



# CONCRETE SIKA WET PRECAST – MORE THAN ADMIXTURES

BUILDING TRUST





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**1** Concrete Production

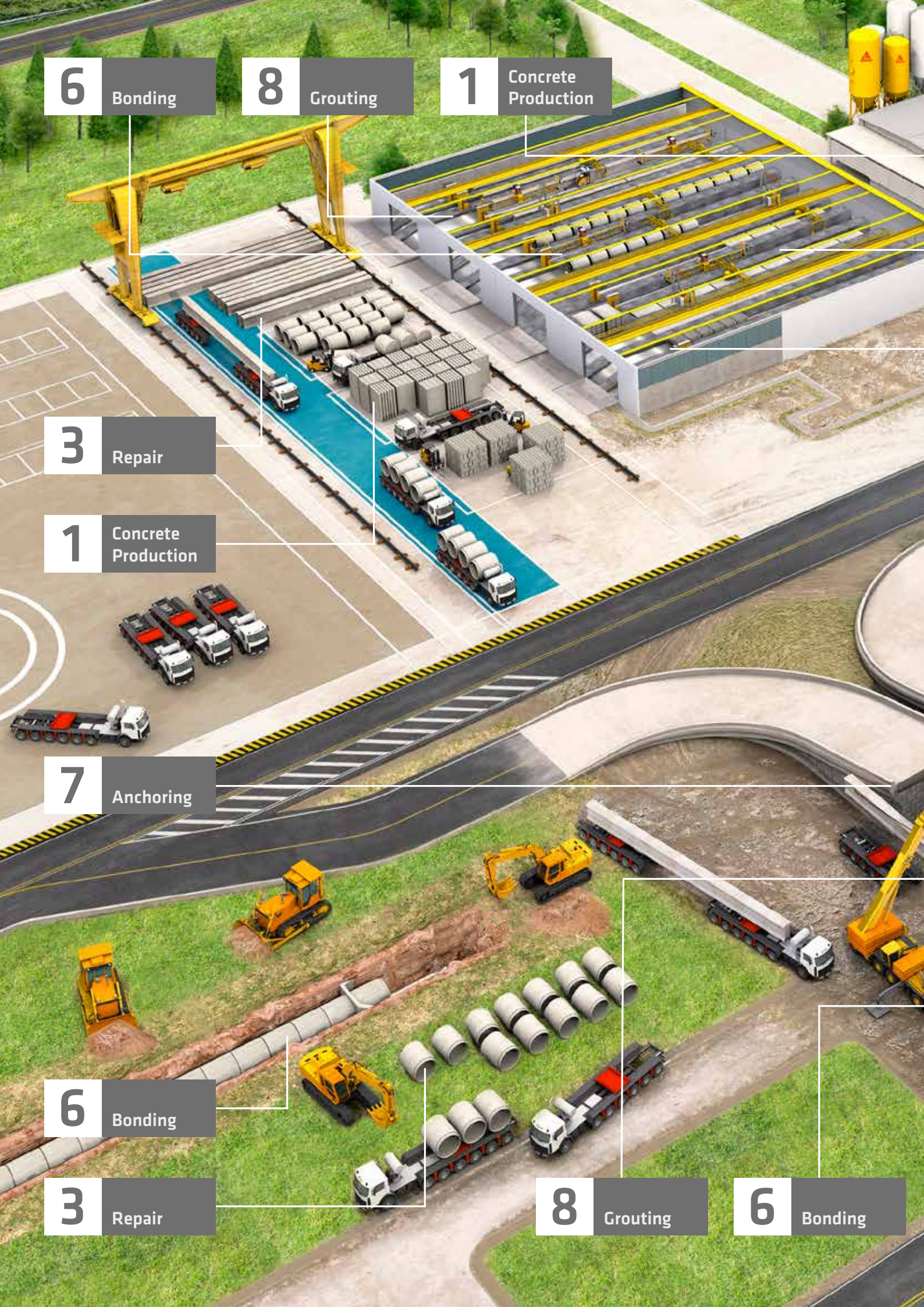
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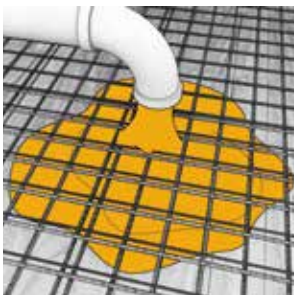
# CONCRETE PRODUCTION

