



# SIKA SOLUTIONS FOR BRIDGES SYSTEMS AND CAPABILITIES

BUILDING TRUST



# STATE OF AFFAIRS FOR BRIDGES IN THE UNITED STATES

In the United States of America, infrastructure is deteriorating at an alarming pace. In 1988, the American Society of Civil Engineers released its first Infrastructure Report Card, an assessment of the state of American infrastructure, giving the US a "C" letter grade overall. In the 30 years since, the overall infrastructure rating has continued to decline, most recently receiving a "D+" grade in 2017. Meanwhile, the estimated cost to repair all deficiencies has continued to skyrocket, from \$20 Billion in 1988 to a whopping \$4.6 Trillion in 2017!

**Total # of  
bridges in USA  
= 614,387**

**1 in 11 bridges  
is structurally  
deficient!**

**Approx. 40%  
are over 50  
years old**

**14% function-  
ally obsolete  
in 2016!**



# PILE JACKETING



Combining products from several product lines with expert knowledge, Sika's pile jacket repair systems leave both concrete and timber piles stronger than new.

## ADVANTAGES

- Full-system solutions for timber and concrete piles
- Pre-Fabricated sleeves simplify repairs
- Guaranteed compatibility across product lines
- Proven solutions for common failures

## KEY PRODUCTS

- Sikadur®-35 Hi-Mod LV LPL
- Sikadur® Injection Gel
- SikaGrout®-328
- Sikament® 100 SC
- Sika FerroGard® 901 S



# JOINT SOLUTIONS



Combining Sikadur joint nosing mortar with Sikasil sealants and EMSEAL expansion joint systems allows Sika to offer full-system solutions for joint construction and repair on bridges and highways.

## ADVANTAGES

- Single-source full joint systems
- Repair all joint types on bridges or highways
- EMSEAL BEJS and Sika sealants accommodate all movement
- Fast-setting options for quick-turnaround jobs
- Joint Nosing Mortar used for both asphalt and concrete



## KEY PRODUCTS

- Sikasil®-728 RCS
- Sikasil®-728 SL
- Sikasil®-728 NS
- Sikadur®-72 JNS
- EMSEAL BEJS



# CONCRETE REPAIR



Sika's concrete repair materials are specifically engineered to meet the rigorous demands of transportation infrastructure construction such as high strengths, fast turn around and low shrinkage.

## ADVANTAGES

- A repair material for every application; form and pump, form and pour, trowel applied, spray applied
- Fast setting products allowing return to traffic in as little as 45 min.
- Produced in state of the art Sika manufacturing facilities under strict quality guidelines



## KEY PRODUCTS

- |                           |                                    |
|---------------------------|------------------------------------|
| ■ SikaCrete®-100 CI       | Vertical and overhead / horizontal |
| ■ SikaCrete®-321 FS       | Vertical and overhead / horizontal |
| ■ SikaCrete®-421 CI Rapid | Vertical and overhead / horizontal |
| ■ SikaQuick®-1000, 2500   | Horizontal                         |
| ■ SikaQuick® VOH          | Vertical and overhead              |
| ■ SikaRepair®-224         | Vertical and overhead              |
| ■ SikaRepair® SHB         | Machine applied                    |
| ■ SikaCem®-103, 103 F     | Horizontal / machine applied       |
| ■ SikaCem®-226 CI         | Machine applied                    |



# BRIDGE DECK OVERLAYS



Thin Polymer Overlays (TPO) provide a high-friction, long-lasting wearing course on concrete bridge surfaces that protects the deck from moisture and deicing salt penetration, inhibiting future corrosion.

## ADVANTAGES

- Conforms to current ASTM C-881, Type III, Grades 1 & 2, Class-C and AASHTO M-235 specifications
- Binder resins for epoxy mortar and concrete for patching and overlays
- Approved for DOT applications in most states
- Multiple formulas to meet specific requirements



## KEY PRODUCTS

- Sikadur®-22 Lo-Mod
- Sikadur®-22 Lo-Mod FS
- Sikadur®-22 Lo-Mod FS-VA
- Sikadur®-22 Lo-Mod LT
- Sikadur®-25 Lo-Mod EPU
- Sikadur®-27 Lo-Mod



# CONCRETE PROTECTION



Sika offers superior concrete corrosion mitigation solutions by addressing the root cause of the problem within the structure using anodes and rebar coatings, as well as protecting from the surface, using sealers and coatings for increased longevity.

