

TOBIN BRIDGE

The Maurice J. Tobin Memorial Bridge connecting the Charlestown section of Boston with Chelsea uses a high-tech structural monitoring system for real-time information about stresses and loads, plus a high-performance coating system from Tnemec for corrosion protection. "The bridge opened for traffic in 1950, so it's an older structure," Tnemec coating consultant Larry Mitkus acknowledged. "The bridge is 2 1/4-miles long, so coating projects are broken into separate contracts. Tnemec coating systems have been used for the last three contracts on the bridge, including the ramp leading up to the seven-lane toll plaza on the southbound deck."

With more than 80,000 motorists using the Tobin Bridge daily, all recoating work is conducted under full containment. "In addition to protecting the traffic from the coatings, these are lead abatement projects, so you can't allow any abrasives containing lead dust to drift onto surrounding properties," Mitkus explained. "This is a major artery from the north coming south into Boston, so there's no way to shut down the bridge during maintenance."

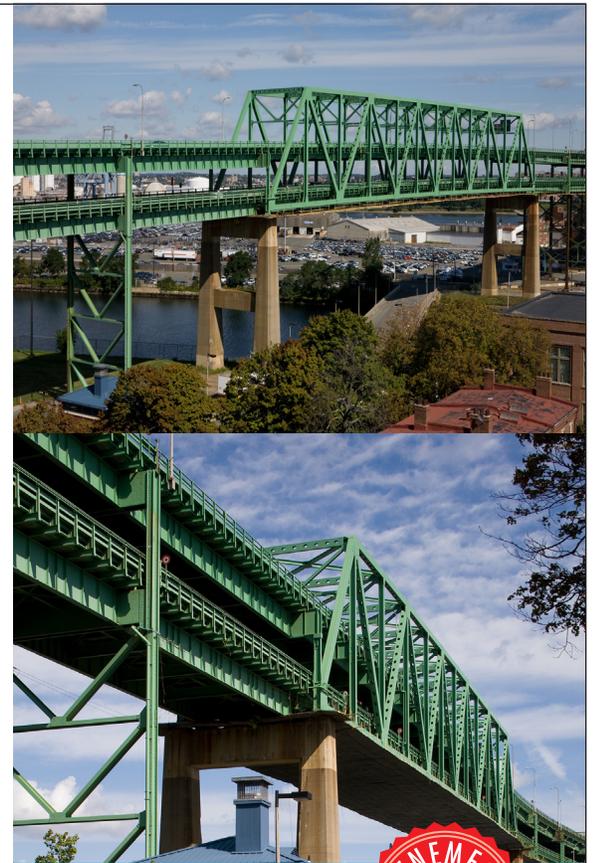
For each project, the structural steel was prepared in accordance with SSPC-SP10/NACE No. 2 Near-White Metal Blast Cleaning and primed with Series 90-97 Tneme-Zinc, a moisture-cured, zinc-rich urethane primer that was spray-applied. An intermediate coat of Series 27 F.C. Typoxy, a versatile polyamide epoxy, was spray-applied, followed by a finish coat of Series 73 Endura-Shield, an aliphatic acrylic polyurethane that is highly resistant to abrasion, ultraviolet (UV) light, and exterior weathering. "We worked closely with the engineers in designing the coating system, which ended up being used as the standard for quality," Mitkus noted.

Since 2000, nearly 16,000 gallons of the three coatings have been used on Tobin Bridge. "The coating contractor was happy with the products and had no delivery or application issues," Mitkus added. "The coating system has been holding up well and we haven't had any callbacks."

Tobin Bridge has developed a phased maintenance program that includes recoating and redecking to ensure its upkeep. The \$1 million structural monitoring system installed during 2009-2010 is designed to provide bridge engineers with real-time information about loads, stresses, environmental conditions, and corrosion. An estimated 26 million vehicle trips are taken over the bridge annually.

FEATURED PRODUCTS

- Series 27 F.C. Typoxy
- Series 73 Endura-Shield
- Series 90-97 Tneme-Zinc



PROJECT INFORMATION



Project Location

Chelsea, Massachusetts

Project Completion Date

October 2000

Owner

Massachusetts Department of Transportation
- Boston, Massachusetts

Engineer

Urbitran Associates - New York, New York

Field Applicator

Atlas Painting - Buffalo, New York

Because of its rapid curing characteristics, Series 90-97 Tneme-Zinc was used as the primer on the Tobin Bridge in Chelsea, Massachusetts, allowing the intermediate coat to be applied the same-day.

