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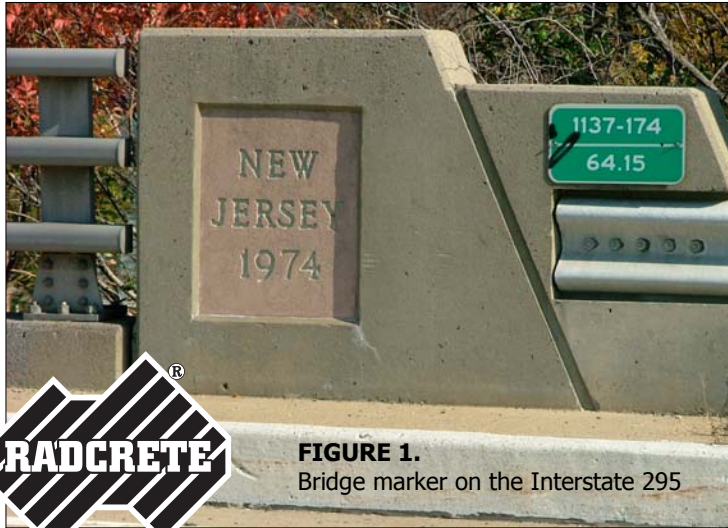


FIGURE 1.
Bridge marker on the Interstate 295

SITE DETAILS:

COUNTRY	- USA
LOCATION	- Mercer County, New Jersey
PROJECT NAME	- Interstate 295
TREATED AREA	- 4 Bridge Decks
APPLICATOR	- Express Polymers, Inc.
SIZE	- 3, 100 sq mtrs (33,500 sq ft)

RADCON Formula #7 features in New Jersey DOT Surface-Applied Corrosion Inhibitor Study

As part of an ongoing evaluation of new technologies and products, RADCON Formula #7 was selected as one of three products in a demonstration program by the New Jersey Department of Transportation to evaluate the performance of surface-applied corrosion inhibitors.

The objective of the program is to determine and compare the effectiveness of the three treatments – each of a different technology - in mitigating corrosion under New Jersey conditions; premature deterioration of the concrete caused by chloride-induced corrosion of deck reinforcement and freeze-thaw damage.

In a federally-funded program, the performance of the treated decks will be compared against untreated control decks and form the basis of a study to be conducted over a 2-year period. Tests, conducted to AASHTO and ASTM standards, will cover: chloride content, corrosion activity, corrosion rate, chloride permeability, freeze-thaw resistance and scaling resistance. Probes had been placed in the decks and core samples taken prior to the surface-applied corrosion inhibitors treatment (refer to photos Figure 2 to 4).

Located on the very busy Interstate 295 not far from Trenton, New Jersey's capital, the candidate decks are some 30-years old and degradation and spalling was well in evidence – spalling repairs were effected prior to the RADCON Formula #7 application. Given the worn and weathered nature of the decks, key recommendations to the New Jersey DOT outlined the need to;

- Bead blast the decks to remove all surface contaminants and loose materials prior to RADCON Formula #7 treatment.
- Use a calcium acetate solution as the second watering to reintroduce alkalinity to the decks and increase the reactivity level for the RADCON Formula #7.



FIGURE 2.
Preparation Step 1 - cleaning deck with sweeper.

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FIGURE 3.

Preparation Step 2 - bead blasting deck surface.

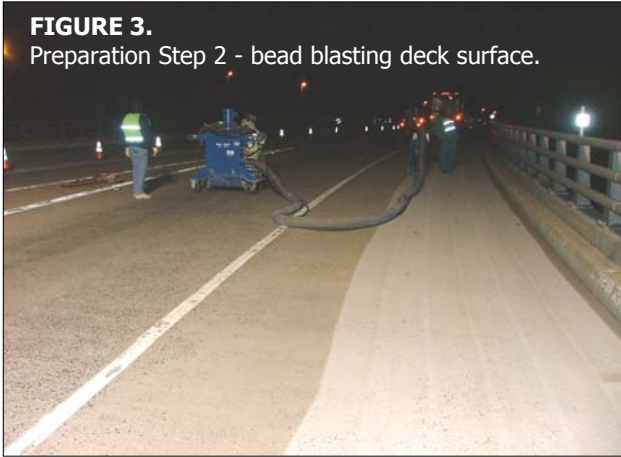


FIGURE 4.

