



# INNOVATIVE SOLUTIONS FOR METRO CONSTRUCTIONS

BUILDING TRUST



# SIKA SOUTH EAST ASIA



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# METRO CONSTRUCTION

## SIKA SYSTEMS SOLUTIONS



Innovative Solutions for Metro Construction brochure provides an overview of Sika's solutions, which can be applied or used in the various parts of Metro Construction projects.

Huge construction projects are combining several individual projects - this brochure summarizes Sika's product suggestions for **Concrete Production** and **On Site Construction**.

At the end of the brochure, the overall **Sika Concrete Repairs and Protections Solutions** are presented.

**04** Concrete Production - Ready Mix Concrete

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**05** Concrete Production - Precast Concrete

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**06** Concrete Production - On Site Concrete

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**On Site Construction** - Sika products for:

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**07-08** Elevated Depot

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**09-10** Elevated Line

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**11-13** Elevated Station

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**14-15** Underground Line

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# CONCRETE PRODUCTION READY MIX CONCRETE



For all parts of the METRO system a large amount of concrete will be produced and used.

Besides that, the concrete to be used will be either in situ concrete or precast concrete requiring different strength and consistency.

Hereafter the summary of Sika admixtures, additives and essentials products suitable for the production of durable concrete.

## READY MIX CONCRETE SUPPLIERS – CONCRETE PRODUCTION

SIKA PRODUCTS	DESCRIPTION	NORM	TYPICAL USE
<b>Plastocrete® Plastiment®</b>	Water reducing admixture with set retarding effect	ASTM C 494 B & D	Bored pile
<b>Sikament®</b>	High range superplasticiser	ASTM C 494 G & F	High workability concrete with long slump life for pumpable concrete
<b>Sika® ViscoCrete®</b>	High range polycarbo-xilates superplasticiser	ASTM C 494 G & F	Admixture for Self Compacting Concrete
<b>Sika® ViscoFlow®</b>	Workability enhancing admixture	EN 934-2, table 10	Adjustable workability time base on project without negative effect on early strength development
<b>SikaPlast®</b>	Polycarboxilates modified mid range water reducing	ASTM C 494 A & D	High workability concrete with long slump life

## READY MIX CONCRETE SUPPLIERS – CONCRETE ESSENTIALS

SIKA PRODUCTS	DESCRIPTION	TYPICAL USE
<b>Separol® Sika® Form Oil</b>	Range of formwork release agent for wooden or steel formwork	Form work protection and uniform concrete colour and texture
<b>Rugasol® series</b>	Concrete surface retarder compound	When the production of exposed aggregate is required
<b>Antisol® series</b>	Range of curing compound material Tested according ASTM C 309-81	Preventing premature water lost. Reduces incidence of plastic shrinkage

# CONCRETE PRODUCTION

## PRECAST CONCRETE



For all parts of the METRO system a large amount of concrete will be produced and used.

Besides that, the concrete to be used will be either in situ concrete or precast concrete requiring different strength and consistency.

Hereafter the summary of Sika admixtures, additives and essentials products suitable for the production of durable concrete.

### PRECAST CONCRETE SUPPLIERS – CONCRETE PRODUCTION

SIKA PRODUCTS	DESCRIPTION	NORM	TYPICAL USE
<b>Sikament® F Series</b>	High range superplasticiser	ASTM C 494 F	High water reduction for early strength development
<b>Sika® ViscoCrete®</b>	Polycarboxilates hyperplasticiser water reducing	EN 934-2	High performance concrete admixture design for precast concrete
<b>SikaFiber® CHO 80/60 NB</b>	Galvanized glued steel fibers with hook end	ASTM A 820	Use as reinforcement for precast segments production
<b>SikaFiber® PP Micro</b>	high quality, 100% virgin, monofilament polypropylene fibre,	Tests report available	Specialy designed for the prevention of concrete spalling in the event of fire. Reduce the occurrence of plastic shrinkage and plastic