## ADVANTAGES

- Sacrificial anodes protect reinforcing steel for many years
- A complete range of silane and siloxane sealers with some innovative cream silanes for vertical surfaces
- Anti-Carbonation coatings offer extremely high resistance to chlorides and waterborne salts
- All solutions are vapor permeable to mitigate potential freeze/thaw damage



## KEY PRODUCTS

- Sika® FerroGard® 650, 670, 675 Anodes
- Sika® FerroGard® 901 S
- Sika® FerroGard® 903
- Sika® FerroGard® 908
- Sika® Armatec® 110 EpoCem
- Sikagard®-705L
- Sikagard®-705L OWR
- Sikagard®-740W
- Sikagard®-701W



# SEGMENTAL BRIDGE ADHESIVES



Sika's high-performance epoxy Segmental Bridge Adhesives (SBA) are high modulus, high strength and moisture tolerant allowing for the bonding of bridge segments in specific temperature ranges, from 20°F - 115°F.

## ADVANTAGES

- Sikadur 31 SBA comes in slow and normal set formulations
- Contact strength up to 2,000 psi after 8 hour max. open time
- Conforms to current ASTM C-881, Type VI, VII requirements and ASBI guidelines
- Paste consistency for easy, non-sag vertical application



## KEY PRODUCTS

- Sikadur®-31 SBA Slow-Set
- Sikadur®-31 SBA Normal Set
- Sikadur®-31 SBA (20° - 45°F)



# HIGH FRICTION SURFACE TREATMENT



High Friction Surface Treatment (HFST) is a single layer epoxy application with high friction aggregate that significantly and immediately increases roadway friction to reduce auto crashes, injuries and fatalities on problem road surfaces.

## ADVANTAGES

- Conforms to ASTM C-881, Grade 1 and AASHTO M-235 specification
- Products successfully evaluated through National Transportation Product Evaluation Program (NTPEP)
- Designed to work with automated equipment
- Traffic time as low as 2 hours



## KEY PRODUCTS

- Sikadur®-22 Lo-Mod FS
- Sikadur®-22 Lo-Mod FS-VA
- Sikadur®-22 Lo-Mod LT
- Sikadur®-27 Lo-Mod



# CRACK REPAIR AND HEALER SEALER



Epoxy crack repair applications are structural and economical solutions for cracked and unsound concrete that will prolong the life cycle of any existing structure. These can be used alone or in conjunction with other repair and protection systems.

## ADVANTAGES

- Rapid cure allows for traffic or additional overlay applications in as little as 2.5 hours
- Tenacious bonding even in moist conditions
- Ultra-low viscosities, ~100 cps, for even the smallest cracks
- 50 years of proven performance with their Sikadur crack repair systems



## KEY PRODUCTS

- Sikadur®-35 Hi-Mod LV
- Sikadur®-35 Hi-Mod LV LPL
- Sikadur®-52
- Sikadur®-55 SLV
- Sikadur® Injection Gel
- Sikadur®-33



# GROUTING



From precision epoxy grouts to versatile cementitious grouts, Sika offers a full range of products with extremely high strengths and resilience for use in demanding bridge and roadway applications.

## ADVANTAGES

- Effective Bearing Areas greater than 95%
- Low dust and low exotherm formulas allow for deeper pours in confined areas
- All Sika cementitious grouts meet ASTM C-1107
- Packaging options for cement and epoxy grout to meet project need



## KEY PRODUCTS

- Sikadur®-42 Grout-Pak
- Sikadur®-42 Grout-Pak LE
- Sikadur®-42 Grout-Pak PT
- SikaGrout®-212
- SikaGrout®-328
- SikaGrout®-428 FS
- SikaGrout®-528 SF



# ANCHORING



Sika AnchorFix products are highly engineered anchoring adhesives, rigorously tested for the most demanding applications in both cracked and uncracked concrete.

## ADVANTAGES

- ESR to AC308 by ICC-ES (ESR-3608) and IAPMO-UES (Report #0327)
- Certified to ANSI /NSF 61 by UL & IAPMO-R&T (N-7858)
- Product available for application temperatures down to -15°F
- Detailed Design and Installation guides available online



## KEY PRODUCTS

- Sika® AnchorFix-1
- Sika® AnchorFix-2
- Sika® AnchorFix-500
- Sika® AnchorFix-3001
- Sika® AnchorFix-2 Arctic



# STRUCTURAL STRENGTHENING



SikaWrap and CarboDur composite materials are constantly used in critical applications to solve challenging structural problems, including but not limited to confinement and shear strengthening, seismic upgrades, impact and blast resistance, and design or construction defects.

