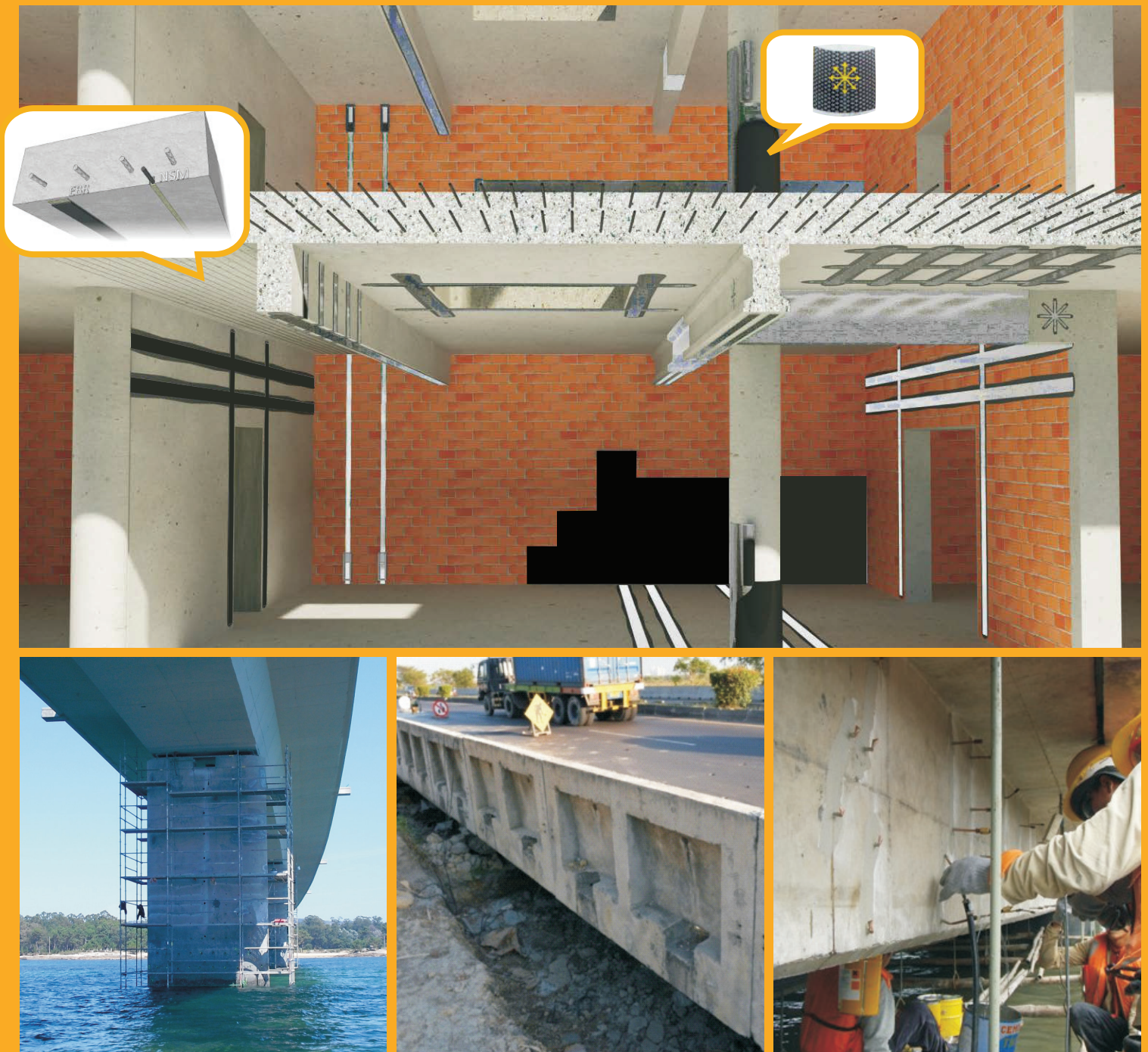




REFURBISHMENT REPAIR & STRUCTURAL STRENGTHENING WITH SIKA SYSTEMS

BUILDING TRUST

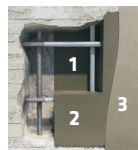




PATCHING

REPAIR METHOD FOR SMALL HONEYCOMBS OR CAVITIES, WITH MONOMER OR POLYMER

Product Name	Description	Based	Mix Density (kf/l)	Mix Thickness (mm)	Flexural Strength (Mpa)	Comp. Strength			
						1 day	3 days	7 days	28 days
SikaTop®-144 ID	Protective Coating	Liquid Polymer	1.62	-	-	-	-	-	-
SikaTop®-121	Polymer modified repair mortar	Liquid Polymer	2.1	5	10	-	-	30	42
SikaTop®-122	Fibre reinforce, polymer modified, repair mortar	Liquid Polymer	2.2	20	12	-	-	40	52
SikaMonoTop®-613 IND	Fibre Repair Mortar	Powder Polymer	2.05	40	10	12	-	35	45
SikaEmaco® S5400 ID	High-strength, shrinkage compensated, fibre reinforced structural repair mortar	Powder Polymer	2.2	50	-	-	-	-	60
SikaMonoTop®-615 HB	High Build Polymer Modified Repair Mortar	Powder Polymer	1.8	50	10	19	-	30	40
Sikadur®-732	Epoxy Bonding Agent	Epoxy	1.45	-	39	-	-	> 60	> 63
Sikadur®-41 CF Normal	3-part Thixotropic Epoxy Patching Mortar	Epoxy	1.98	60	33 - 43	67 - 77	76 - 86	77 - 87	-
SikaEmaco® T288 ID	Rapid hardening mortar (CS 40 MPa at 4 hours) thickness 35 - 150 mm	Powder Polymer	2.3	150	-	50	-	-	60
Sikaquick® 2500 ID	Rapid hardening mortar (CS 24 MPa at 3 hours) thickness 5 - 30 mm	Powder Polymer	2.3	30	-	30	-	-	60



