



REFURBISHMENT STRUCTURAL STRENGTHENING

BUILDING TRUST





Beams, abutments and piers on a 30-year-old pre-cast bridge spanning across the Lewes Rehoboth canal in Rehoboth Beach, Delaware had experienced significant spalls and cracks due to its age and misalignment of the girders. The piers also had shear deficiency. SikaWrap systems offered a rapid and durable solution which not only added strength but also enhanced the service life of the piers by protecting it from the elements. SikaWrap Hex 103C HM was installed at 45° angle to optimize its contribution towards the shear strength. The FRP system was coated with Sikagard® -670W to enhance, protect, and add superior light reflectance to the strengthened piers, minimizing any effect on the structure's appearance.



GLOBAL LEADERSHIP

Proven systems built to last

YOUR RELIABLE PARTNER IN STRUCTURAL STRENGTHENING

Used with increasing effectiveness for over 30 years, Fiber Reinforced Polymer (FRP) materials are now used in numerous applications to solve challenging structural strengthening problems. This product group continues to evolve, mature, and transform into one of the most exciting and key product segments for the repair industry. Sika is a global leader in this market, providing a wide array of product offerings, in-depth knowledge from our technical expert team, and a global field experience.

FRP SYSTEMS ARE USED FOR...

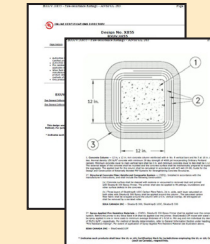
- Repairing damaged structural elements
- Change in building use
- Correcting design and construction defects
- Increasing the capacity of structural members
- Seismic retrofit
- Blast mitigation