### PRECAST CONCRETE SUPPLIERS – CONCRETE ESSENTIALS

SIKA PRODUCTS	DESCRIPTION	TYPICAL USE
<b>Separol® Sika® Form Oil</b>	Range of formwork release agent for wooden or steel formwork	Form work protection and uniform concrete colour and texture
<b>Sika® BondBreaker W</b>	Water repellent, wax base bond breaker	Use for “match-cast” concrete production
<b>Rugasol® series</b>	Concrete surface retarder compound	When the production of exposed aggregate is required
<b>Antisol® series</b>	Range of curing compound material Tested according ASTM C 309-81	Preventing premature water lost. Reduces incidence of plastic shrinkage

# CONCRETE PRODUCTION ON SITE CONCRETE



For all parts of the METRO system a large amount of concrete will be produced and used.

Besides that, the concrete to be used will be either in site concrete or precast concrete requiring different strength and consistency.

Hereafter the summary of Sika admixtures, additives and essentials products suitable for the production of durable concrete.

## ON SITE CONCRETE PRODUCERS – CONCRETE PRODUCTION

Sika concrete admixtures designed for **ready mix concrete** or **precast concrete** can be used as well by main contractors at site batching plant. Below others products completing sika products range for concrete production at site

SIKA PRODUCTS	DESCRIPTION	NORM	TYPICAL USE
<b>SikaRapid®</b> range	Hardening concrete admixture	EN 934-2	Increase 6 to 8 hours early strength. Can be added on site into mixer truck
<b>SikaFiber® CHO 65/35 NB</b>	Galvanized glued steel fibers with hook end	ASTM A 820	For steel fibres reinforced sprayed concrete. Can be added prior spraying
<b>SikaFiber® Force PP Macro</b>	Polyolefin macro-synthetic fibres for fibre reinforced shotcrete and concrete	Tests report available	Highly corrosive environments resistance. Typical applications: sprayed concrete, pre-cast, slabs on ground among many other applications. Length range from 48 to 65 mm

## ON SITE CONCRETE PRODUCERS – CONCRETE ESSENTIALS

SIKA PRODUCTS	DESCRIPTION	TYPICAL USE
<b>Separol® Sika® Form Oil</b>	Range of formwork release agent for wooden or steel formwork	Form work protection and uniform concrete colour and texture
<b>Rugasol® series</b>	Concrete surface retarder compound	When the production of exposed aggregate is required
<b>Antisol® series</b>	Range of curing compound material Tested according ASTM C 309-81	Preventing premature water lost. Reduces incidence of plastic shrinkage

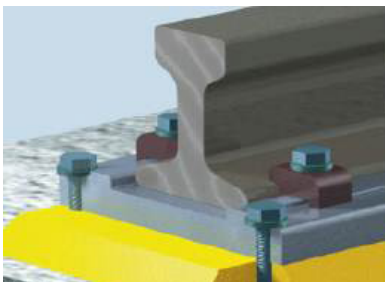
## ON SITE CONCRETE PRODUCERS – CONCRETE PROTECTION

SIKA PRODUCTS	DESCRIPTION	TYPICAL USE
<b>Sikagard® range</b>	Range of colourless water base or solvent containing Hydrophobic impregnation.	Concrete protectionsuch as reduction of capillary water absorption, protection against driving rain and splashing on vertical areas

# ON SITE CONCRETE ELEVATED - DEPOT



Any METRO systems need a Depot where rolling stock will be stored, maintain or even repaired. Usually located above ground, they consist of large hangar where different and specific facilities will take place. These structure are usually made of concrete and steel. Here below Sika products for Depot construction.



