CASE STUDY
LSU TIGER STADIUM

Owner: Louisiana State University, Baton Rouge, LA
Project Engineer/Designer: Engensus, LLC, Baton Rouge, LA
Repair Contractor: Python Corporation, Lacombe, LA
Material Supplier/Manufacturer: Sika Corporation US, Lyndhurst, NJ

INTERNATIONAL
CONCRETE REPAIR
INSTITUTE

ICRI Award Winner
Award of Merit
Special Projects Category

BUILDING TRUST

The Louisiana State University "Bengal Tigers" are one of the most successful college football programs today boasting 3 NCAA national championships and 14 conference championships. Located on LSU campus in Baton Rouge along the Mississippi River, Tiger Stadium is an iconic structure. It is known as "Death Valley" for being one of the loudest and most difficult stadiums for opposing teams to play. Construction of this historic stadium began in the early 1920's and opened with a capacity of 24,000. Now Tiger Stadium has increased its capacity to hosting 92,000 die-hard fans. On game day Tiger Stadium becomes the 6th largest city in the State of Louisiana. The north end zone, constructed in 1936, was experiencing concrete deterioration on the outer surface due to insufficient concrete cover on the reinforcing bars and cracks that had developed around the new windows installed prior to the façade restoration adding some complications. The façade had minor spot repairs of spalls and surface cracks and was littered with abandoned anchor bolt holes. LSU wanted to restore this façade while maintaining the historic look.

The original stadium was formed with 2" x 6" horizontal planks, which are visible between the planks in the concrete. It was critical to restore the finish and maintain the formed planks look. When spall repairs intersected one of the form lines, it was required that the repair contractor employ a technique of honoring this form line in ten repair areas. The workability of the repair mortar Sikatop® 123 allowed the contractor to mock the form lines by tooling them into the repair. The engineer required that any repairs to the cracks around the newly installed windows could not reflect through the coatings applied later and that the existing surface finish must be maintained. Therefore, an epoxy gel Sikadur® 31 as the surface seal and a low viscosity resin Sikadur® 35 were used for filling these narrow cracks. The spalled areas were square cut, the concrete was chipped to the required profile and the area pressure washed to remove dust of fracture. The Armatec® 110 bonding agent and Sikatop® 123 non-sag repair mortar were used for patch repairs and the Sika® FerroGard®-903 corrosion inhibitor was applied to protect the reinforcing steel from further corrosion. Finally, two coats of a cement based coating Sikatop® 144 with a fine texture provided a uniform look to the concrete while hiding repairs. This also produced the original concrete appearance and instead looking like a newly painted wall. A clear anti-carbonation coating Sikagard® 670W was then roller applied to the surface to provide another layer of protection and reducing dirt pick up.

Before and After facade coatings

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.

Sika Armatec® 110 EpoCem® - protects rebar in areas of inadequate cover.

SikaTop® 144 – two-component, polymer-modified, cementitious coating for abrasion resistance, dampproofing and waterproofing.

SikaTop® PLUS mortars - two-component, polymer-modified repair mortars containing Sika® FerroGard®-901 corrosioninhibiting admixture.

Sikagard® 550W Elastocolor 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 high-performance protection coatings, available in a variety of decorative colors.

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.

Sikasil® WS 290 – Ultra low modulus, neutral cure silicone sealant

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