



PROJECT PROFILE

HISTORICAL RESTORATION OF THE NEWTOWN TURNPIKE BRIDGE



PROJECT DATA

Location – Fairfield County, Connecticut

Application – Formliner

Architect/Engineer – Gannett Fleming & CT DOT

Material Supplier – White Cap

Applicator – Manfort Brothers (Concrete Formwork and Restoration)
Joseph Gnazzo Co. (Staining)

Concrete Producer – O&G Industries

PRODUCTS FEATURED

DURAL™ HS GEL

High Strength Epoxy Gel for Anchoring and Doweling

INCRETE™ STONE-CRETE

Architectural Formliner System

INCRETE™ STONE ESSENCE

Semi-Transparent Stain for Concrete

SCOPE OF PROJECT

- Recreate historical bridge facade using custom formliners

PROJECT SUMMARY

Built in 1939, the Newtown Turnpike Bridge is one of the rare arch bridges on the Merritt Parkway. As a result of decades of exposure to freeze-thaw conditions, the bridge has experienced significant weathering and spalling of the cast stone, which caused safety issues for automobiles passing through the bridge's arches. In 2018, the Connecticut Department of Transportation (CTDOT) announced that rehabilitation work on the bridge would begin. The project consisted of the rehabilitation and upgrade of the pavement, guide rail, drainage, and historic concrete façade on the Newtown Turnpike Bridge.

In order to meet historic accuracy and the project requirements set forth by CTDOT and the Merritt Parkway Conservancy, Euclid Chemical developed custom INCRETE STONE-CRETE concrete formliners in order to create cast stones that would mimic the original, hand-shaped stone used when the bridge was first built. In addition, the original 1939 engineering drawings were reviewed to ensure each replica stone was placed in the exact location of the stone it was replacing.

After the cast stone blocks were removed and the surface was prepared, Euclid Chemical's DURAL HS GEL was used to set epoxy anchors that secured the custom formliners. Once ready-mix concrete was pump and set in the forms, Euclid Chemical's INCRETE STONE ESSENCE semi-transparent stain was used to replicate the original pigment of the cast stone units. The stain color and application technique were developed by comparing mock-ups to a salvaged piece of original cast stone.

This restoration project was awarded the 2021 ICRI Concrete Repair Project Award of Merit in the Historic Category and the 2021 Arthur Gruhn Historic Achievement Award.