1. Sika MonoTop®-910 N / SikaTop®-121 / Sikadur®-732
2. SikaTop®-122 / Sika MonoTop®-613 IND / Sika MonoTop®-615 HB / Sikadur®-41 CF Normal/SikaEmaco®S5400 ID
3. SikaTop®-144 / SikaTop®-121

GROUTING

REPAIR METHOD FOR SMALL HONEYCOMBS OR CAVITIES, WITH NON-SHRINK MATERIALS

Product Name	Description	Based	Mix Density (kf/l)	Flexural Strength (Mpa)	Comp. Strength			
					1 day	3 days	7 days	28 days
Sikagrout®-200 PT - id	High Performance, zero bleed, sand free, cementitious grout for post tensioned structures and anchor bolting grout	Cement	2.1		25	35	45	55
Sikagrout® FM	High performance Cementitious Grout	Cement	2.19	5	20	35	40	65
Sikagrout®-215 (new)	High Precision, General Purpose, Non Shrink Cementitious Grout	Cement	2.26	6	20	40	52	67
Sikagrout®-214 - 11 ID	High Strength Non Shrink Cementitious Grout	Cement	2.19	6.5	27	44	60	72
Sikagrout®-215 M	High Strength Non Shrink Cementitious Grout for Marine Structure and Concrete Repair	Cement	2.18	8	28	45	62	73
Sikadur®-280 HS	High Precision, Iron Aggregate & Micro Fibre Reinforced, Non Shrink Cementitious Grout	Cement	2.28	18	40	60	73	88
Sikadur®-42 MP Slow HC	3 Parts, Multi Purpose Epoxy Grouting System	Epoxy	2.13	35	90	97	102	-
Sikagrout®-815 ID	High Strength, Non shrink Cementitious Grout with Aggregate for thickness up to 500 mm	Cement	-	-	24	40	52	63
Sikagrout®-870 ID	High Strength Non Shrink Cementitious Grout	Cement	2.2	> 6.5	30	-	63	78

