

Market Application

Warehouse - Storage Facilities

Concrete Repair & Protection

Focus

Corrosion

Project:	G&H Building, Pascagoula, MS
Owner:	Jackson County Port Authority
Specifier:	Compton Engineers
Contractor:	Python Corporation
Year:	2006

The Problem

The G&H building built in the early 1950's is located in the heart of the port city of Pascagoula, MS. This single story steel frame structure has 120,000 sq. ft. of warehouse space. Part of the slab built over the water is supported by reinforced concrete piles while the remaining half is conventionally poured concrete slab. The building serves as a storage/transit facility for 3000 lb. rolls of paper that are shipped in by rail and distributed out by ships. The proximity of the structure to water, lack of cover on the rebar and the daily heavy forklift traffic took a toll on the slab. Some routine maintenance was done over the years but the situation has worsened resulting in a safety hazard for the forklift drivers. Spalls of different size and magnitude were present everywhere on the concrete slab.



The Sika Solution



The owner at this stage decided to do a concrete overlay and bring the slab back to an acceptable floor for forklift traffic. Once the surface was mechanically prepared, the application thickness of the overlay needed to be anywhere from 1.5 to 4 inches. Initially, ready mix concrete was considered the product of choice for the repairs that were close to 4 inches in depth. Further discussions between the engineers and the contractors led to a change in strategy for the repairs. The quick turn around time of SikaQuick 1000 and its ability to be placed in varying thickness became the reason for its selection as the repair material for the entire overlay. The slab was mechanically prepared and exposed reinforcement was coated with Armatec 110 for rebar protection.

Prior to the placement of the repair material, steps were taken to saturate the slab to avoid moisture loss. SikaQuick 1000 was extended with stone for the entire overlay. Six bags of SikaQuick 1000 mixed with 150 pounds of aggregate (50% Extension) was the typical mix size used for the entire job. A mortar mixer was used to mix and wheel barrows were used to transport the material. The joints in the existing slab were adequately reflected through the new topping. The 120,000 sq. ft. of overlay ranging from 1.5 to 4 inches in depth was completed in 40 weeks. 28,000 – 50 pound bags of SikaQuick 1000 with 700,000 lbs. of aggregate were used to overlay the distressed concrete deck. The repaired concrete slab now offers a durable and safe – spall free warehouse floor. The repaired warehouse floor has successfully extended the service life of this distribution warehouse for many years to come.

Sika's System Approach to Concrete Repair and Protection



Anti-Corrosion Primer and Bonding Agent
Sika Armatec® 110 EpoCem® - protects rebar in areas of inadequate cover.

High Performance Repair Mortars
SikaQuick® 1000 & 2500 - Repair Mortars single component, rapid hardening cement based patching materials for concrete repair. Excellent physical properties coupled with very low shrinkage make these products very contractor friendly.

Hard Wearing Epoxy Overlay
Sikadur® 22 Lo-Mod - epoxy resin will provide decorative hard wearing, slip resistant, overlay systems for balconies, walkways, plazas, etc. not requiring a crack bridge membrane.

Joint Sealing

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

Anti-Carbonation Coatings

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

Epoxy Injection and Bonding

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



Contact Sika at:
Phone: 1-800-933-SIKA (Nationwide)
Website: www.sikaconstruction.com

Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: 201-933-8800
Fax: 201-933-6225

Sika Canada Inc.
601 Delmar Avenue
Pointe Claire
Quebec H9R 4A9
Phone: 514-697-2610
Fax: 514-694-2792



Sika Mexicana S.A. de C.V.
Carretera Libre Celaya Km. 8.5
Fracc. Industrial Balvanera
Corregidora, Queretaro
C.P. 76920
Phone: 52 442 2385800
Fax: 52 442 2250537