Swift concrete production with ensured concrete performance

# 1



## WORKABILITY IMPROVEMENT



**Are you looking for a high initial workability in combination with a target slump life?**

- High range water reduction combined with required workability time:  
→ Sika® ViscoCrete®

**Do you want to produce self-compacting concrete?**

- Secured production of self-compacting concrete even in the presence of difficult raw materials:  
→ Sika® ViscoCrete®  
→ Sika® Stabilizer®

## HIGH EARLY STRENGTH DEVELOPMENT



**Do you need fast early strength development without any accelerator?**

- High water reduction leading to fast early strength development and high final strengths:  
→ Sika® ViscoCrete®

**Do you want to boost early strength development with an accelerator system?**

- Effective acceleration:  
→ SikaRapid®-1 / C-100 (hardening accelerators)  
→ SikaRapid®-2 (set accelerator) for ensured early green strength

## EXTENDED DURABILITY



**Do you intend to achieve the highest concrete durability?**

- Extended longevity of concrete with highest concrete impermeability:  
→ Sika® ViscoCrete® + SikaFume®

**Do you want to fulfill special durability requirements?**

- Durability enhancement with regard to shrinkage crack reduction, fire resistance or impact resistance:  
→ SikaFiber®



**Do you want to protect the reinforcement against chloride attack?**

- Protection against chloride induced corrosion:  
→ Sika® FerroGard®-901 S Integral corrosion inhibitor

**Do you want to produce concrete with high freeze-thaw resistance?**

- Defined air-entrainment independent of the mixing process:  
→ SikaControl® AER-200 P

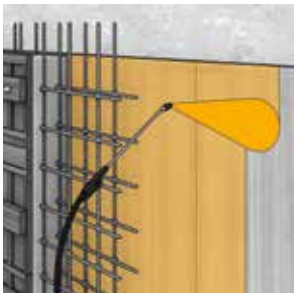
# SURFACE APPEARANCE

Aesthetic surface appearance with Sika

# 2



## MOLD RELEASE AGENT



### Do you need a certain technology?

- FuWII oil based standard mold release agent:  
→ Sika® Separol® F
- Solvent based mold release agent:  
→ Sika® Separol® S

### Do you have special requirements regarding Ecology, Health and Safety?

- Environmentally friendly water based emulsion mold release agent leading to best surface appearance:  
→ Sika® Separol® W

## PRODUCTION OF EXPOSED AGGREGATE CONCRETE



### Do you need a surface applied solution?

- Efficient production of exposed aggregate surfaces:  
→ Sika® Rugasol® liquid

### Do you need a surface retarder for mold application?

- Surface retardation applied on the formwork:  
→ Sika® Rugasol® paste

## COATING TO IMPROVE APPEARANCE AND DURABILITY



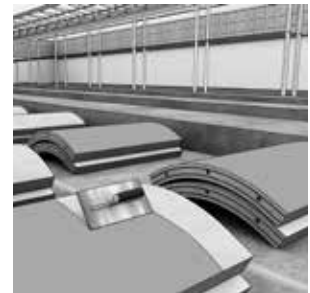
### Do you want to use a colored protective coating system for non accessible elements?

- Aesthetic colored protective coating against aggressive atmospheric influences:  
→ Sikagard®-680 S BetonColor  
→ Sikagard®-675 W ElastoColor

### Do you want to produce non accessible fair-faced concrete elements with a brilliant appearance?

- Transparent glaze for protection against weathering:  
→ Sikagard®-674 Lasur W

## IMPROVED CONCRETE SURFACES AND FINISHING



### Do you want to improve the finishing of concrete surfaces?

- Easy and fast finishing of concrete surfaces:  
→ SikaFilm
- Improved concrete cohesion leading to fast and easy finishing:  
→ Sika® ViscoCrete®