SHOTCRETE

REPAIR METHOD FOR BIG AREA, BY SHOTCRETING WITH ADMIXTURE

Sigunit®-D450 AF-ID

Alkali free powder accelerator for shotcreting

SikaCrete®-Gunite-103

1-component prepack gunite applied mortars



ADMIXTURE POWDER - DRY MIX

Properties	Type	Form	Density (kg/L)	Dosage
Sigunit®-D450 AF-ID	Mineral Based - Alkali Free	Powder	0.88	For layer thickness of up to 150 mm in one pass, dosage 3% - 6% of weight of binder



PREPACK GUNITE

Properties	Based	Density (Kg/L)	Max. Thickness (mm)	Flexural Strength (MPa)		Comp. Strength (MPa)		
				7 Days	28 Days	1 Day	7 Days	28 Days
SikaCrete®-Gunite-103	Cement	2.2	vertical surface : almost unlimited overhead surface : 100 - 150 mm	5.5	7	17	40	50

INJECTION

REPAIR METHOD FOR CRACKING, WITH EPOXY MATERIALS

CRACK INJECTION

Sikadur®-31 CF Normal

2-part thixotropic epoxy adhesive

Sikadur®-752

Low viscosity epoxy resin injection



Properties	Based	Density (Kg/L)	Viscosity	Flexural Strength (MPa)	Comp. Strength (MPa)			
					1 Day	3 Day	7 Day	28 Day
SikaDur®-31 CF Normal	Epoxy	1.90 ± 0.1 (A+B)	Thixotropic	30 - 40	50 - 60	60 - 70	60 - 70	-
SikaDur®-752	Epoxy	1.08	180 ± 25 cps	40	-	-	90	105

LEAKAGE INJECTION

Sika®-102

Permanent Waterplug

Sika® Injection - 101 AP

Polyurethane flexible injection resin for waterstopping



SIKA STRENGTHENING SYSTEMS

Sika® CarboDur® System

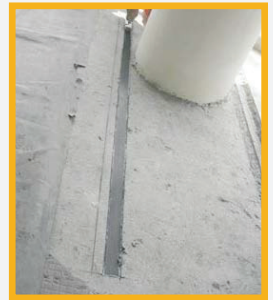
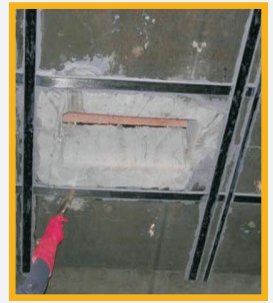
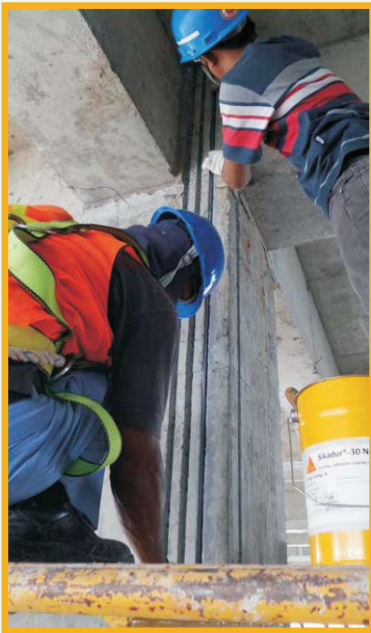
It consists of Sika® CarboDur® CFRP Plates and Rods, together with the structural epoxy resin based adhesives Sikadur®-30. Mostly used for flexural strengthening of dynamic and static loaded structures such as bridges, buildings or factories. This simple, tested and well proven, highly durable system has outstanding performance.

SikaWrap® Fabric Strengthening System

It consists of woven or stitched, unidirectional, carbon fibre fabrics SikaWrap® and Sikadur® impregnating resins. Sikadur®-330 or Sikadur®-300. The installation is extremely flexible and accommodating of different surface planes and geometry, making this a very multi functional material for many applications including confinement, shear, seismic upgrading and weak substrate strengthening.

