

I-85 Bridge

Atlanta, GA



Project Profile (2017)



Project Summary

In late March of 2017, a large fire brought an Interstate 85 bridge to collapse in Atlanta, Georgia. As a result, it became a transportation crisis for commuters and local residents. The Georgia Department of Transportation (DOT) decided on accelerated construction techniques due to the economic impact of the detour.

The durability of bridge decks is severely compromised by shrinkage cracks which can lead to immediate access for water and deicing chemicals to the steel reinforcement and internal concrete. Shrinkage cracks can lead to significant repairs, maintenance, and a need for a replacement before the expected lifecycle of the structure.

Prior to the repair of the I-85 bridge, the Georgia DOT used PREVent-C® as an admixture in three other bridge repair and maintenance projects. The result of using the technology in the concrete mix designs provided dramatic improvement versus the traditional concrete mix designs.

PREVent-C® technology was selected to be added to the concrete mix for the I-85 project to ensure an efficient construction timeline and a strong, effective bridge repair that would not require extensive and costly maintenance in the near future. In addition, it blends expansive components with pore water surface tension reduction to successfully defend against cracks and increase the expected life of a bridge deck. It is proven that PREVent-C® admixture technology reduces shrinkage by more than 90 percent, depending on the mix design and the amount of PREVent-C® utilized.

The Georgia DOT selected an accelerated mix and a 3-day curing period versus a more standard 7-day curing period. The selected mix design allowed for a shorter construction schedule leading to a much earlier than anticipated opening of the interstate. When accelerated strength and minimal curing are used, cracking would be visible immediately following the end of curing. When the curing was removed from the I-85 Bridge, there was no observance of cracking.

Owner: Georgia Department of Transportation
Concrete Contractor: C.W. Matthews Contracting Co.
Ready-Mix Producer: Thomas Concrete
Products: PREVent-C®500 Admixture



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