

## Sika Waterbars®

<b>Product Description</b>	Flexible PVC (Thermoplast) waterstops to seal construction and expansion joints in concrete structures. Various types of Sika Waterbars® are available in different sizes depending on there intended use.
<b>Uses</b>	Sika Waterbars® is used to seal construction and expansion joints in water retaining structures such as reservoirs, water towers, dams, spillways, canals, swimming pools. Sewage tanks etc... as well as to keep water out of concrete structures such as basements, underground car parks, tunnels, subways retaining walls etc....
<b>Advantages</b>	<ul style="list-style-type: none"><li>■ Multi rib sections of the tortuous path principal.</li><li>■ High quality PVC for long durability.</li><li>■ Easy to install (clip fastening), easy to weld on site.</li><li>■ Factory produced cross sections available.</li><li>■ Suitable for high water pressure.</li><li>■ Many different types and sizes available.</li><li>■ Special oil and bitumen resistant as well as reinforced types on request.</li></ul>
<b>Specification</b>	Comply to the outline requirements for the international specification. <ul style="list-style-type: none"><li>■ B.S. 2571 and B.S. 2782.</li><li>■ DIN 1841 (Part-2).</li><li>■ ASTM-D-2628 and CRD-C0572-U.S corps of engineers specifications &amp; requirements.</li><li>■ J.I.S Japanese imperial standards.</li></ul>
<b>Information on standards</b>	ASTM-D 2628 States Min. elongation at break 350% Min. tensile 13.8 N/mm <sup>2</sup> . British standards elongation at break 320% Minimum. BS 257 1-1990 Tensile 9 N/mm <sup>2</sup> Minimum.
<b>Product Data</b>	
<b>Type</b>	Polyvinyl Chloride.
<b>Colour</b>	O-type yellow V-type grey.
<b>Packaging</b>	15 m rolls. 30 m rolls.
<b>Technical Data</b>	
<b>Density</b>	~ 1.3 kg/l
<b>Tensile strength</b> (ASTM D638-99) (DIN 18541 Part 2)	> 14.2 N/mm <sup>2</sup>
<b>Elongation at break</b> (ASTM D638-99) (DIN 18541 Part 2)	> 350 %
<b>Shore A Hardness</b>	78 – 85 Absorption mean value 0.0617% ± 5%
<b>Chemical resistance</b>	Permanent: Water, seawater, sewage. Temporary: Diluted inorganic alkalis, mineral acids and mineral oils.
<b>Alkali resistance</b> (CRD-C572-65 ARMY-Corps of Engineers)	Passed.
<b>Application Details</b>	
<b>Service Temp.</b>	- 35°C to + 65°C
<b>Welding temperature</b>	~ 200°C.



	Uses	Type	Width (cm)	Roll Length (m)	Nom Thickness (mm (±10%))	Max. Waterhead (m)		
Centrally Placed Waterbars Installation in the center of concrete structure easy anchoring of waterbars to reinforcement with special fixing clips	<b>Light Duty</b>							
	Construction Joint	V-20L V-24L V-32L	20 24 32	30 30 15	4 4 4.5	10 15 25		
	Expansion Joint	O-20L* O-25L* O-32L*	20 25 32	15 15 15	2.2 2.4 3	10 15 25		
	* Max. 20 mm expansion and 10 mm shear movement							
	<b>Medium Duty</b>							
	Construction Joint	V-15M V-20M V-24M V-32M	15 20 24 32	30 30 30 15	5 6 6.5 7	5 15 25 30		
	Expansion Joint	O-20M* O-25M* O-32M*	20 25 32	15 15 15	5 6 7	15 25 30		
	* Max. 20 mm expansion and 10 mm shear movement							
		M-25* M-23L* M-35L*	25 23 35	15 15 15	2.5 4 5	10 10 25		
	* Max. 40 mm expansion and 30 mm shear movement							
	<b>Heavy Duty</b>							
	Construction Joint	V-23 T	23	15	10	27		
Expansion Joint	O-23 T*	23	15	10	27			
Max. 20 mm expansion and 10 mm shear movement								
Surface Waterbars Installation on the surface of concrete structures	Construction Joint	AR-18* AR-24* AR-24T AR-28 AR-31	20 25 25 28 31	15 15 15 15 15	3.5 3.5 5 3.5 4	5 10 15 15 15		
	* only with four pins							
	Expansion Joint	DR-19* DR-25* DR-27** DR-32**	21 26 28 31	15 15 15 15	3.5 3.5 3.5 4	5 5 15 15		
	* Max. 10 mm expansion and 5 mm shear movement ** Max. 10 mm expansion and 10 mm shear movement							
	Joint Finishing type Installation by pushing onto the formwork board of onto joint lining		FA2-5 FA3-10 FA3-14	2/5 3/10 3/14	25 25 25	~3 ~5 ~5	0 5 5	
		Bitumen and oil Resistant waterbars						
		Green B- type available on request						

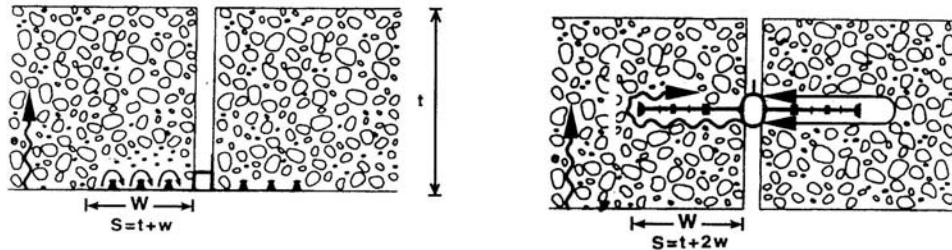
## Application

### Selection

The selection of a suitable waterbar is governed by the type of joint, concrete thickness, grade of concrete, reinforcement position, expected movement (expansion/shear) as well as waterhead to which it is to be exposed to

