EPOXY INTEREST GROUP

ANTI-CORROSION TIMES

WWW.EPOXYINTERESTGROUP.ORG

Volume 25, No. 2 – JULY 2010

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

Welcome

A recent survey of US Transportation Agencies by the Concrete Reinforcing Steel Institute (CRSI) found that these agencies plan to continue to use epoxy-coated reinforcing steel as it can be clearly shown that using epoxy-coated bars in concrete structures for the past 37 years has reduced the need for expensive bridge maintenance.

Projects

Seattle Sound Transit Tukwila Segment

Seattle, Washington State

The Seattle Sound Transit Tukwila Segment is a light rail project that extends from the Boeing airfield at the southern limit of the City of Seattle to the Sea-Tac airport. According to the Port of Seattle Commissioner, more than 30 million passengers pass through Sea-Tac every year and the project helps support the travel needs of 15,000 airport employees.

The project includes 4.2 miles of elevated guideway, carrying twin tracks with a station and commuter park and- ride located near the airport. The guideway spans several major obstacles including a freeway, a railroad, and a river. Typical spans up to 132 ft were built span-by- span and long span structures up to 350 ft were built in balanced cantilever.

MORE

Kauffman Performing Arts Center

Kansas City, Missouri

The vision for the Kauffman Center is to enrich the lives of everyone in the community through extraordinary and diverse performing arts experiences. The Kaufman Performing Arts Center consists of a 285,000-square-foot facility with two main performance halls. Exterior surface of these halls include glass, pre-cast concrete and bead-blasted stainless steel. The 1,800-seat Muriel Kauffman Theatre is home to the Kansas City Ballet and the Lyric Opera while the 1,600-seat Helzberg Hall is home to the Kansas City Symphony. A 1,000-space parking garage is directly attached to the Kauffman Center with multiple access points to surrounding streets.

MORE

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FOR INSPIRATION

The advantage of a bad memory is that one enjoys several times the same good things for the first time."

--Friedrich Nietzsche

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Visit Our Booth At The 2010 ASBI Convention

October 11-12, 2010 at The Westin Bayshore, Vancouver, B.C.

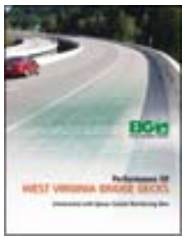
MORE

New Publications from the Epoxy Interest group

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

Use and Installation of Epoxy-Coated Reinforcing Bars

This 4-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.



Performance of West Virginia Bridge Decks

This document summarizes the 110 page report that describes evaluation of 6 bridges in West Virginia containing epoxy-coated bars. This study found that the structures with black reinforcing bars were repaired in 1993, while the structures with epoxy-coated bars are still in good to excellent condition.

Do's and Don'ts for Epoxy-coated Reinforcing

These bar cards summarize appropriate job-site handling of epoxy-coated reinforcing bars.

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Questions from the Field

Question: *How long will structures with epoxy-coated bars last?*

Answer: This question requires an understanding of the concrete, the coating and the localized environment; however, epoxy-coated bars are routinely specified for structures with a desired 75 year design life and often for structures with a 100-year design life, given an appropriate concrete.

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In environments subjected to marine or deicing salts, corrosion initiates when sufficient chloride ions reach the reinforcing steel. The time for these salts to reach the bars is dependent on the concrete permeability and the amount of cracking in the concrete as well as the exposure conditions.

The permeability of concrete depends on the water-cement ratio as well as the presence of pozzolans including fly ash and silica fume or various concrete additives that impart water resistance. When uncoated reinforcing is placed in cracked concrete, corrosion initiates almost immediately the concrete is placed in contact with the salt solution; thus, the presence of cracks will significantly reduce the repair-free life of a structure. Epoxy-coated bars have been found to perform well in cracked concrete compared with the use of concrete modifications alone.

To optimize the design life of structures that use epoxy-coated bars it is recommended that high quality concrete is used with appropriate cover over the reinforcing and that cracks in the concrete are repaired.

Editors Note:

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

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