### Do you want to produce concrete with reduced blow hole risk?

- Surface improving admixture with no side effect on other concrete parameters:  
→ Sika® PerFin®



# REPAIR

Fast and easy repair with extended longevity

# 3



## REPAIR OF CRACKS



**What kind of crack do you want to repair?**

**Small, non-structural, < 2 mm width?**

- Refurbishment of small cracks (< 2 mm):  
→ Sikadur® injection resin

**Structural crack, > 2 mm width?**

- Repair of large cracks (> 2 mm):  
→ Sika MonoTop® (repair mortars)  
→ Sikadur®-31 CF (epoxy repair)

## REPAIR OF BROKEN EDGES



**Do you have aesthetic issues (color, finish, etc.)?**

- Repair of broken edges:  
→ Sika MonoTop® (repair mortars)
- Solution to achieve a fine texture:  
→ Sika MonoTop® (levelling mortars)

**Do you need an epoxy based mortar?**

- Epoxy based repair mortar:  
→ Sikadur®-41 CF (epoxy mortar)

## REFURBISHMENT OF HONEY COMBS AND PORE FILLING



**Do you have any aesthetic requirements?**

- Repair with high aesthetic appearance (fine texture):  
→ Sika MonoTop® (levelling mortars)
- High quality repair with no special aesthetic requirements:  
→ Sika MonoTop®-412 N (repair mortar)  
→ Sika MonoTop®-723 N (pore sealer)

## REPAIR OF STRUCTURAL CONCRETE SPALLINGS



**Do you have a layer thickness < 120 mm?**

- Safe structural concrete decays with a thickness layer up to 120 mm:  
→ Sika MonoTop®-412 Eco (repair mortar)  
→ Sikadur®-41 CF (epoxy mortar)

# PROTECTION

Extended service life and aesthetic surface appearance

# 4



## PROTECTION OF FAIR FACED CONCRETE ELEMENTS



**Do you have any technical requirements (freeze/thaw resistance, water ingress, chloride, etc.)?**

- High performance hydrophobic impregnation:
  - Sikagard®-706 Thixo
  - Sikagard®-705 L

## PROTECTION SYSTEMS AGAINST WEATHERING



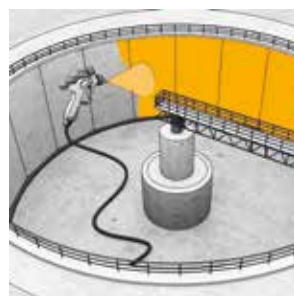
**Do you expect a risk of further cracks on the concrete surface (< 0.5 mm)?**

- Elastic protection system suitable for crack-bridging:
  - Sikagard®-545 W Elastofill
  - Sikagard®-550 W Elastic

**Do you require extra protection against carbonation and water ingress with long durability?**

- Rigid protection system for slight mechanical loading:
  - Sikagard®-675 W ElastoColor
  - Sikagard®-680 S BetonColor

## PROTECTION SYSTEM AGAINST CHEMICALS



**What kind of chemical exposure to you expect?**

- Secured protection against high chemical attack with epoxy coatings:
  - Sikagard®-63 N
  - Sikafloor®-390 Thixo
- Protection against medium attack for tubbing segments:
  - Sikafloor®-155 W

## CONCRETE CURING



**Do you want to apply a coating subsequently?**

- Efficient concrete curing on which organic based coating can be applied without substrate preparation:
  - Sikafloor® ProSeal W
- Curing with high water retaining action (substrate preparation required):
  - Sika® Antisol®

# SEALING

Durable connection with fast and easy sealing

# 5



## SEALING OF MOVEMENT JOINTS



**Do you have to seal joints in vertical elements?**  
**Do you expect movement of concrete elements?**

- $\pm 25\%$  movement capability
- High Weathering resistance
  - Sikaflex®-250 Façade
  - Sikaflex® Construction
  - Sikaflex® AT Façade

## SEALING OF CONNECTION JOINTS



**Do you have various materials to seal?**

- $\pm 25\%$  movement capability
- Good adhesion to many substrates
  - SikaHyflex®-402 Connection
  - Sikaflex® AT Connection

