

THE CONSTRUCTION RESOURCE

ENR

Engineering News-Record

JUNE 10, 2019 ■ enr.com

INSIDE:
THE TOP 100
PROJECT DELIVERY
FIRMS (P. 45)



LEADING THE
CHARGE

**BATTERY-POWERED
EQUIPMENT MAKES INROADS.
IS IT TIME FOR THE JOBSITE TO
GO ELECTRIC? (P. 22)**

The longest cable-stayed bridge in North America, the Gordie Howe International Bridge links Windsor and Detroit across the Detroit River and will be delivered through a P3 contract. Completion is scheduled for 2024.

IMAGE COURTESY OF BRIDGING NORTH AMERICA

Options expressed are those of the advertisers.

Bridges Today I

Building Faster & Smarter

Using proven techniques, contractors overcome logistical and construction challenges

By Karin Tetlow

WHAT'S INSIDE

- ◆ Accelerating Bridge Construction
- ◆ Delivering Massive Steel Girders
- ◆ Merging Routes Over the Los Angeles River
- ◆ Documenting Welding Compliance
- ◆ Meeting AASHTO MASH Specifications
- ◆ Crossing the Mississippi
- ◆ Waterproofing Rail Tracks

Waterproofing Rail Tracks in the Netherlands

In 2016, ProRail, the Netherlands governmental agency responsible for railway maintenance, determined that a critical rail bridge over the Van Starckenborgh Canal in the town of Zuidhorn needed replacement with a larger span and higher vertical clearance. The steel replacement bridge was assembled along the canal and maneuvered into its final position using heavy-lift technology. Steel-reinforced precast concrete deck slabs were then installed on the bridge cross girders and topped with a cast-in-place concrete surface.

To meet its requirement for a chemical-resistant, waterproof track deck, ProRail usually specifies an epoxy coating. However, knowing that rain was likely, an alternative solution was sought. After meeting with Netherlands-based Xypex distributor and applicator Totech, ProRail and contractor Max Bögl selected Xypex Concentrate for the project. Since Xypex Concentrate is cement based and requires a pre-saturated surface to allow its active chemicals to diffuse into the concrete substrate, mist and rain are actually beneficial. It also was two to three times less costly than epoxy and offered the fastest possible application time—less than three days to coat 21,500 sq ft. Almost immediately after the application of Xypex, the contractor was able to install prestressed concrete railroad ties, gravel ballast and steel rails.

According to Totech Project Manager Patrick Mallens, the use of Xypex Concentrate to protect the new railway bridge not only helped keep the project on schedule but also provided a significant cost savings over epoxy coatings. “Xypex was ideal for this project,” he says. “It offered the shortest possible application and curing time, and greatest possible flexibility to accommodate varied weather conditions. The long-term benefits for the railway are also important and include lower maintenance costs and extended service life.” ♦



Installed on a railway track deck in the Netherlands, Xypex Concentrate saved application time and reduced costs.

PHOTO: COURTESY OF XYPEX

EVERY DETAIL MATTERS

Kosciuszko Bridge (edge girder)
New York, NY
Steel Tonnage: 3,339



The Right Choice for Complex Bridge Fabrication:

- Experienced fabricator for today's complex modern bridge designs
- Trusted partner for large scale design-build and P3 Projects
- Comprehensive services: structural detailing, fabrication, coatings, heavy hauling and erection
- Design advice and budget pricing



Lake Champlain Bridge
Crown Point, NY - Chimney Point, VT
Steel Tonnage: 4,234

Success in fabricating complex structures starts with one core principle: **EVERY DETAIL MATTERS**
Contact us for quotes, budget pricing, or input on your design.



Lancaster, PA 1-800-468-9570 HighSteel.com/details

High
STEEL
STRUCTURES LLC
An Affiliate of High Industries Inc.

The World Standard in Concrete Waterproofing by Crystallization

**NO
EQUAL**



Electron Microscope Images are the property and copyright of Xypex Chemical Corporation.



Concrete
(Untreated)



Xypex Crystallization
(Initiated)



Xypex Crystallization
(Mature)

XYPEX integral crystalline technology waterproofs concrete foundation structures as they're poured and cannot be damaged during installation or backfilling. Unlike membranes, Xypex is added to the concrete at the time of batching avoiding application errors. This sustainable technology also contributes to LEED credits. **When you select Xypex Crystalline Technology**, you've chosen the best... more than 40 years of independent testing, experience in over 90 countries, unmatched product and service standards ... *and still no equal.*

Call 1.800.961.4477 or visit us at xypex.com

XYPEX®