



Project Summary

Carter Machinery is one of the leading Caterpillar equipment dealers in the U.S. It's Heavy Equipment Service Facility in Mechanicsville, VA, is a primary business unit with frequent traffic from construction and earthmoving equipment requiring maintenance or repair. With some vehicles weighing 8 tons, the loading area outside of the facility needs to withstand extreme conditions over long periods of time.

The facility is a source of significant annual revenue. So when it was time to replace 19,200 square-feet of 8" concrete pavement in the loading area, minimizing facility downtime was a must. The success of the project is a direct result of the unique collaboration formed between the owners, general contractor, concrete sub-contractor, ready-mix concrete supplier and material suppliers.

The goal was to place 19,200 square feet of 8.0" concrete pavement in one placement with no control joints, as well as having zero cracking and minimal curling. The utilized mix design was a 5,000psi consisting of a well-graded coarse aggregate and natural sand. Type II steel fibers were used in lieu of conventional reinforcement to minimize labor and reduce cost, while at the same time providing the structural values required. PREvent-C admixture was included to minimize shrinkage and curling and to allow for the elimination of contraction joints. The combination of steel fiber and PREvent-C shrinkage reducer allowed for a faster timeline while adhering to strict site prep and concrete placement specifications.

The new high performing concrete pavement achieved zero visible cracking without the use of control joints. Based on the results and success, Carter Machinery is now expanding this system to other facilities.

Owner: Carter Machinery

Site Contractor: Branscome

General Contractor: Lionberger Construction

Ready Mix Concrete Provider: S.B.Cox Ready Mix, Inc.

Concrete Finisher: O'Doriso Carpentry & Concrete

Products: PREvent-C[®] 500 Shrinkage-Reducing/Compensating Admixture

Admixture Supplier: Swope & Associates