## SEALING OF FLOOR JOINTS



**Do you have to seal joints in horizontal surfaces. e.g. Car Parkings, Industrial Floors or Pedestrian Walkways?**

- High mechanical resistance
- Meets EN 15651-4 requirements
  - Sikaflex® PRO 3
  - Sikaflex® PRO 3 SL
  - Sikaflex® Floor

## SEALING OF SPECIAL APPLICATIONS



**Do you have to seal joints which will be exposed to aggressive media?**

- High mechanical resistance
- High chemical resistance
  - Sikaflex® PRO 3
  - Sikaflex® PRO 3 SL

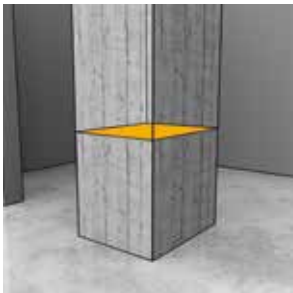
# BONDING

Efficient erection and durable bonding

# 6



## BONDING OF CONCRETE ELEMENTS



**Bonding to which kind of substrate?**

- Bonding to different substrates:
  - Sikadur®-31 CF range
  - Sikadur®-30

**Do you need to transmit high forces (compressive, tensile, shear)?**

- Bonding with transmission of high forces:
  - Sikadur®-30
  - Sikadur®-31 SBA range

## BONDING OF GASKET



**How do you install the gasket in the connecting sleeve? Bonding or installation in concrete?**

- Highly durable, easy to install bonding of rubber gasket in connecting sleeve:
  - Sikaflex®

## BONDING WITH SPECIAL APPLICATION



**Do you have bonding of concrete elements in contact with drinking water?**

- Bonding of concrete elements with drinking water contact:
  - Sikadur®-31 DW (with drinking water approvals)
  - Sikadur®-31 DW Rapid

## BIG APPLICATIONS



**How big is the application - do you need special equipment for efficient application?**

- Special application equipment for big volume adhesive applications:
  - Sikadur®-33 with Comix Machine

# ANCHORING

Fast, easy and safe anchoring

# 7



## INSTALLATION OF ANCHORS AFTER ELEMENT PRODUCTION



### Regulated or non regulated application?

- Anchoring for non regulated applications:
  - Sika AnchorFix®-1
- Post fixing of anchors for regulated applications:
  - Sika AnchorFix®-3
- Post fixing of anchors & rebars for regulated applications:
  - Sika AnchorFix®-2+
  - Sika AnchorFix®-2001
  - Sika AnchorFix®-3001

## EARLY LOADING



### Do you have special needs regarding the curing due to early loading or changing ambient conditions?

- Anchoring with shorter pot life for early loading and cold ambient conditions:
  - Sika AnchorFix®-1
  - Sika AnchorFix®-2+
  - Sika AnchorFix®-2001
- Application in hot climate conditions:
  - Sika AnchorFix®-2+ Tropical
  - Sika AnchorFix®-3+
  - Sika AnchorFix®-3001 (with extended pot life)
- Application in special cold ambient temperatures:
  - Sika AnchorFix®-2+ Arctic

## SOLUTION WHERE MECHANICAL ANCHORS DO NOT WORK



### Installation of anchors within a small concrete layer?

- Use of bonded anchors instead of mechanical anchors:
  - Sika AnchorFix® 1
  - Sika AnchorFix®-3+
- Use of high performance bonded anchors to reduce the embedded depth with the same load performance:
  - Sika AnchorFix®-2+
  - Sika AnchorFix®-2001
  - Sika AnchorFix®-3001

## SPECIAL APPLICATIONS / SUBSTRATES



### Installation of Anchors in special substrates such as light weight concrete and special application for a certain needs?