TESTED AND APPROVED PRODUCTS BY RENOWNED ORGANIZATIONS

ICC - ES listed products



4 hour UL rated via Sikacrete 213F



Potable water (NSF/ANSI 61) certified



APPLICATIONS



BUILDINGS



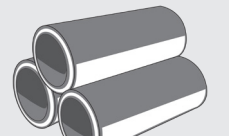
PARKING GARAGES



BRIDGES



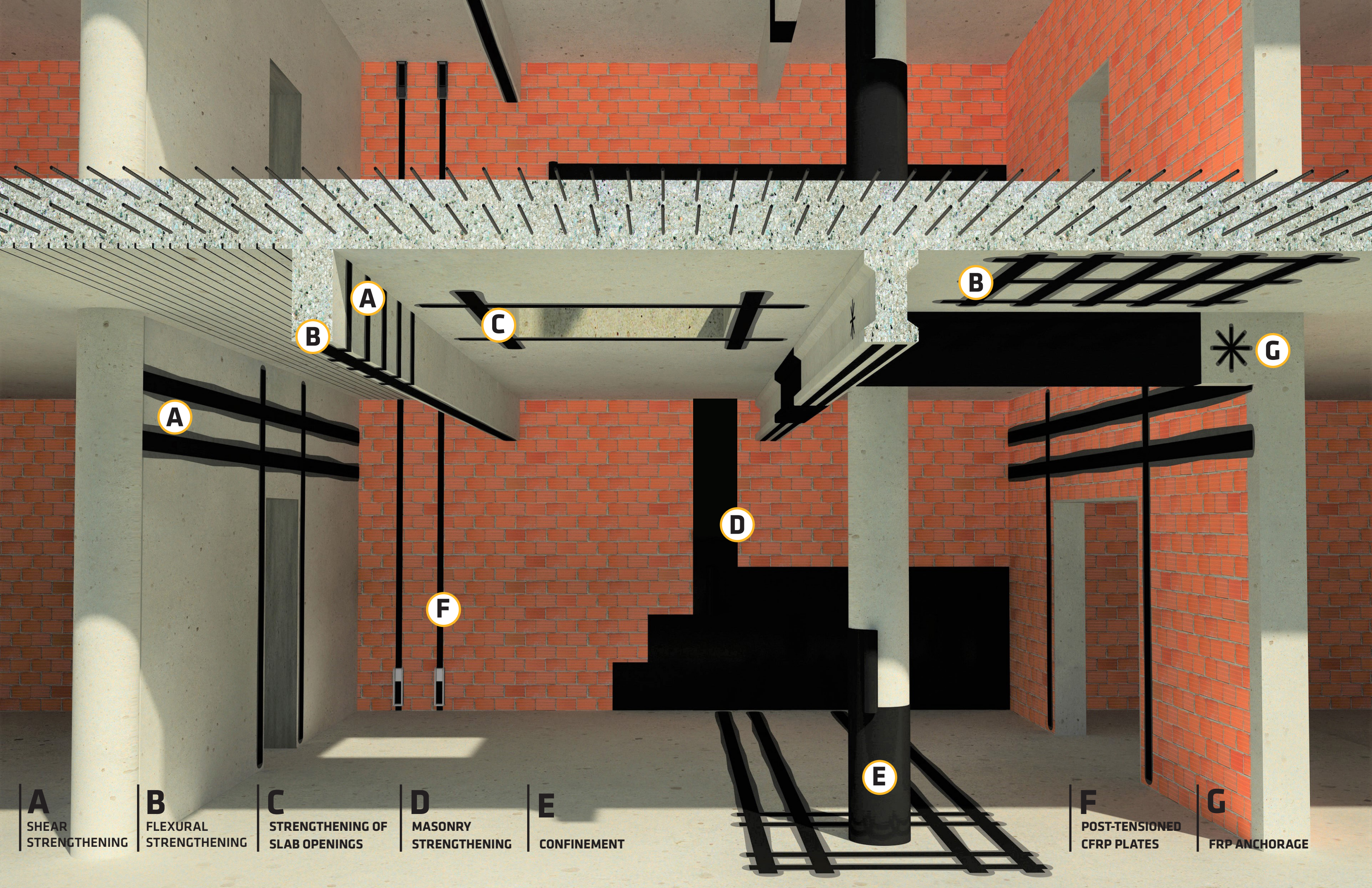
TANKS



PIPES



SCAN HERE TO ACCESS THE ICC-ES REPORT



A
SHEAR
STRENGTHENING

B
FLEXURAL
STRENGTHENING

C
STRENGTHENING OF
SLAB OPENINGS

D
MASONRY
STRENGTHENING

E
CONFINEMENT

F
POST-TENSIONED
CFRP PLATES

G
FRP ANCHORAGE

PRODUCT PORTFOLIO

Diverse and all-encompassing product offerings



SikaWrap® systems are effectively used in strengthening of bridges.



CarboDur® laminates are commonly used to reinforce concrete beams.



SikaWraps' conformability are ideal for column strengthening.



CarboDur® laminates are applied for top strengthening of slabs which can be coated and finished to desired finish.

STRENGTHENING SYSTEMS:

SIKAWRAP®

FIELD SATURATED CARBON AND GLASS FABRIC SYSTEMS

- SikaWrap Hex- 103 C, 103 C HM, 103 C 2X, 117 C, 230 C, 113 C, 115 C, 600 C, 100 G, 106 G

SIKAWRAP® PRE-SATURATED

PRE-SATURATED AND READY TO USE CARBON AND GLASS FABRIC SYSTEMS

- SikaWrap- 103 C, 117 C, 100 G, 430 G Pre-saturated

SIKA® CARBODUR

PRE-CURED CARBON FIBER LAMINATES AND RODS

- CarboDur S1012, S812, S512, 3/8 in Rod, 1/2 in Rod

SIKA® CARBODUR GRID

CARBON FIBER MESH EMBEDDED IN A CEMENTITIOUS MATRIX

- CarboDur -300 Grid

SIKA CARBOSTRESS®

POSTTENSIONED CFRP-PLATES

- Sika StressHead

AUXILIARY PRODUCTS:

