32-02 Vernon Blvd.
Astoria, NY 11106

www.sovereignhydroseal.com
info@sovereignhydroseal.com
(646) 649-5878

2018 MTA Bridges and Tunnels - Hugh Carey – Brooklyn Battery Tunnel

HIghlights

- Sealed ~70 leaking tunnel joints in 6 months
- Use of patented injectable bolts to deliver NOH2O® through cast iron tunnel liner joints
- Exceeded client specified dryness criteria

Project Overview

The Brooklyn–Battery Tunnel (officially the Hugh L. Carey Tunnel) is a toll tunnel in New York City that connects Red Hook in Brooklyn with Battery Park in Manhattan. It was placed into service in 1950. The tunnel consists of twin tubes that each carry two traffic lanes under the mouth of the East River. With a length of 9,117 feet, the Brooklyn–Battery Tunnel is the longest continuous underwater vehicular tunnel in North America.

The Tunnel has elements of cast-in-place liner as well as cast iron segments with an inner cast-in-place concrete protective lining. NOH2O® was delivered through the cast-in-place liner via drilled holes to the surrounding rock. Leaks from ~ 70 cast iron segment joints were sealed by replacing standard bolts from the cast iron segments with patented injectable bolts. Through these bolts NOH2O® was injected and sealed the segment joints. In addition, the NOH2O® injected through the bolts sealed adjacent leaks at other segment joints.

Strategy

Sovereign engineered, manufactured and tested injectable replacement bolts connecting the flanges of the tunnels' cast iron segments to be used as injection ports for NOH2O®.

Results

The application of injectable replacement bolts was the first use of this type of water sealing method for a multi-lane vehicle tunnel. This method has proven to be very successful for the rehabilitation of cast iron lined tunnels throughout the New York area.