

Director's Notes

The American Society of Civil Engineers (ASCE) reported in 2013 that \$3.3 billion of investment in infrastructure is required by 2020 to maintain our infrastructure. They grade the condition of our bridges at a C+ and support this grade with the following:



Over two hundred million trips are taken daily across deficient bridges in the nation's 102 largest metropolitan regions. In total, one in nine of the nation's bridges are rated as structurally deficient, while the average age of the nation's 607,380 bridges is currently 42 years. <http://www.infrastructurereportcard.org>

Funding for infrastructure will continue to be actively discussed in Washington DC, and an extension of existing funding level for the next year is likely. However, many of the agencies I have spoken with also indicated that state funding is also insufficient or uncertain.

EIG will continue to argue for robust transportation funding, as it affects all of us.

Help Needed

EIG will be exhibiting at the ASBI Bridge conference, which will be held in the Connecticut Convention Center in Hartford, CT. As this meeting overlaps the ACI Convention in Washington DC, EIG needs assistance with installing and staffing the booth on October 26 to October 28. Please let EIG know if you can help.



Purdue Research on Corrosion-Resistant Steel

A recent thesis from Chungwook Sim was published titled *Structural and Corrosion Performance of Concrete Bridge Decks Reinforced with Corrosion-Resistant Reinforcing Steel*.

EIG has reviewed the 500+ page thesis and will be producing a detailed summary.

Conclusions reached by EIG based upon the contained data include:

- ASTM A775 bars showed significantly lower visual corrosion in the cracked concrete specimens than the uncoated bars. The amount of corrosion was approximately 2.5 percent that of the amount observed in the uncoated bars. These bars also exhibited measured corrosion currents 95 times less than that of uncoated bars. The performance of the epoxy-coated reinforcing steel compared favorably with some of the stainless steels.
- ASTM A1035 bars did poorly in these tests with total corrosion current of 57 percent that of the uncoated bars and observed corrosion that was 93 percent that of the uncoated bars.
- ASTM A1055 bars exhibited significantly lower corrosion rates than the uncoated bars and observed corrosion was also substantially reduced.
- Two of the stainless steel bar types (Duplex 2205 and XM-28) exhibited discoloration and one exhibited corrosion (XM-28).



Certification

CRSI has solicited three companies to become the Independent Inspectors for the CRSI Plant Certification Programs. EIG has read all three proposals and each brings individual merits. Based upon the proposals, the IMCC Committee will provide a decision on who will be conducting evaluations from 2015 to 2018 soon. Please let EIG know if you need additional information on changes to the program.



CRSI FAQ

EIG has been developing a FAQ that will be similar to the one developed by CRSI on stainless steel reinforcing bars. This document will be balloted in the CRSI Durability Committee. Please let EIG know if you wish further information.

from CALTRANS, stated that *we are replacing more bridges due to obsolescence than loads and that many of the bridges only need a 50-year design life.*

AASHTO is updating its bridge management software to include deterioration modeling using Weibull and Markov analysis. Based upon similar work conducted by Michigan, this may help the epoxy industry show that ECR is a cost-effective, long-term solution for corrosion. Additional information is being sought.



IBC

The International Bridge Conference was held in Pittsburgh, PA. EIG had a booth at this meeting as a number of our competitors were also exhibiting. These included the International Zinc Association, MMFX Steel Corporation and several glass fiber reinforcing steel manufacturers. EIG will continue to exhibit where we view competitive activities. Many thanks are extended to Jim Riemenschneider for assisting with the show that attracted more than 1250 people.

ASTM

Two active ballots have been submitted to ASTM for ASTM A775 and these are due by July 18, 2014. Also included in this ballot are items dealing with A1035 bending and new steel types.



Corrosion of steel in concrete structures

Dr. McDonald has been requested to write a book chapter on the corrosion of epoxy-coated reinforcing steel in concrete. This book is being edited by Professor Amir Poursaeed from Clemson University and will include chapters on the corrosion of stainless steel in concrete by Prof. Carolyn Hansson, and the corrosion of galvanized steel in concrete by Stephen Yeomans. Please contact EIG for more information.



AASHTO SCOBs

The AASHTO Standing Committee on Bridges met in Columbus, OH. The meeting was attended by more than 480 people with all 50 states sending delegates. The meeting is an excellent venue for visiting with many of the state DOTs.

At the conference there were presentations on carbon and glass fiber reinforcement. The construction of a 10-mile stretch of barrier walls in Bangor, ME was discussed, as was a bridge in Kansas. Fire tests of these products are also being conducted.

After the presentation on bridge preservation for 100-year lives, Barton Newton, the State Bridge Engineer

Quote

Why not go out on a limb? Isn't that where the fruit is?

Frank Scully

Date	Event
July 21 – 25	PCA Professors, Skokie, IL
July 27 – Aug 1	AASHTO Materials, Minneapolis, MN
Sept 5 – 9	PCI Bridge Convention, Washington DC
October 26 – 29	ACI, Washington DC
October 27 – 29	ASBI, Hartford, CT
November 2 – 6	CRSI, Chicago, IL