San Francisco – Oakland Bridge Gets Engineered Face Lift

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The San Francisco – Oakland Bay Bridge is a land mark in the Bay area. One of the busiest transportation arteries in California, and accommodating more than 280,000 vehicles per day, the bridge was built in 1936.

The bridge is actually two bridges and a tunnel. The Eastern span, from Oakland to Yerba Buena Island, is being replaced with a new self anchored, single tower suspension bridge. However, for the last four years the Western span from Yerba Buena Island to San Francisco has been going through a retro-fit and upgrade process to meet the most current seismic standards.

To complete the final phases of this project, Caltrans partnered with American Civil Constructors, Inc. (ACC) from Benicia, CA to re-surface both the upper and lower decks of the Western span with 2,138 cubic meters of an engineered composite overlay system, commonly called Polyester Concrete.

The scope of the work included grinding approximately ¾″ of the old roadway surface off followed by determining the locations of unsound concrete in the deck. The surface was then cleaned and smoothed using a shot blaster to prepare the surface for the deck application.

For Further Information:

Caltrans

American Civil Constructors, Inc.

Kwik Bond Polymers

Allen Concrete Pavers

American Civil Constructors used a specialized Allen Polyester Concrete Slipform Paver to spread and finish the polyester concrete. The polyester concrete paver was designed and built by Allen Engineering Corporation and sold by Allen Concrete Pavers. This slipform paver utilized a hydraulic automatic grade control system to insure a smooth final ride surface. A full width stainless steel paving pan with external hydraulic vibrators mounted at 24″ centers was used for uniform consolidation of the polyester concrete.

With the use of the specialized equipment and materials, the end result produced a long lasting bridge deck surface that is resistant to potholes and cracking, even under heavy traffic loads.