



PROJECT PROFILE



FAST EMERGENCY REPAIRS MADE POSSIBLE WITH RAPID SET CONCRETE MIX

Project Type:

Emergency Repairs, Bridge

Application:

Repairs and restoration

Location:

Luling, TX

Project Dates:

May 12–15, 2020

Project Owner:

Texas DOT

Contractor:

Hunter Industries

Project Size:

80 bags

Product:

Rapid Set® Concrete Mix, FLOW Control®, and SET Control®

When a tanker truck crashed into a bridge on a high-traffic interstate in May 2020, the Texas Department of Transportation (TxDOT) moved quickly to make emergency repairs. Traveling along I-10 in Luling, Texas, the truck was too tall to clear the underpass, taking out the bridge's cross beams.

To replace the damaged cross beams with new ones, the DOT first installed 10 concrete pedestals to support the beams. The plan was to install the cross beams as soon as the pedestals reached 3,000 psi to accept the load. Because TxDOT wanted the beams to be placed within a 24-hour time frame to minimize traffic disruption, engineers specified a fast-setting concrete mix with high early strength. Final specified compressive strength needed to be 4,000 psi.

Rapid Set® Concrete Mix met and exceeded all project requirements. The high-performance structural repair material sets in 15 minutes and reaches compressive strengths of 3,000 psi in one hour and 4,500 psi in 24 hours. It can be applied from two to 24 inches thick and is ideal when fast strength gain, high durability and low shrinkage is required.

THE RIGHT MIX

Contractor Hunter Industries of San Marco, Texas, formed 10 seven-inch-tall pedestals during the day and placed five 28-inch-thick precast concrete beams on top of the pedestals later in the evening. Because

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daytime temperatures rose as high as 92 degrees Fahrenheit, the contractor worked with CMC Ready Mix of Helotes, Texas, to extend the concrete's workability. They did this by adding two packets each of FLOW Control water-reducing additive and SET Control set-retarding admixture to every four-bag batch of Concrete Mix. As per DOT requirements, 3.9 quarts of water were added per bag. The contractor used two concrete batches to complete each pedestal.

The concrete was blended via gas-powered concrete mixer, placed, finished by trowel and allowed to wet cure. Local engineering firm PaveTex created and tested concrete cylinders for each pedestal to confirm compressive strength.

CTS Cement Manufacturing Corporation manufactures Rapid Set professional-grade cement products for concrete repairs and new construction projects. Contractors, owners, engineers and architects choose Rapid Set to eliminate problems they have with other concrete repair materials, to save time and money, when superior durability is required and results need to be aesthetically pleasing. For more information about CTS Cement and Rapid Set, please visit www.CTScement.com.

ABOUT CTS CEMENT