INSPECTION OF BELT PARKWAY BRIDGE
OVER BAY PARKWAY AND SHORE PARKWAY, BROOKLYN NEW YORK
SEPTEMBER 14, 2017

On September 14, 2017, representatives of Superior Products International II, Inc. ("SPI") and of the New York City Department of Transportation ("NYC DOT") conducted a visual and physical inspection of the test application of Rust Grip® on certain structures of the Belt Parkway Bridge in Brooklyn, New York. The SPI representatives present were Jacob Ray, Project/Technical Specialist of SPI, and Warren Harbart of Superior Coating Solutions, the local SPI distributor in New York who organized the original test application of Rust Grip® in 2015 with the NYC DOT. The NYC DOT representative present was Danny Lima, Chief Inspector.

Adjacent to the test area, the support beam has significant pack rust from heavy water leaking from the parkway above. As we have previously observed, the persistent water runoff from leakage above the top of the beam was causing significant staining and spotting on the test area, and we wanted to confirm that this staining was in fact being caused by the runoff of rusty water that had dried in the profile of the painted surfaces

and was not from rust bleeding through the coating film of Rust Grip®, which may have been an indication of a possible product failure.

On September 16, 2015, SPI coated a test section of the Belt Parkway Bridge with Rust Grip® - the section of beam is located on the west side of the bridge which is the fourth (4th) beam from water side (south) at your back. Approximately two years later, we are evaluating the test application on September 14, 2017.

Rust Grip® Application 09-16-15

Rust Grip® Application 09-14-17

The reason for the inspection by SPI and NYC DOT was a concern about a possible coating failure because of the current stained appearance of the coating film of Rust Grip® in the area of the test application. We chose this section of the beam to clean because it had the poorest appearance and because it was reachable with the lift truck that was provided by NYC DOT. The pictures below show the section of the beam before any cleaning occurred.

Top Side of Beam

Bottom Side of Beam

NYC DOT provided one of the larger lift trucks that could only park within about five (5) feet of the wall of the bridge, and we attempted to clean off a band approximately eight inches (8”) wide of the most stained area of the beam that we could comfortably access. The band extended across the lower part of the web and along the top, edge, and part of the bottom of the lower flange.

This area was cleaned with acetone and a 3M heavy duty stripping scotch pad. We used this method of cleaning to remove the pigeon waste and rust deposits and staining from water runoff. We wanted to evaluate the coating film integrity and performance of Rust Grip® without removing any of the coating.

As the rust deposits from the runoff had settled deep into the profile of the surface of the beam, we carefully removed all of the deposits without being overly aggressive and risking damage to the coating. We were successful in removing all staining and spotting in the banded area. When we finished, the surfaces were completely clean, and the appearance of Rust Grip® was similar to the day that it was originally painted on the surface. There were other areas, primarily on the inside web, where the staining was minimal (or non-existent), and Rust Grip® appeared to have been newly painted on the surface with no deterioration or loss of film integrity. Mr. Lima closely inspected the cleaned area and confirmed that there were no signs of rust bleed through or of a failure of the Rust Grip® coating film.

Left Side of Beam

Right Side of Beam

We did notice that some areas were completely wet with water droplets visible - along the top flange edge, the bottom flange area near the end of the coated area, and an outside edge of one of the stabilizers. In some of these highly saturated and soaked areas, there was some peeling of the coating. The wetness and droplets were initially surprising as there had been no rain the day of our inspection. However, Mr. Lima explained that, after a heavy rain, water continued to leak down over the beams for several days resulting in the bridge structure usually being wet.

As you can see from the pictures below, Rust Grip® has no pin holes, bleed through, or cracking and peeling of the coating film. Rust Grip® is fully intact and encapsulating the beam with no deterioration or loss of integrity of the coating film. The surface rust is the result of water run-off from corrosion that exists above the beam and that is continuously running down and coming to rest on the top of the Rust Grip® test patch.

Top Side of Beam

Bottom Side of Beam

Future Recommendation:

On the top edge of the beam that comes in contact with concrete, the surface is often wet because it is exposed to regular saturation of water from the concrete structure above. In this area, Rust Grip® is frequently exposed to substantial moisture. Rust Grip® is an exceptional one-coat paint system that will encapsulate and penetrate the surface on which it is applied and also perform as a top coat. While Rust Grip® is resistant to normal weather cycling (i.e. normal drying out after heavy rain), heavy, extended water exposure without frequent drying can weaken the coating film over time. For example, Rust Grip® would not be suitable for continuous submersion in water.

For areas with this type of exposure, we recommend top coating Rust Grip® with Enamo Grip, a durable, completely hydrophobic and protective top coat that is suitable for full submersion in water. The next application of Rust Grip® on this type of bridge structure should be top coated with Enamo Grip to protect against the constant water saturation of the structure and to resist discoloration and peeling from the heavy and persistent water exposure. Enamo Grip can be tinted to any desired color.

Dated: October 09, 2017

Superior Coating Solutions

By: _____

Warren Harbart
Principal

Superior Products International II, Inc.

By: _____

Jacob Ray
Project/Technical Specialist