#### General Guide lines:

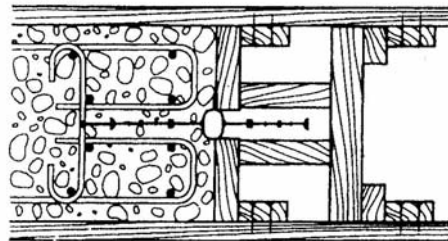
- Experience has shown that application of a few simple rules will ensure a satisfactory result.
- The overall width of the waterbar should be at little less or equal to the thickness of the concrete slab into which it is placed.
- The overall width of the waterbar should be at least six times the size of the largest aggregate used.
- For optimum results, centrally placed waterbars are preferred



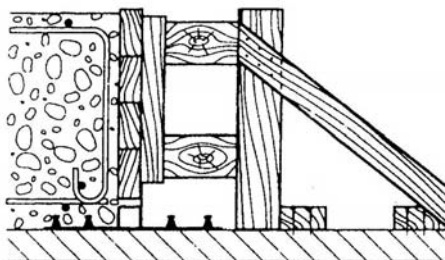
### Fixation

Proper fixing of the waterbars to the reinforcement (or formwork) is essential, as are careful pouring and compaction of the concrete. Fixing clips for internally placed waterbars are available.

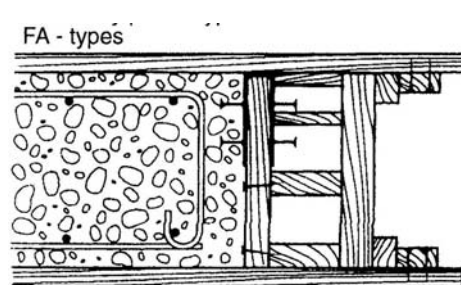
#### Fixing



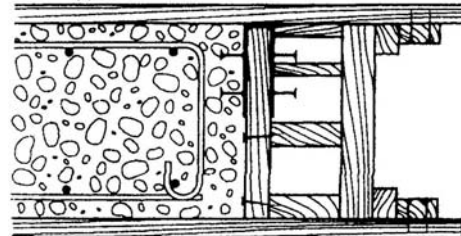
#### Centrally placed types



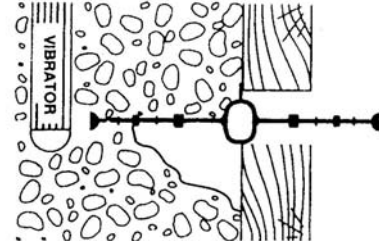
#### Externally paced types



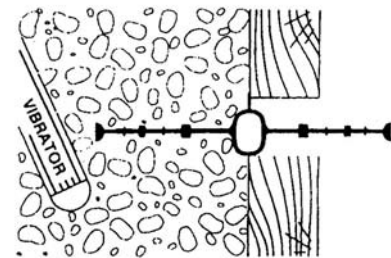
#### FA - types



#### Compaction



#### Wrong



#### Correct

## Welding Waterbars

Sika Waterbars® are made from thermoplastic PVC and can therefore be welded easily. The ends are secured in a welding jig (available for each type) and heated with suitable welding equipment is then removed and the molten ends pressed together firmly.

## Junction Pieces

Junction pieces can easily be manufactured on site. However, a wide range of standardized, factory made junction pieces, are available. All having a 30 cm free leg allowing easy on site welding to Sika Waterbars®, for non standard junction pieces drawings giving exact measurements and angle details are required.

### Junction Pieces

#### Material requirement and number and type of welding.

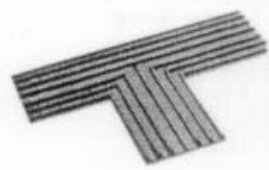
Type	Material*	Welding – type
Cross-piece flat	1.20 m + 2,0 x width	2 mitre-weldings
Cross-piece, Vertical	1.20 m	2 butt-weldings
T-piece flat	0.90 m – 1.5 x width	1 mitre-welding
T-piece Vertical	0.09 m	1 butt-welding
L-piece flat	0.60 m – 2.0 x width	1 mitre-welding
Comer-piece Vertical	0.60 m,	1 butt-welding

\* Free Wing: 30 cm (all)

## Legal notes

The information and in particular the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of products when properly stored, handled and applied under normal conditions. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the technical data sheet for the product concerned, copies of which will be supplied on request.

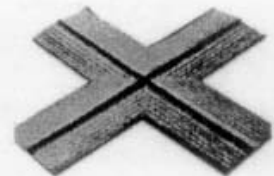
For further technical information, please consult our technical service department.



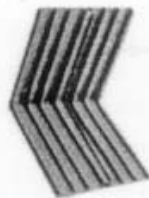
T-piece, flat



T-piece, vertical



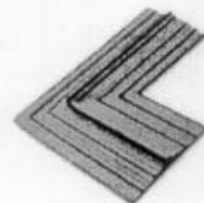
Cross-piece, flat



Corner-piece, vertical



Cross-piece, vertical



L-piece, flat



**Sika Egypt for Construction Chemicals**  
 El About City  
 1<sup>st</sup> industrial zone (A)  
 Section # 10 Block 13035,  
 Egypt

Tel : +202- 6100714/15/16/17/18  
 Fax : +202- 6100759  
 Mob : +2012- 3908822/55  
 www.sika.com.eg