SIKAWRAP® ANCHORS

CARBON FIBER ROPE FOR ANCHORING OF SIKAWRAP STRENGTHENING SYSTEMS

- SikaWrap® FX-50 C

SIKADUR®

PRIMER AND SATURATING EPOXIES USED IN SIKAWRAP AND CARBODUR FRP SYSTEM

- Sikadur® Hex 300, 330, 30

SIKACRETE® FIRE PROOFING

WET SPRAYED FIRE PROTECTION MORTAR

- Sikacrete® -213 FSikacrete®

SIKAGARD® TOP COATS

ACRYLIC, UV RESISTANT PROTECTIVE COATINGS

- Sikagard®-670 W, 550W

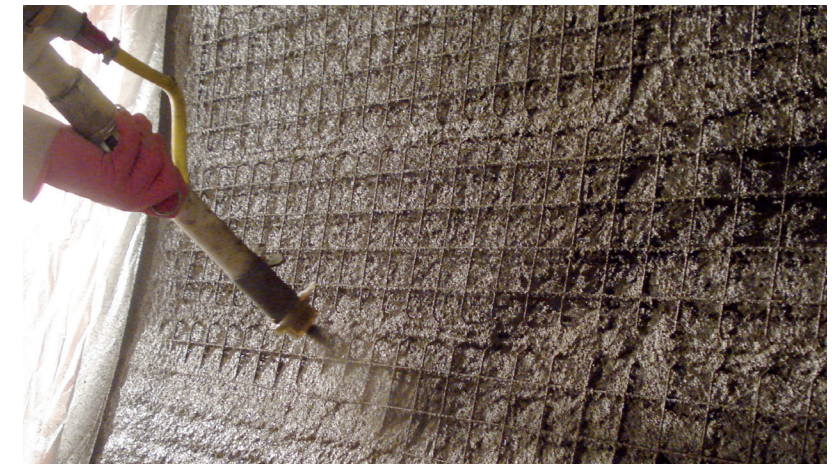
SIKALASTIC®

POLYURETHANE WATERPROOFING & TRAFFIC COATINGS

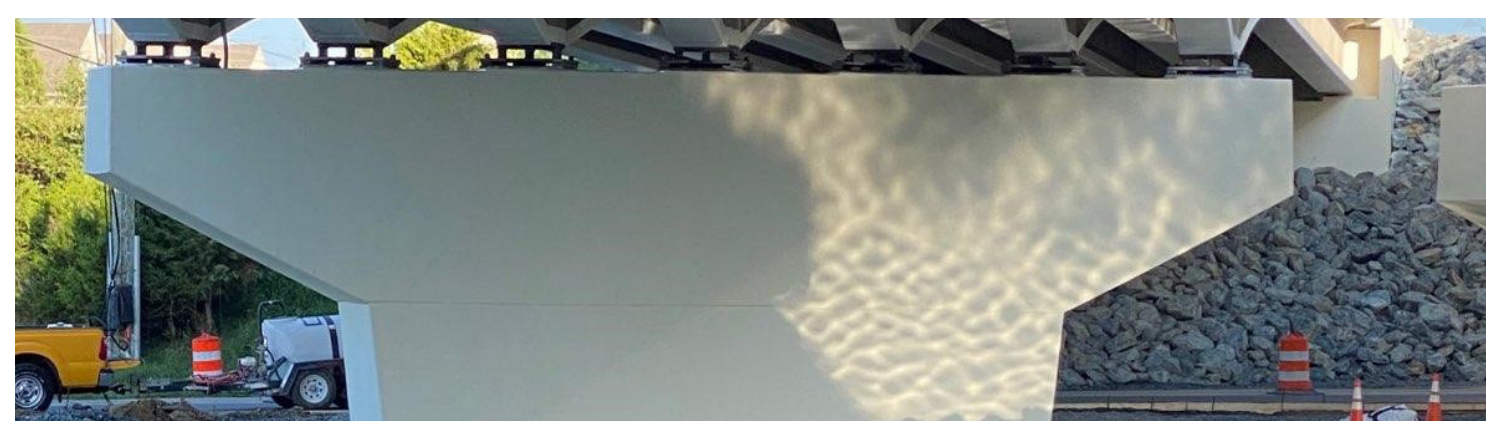
- Sikalastic® 720 One Shot, 745, 735, 715



SikaWrap® FX-50 C is a versatile carbon fiber anchor material which can be sized based on project needs.



Sikacrete(R) 213F, a 4 hour UL rated system with SikaWrap(R), can be wet sprayed to meet building code requirements.



Sikagard® products can be applied as a top-coat to SikaWrap and CarboDur systems in hundreds of standard colors to protect them from UV and weathering exposure.

COURAGE FOR INNOVATION

Unique products offered by Sika

SikaWrap® Pre-Saturated



DESCRIPTION

SikaWrap Pre-saturated are factory saturated carbon and glass fabrics used for structural strengthening.

FEATURES

- Pre-saturated and easy to handle rolls
- Conformable to various geometries
- Light weight
- Low aesthetic impact

KEY BENEFITS

- No fabric saturation required
- Improves productivity
- Consistent resin to fiber ration
- Can be applied underwater

Sika® CarboDur® -300 Grid



DESCRIPTION

Sika® CarboDur®-300 Grid is a bidirectional carbon fiber grid, embedded into SikaCem® -226 CI to create a FRCM system.

