Texas DOT Highway Repairs

**US SPEC Products:** Transpatch Concrete

**Contractor:** North Texas Bridge Company, Inc.

**Location:** Dallas/Fort Worth, Texas

**Date of Completion:** October 2014

The Texas Department of Transportation (TXDOT) is responsible for maintaining 80,000 miles of road and supporting aviation, rail and public transportation across the state. Two of the biggest problems facing Texas infrastructure is stress from environmental factors and the large number of cars on the roads. Texas currently has the second largest number of licensed drivers in the country. This constant stress inevitably causes damage.

Repairs to bridges and overpasses in the Dallas/Ft. Worth are done on an “as needed” basis, which has been annually. TXDOT teamed up with North Texas Bridge Company, Inc. to complete the repairs. The partnership between TXDOT and North Texas Bridge Company falls in line with TXDOT’s mission statement: “Work with others to provide safe and reliable transportation solutions for Texas.”

Construction began in December 2013, and repairs were scheduled for completion in October 2014. Progress was steady due to the mild weather in Texas. However, damage and repairs are a never-ending cycle on these highways, bridges and overpasses. Areas needing repairs included many large spalls. Spalling, flaking or pitting of concrete is usually the result of installation and environmental factors that stress the concrete, causing damage. The early stages of spalling can be purely a cosmetic problem, but it can also result in structural damage. For that reason and for the safety of drivers on the roads, it is important to address spalling when it first appears.

This repair project included an estimated 25,000 sq. ft. of repairs. Damaged areas ranged in size from 3 to 6 square feet. US SPEC Transpatch Concrete was selected as the repair material. Repairs were completed throughout the night in an effort to minimize lane and highway closures. Before Transpatch Concrete was applied, areas needing repair were saw cut approximately 3-5 inches deep, and the damaged concrete was removed.

The material was mixed in a drum mixer, three bags at a time. An estimated 50,000 bags total or 1,000 bags per week were used. Weather permitting, an average of one pallet of Transpatch Concrete was used each night. Due to tight time constraints and temporary lane closures, efficiency was important so driving lanes could open on time. One way efficiency was shown was through measuring the water. Pails were cut to hold only the required amount of water to prevent over watering the mix.

Once Transpatch Concrete was placed in the saw cut areas, a 2 x 4 was used to level, and spreaders were used to place the material. Workers then moved to repair the next area, returning to the previous repair 5-10 minutes later to apply a broom finish. They were extremely happy with the ease of finishing. Rapid set time allowed traffic to open in as little as one hour. Once the repair was complete, traffic was reopened each day by 5 am, prior to rush hour.

Transpatch Concrete is a high-strength, rapid setting, concrete repair material designed to offer superior resistance to freeze/thaw conditions, de-icing salts, petroleum products and other chemicals that are commonly found on concrete roadways. These attributes make the product ideal for TXDOT’s highway and overpass repairs. Despite Texas’ humid weather, Transpatch Concrete will not rust or corrode reinforcing steel and will provide a long lasting repair.