- Application in critical substrates (in terms of staining):
  - Sika AnchorFix®-3+
  - Sika AnchorFix®-3001 (epoxy)
- Application in cracked concrete & seismic zones:
  - Sika AnchorFix®-2+
  - Sika AnchorFix®-3001
- Application in drinking water areas:
  - Sika AnchorFix®-2+
  - Sika AnchorFix®-3001 (with certificate for the use in drinking water areas)
- Application for a declared resistance to fire:
  - Sika AnchorFix®-2
  - Sika AnchorFix®-3001 (with fire resistance certificates)

# GROUTING

Grouting solutions for different technical challenges

# 8



## GROUTING OF POST TENSIONED PRESTRESSING TENDONS



### Do you need a cementitious based grout?

- Filling of post tensioning ducts with cementitious grout:  
→ SikaGrout®-300 PT

## LOAD REQUIREMENTS



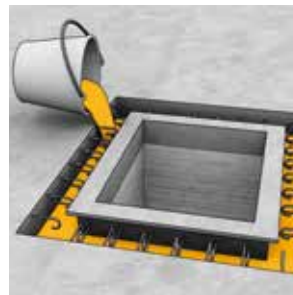
### Do you have special requirements regarding early loading?

- Grouting with subsequently early applied loads:  
→ Sikadur®-42 series  
→ SikaGrout®-321

### Do you have special requirements regarding dynamic loading?

- Grouting of parts exposed to dynamic loads:  
→ Sikadur®-42 series

## TEMPERATURE REQUIREMENTS



### Do you do grouting at low temperatures?

- Grouting at ambient temperatures below + 5 °C:  
→ Sikadur®-12 Pronto

### Do you expect excessive service temperatures?

- Grout resisting service temperatures above 60 °C:  
→ SikaGrout®-311 / -321 / -334

## SPECIAL REQUIREMENTS



### Do you need material for grouting with good bond strength to steel?

- Grouting with good bond strength to steel:  
→ Sikadur®-42 series

### Do you need grout which is exposed to chemicals?

- Grouting of parts exposed to chemicals:  
→ Sikadur®-42 series

# BASEMENT WATERPROOFING

Durable structural waterproofing of precast constructions

# 9



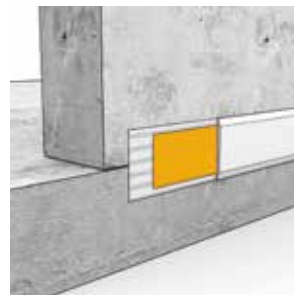
## SURFACE WATERPROOFING AND PROTECTION



**Surface sealing and protection with a fully bonded high flexible and resistant FPO sheet membrane.**

- Pre-applied: sheet membrane is applied already in the factory before reinforcement and concrete. The benefit is an efficient process, especially on site only the joints have to be sealed (less time consuming):
    - SikaProof® A
  - Post-applied: adhered sheet membranes are applied on site when the elements are set:
    - SikaProof® P
    - SikaBit® S
  - Post-applied liquid applied membranes are applied on site when the elements are set:
    - Sikalastic®
    - Sika Igolflex®
- Joint Sealing is the key and essential to apply for all joints between pre-cast elements in any case.**
- Internal joint sealing
    - Sika® Waterbar®
    - SikaSwell®
    - SikaFuko® (re-injectable hose)
  - External joint sealing
    - Sikadur Combiflex® SG

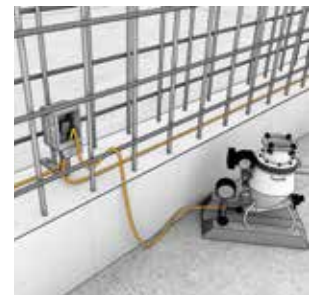
## WATERTIGHT CONCRETE STRUCTURE



**Do you want to produce a watertight concrete structure simply with the precast concrete elements?**

- Admixtures to create a waterpoofed concrete for the precast elements and for the in-situ core concrete:
  - Sika® ViscoCrete®
  - Sika®-1
  - Sika® WT
- Joint Sealing is the key and essential to create a watertight concrete system.
  - Sika® Waterbar®
  - SikaSwell®
  - Sikadur-Combiflex® SG
  - SikaFuko® (re-injectable hose)