## GROUTING & FIXING

### SikaGrout®, Sikadur®, Icosit®

Cementitious, Epoxy or Polyurethane structural grout for columns fixing, rails fixing with outstanding mechanical performances and vibration & noise reduction

SikaGrout® xxx  
Sikadur® 42 xx  
Icosit® KC range

Non-shrink definition as per ASTM C 1107 applies  
Tested according to EN 1504-6:2006,  
2-Pack Polyurethane Grout for Rail Fixing



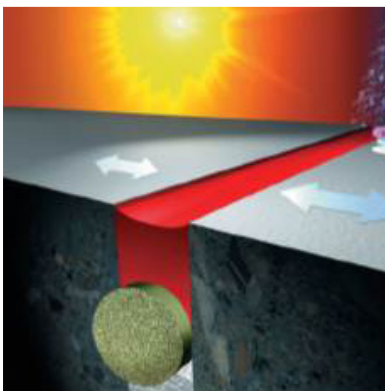
## FLOORING

### Sikafloor®

Range from Cementitious to self levelling Epoxy flooring system providing abrasion, chemical resistance of the ground floor

Chapdur®  
Sikafloor®  
Sikafloor® EpoCem®  
Sikafloor® PurCem®  
Sikafloor® ColourSeal

Dry shake hardener  
Large range of epoxy resin for the application of primer, roller coat, screed and self levelling.  
Temporary moisture barrier based on epoxy and cement binder prior primer application  
Water dispersed medium to high strength coloured polyurethane modified, cement and aggregate screed  
Coloured solvent based acrylic resin polymer solution used to cure, harden and seal fresh or hardened concrete.



## SEALING & BONDING

### Sikaflex®, SikaHyflex®, SikaSil®

Sikaflex® range

Polyurethane high performance joint sealant for concrete joint

SikaHyflex® range

Range of 1-component, moisture-curing, elastic joint sealant. Low or high modulus version available  
Fire Resistant (Intumescent) Joint Sealant

Sika® Firerate

Sikasil®-670 Fire

Fire rated, 1-component, moisture-curing, low-modulus elastic joint sealant.

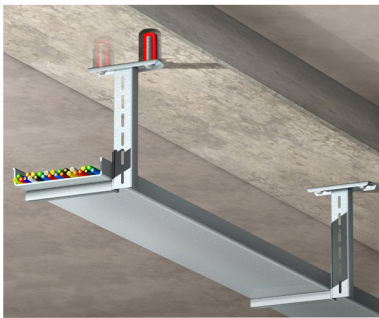
Sikacryl®-620 Fire

Fire rated connection joints and penetration seals on porous and non-porous substrates.

Sikaflex®-400 Fire

Fire rated, 1-component, moisture-curing, elastic joint sealant.

# ON SITE CONCRETE ELEVATED - DEPOT



## STRUCTURAL ANCHORING & FIXING

### Sika® AnchorFix®

- Sika AnchorFix®-1 Solvent- and styrene free based two part polyester anchoring adhesive
- Sika AnchorFix®-2 Solvent and styrene free, epoxy acrylate based, two part anchoring adhesive.
- Sika AnchorFix®-2 Tropical Solvent- and styrene free, epoxy acrylate based, two part anchoring adhesive for tropical/hot climate conditions
- Sika AnchorFix®-3+ High-performance, 2-part epoxy anchoring adhesive



## FIRE PROTECTION SYSTEMS

### Sika® Unitherm®

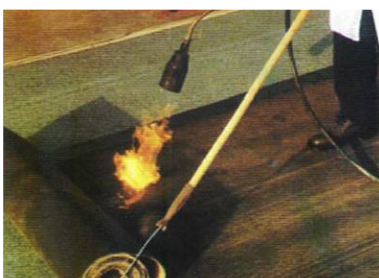
- Sika® Unitherm® Intumescent coating system for steel structures and electrical cable  
Fire protection system approval: ASFPCM, BSI FM 832, Deutscher Institut für Bautechnik, BAM (Z-19.11-290), FM approval class 4970



## PROTECTIVE COATING

### Sikagard®, Sika® Poxitar® F

- Sikagard® range Epoxy base protective coating for steel or concrete
- Sika® Poxitar® F



## ROOF WATERPROOFING

### Sarnafil®, Sika® BituSeal®

- Sika® Sarnafil® State of the Art of PVC waterproofing membrane for exposed, concealed roof. Application on concrete or steel roof
- Sika® BituSeal® Self adhesive or torch applied bitumen based waterproofing sheet



# ON SITE CONCRETE ELEVATED - LINE



Elevated systems are built as Viaduct construction, where large parts of the structure require typically Reinforced Concrete structures.

