



# CASE STUDY

## MARKET APPLICATION FOCUS

Buildings  
Waterproofing  
Sealants

Project: The Port Authority of New York and New Jersey  
Owner: State of New York  
Architect: Albert Brevetti  
Construction: Crest Construction  
Contractor: Arrow Building Restoration  
Year: 1978

### THE PROBLEM

The New York State Capitol building has been a prominent and impressive structure in Albany since 1897, when it was first constructed. Since its opening, the building was burdened with cracks in the ceiling of the assembly hall, settlement due to a bed of glacial clay and leaking into the interior of the building. The leaks continued due to careless and spotty sealing with ineffective materials. When the decision to restore the building was finally made, it was important the building would be leak free. Because the building was very important to the City of Albany, aesthetics were also a concern. Plus the amount of joint sealing that would be required meant that the product chosen to seal all the joints would be very visible.



### THE SIKA SOLUTION

A full-scale analysis was completed to determine the cause of leaking throughout the building structure. The conclusion of the examination was that poor quality materials and workmanship were the root cause. The group assembled to conduct the repair approach required the sealant meet several criteria: handle joint movement, tenacious bond, handle harsh weather exposure and ease of application. Also, the many different substrates were evaluated to select a mutually compatible sealant. Sikaflex 1a, one-component polyurethane sealant, was chosen for its ability to meet all the demands of the building owner. Additional benefits realized by the contractor were primerless application, non-staining and a paintable surface.

The building restoration was completed and the project was inspected almost 20 years later and remained leak-free. Less than 2% of the half million feet of original sealing needed touch-up. The project was a success.





# For 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

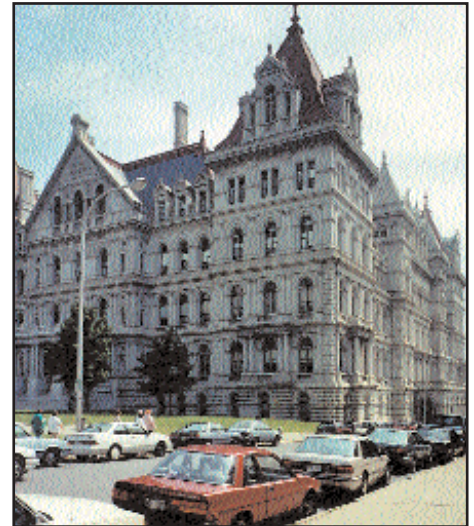
**Sikaflex® High Performance Sealants** - premium-grade polyurethane joint sealants that are fully compatible with Sika's concrete repair systems.

## 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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