



MARKET APPLICATION FOCUS

Parking

Waterproofing

Thin - bonded, Polymer Overlay

Project: Summit Parking Garage
Hackensack New Jersey
Owner: Summit Bank Corp.
Specifier: M.S.B, Architects
Rutherford, New Jersey
Construction Contractor: Maarv Concrete Restoration
Passaic, New Jersey
Year: 2000

THE PROBLEM



Constructed in the late 60's, this 56,000 square foot Parking Garage consists of conventional cast in place slab and beam construction. Low Concrete cover over the reinforcing steel and exposure to deicing salts had caused corrosion, resulting in extensive cracking and spalling of the concrete. The owner and specifier wanted a long-term repair and protection solution to prevent further deterioration of the concrete in this structure extending the service life of the garage.

THE SIKA SOLUTION

Repair

All loose and deteriorated concrete was removed back to sound concrete. Structural cracks in the structure were pressure injected and repaired with Sikadur 35 Hi Mod LV, a low viscosity epoxy structural epoxy resin.

Non-moving cracks were routed and sealed with Sikadur 51SL a semi-rigid, flexible epoxy resin. On horizontal areas the damaged concrete was replaced with SikaRepair 222 and in vertical and overhead applications SikaRepair 223, a non-sag, high build cementitious mortar was used.



Protection

All deck waterproofing was done using Sikadur 22 LoMod, a two component 100% solids, low modulus epoxy resin, which was broadcast with a 12-40 grit Black Beauty to provide an attractive, highly durable, anti skid waterproofing wearing course.

Expansion and control joints were reflected through the Sikadur 22 Lo Mod and sealed with Sikaflex 2C SL, a two component self - leveling polyurethane sealant.



CASE STUDY



For Parking Structures Sika's System Approach to Concrete Repair and Protection

Anti-Corrosion Primer and Bonding Bridge

Sika Armatec® 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.

Corrosion-Inhibiting Impregnation

Sika FerroGard® 903 - spray-applied to protect areas outside the repair zone against future damage. Proven to penetrate and reduce corrosion effects of carbonation and salt exposure.

Surface Leveling/Pore-Filling Mortars

SikaTop® leveling mortars - achieve a level surface by filling pores, bugholes, or other irregularities in the surrounding substrate.

Anti-Carbonation Coatings

Sikagard® 550W and 670W - protect concrete facades from the damaging effects of carbon dioxide (carbonation), water and pollutants. Either crack-bridging (550W) or rigid (670W), both are available in a variety of decorative colors.

Joint Sealing/Waterproofing

Sikaflex® High Performance Sealants - premium-grade polyurethane joint sealants that are fully compatible with Sika's concrete repair systems.

Epoxy Injection and Bonding

Sikadur® epoxy resins help restore structural integrity by injection of cracks and voids. The most comprehensive range of epoxy products for structural bonding and grouting.

Structural Strengthening Systems (FRP)

Sika CarboDur® & SikaWrap® - a proven system of external strengthening using carbon fiber laminate strips, carbon fiber fabric, and glass fiber fabric. Stronger than steel yet lightweight and non-corrosive, these system components can solve unique strengthening problems in a variety of concrete structures.



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