Product	Tensile Strength (MPa)	E-modulus (MPa)	Strain at failure (%)	Thickness (mm)	Width / Diameter (mm)
Sika® CarboDur® - Plate					
S-512	3100	165,000	> 1.7	1.2	50
S-812	3100	165,000	> 1.7	1.2	80
S-1012	3100	165,000	> 1.7	1.2	100
Sika® CarboDur® - Rod					
BC 8	3100	148,000	> 1.7	-	ø8
BC 10	3100	148,000	> 1.7	-	ø10
SikaWrap® FX50C (Flexible Rod)	4000	240,000	> 1.6	area : 28 mm²	
SikaWrap® - Fabric					
231C	4900	230,000	> 1.7	0.129	500
301C	4900	230,000	> 1.7	0.167	500
600C	4000	230,000	> 2.1	0.331	500
SikaWrap®-FIB *epoxy using Sikadur® P3500 ID and Sikadur® SAT 4500 ID	4900	230,000	> 2.1	0.167	500
Product	Tensile E-modulus (MPa)		Tensile Strength (MPa)	Adhesive Strength on Concrete (MPa)	
Epoxy Adhesive for Sika®- CarboDur® Plate and Rod					
Sikadur®-30	11,200		26	> 2	
Epoxy Adhesive for Sika® Wrap Fabric					
Sikadur®-330	4500		30	> 2	
Sikadur®-300	3500		45	> 2	
Epoxy Impregnation for SikaWrap®FX50C					
Sikadur®-752	1,060		40	> 2	

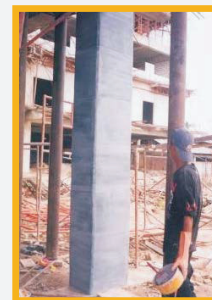
FLEXURAL STRENGTHENING



SHEAR STRENGTHENING



CONFINEMENT STRENGTHENING





SikaGrout®
340
25 kg

SikaGrout®
340
25 kg

SikaGrout®
340
25 kg

SikaGrout®
340
25 kg

SikaGrout®
340
25 kg

REPAIR WITH SIKA SYSTEMS

THE SUCCESSFUL REPAIR OF CONCRETE STRUCTURES WHICH HAVE BEEN DAMAGE OR WHICH HAVE DETERIORATED REQUIRES PROFESSIONAL ASSESSMENT, THEN DESIGN, SUPERVISION AND EXECUTION OF A TECHNICALLY CORRECT STRATEGY

The key stage in the process are :

- Assessment survey of the condition of structure
- Diagnosis of the cause of deterioration
- Determine the repair objectives
- Select the appropriate method and material for repair application on the site

Selection of repair methods and materials depend on :

- Type of deterioration
- Area and thickness of deterioration
- Constructability
- Environment (durability)
- Time
- Cost
- Skills of workmanship

STRUCTURAL STRENGTHENING WITH SIKA SYSTEMS

Many of strengthening methods that can be found, however, strengthening with the Carbon Fiber Reinforced Polymer (CFRP) methods are more popular nowadays, CFRP method has to be done with a correct comprehension in the design and execution of the strengthening.

Reason for Strengthening :

- Load increases
- Damage to structural parts
- Improvements in suitability for use
- Modification of structural system
- Errors in planning or construction

Advantages of CFRP Strengthening :

- Very high tensile strength
- Light weight
- Very easy application (Flexible in installation)
- Application in any length
- Application even under dynamic load
- Fully corrosion resistant

WHO WE ARE

Sika is a globally active specialty chemicals company. Sika supplies the building and construction industry as well as manufacturing industries (automotive, bus, truck, rail, solar and wind power plants, facade). Sika is a leader in processing materials used in sealing, bonding, damping, reinforcing and protecting load-bearing structures. Sika's product lines feature high quality concrete admixtures, specialty mortars, sealants and adhesive, damping and reinforcing materials, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.



Our most current General Sales Conditions shall apply
Please consult the most current local Product Data Sheet prior to any uses

PT. Sika Indonesia

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