These structures are constructed as pure in situ concrete casting or combinations of in situ concrete and precast concrete elements.

Hereafter, Sika solutions for on site Viaduct construction.



## GROUTING

Cementitious, Epoxy or Polyurethane structural grout for columns fixing, rails fixing with outstanding mechanical performances and vibration & noise reduction

## SikaGrout®, Sikadur®

SikaGrout® xxx  
Sikadur® 42 xx

Non-shrink definition as per ASTM C 1107 applies  
Tested according to EN 1504-6:2006,



## PRESTRESSED CABLE DUCTS

Sika® Intraplast®

Injection aid and expanding agent for on site cementitious grout.

## Sika® Intraplast®

Liquid or powder form



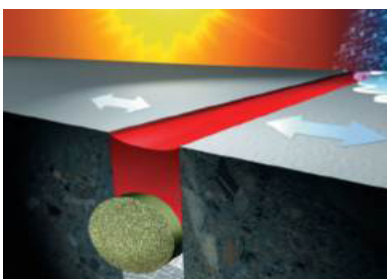
## RAIL FIXING

Icosit® KC range

2-Pack Polyurethane structural grout for rails fixing with outstanding mechanical performances and vibration & noise reduction.

## Icosit®

Polyurethane Grout for Rail Fixing



## SEALING & BONDING

Sikaflex® range

Polyurethane high performance joint sealant for concrete joint

## Sikaflex®, SikaHyflex®

SikaHyflex® range

Range of 1-component, moisture-curing, elastic joint sealant. Low or high modulus version available

# ON SITE CONCRETE ELEVATED - LINE



## Sikadur® 31 SBA

Thixotropic, structural two part adhesive especially formulated for segmental bridge construction.

Type: 02 for use on substrate temperatures between + 30°C to 45°C

Type: 08 for use on substrate temperatures between + 40°C to 60°C



# ON SITE CONCRETE ELEVATED - STATION



Several elevated Stations will take place along the Line.

These structures, build in reinforced concrete systems, shall allow easy passengers movements.

Due to its particularity, the structure shall offer a safe and friendly environment, where various facilities will be part of the whole station system, requiring diverse construction systems

Hereafter, Sika solutions for on site Station construction.



## GROUTING

Cementitious, Epoxy or Polyurethane structural grout for columns fixing, rails fixing with outstanding mechanical performances and vibration & noise reduction

## SikaGrout®, Sikadur®

SikaGrout® xxx  
Sikadur® 42 xx

Non-shrink definition as per ASTM C 1107 applies  
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## PRESTRESSED CABLE DUCTS

Sika® Intraplast®

Injection aid and expanding agent for on site cementitious grout.  
Liquid or powder form

## Sika® Intraplast®



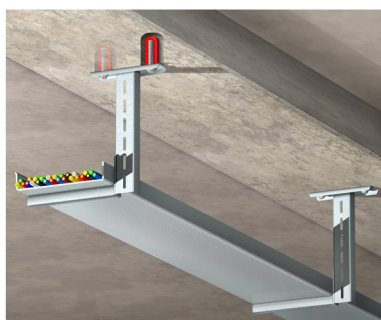
## RAIL FIXING

Icosit® KC range

2-Pack Polyurethane structural grout for rails fixing with outstanding mechanical performances and vibration & noise reduction.  
Polyurethane Grout for Rail Fixing