Preparation - close up of bead blasted surface (micro cracking and core sample evident)



In what was a race against time with the onset of winter making its presence, the four bridge decks allocated for RADCON Formula #7 application were prepared and treated in mid-November 2005. As if weather conditions were not enough of a challenge – temperatures ranged in the low to mid 40sF (4°-7° C) and rain storms swept through every couple of days – this major Interstate could only be closed, lane by lane, after 10.00pm. Running two teams to prepare the deck surfaces, and one team to apply the RADCON Formula #7, the application process was completed over eight nights, often working through to three in the morning.

Despite low temperatures, and helped by an ever present wind, the RADCON Formula #7 became touch dry in around 3-hours. The second (calcium acetate solution) and third waterings were conducted on following days/nights and required, each time, a lane by lane closure sequence to accommodate safety and effective post treatment needs.

Nelson Tonet, P.E., principal of Express Polymers, Inc. (Smartech Structure Protection's regional representative in the US northeast), worked closely with the New Jersey DOT in evolving the test application program for RADCON Formula #7 and then supervising the contractors in all aspects of the application program – from site preparation through to the post treatment waterings.

To facilitate product handling and mobility from lane to lane, bridge deck to bridge deck, Nelson adapted an electrical pump/tank to the rear of a pick up truck. This pump had the flexibility to run a hose with spray wand or use a boom (seen folded up in the photo) with a number of sprayers. This apparatus was used for applying both the RADCON Formula #7 and the 3% calcium acetate solution as the second watering.

FIGURE 5.

Application - RADCON Formula #7 treated deck.

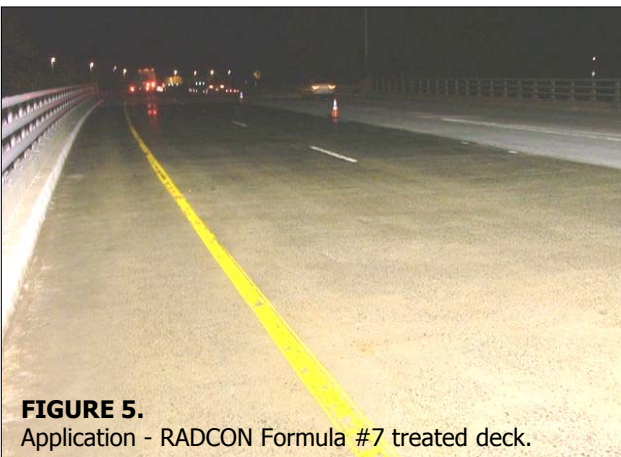
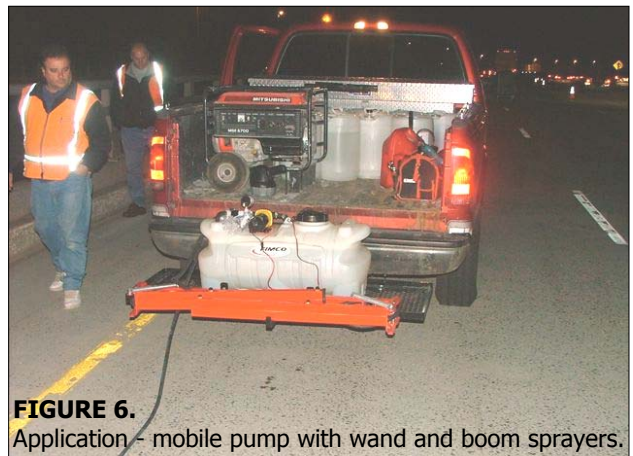


FIGURE 6.

Application - mobile pump with wand and boom sprayers.



First results from this surface-applied corrosion inhibitor study should be available mid-2007.