



MARKET APPLICATION FOCUS

Clean Water Treatment Structures

Concrete Repair/Protection/Waterproofing

Leaking Cracks & Surface Erosion

The Project: Trenton Water Works
Trenton, NJ
The Owner: City of Trenton, NJ
The Specifier: Buck, Seifert, & Jost
The Year: 1996

THE PROBLEM



After more than 40 years of providing its community with a clean water supply, the Trenton Water Works treatment facility was in need of a major upgrade.

Condition surveys of the concrete flocculation/sedimentation tanks revealed considerable erosion and spalling of the concrete surface and cracking of the tank walls. The roof slab had also suffered cracking and wear after exposure to many harsh winters. After documenting all necessary repairs and mapping all existing cracks, a comprehensive repair and protection system from Sika was selected.

THE SIKA SOLUTION

Leaking water through moving cracks presented a formidable challenge. Sikadur® Combiflex® was selected - a unique "strip and seal" system which offers excellent movement capability even on large, irregular cracks or joints. Combiflex provides an absolutely watertight seal where conventional sealants or caulks cannot.

The spalling and erosion of the tank walls was addressed using a "repair and protect" approach. SikaTop® Plus repair mortars were used to restore the profile of the concrete. These polymer-modified repair mortars offer excellent strengths and adhesion, and contain a corrosion-inhibiting admixture to help protect reinforcing steel from corrosion.



Finally, the surface of the tank walls was protected using Sikagard® 62, a high-build epoxy protective coating. All repairs were made using NSF/ANSI standard 61 approved products for drinking water contact.



For Clean Water Treatment Facilities... **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 the 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 repairs requiring a high level of concrete protection.

Levelling mortars for Coating Damp Concrete

Sikagard®75 Epocem - can be used as temporary moisture barrier to allow application of epoxy coatings - even when the concrete cannot be made dry.

Problem Joints/Cracks Sealing System

Sikadur® Combiflex - a unique "strip and seal" system used to seal problem joints and cracks, even those undergoing extreme movement. Failed joint sealants need not be removed prior to installing **Combiflex**-a great labor savings.

Joint Sealing

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

Surface Sealing/Waterproofing Mortar

SikaTop Seal 107 - a polymer-modified waterproofing and surface sealing mortar for tanks and reservoirs. Used on the inside of the tank walls it prevents water-loss (seepage) and prevents surface erosion. Used on exterior walls it protects water quality by preventing infiltration.

Protective Epoxy Coating

Sikagard 62 - a 100% solid, high-build protective coating used successfully on water projects for decades. It offers long-term protection to the concrete and easy maintenance.

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 available.

Structural Strengthening Systems (CFRP)

Sika CarboDur® - a proven system of external strengthening using epoxy-bonded Carbon Fiber Reinforced Plastic (CFRP) laminate strips. Stronger than steel, yet lightweight and non-corrosive, this system can solve unique strengthening problems in a variety of concrete structures.

Chemical Grouts for stopping water leaks

SikaFix® - chemical grouts are polyurethane-based and expand into a foam upon contact with water. When injected into leaking cracks, joints or crevices this expansion process forms a seal which stops water infiltration - fast!



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For the location of your nearest Sika sales office, contact your regional center.



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