## Icosit®

# ON SITE CONCRETE ELEVATED - STATION



## STRUCTURAL ANCHORING & FIXING

### Sika® AnchorFix®

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- Sika AnchorFix®-2 Solvent and styrene free, epoxy acrylate based, two part anchoring adhesive.
- Sika AnchorFix®-2 Tropical Solvent- and styrene free, epoxy acrylate based, two part anchoring adhesive for tropical/hot climate conditions
- Sika AnchorFix®-3+ High-performance, 2-part epoxy anchoring adhesive



## FIRE PROTECTION SYSTEMS

### Sika® Unitherm®

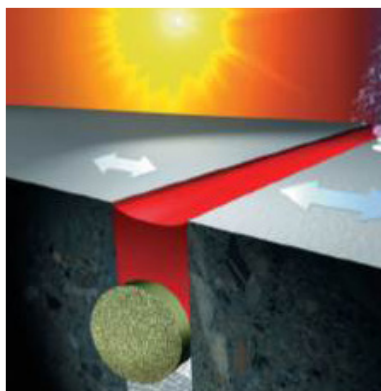
- Sika® Unitherm® Intumescent coating system for steel structures and electrical cable
- Fire protection system approval: ASFPCM, BSI FM 832, Deutscher Institut für Bautechnik, BAM (Z-19.11-290), FM approval class 4970



## PROTECTIVE COATING

### Sikagard®, Sika® Poxitar® F

- Sikagard® range Epoxy base protective coating for steel or concrete
- Sika® Poxitar® F

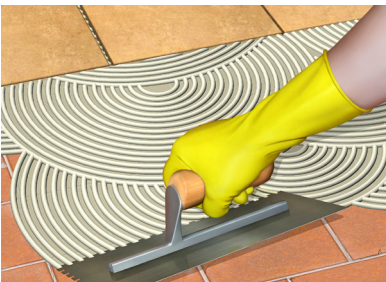


## SEALING & BONDING

### Sikaflex®, SikaHyflex®, SikaSil®

- Sikaflex® range Polyurethane high performance joint sealant for concrete joint
- SikaHyflex® range Range of 1-component, moisture-curing, elastic joint sealant. Low or high modulus version available
- Sika® Firerate Fire Resistant (Intumescent) Joint Sealant
- Sikasil®-670 Fire Fire rated, 1-component, moisture-curing, low-modulus elastic joint sealant.
- Sikacryl®-620 Fire Fire rated connection joints and penetration seals on porous and non-porous substrates.
- Sikaflex®-400 Fire fire rated, 1-component, moisture-curing, elastic joint sealant.

# ON SITE CONCRETE ELEVATED - STATION



## BUILDING FINISHING

SikaCeram® range

SikaCeram®  
Premium Grout

Sika® Skim Coat

Cementitious high performance tiles adhesive meeting requirements classes C1,C2, D & R and tile grouting.

Cementitious grout filler for ceramic tile joint

Powder for surface finishing

## SikaCeram®, OPTIROC



## ROOFING

Sikalastic®

Range of modified polyurethane base liquid applied elastic membrane

## Sikalastic®



## WATERPROOFING LINING

SikaProof® Membrane  
SikaTop® Seal 107

**SikaProof® Membrane , SikaTop® Seal 107**  
Bitumen modified elastic liquid applied membrane  
Flexible Protective and Waterproofing Slurry. 2 components mortar for basement, wet area, drinking water tank. Sikagard® range Epoxy base protective coating for steel or concrete



## INTERIOR SEALING

SikaBoom® AP

1-part, multi-position, highly expansive fixing foam

## SikaBoom® AP

# ON SITE CONCRETE UNDERGROUND - LINE



The use of TBM-technology is the most common excavation method due to the local geology and hydrology. Once built, the tunnel system shall guarantee a safe and a dry environment for any Metro users. Optimized cost and easy maintenance will be the key objectives for any solutions. Hereafter, Sika solutions for on site Underground Line construction.



