

PROJECT > Liberty Tunnels

Shotcrete
Pittsburgh, PA



PROJECT Description:

The Liberty Tunnels, constructed in 1924, remain one of the main access points to the city of Pittsburgh with over 63,000 vehicles passing through them each day. After more than 80 years of service the 5889 foot long tunnels were in need of structural repairs and restoration. Because of the high volume of traffic, full time tunnel closures were impossible. It was decided to close the tunnels week nights from 10:00 PM until 6:00 AM, at which time they would reopen to traffic. Because of these tight time constraints, QUIKRETE® Shotcrete - MS was chosen as the most effective repair method. The QUIKRETE® Shotcrete - MS mix design

selected for the project contained microsilica, synthetic fibers, and integral corrosion inhibitor. The material was applied by ACI certified nozzelmen, using the dry process method with a pre-dampener. Dry Process was chosen due to the stop-and-start nature of the repairs. The dust control advantages of pre-dampening were also critical to the project, minimizing clean up before the tunnels were to reopen each morning. The depth of repair varied from 1 inch to 26 inches. The original contract included approximately 8000 cubic feet of repair area. The process worked so well that the scope of the shotcrete work was expanded to include an additional 76,000 square feet of tunnel resurfacing at a nominal 1/2 inch. After hydro demolition left the substrate too rough to receive a cementitious waterproof coating. The final installed quantity exceeded 12,000 cubic feet.

GENERAL CONTRACTOR:

Mosites Construction Company

PROJECT START DATE:

September 2009

QUIKRETE® PRODUCTS USED:

- 50 lb Shotcrete - MS : 26,000 bags

PROJECT COMPLETION DATE:

December 2010



QUIKRETE® Shotcrete >>
Product No. 1228-51

