To reduce the impact on staff parking, the specialist contractor was used throughout divided the project into two sections. The existing membrane system was first removed using specialized milling equipment and the concrete deck was then shot-blasted using vacuum blastcleaning. After careful inspection, all non-structural cracks greater than 1/16" were cut out and filled using Sikaflex 2C, a two component polyurethane joint sealant.

All defects in the deck which were likely to be visible once the new membrane system was installed, were filled using Sikadur 31, a thixotropic, two component epoxy mortar.

The repaired deck was then primed with two component epoxy Sikafloor Primer, followed by Sikafloor 450, a single component, highly elastic polyurethane basecoat.

An abrasion resistant, polyurethane, Sikafloor 455 was applied and broadcasted with quartz sand to act as a slip resistant finish. After 24 hours all unbound sand was removed and a further coat of Sikafloor 455 was applied to encapsulate and seal the sand into the surface.

THE PROBLEM

Constructed in 1965, the double ‘T’ construction Greyhound Bus Terminal serves as the main Southern California service terminal for long distance coaches. The 70,000 sq. foot parking deck for staff parking, is directly above the service centre shops and offices in the complex. Problems with the ten year old traffic membrane water proofing system had been experienced for some time and with the probability of severe weather from EL NINO, Greyhound Lines Inc. decided to replace the waterproofing system and avoid more severe water ingress through the defective deck membrane.

THE SIKA SOLUTION

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Corrosion Inhibitors
*Sika Ferrogard 903* as a dual action, corrosion inhibitor will reduce corrosion currents by penetrating through the concrete and forming a protective coating on the embedded steel bars.

Anti-Corrosion Primer and Bonding Bridge
*Sika Armatic 110 Epocem* protects the steel from corrosion in areas of inadequate cover. Improves bond of repair mortar to both substrate and steel.

High Performance Repair Mortars
*Sikatop Plus Mortars* - two component polymer modified materials containing Sika Ferrogard 901 corrosion inhibiting admixture.

*Sikacem* mortars are machine applied by dry process shotcrete techniques for large scale repair.

Problem Joints/Crack Sealing
*Sikadur Combiflex* is a unique ‘strip and seal’ system used to seal irregular or large cracks, even those having large or shear movement.

Crackbridging Deck Membrane
*Sikafloor 450/455* is a single component polyurethane system used in locations from aggressive vehicular abrasion to foot traffic of balconies and plaza decks.

Epoxy Injection and Bonding
*Sikadur* epoxy resins help restore structural integrity by injection of cracks and voids.

Structural Strengthening Systems CFRP
*Sika CarboDur* a proven system of external strengthening using epoxy bonded lightweight carbon Fiber Reinforced Polymer (CFRP) strips or sheet. Stronger than steel yet lightweight and non corrosive, this strengthening system can solve unique strengthening systems in many concrete structures.

Anti-Carbonation Coatings
*Sikagard Facade Coatings* have been proven for more than 20 years as protective and decorative coatings for facades and soffits to prevent the ingress of water, carbon dioxide (carbonation) but will still allow the structure to breathe and move thermally and dynamically.

For Parking Garages...
Sika’s System approach to Concrete Repair and Protection

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