## PRODUCTS FOR TBM

## Sika® Foam, Sika® Stabilizer, Sika® Drill

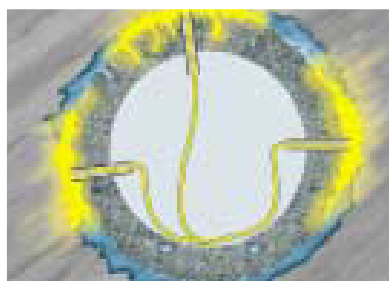
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| Sika® Foam TBM       | Range of foam surfactant agent for ground excavation in tunnels driven by EPB TBM.                 |
| Sika® Stabilizer TBM | Range of grease for first filling, continuous filling (tail sealing) and main bearing grease       |
| Sika® Drill TBM      | Range natural polymer liquid viscosifier and stabilizer for foams and other water dispersed fluids |



## 2 COMPONENTS GROUT

## Sika® Bentonite, Sika® Set, Sika® Stabilizer

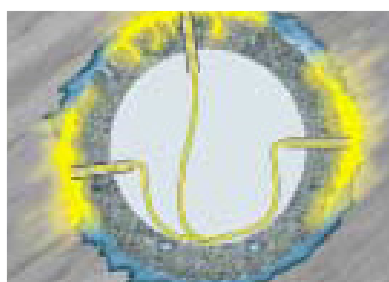
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| Sika® Bentonite                    | Natural sodium bentonite, a chemically stable clay that provides predictable long term performance suitable for many types of civil engineering applications. |
| Sika® Set GV<br>(Sika® Injectoset) | Set accelerating admixture for cement / bentonite stabilized and retarded injection grouts  |
| Sika® Stabilizer BF                | Liquid admixture for stabilizing and retarding cement/ bentonite grout  |



## REACTING RESIN GROUTING - POLYURETHANE

## SikaFix®

- |              |  |
|--------------|--|
| SikaFix®-1xx | (2 K PU Foaming resin) a quickly foaming (45 sec) resin with short reaction times. Foams in contact without and with water up to 10-20 times   |
| SikaFix®-2xx | (2 K PU (compact) Resin) is a quick-reacting (40 sec) resin with short reaction times and high final strength (80 N/mm <sup>2</sup> ). Foams slightly in contact with water up to 3 times. |



## REACTING RESIN GROUTING - SILICATE

## SikaFix®

- |              |  |
|--------------|--|
| SikaFix®-5xx | (2 K Silicate Foaming Resin) quickly foaming (30-fold) resin with short reaction times (15 sec.). Reacting with itself, in case of water no change of technical properties                                   |
| SikaFix®-6xx | (2 K Silicate Resin) non-foaming, non-flammable resin with short reaction times (40 sec.) Very good adhesion even on damp surfaces. Reacting with itself, in case of water no change of technical properties |

# ON SITE CONCRETE UNDERGROUND - LINE



## OTHERS GROUTING

Sika® Intraplast®

Injection aid and expanding agent for on site cementitious grout.

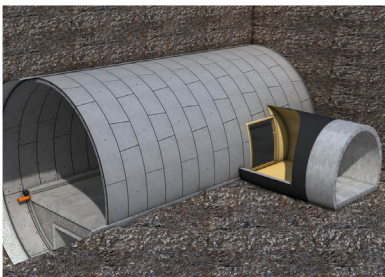
Sika® Microcement xxx

Mineral binder for injection grouting in soil and rock.

SikaFix®-3xx

(3-K Acrylate injection resin for consolidation of soil with low permeability

## SikaFix®, Sika® Microcement



## SEGMENTAL LINING TUNNELS CROSS PASSAGE/ CONNECTION DETAILS

Complete products systems based on "Tunnelling Manual 2014 Compendium for Tunnel Technology, Planning Aid for Tunnelling. Edited by: DGGT/ Germany"



## PRECAST SEGMENT JOINT WATERPROOFING

Sika® Hydrotite range

Large range of Hydrophilic Water Swelling Strip for sealing joints between precast segmental of tunnel.

## Sika® Hydrotite

# ON SITE CONCRETE UNDERGROUND - STATION



Same as for elevated stations, various facilities will be hosted in the underground space. Hereafter, Sika solutions for on site Underground Station.