FEATURES

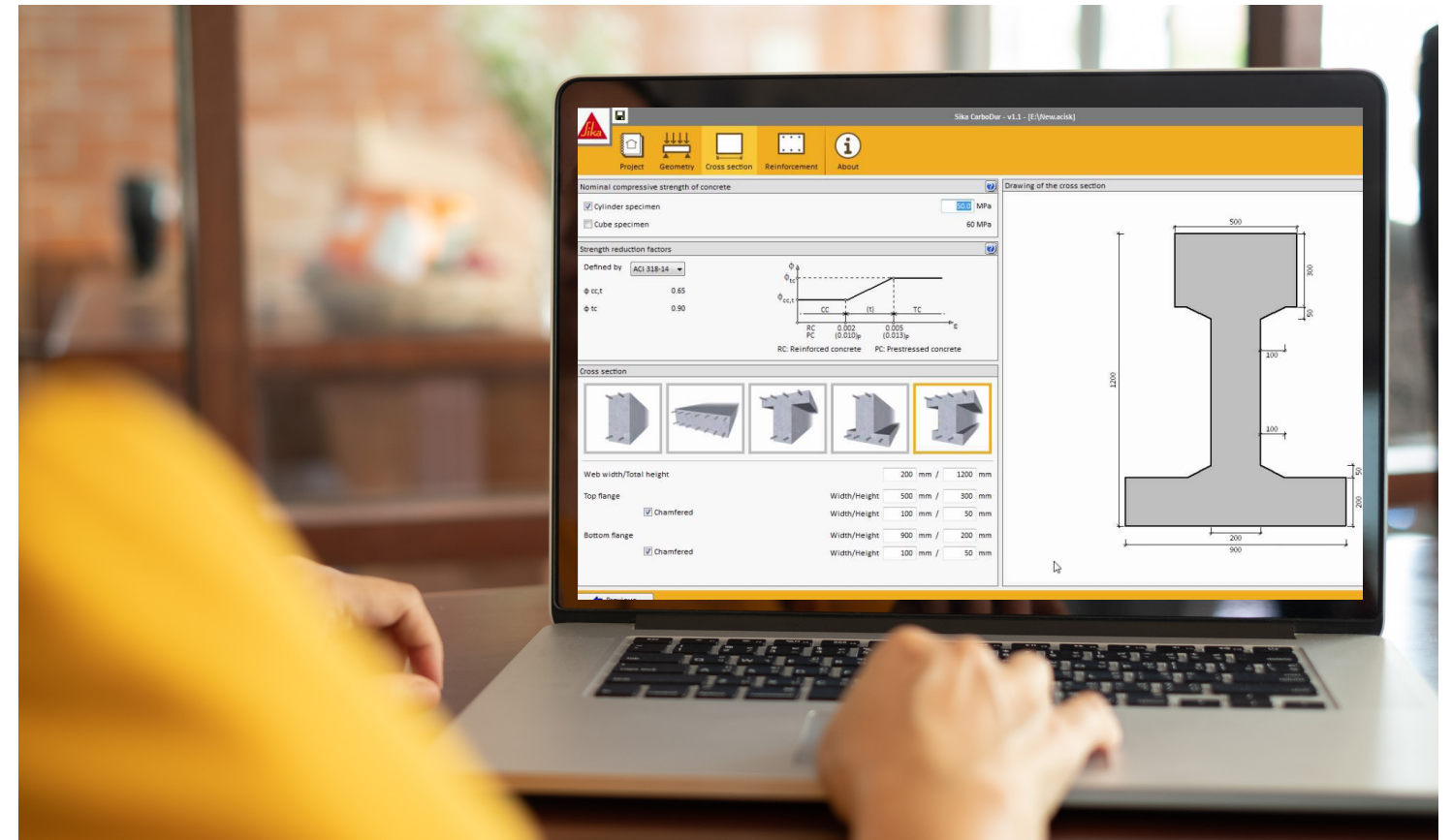
- Applicable on concrete or masonry
- Effective reinforcement in two directions
- Excellent geometric stability
- Corrosion resistant

KEY BENEFITS

- Suitable for damp substrate
- No UV protection required
- No water vapor barrier

SIMPLIFYING THE DESIGN PROCESS

FREE Software For Advanced Structural Design



In addition to expert design support, Sika offers the most complete and powerful FRP strengthening software available- Sika® CarboDur® Calculation Software - to easily design the reinforcement on concrete elements. The software has been developed as a user-friendly, professional design tool, to assist engineers design FRP solutions using Sika's CFRP product range.