## ADVANTAGES

- Offering includes carbon & glass in both woven and pultruded formats
- Approved by ICC ESR-3288 and IBC 2015 Compliant
- UL Approved 4 hour fire resistance over SikaWrap and CarboDur
- The new and exciting rage of SikaWrap PreSaturated fabrics can reduce labor by 50%

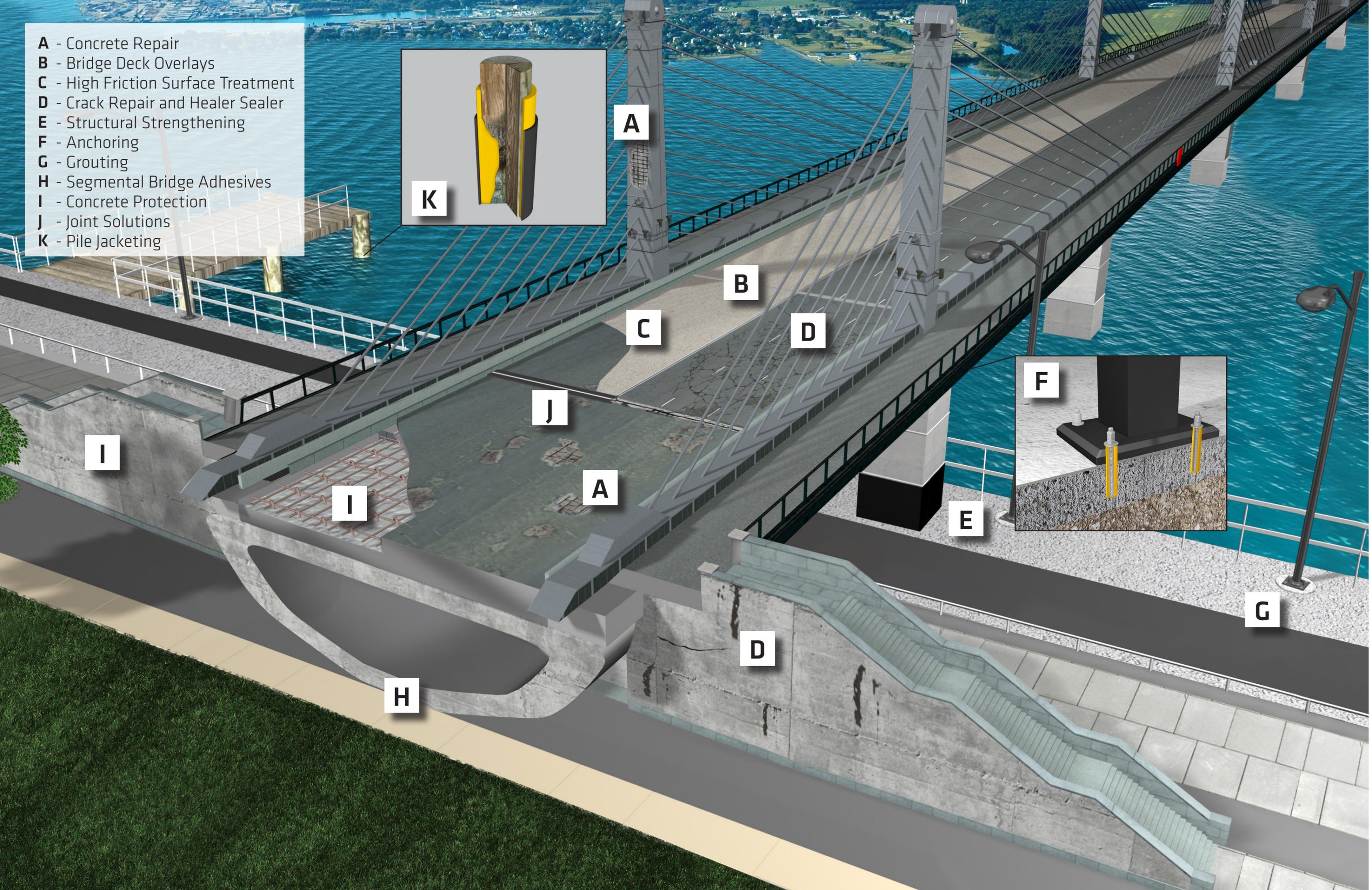


## KEY PRODUCTS

- SikaWrap® Dry Fabrics
- SikaWrap® Pre Saturated Fabrics (NEW)
- SikaWrap® FX-50C Fiber Anchors
- Sika® CarboDur® Laminate Rods
- Sika® CarboDur® Laminate Plates



- A - Concrete Repair
- B - Bridge Deck Overlays
- C - High Friction Surface Treatment
- D - Crack Repair and Healer Sealer
- E - Structural Strengthening
- F - Anchoring
- G - Grouting
- H - Segmental Bridge Adhesives
- I - Concrete Protection
- J - Joint Solutions
- K - Pile Jacketing



## **WE ARE SIKA**

Sika is a specialty chemicals company with a leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing and protecting in the building sector and the motor vehicle industry. Sika's product lines feature concrete admixtures, mortars, sealants and adhesives, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.

Our most current General Sales Conditions shall apply. Please consult the Product Data Sheets prior to any use and processing.

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