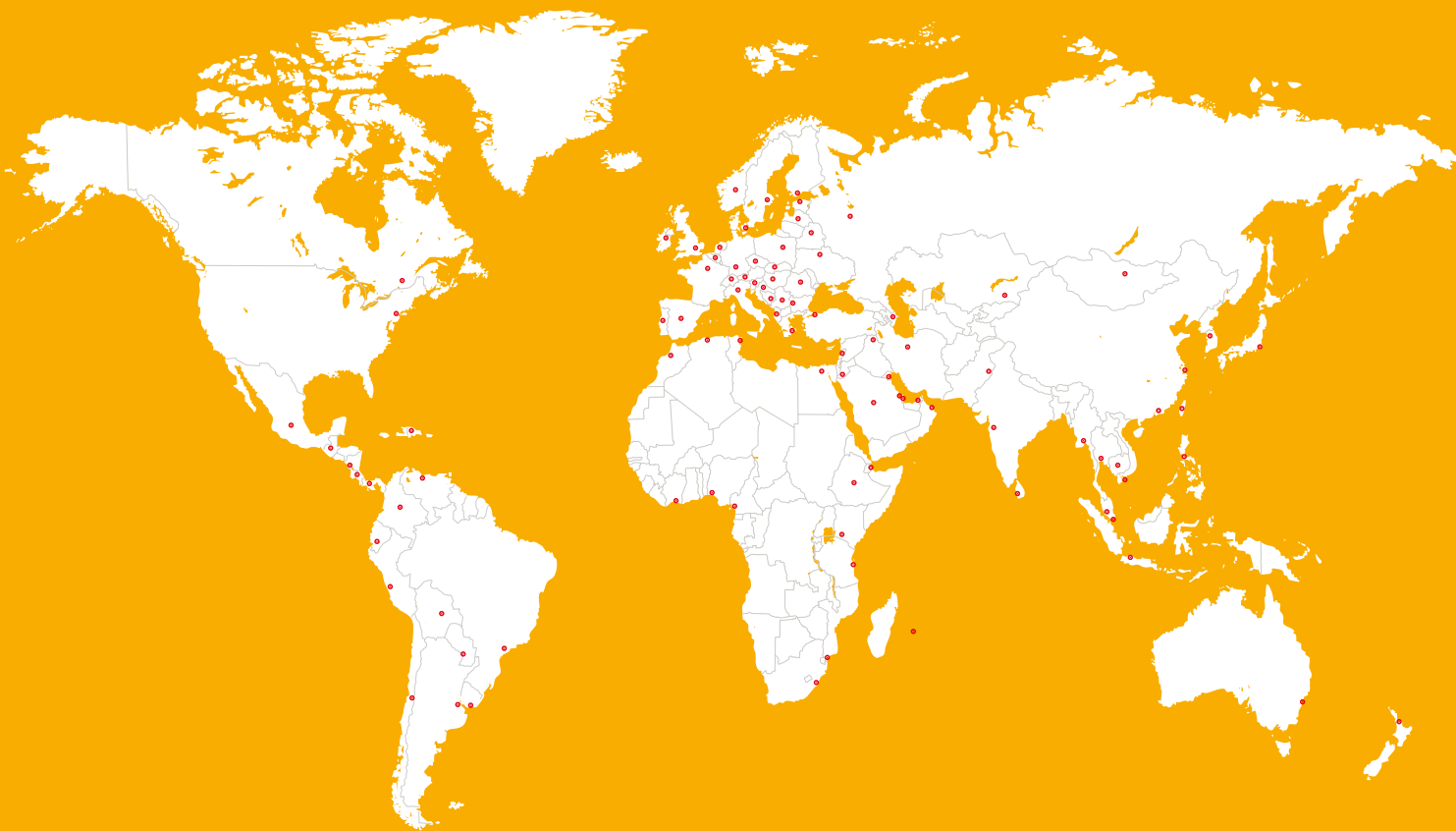
## INJECTION SYSTEMS



**Do you have to repair a leakage in case of a water ingress?**

- Simple, fast and efficient injections of cracks, joints or voids:
  - Sika®-Injection (foams & resins) based on various technologies
- Precaution or repair injection in specific joint by pre-applied (before concreting) re-injectable hose:
  - SikaFuko®-System

# GLOBAL BUT LOCAL PARTNERSHIP



## FOR MORE CONCRETE INFORMATION:



### 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, 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 use.



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