## INJECTION HOSE

SikaFuko®

Sika® Injection

## SikaFuko®, Sika® Injection

Injection hose as waterstop for diaphragm wall construction

Reactive injection resin product range part of SikaFuko® system.



## STATION GENERAL WATERPROOFING

Sikaplan®

## Sikaplan®

PVC or FPO elastic waterproofing membrane sheet for complete waterproofing of the below ground construction

Additional to Sikaplan® system other joints system: Sika® Dilatec®, Sikadur® Combiflex®, SikaFuko®, SikaSwell®



## JOINT WATERPROOFING

Sika® Waterbars®

Sikadur® Combiflex®

Sika® Omega joint

## Sika® Waterbars®, Sikadur® Combiflex®

Flexible thermoplastic PVC strips designed to stop the migration of water through construction and expansion joints in concrete structures.

High performance pre-formed waterstop, strips for movement, construction joint

Elastomer based, flanged waterbars for large movement and high water pressure requirement



# ON SITE CONCRETE UNDERGROUND - STATION



## SHOTCRETE APPLICATION

Sigunit®

**Sigunit®**

Range of Set accelerating liquid or powder shotcrete accelerator for wet or dry process sprayed concrete. Available in Alkali Free or non Alkali Free base.



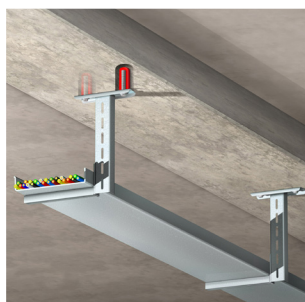
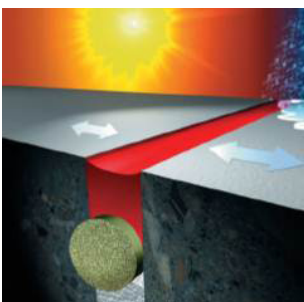
## DEWATERING

SikaShot®

**SikaShot®**

Ready to use waterproofing gunite with very fast setting to seal water seepage by spraying

Once the underground support has been built, once the waterproofing system has been installed, the construction of the inner building will take place and Sika Products systems as proposed for the Elevated Station remain valid and applicable. Please refer to pages.



**Sikaflex® - Sika® AnchorFix® - SikaBoom® - Sikafloor® - SikaGrout® - SikaCeram® - Sika Unitherm®**, products are completing the range of products required for architectural work within the Underground Station

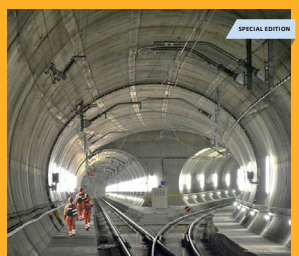
# SIKA CONCRETE REPAIRS & PROTECTION SOLUTIONS

REPAIR DESCRIPTION	DEFECT / SCOPE	BONDING AGENT	REPAIR MATERIAL
Cosmetics Surface Repair all Concrete Structures	Surface Blemishes, Grooves, Seams, Small Rock Pockets	None	<b>Sika® Skim Coat</b>
Super Structure Concrete (Compressive Strength > 40 MPa)	Honey Combs, Voids - No Steel Exposed	<b>Sikadur® -x32</b>	<b>Sika® MonoTop® range</b>
Form and Pour - None Shrink Grout	Honeycombs, sub and upper structure (Depth < 70mm)	None	<b>SikaGrout® range</b> <b>Antisol® range</b>
Form and Pour - None Shrink extended Grout	Large Honeycombs, sub and upper structure (Depth > 70mm)	<b>Sikadur® -x32</b>	<b>SikaGrout® range</b> <b>+Aggregate</b> <b>Antisol® -E White</b>
Structural Repair to Shear Keys	Broken shear key edge	<b>Sikadur® -x32</b>	<b>Sikadur® -x41</b>
Structural Crack Repair for all Structural Concrete	Pressure Injection, Cracks > 0.3 mm width	None	<b>Sikadur® -x31</b> <b>Sikadur® -x52</b>
Structural Crack Repair for all Structural Concrete	Low Pressure Injection, Cracks > 0.3 mm width	None	<b>Sika® GroutPack® -1</b> <b>Sika® GroutPlug® -A</b> <b>Sika® SK Pump-4</b> <b>Sikadur® -x52</b>
Structural Crack Repair for all Structural Concrete	Gravity Feeding, Cracks > 2.0 mm width	None	<b>Sikadur® -x32</b>
Non Structural Crack Repair for all Structural Concrete	Crack < 0.3 mm	None	<b>Sikagard®-xxx</b>