KEY FEATURES

- Fully compliant with latest design guidelines
- Fully transparent calculation
- Comprehensive design approach
- User friendly
- Automatic updates
- Free of cost

SOFTWARE CAPABILITIES

- Column strengthening
- Flexural strengthening of beams
- Shear strengthening

SCAN HERE FOR MORE INFO.
ON CARBODUR SOFTWARE



PROJECT GALLERY

FORTIFYING STRUCTURES THROUGH PAST AND PRESENT



OHIO HORSESHOE STADIUM



Owner: Ohio State University
Location: Columbus, Ohio
Year: 2001
Product: SikaWrap® 103C

Application:
 Strengthening of columns

Significance:
 Meet the building code / time sensitive repair

Awards:
 ICRI Project of the Year - 2001

Image courtesy of www.flickr.com



LAGUARDIA AIRPORT



Owner: Port Authority of NY/NJ
Location: Flushing, NY
Year: 2003
Product: Sika® CarboDur®

Application:
 Strengthening of deck

Significance:
 Time sensitive project using CFRP with success for one of the busiest airports in the nation

Image courtesy of www.flickr.com



ALCATRAZ



Owner: National Park Services
Location: San Francisco, CA
Year: 2005
Product: SikaWrap® 100G / 103C

Application:
 Structural strengthening of beams

Significance:
 Change of use and upgrade of office building

Award:
 ICRI Award of Excellence - 2005



CAMP VERDE WASTEWATER TREATMENT PLANT



Owner: Camp Verde Sanitary District
Location: Camp Verde, AZ
Year: 2010
Product: SikaWrap®

Application:
 Strengthening of walls

Significance:
 A new construction structural defect, successfully addressed using CFRP

Awards:
 ICRI Award of Excellence - 2010



DEARBORN RESERVOIR



Owner: City of Redlands
Location: Redlands, CA
Year: 2015

Product: SikaWrap Hex 103C and SikaWrap FX 50

Application:
 Shear strengthening of reservoir beams

Significance:
 Sika's CFRP system offered a strengthening solution which had to be potable water compliant



HIBERNIA BANK BUILDING



Owner: One Jones Street
Location: San Francisco, CA
Year: 2016

Product: SikaWrap 103C and Sika CarboDur3/8" Rods

Application:
 Seismic retrofit of roof diaphragm

Significance:
 Strengthening of a complex and advanced structure built in 1892

Awards:
 ICRI Project of the Year - 2016



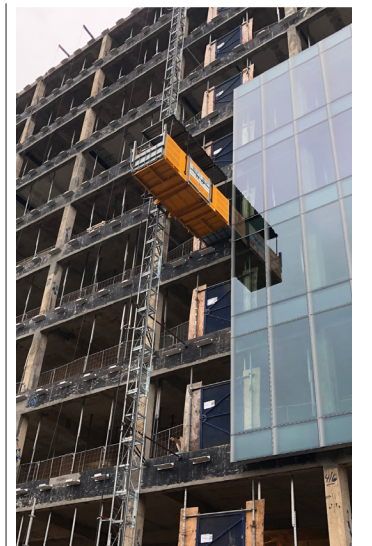
RFK BRIDGE



Owner: The Metropolitan Transportation Authority
Location: New York City, NY
Year: 2018
Product: SikaWrap -103 C Pre-Saturated

Application:
 Strengthening of pile caps and piles

Significance:
 Continued operation of a significant transit system using quick-to-install Pre-saturated FRP system



SSA'S ALTMAYER BUILDING



Owner: Social Security Administration
Location: Baltimore, MD
Year: 2021
Product: SikaWrap 103C

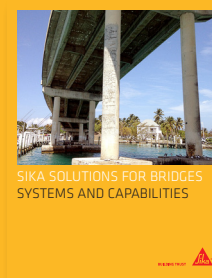
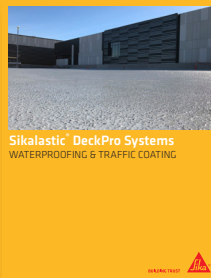
Application:
 Shear and flexural strengthening of beams and slab openings

Significance:
 Adaptive reuse of office space made possible by CFRP systems

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.

RELATED BROCHURES



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

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