-page brochure provides information on job-site handling of epoxy-coated bars that reduces the need for costly touch-up work required prior to concrete placement.



### Guidelines for Inspection and Acceptance of Epoxy-Coated Reinforcing Steel at the Jobsite

This 8-page brochure provides guidance to procedures for inspection of epoxy-coated reinforcing steel during construction and prior to concrete placement. It describes steel identification, transport and handling, bar placement, bar damage and repair and inspection prior to concrete placement. This document is valuable to anyone involved in the placing and inspection of concrete containing epoxy-coated bars.

### Summary Report: Bridge Decks Containing Epoxy-Coated Reinforcing Steel



In 2010, a report was prepared for the Michigan Department of Transportation on the expected service life of concrete bridge decks. This report concluded that decks with epoxy-coated reinforcing steel would provide a service life of 70 years and that the use of Markov transition probabilities is acceptable and accurate in analyzing bridge data. This document summarizes that report.



### Epoxy Coated Reinforcing in Bridges

This 12-page document describes the use of epoxy-coated reinforcing steel in bridges and includes four case histories from around the United States. It also provides guidance on the job site handling of epoxy-coated reinforcing steel, as well as a brief detailed selection on corrosion mechanisms.

## Epoxy Interest Group now on Facebook

Become a fan of the Epoxy Interest Group on Facebook and stay updated as we find new research and projects.



[Visit EIG on Facebook](#)

## Questions from the Field

**Question:** *Can I weld epoxy-coated reinforcing steel?*

**Answer:** According to the CRSI Manual of Standard Practice, epoxy-coated reinforcing steel should be welded according to the American Welding Society, AWS D1.4/D1.4M Structural Welding Code – Reinforcing Steel. If the steel used for the coated bars meets ASTM A706/A706M, the bars are intended for welding without preheating and therefore should be specified for applications that require an appreciable amount of welding. ASTM A615/A615M reinforcing bars can be welded, but may require preheating the bars up to 500° F. After completion of the welding on epoxy-coated bars, the damaged areas shall be repaired using patch materials meeting ASTM A775/A775M or A934/A934M.

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.



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