



SHALLOW TRENCHES FOR GOOGLE FIBER CONSTRUCTED DURING COLD UTAH WINTER

Project Type:

Pavement

Application:

Backfilling Trenches

Location:

Salt Lake City, UT

Project Dates:

February 12 - March 2, 2020

Project Owner:

Google Fiber

Contractor:

Utah DOT

Project Size:

60 cubic yards

Product:

Rapid Set® Flowable Fill

Google Fiber, an Alphabet division that is entering the internet service provider (ISP) market, relies on a special fiber installation technique to be competitive with existing ISPs: shallow trenching. Shallow trenches are much faster to construct than traditional methods of fiber installation (such as mounting cables on utility poles or digging deep trenches). They minimize site disruption and accommodate multiple conduits for fiber. Use of shallow trenches has enabled Google to roll out its broadband service very quickly in several cities.

When fiber was being laid in Salt Lake City, micro-trenches measuring 2 inches wide by 9 inches deep—a common dimension for micro-trenches—were cut into pavement on various roadways, both municipal roads and those overseen by the Utah Department of Transportation (UDOT). After conduit was laid, the trenches required backfilling. However, the 2-inch-wide trenches were too narrow to easily backfill with concrete, which often has aggregates measuring 1-inch in diameter and could have resulted in unfilled areas in the trench.

The solution was CTS' Flowable Fill, a high performance backfill where Rapid Set® cement is mixed on the jobsite with aggregate and water. Sixty cu. yds. of Flowable Fill (4 tons of Rapid Set cement) were used, mixed with a volumetric mixer and requiring no finishing or curing.

PROJECT PROFILE

Salt Lake City's micro-trenching work occurred between February 12, 2020 and March 2, 2020, when Utah was still experiencing winter weather. Not only did Flowable Fill flow well into the trench's small space, but it set up quickly despite the cold weather, achieving the specified requirement of 500 psi in 28 days, with 1/2 maximum strength at opening, which was a few hours. Achieving the specified opening time to traffic would not have been possible with conventional portland cement flowable fill because of the severe winter temperatures.

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

