WATERPROOFING
SIKA SOLUTIONS FOR JOINTS
DUE TO THE NATURE OF CONCRETE AND REINFORCED CONCRETE, structures must always be built divided into sections by forming joints. Construction joints are necessary products used for the sealing of construction joints because of these concreting steps (construction or day-work joints).

TYPICAL JOINTS

1. Connection joint between precast elements
2. Movement and construction joint
3. Construction joint
4. Sealing of penetrations
5. Connection joint for diaphragm wall to floor slabs
6. Connection joint with asf diaphragm wall

Construction joint
Expansion joint
Connection joint
Controlled crack
## PRINCIPLES OF JOINT SEALING SOLUTION

<table>
<thead>
<tr>
<th>Joint Waterproofing System</th>
<th>Waterproofing Principle</th>
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<tr>
<td>Waterstops / waterbar</td>
<td>Labyrinth Principle (extending the path for water ingress)</td>
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<td>Swellable profiles and sealants</td>
<td>Contact Principle (expansion forces pressing on and into the concrete)</td>
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<tr>
<td>Injection hose systems</td>
<td>Grouting Principle (filling the joints and cavities with injected grout)</td>
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<tr>
<td>Bonded over banding membrane strip systems</td>
<td>Bonded Principle (adhesive bond between waterproofing and concrete)</td>
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*For further information refer to the Sika Book “Joint Waterproofing for watertight concrete systems & white box concepts”

## SIKA TECHNOLOGIES AND SYSTEM SOLUTIONS

Sika® provides a complete range of joint sealing solution based on above principles

### Hydrophillic Gasket Internal

**SikaSwell®**
- Highly economical
- No influence on form-work or reinforcement
- Can be used as a back-up system
- Tested and approved system
- Alternative profiles available for different requirements

### Adhesive tape External

**Sikadur-Combflex® SG**
- Approved for the use in contact with drinking water
- Easy adaptable to the construction method
- Excellent adhesion to different substrates

### Thermoplastic Waterbar Internal/External

**Sika® Waterbar**
- Easy design of closed systems for construction and expansion joints
- Easy connections by welding
- Pre-fabricated waterstop systems are possible
- Internal and external waterstops available

### Injection Hose System Internal

**SikaFuko®**
- Suitable for high requirements
- No influence on form-work or reinforcement
- Stand alone or back up systems
- A good injection fills the complete joint and prevents any entry of water
- Re-injectable systems
SYSTEM SELECTION GUIDE

<table>
<thead>
<tr>
<th></th>
<th>Construction Joint</th>
<th>Movement Joint</th>
<th>Connection Joint</th>
<th>Controlled Crack</th>
<th>Penetration</th>
</tr>
</thead>
<tbody>
<tr>
<td>SikaSwell®: Hydrophilic Gasket/ Sealant</td>
<td>✓</td>
<td>n.a.</td>
<td>✓</td>
<td>n.a.</td>
<td>✓</td>
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<tr>
<td>Sikadur-Combiflex® SG: Adhesive Tape System</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Sika®Waterbar: PVC Waterbar/Waterstops</td>
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<td>✓</td>
<td>✓</td>
<td>n.a.</td>
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<tr>
<td>SikaFuko®: Reinjectable Hose System</td>
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<td>n.a.</td>
<td>✓</td>
<td>✓</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

*To ensure proper selection of the right materials and technologies consult Sika Technical Expert

SikaSwell® - Hydrophilic System
- SikaSwell®-A profile
- SikaSwell® S-2 sealant

Sikadur-Combiflex® SG - FPO Tape System
Adhesives
- Sikadur®-31 C
Tapes
- Sikadur-Combiflex® SG (P or M)
**Sika®Waterbar - Thermoplastic Waterbar/Waterstops**

Waterbar/Waterstop is commodity business. Profiles are available in various shapes and from various suppliers.

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**SikaFuko® VT1**

The unique valve technique has now been used for more than 30 years. Many important structure around the world have been sealed with this system and it is the leading re-injection system for use in many difficult situation:

- Track record over 30 years
- Re-injectable
- Easy and secure installation
Sika Solutions for Every Construction

Concrete  
Waterproofing  
Refurbishment

Flooring  
Sealing & Bonding  
Roofing

SIKA - THE CUSTOMISED SOLUTION PROVIDER
Sika's innovative ideas and expertise in evolving quality products has been a hallmark in the history of construction chemicals. For over hundred years Sika is consistently serving the construction industry with its pioneering technology and commitment.