

Market Application Focus

Aviation

Project: DFW Airport Terminals A & B Roadway Recoat
Owner: Dallas/Fort Worth International Airport
Contractor: Southwest Construction Services located in Dallas, TX
Year: 2009

The Problem

DFW airport was built in the early seventies and is one of the busiest airports in the US, ranking third worldwide in terms of operations and seventh in terms of overall traffic. The airport is built on a total area of 30 sq miles and handles more than 150,000 passengers on a daily basis.

Over the years, due to the excessive wear and tear, the drive lane areas were in need of many repairs. After eight years the coating in this high traffic area was delaminating and allowing water to infiltrate and therefore needed to be removed. The specification called for a new long lasting epoxy broadcast system that would provide good skid resistance and make the elevated deck waterproof. The total area that needed to be repaired and recoated included:

- ▲ 4" reinforced topping slab in drive lanes (240,000 sq. ft.)
- ▲ 6" reinforced topping slab at side walks (80,000 sq. ft.)

The scope of this job also included replacing existing sealants in expansion joints, sealing of shrinkage cracks and spall repairs. The spall areas were prepared for repair in accordance with ICRI guidelines, using SikaQuick 1000 repair mortar. All of the existing shrinkage cracks were routed and sealed with an epoxy mortar using Sikadur 22 Lo Mod Mortar (5:1 sand to epoxy) and the expansion joints were sealed with Sikaflex 2C.

The Sika Solution

The recoating of the drive lane was no easy task. Specific requirements were set forth regarding color requirements for the drive lane and the sidewalk. All 18,000 gallons of epoxy used in the drive lane had to be pigmented to match the 3M dark brown aggregate. Additionally 6000 gallons of sidewalk coating had to be pigmented to match the 3M light tan aggregate.



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Sika's System Approach to Concrete Repair and Protection



The pigments were matched and samples were provided to the GC and Owner in less than a week, with the help of representatives from Sika's Industrial Flooring Business Unit. The epoxy was pigmented on site to match both the dark brown and light tan aggregates. This combination of pigmented epoxy and the colored aggregate will help to minimize the natural discoloration typically seen in epoxy over time.

Totes measuring 660 gallons were used to ship product to this jobsite which resulted in greater efficiency on site. The drive lanes and sidewalks both received a double broadcast application with Sikadur 22 Lo Mod and the 3M aggregates chosen by the Owner. One of the reasons that the 22 Lo Mod system was chosen over other systems was its ability to be applied in temperatures above 40 degrees.

The contractor was able to complete this project more than 30 days ahead of schedule. As a result of the success of the DFW Terminal A & B overlays the contractor was also chosen to repair the walkway from Terminal D Parking to the entrance of the Grand Hyatt.

Sika Products Used

Sikadur® 22 Lo Mod is a 2-component, 100% solids, moisture-tolerant, epoxy resin binder. It conforms to the current ASTM C-881 and AASHTO M-235 specifications.

SikaQuick® 1000 is a 1-component, rapid hardening, early strength gaining, cementitious, patching material for concrete.

Sikaflex 2C is a 2-component, premium-grade, polyurethane-based, elastomeric sealant.



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