- **Sika® Skim Coat** : powdered compound for surface defects repairs.
- **Sikadur®** : epoxy resin or adhesive or mortar for structural injection repairs.
- **Sika® GroutPack® -1, Sika® GroutPlug® -A, Sika® SK Pump-4** : injection accessories for low pressure injection system.
- **SikaGrout® range** : one component cementitious non shrink grout – aggregate size 4 mm.
- **Sika® MonoTop® range** : one component cementitious repair mortar.
- **Antisol® range** : wax based or sodium silicate base liquid curing membrane.
- **Sikagard® -xxx** : low viscosity reactive impregnation for concrete protection.

# OTHER SIKA BROCHURES FOR UNDERGROUND CONSTRUCTION


TO DOWNLOAD THE SPECIFIC BROCHURE, PLEASE CLICK ON THE PICTURE



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# SIKA FULL RANGE SOLUTIONS FOR CONSTRUCTION

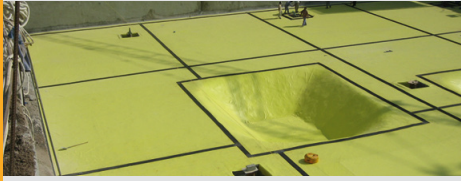
## Concrete Production



Plastiment®  
Sikament®  
Sika® ViscoCrete®  
SikaFume®  
SikaFibers®  
Antisol®

Plastocrete®  
SikaPlast®  
Sika® AER  
Sika® TBM products  
Sigunit®  
Separol®

## Waterproofing



Sikaplan®  
Sika® Waterbars  
Sika® Hydrotite  
Igoflex®

Sikalastic®  
SikaSwell® profile  
SikaFuko®  
Sika® Injection Systems

## Flooring



Sikafloor® Epoxy  
PurCem®  
Chapdur®  
Sikafloor® Dry shake hardener

EpoCem®  
HyCem®  
Sikafloor® ProSeal

## Corrosion and Fire Protection



SikaCor®  
Sika® Unitherm®

## Concrete Repair and Protection



Sika® MonoTop®  
Sikagard®  
Sikadur®

SikaCem® Gunitite  
SikaCrete® Gunitite  
SikaLatex®

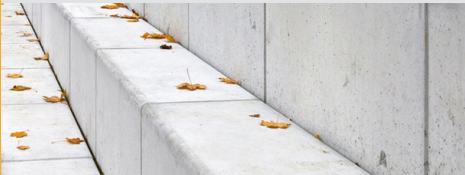
## Structural Strengthening



Sika® CarboDur®  
Sikadur®

SikaWrap®

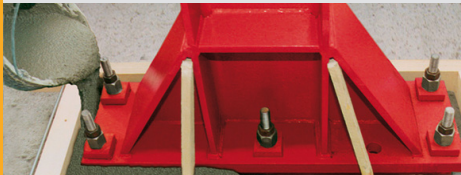
## Joint Sealing



Sikaflex®  
SikaHyflex®  
Igas®

SikaSil®  
Sikacryl®  
SikaBond®

## Grouting



Sikadur®  
Icosit®

SikaGrout®

## Roofing



Sarnafil®  
SikaRoof® MTC®

Sikaplan®



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E-mail : sikathai@th.sika.com · www.sika.co.th

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