



MAKING PAVEMENTS SAFE

Cement provides fast-setting and durable road repairs

Project Type:

Highway

Application:

Full-depth panel replacement

Location:

Raleigh, North Carolina

Project size:

3,070 Cubic Yards

Owner:

NCDOT District 9

Contractor:

Lane Construction

Supplier:

Heartland Concrete

Length of Project Time:

3 Months

Product:

Rapid Set® Cement

Pavement repair has been an issue in many areas throughout the United States. North Carolina's efforts to improve roadways and alleviate traffic congestion in the Triangle resulted in the Fortify I-40 Rebuild project, which was part of a 10-year improvement plan. The repairs included work along the southern stretch of I-40 in Raleigh, where pavement replacement was needed. Investigation of the roadways showed that the 30-year-old pavements were cracking and crumbling because of a chemical reaction—alkali-silica reactivity (ASR)—beneath the road.

As the road deteriorated, the safety of the motorists who frequented this busy highway was jeopardized, so replacing the pavement was deemed essential. The roadway has more than 120,000 vehicles travel on the highway every day.

The North Carolina Department of Transportation (NCDOT), District 9, oversaw the full depth panel replacement on this section of I-40. Lane Construction and Heartland Concrete were brought in to perform these repairs for NCDOT. Heartland Concrete chose to use a highly durable material that is highly resistant to ASR, gains strength quickly, and has low shrinkage—CTS' Rapid Set® Cement.

The process involved mixing the bulk Rapid Set® Cement in a volumetric mixer, and then finishing using a roller screed and float.

PROJECT PROFILE

The specifications for these repairs called for the concrete to meet a 400-psi flexural strength in four hours. Rapid Set® Cement not only met the strength but beat the requirements and reached 400-psi flexural strength in two hours—half the time. By achieving the flexural strength in half of the required time, it allowed for more hours of production each day.

During the three months of the repairs on this section of the highway, 3,070 cubic yards of Rapid Set® concrete was placed.

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

