



The Clarian Health Automated People Mover

Rail system under construction in Indianapolis, Indiana, USA

SCCS

How the right mix put a revolutionary transit system on track.

“The use of Self Consolidating Concrete greatly reduced the appearance of bugholes and cut down on our finishing time significantly.”

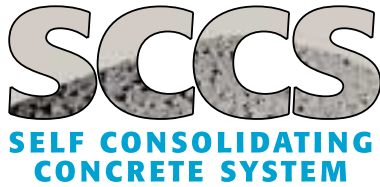
Chris Mosley
Project Manager
Rinker Materials –
American Precast

The Clarian Health Automated People Mover was a project on the fast track. Construction of the nation’s first privately-owned transit system to operate over city streets was proceeding at a remarkable pace. As a new solution for intra-city transportation in Indianapolis, the eyes of the city were watching as the 1.5 mile dual-track superstructure began to transform and modernize the landscape of the city.

To ensure the guideway foundations and superstructure proceeded with speed and efficiency, design-build

contractor Schwager Davis, Inc. turned to Rinker Materials - American Precast at the earliest planning stages. The challenge was to quickly produce and turn high quality concrete elements with very strict finish standards, high strength and durability.

Recognizing the innovative nature of the project, Rinker put together an innovative solution. Working with Grace Construction Products’ Self Consolidating Concrete System, Rinker developed a concrete mix that was perfectly



extend your reach

suiting to the specific combinations of forms and pieces that comprised the project. For example, forms included curved girders with 12" wide cross sections, and rebar configurations often left very little room for getting concrete down into the form.

The innovative SCC mix virtually eliminated bugholes that can mar the visual appearance of precast concrete and require time-consuming patching to fix. The mix reduced the need for labor-intensive vibration to distribute the concrete inside the forms – SCC is highly flowable and will change shape under its own weight to self level and self consolidate within formwork. And Rinker's SCC solution not only dramatically reduced labor while enhancing appearance, but provided early strength so forms could be turned more quickly.

The key to the mix was Grace ADVA® Cast 530. A highly efficient superplasticizer designed for high workability without segregation and high early strength, ADVA Cast is optimized for SCC in precast and prestressed applications. Because it's a one-component product, ADVA Cast 530 also made the mixing process easier to control for Rinker, eliminating the need for separate tanks and meters. In addition, the mix included Daratard® 17 to



A labor-saving, cost-effective mix enabled higher quality forms in less time.



control the set time, and Darex® II AEA®, an air-entraining admixture for protection against damaging freeze and thaw cycles.

The end result for the Clarian Health Automated People Mover was a high quality, cost-effective track guideway, providing a quality appearance and the strength and durability needed. And most importantly, the project – like any good train – ran right on schedule.



Grace admixtures enhanced the appearance, strength and durability of the guideway foundations and superstructure.

"The admixture used to produce Self Consolidating Concrete works so well, we want to use it in everything we produce."

Doug Sears
Support Services Manager
Rinker Materials – American Precast

Project Credits:

Project: Clarian Health Automated People Mover, Indianapolis, IN

Precast Fabrication & Erection: Rinker Materials–American Precast

Contractor: Schwager-Davis, Inc., Indianapolis, IN

To view photos go to the web site:
<http://www.sdi-clarian.com/update2.html>

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