Construction

Sika®-Waterbars h

PVC profile waterstops for joint sealing

Product Description

Sika®-Waterbars h are flexible waterstops based on plasticized PVC, produced in specific profiles to seal construction and expansion joints when cast in concrete. They are available in a range of different sizes and types according to their use.

Uses

Sika®-Waterbars h are used to waterproof construction- and expansion joints in concrete structures such as those in water retaining structures - Including reservoirs, canals, sewage plants, dams, swimming pools etc. Plus those in the watertight construction of many buildings and structures including large basements, underground carparks, subways and sea walls etc.

Characteristics / Advantages

- High quality PVC for long durability
- Suitable for high water pressure
- Easy to weld on site
- Many different sizes and types available, dependent on the application

Tests

Approval / Standards

Sika®-Waterbars h have been tested in accordance with:
BS 903, BS 2571 (May 2006)
DIN 18541, Part 2 (12.04.05)
U.S. Corps of Engineers: CRD-C 572-74 (May 2006)
ASTM D 412-75 (04.07.00)
ASTM D 638 (06.05.01)

Product Data

Form

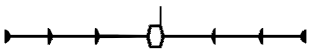
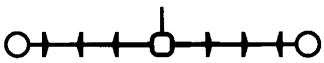
Colours

For construction joints	Types V, AK, AR, Forte	Grey - black
For expansion joints	Types DK, O, M, NOQ, DR	Yellow
Oil- and bitumen resistant waterbars	See separate details	Green

Packaging

Sika®-Waterbars h V-15 (5 mm)- 25.0 m roll
Sika®-Waterbars h V-20 (5 mm)- 25.0 m roll
Sika®-Waterbars h V-24 (5 mm)- 25.0 m roll
Sika®-Waterbars h V-32 (5 mm)- 25.0 m roll
Sika®-Waterbars h O-15 (5 mm)- 25.0 m roll
Sika®-Waterbars h O-20 (5 mm)- 25.0 m roll
Sika®-Waterbars h O-25 (5 mm)- 25.0 m roll
Sika®-Waterbars h O-30 (5 mm)- 25.0 m roll
Sika®-Waterbars h AR-20 (5 mm)- 25.0 m roll
Sika®-Waterbars h AR-25 (5 mm)- 25.0 m roll
Sika®-Waterbars h AR-31 (5 mm)- 25.0 m roll
Sika®-Waterbars h DR-32 (5 mm)- 25.0 m roll

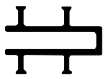
Types

Uses		Type	Width cm	Roll length m	Nominal thickness mm (±10%)	Water pressure resistance m
For construction joints	**Centrally placed Waterbars** Installation in the centre of concrete structures. Easy anchoring of Sika®-Waterbars h to reinforcement with special fixing clips. 	V-15	15	30	2.5 - 5.0	5
		V-20	20	30	3.0 - 7.0	15
		V-20 L	20	30	2.0 - 4.0	15
		V-24	24	30	2.5 - 4.0	15
		V-32	32	30	2.5 - 5.5	25
		AK-19	19	30	2.5 - 3.5	5
		AK-24	24	30	3.0 - 4.0	15
		AK-32	32	30	3.0 - 4.0	25
	 Reinforced	Forte-19	19	30	3.0	5
		Forte-24	24	30	3.0	15
		Forte-32	32	30	3.5	25
For expansion joints		DK-19	19	30	3.0	5
		DK-24	24	15	3.0	15
		DK-32	32	15	3.0	25
	 Max. 20 mm expansion and 10 mm shear movement	O-15	15	15 and 30	2.5	5
		O-20	20	15	3.0	5
		O-20 L	20	15	2.0 - 3.5	5
		O-22	22	15 and 30	3.5	10
		O-22 L	22	15	2.5 - 4.0	10
		O-25	25	15	3.5 - 5.0	15
		O-25 L	25	15	2.0	15
		O-30	30	15	4.0 - 8.0	25
		O-32	32	15	3.5 - 5.0	150
		O-32 L	32	15	2.5	25
	 Max. 10 mm expansion and 5 mm shear movement	NOQ-15	19.5	15	2.0 - 3.0	5
		NOQ-22	27	15	3.0 - 4.0	15
	 Max. 40 mm expansion and 30 mm shear movement	M-22	22	15	5.0	5
		M-25	25	15	2.5 - 5.0	15
		M-35	35	15	4.0 - 7.0	150
Construction joints	**Surface Waterbars** Installation on the surface of concrete structures 	AR-20*	20	15	3.5	5
		AR-25*	25	15	3.5	10
		AR-28	28	15	3.5	15
		AR-31	31	15	4.0	15
		AR-50**	50	15	4.0	25

Uses		Type	Width cm	Roll length m	Nominal thickness mm (±10%)	Water pressure resistance m
Expansion joints	Max. 10 mm expansion and 5 mm shear movement (DR-21*, DR-26*) 	DR-21*	21	15	3.5	5
		DR-26*	26	15	3.5	5
	Max. 10 mm expansion and 10 mm shear movement (DR-29, DR-32, DR-50)	DR-29	29	15	3.5	15
		DR-32	32	15	4.0	15
	Max. 10 mm expansion and 10 mm shear movement 	DR-50	50	15	4.0	25

* With 4 pins
** With 8 pins

Joint Finishing Types

Max. 10 mm expansion and 5 mm shear movement	Type	Width cm	Roll length m	Nominal thickness mm (±10%)	Water pressure resistance
	FA 3 - 10	3/10	10	~ 5	Not resistant

The water pressure resistance for each waterbar as shown in the tables are indicative figures based on experience and subject to a proper cast of the waterbar into the concrete. The figures only indicate the waterpressure resistance of the Sika® Waterbars h. For the Sika® Waterbars h types O-32 and M-35 the figures have been verified in laboratory tests.

Junction / Jointing Pieces:
A wide range of standard junction pieces are available for jointing. All have a 30 cm free wing, allowing easy butt-welding on site. For the supply of non-standard sections, drawings must be provided giving the exact details and measurements required.

Types of junction:

- Cross piece flat
- Cross piece vertical
- T-piece flat
- T-piece vertical
- L-piece flat
- Corner piece vertical (pins inside or outside)

Special Waterbar Types (available on request):

- Bitumen and oil resistant Waterbars
- NBR-Waterbars
- Polyolefin Waterbars
- Additional Waterbars or specialised types and other custom made products can be produced according to our clients specification on request

Storage

Storage Conditions / Shelf-Life	60 months from date of production if stored in unopened, undamaged and sealed original packaging, in dry conditions at temperatures not exceeding +30°C. Protect from UV light.

Technical Data

Chemical Base	Plasticized Polyvinyl Chloride (PVC-p)
Density	~ 1.4 g/cm^3 (± 0.1 g/cm^3)
Service Temperature	-35°C to +55°C

Mechanical / Physical Properties

Tensile Strength	Waterbars for construction joints: ≥ 10 N/mm^2 (DIN 53455) Waterbars for expansion joints: ≥ 10 N/mm^2 (DIN 53455)
Tear Strength	Waterbars for construction joints: ≥ 12 N/mm (DIN 53507 A) Waterbars for expansion joints: ≥ 12 N/mm (DIN 53507 A)
Shore A Hardness	Waterbars for construction joints: 70 ± 5, (Type Forte: 80 ± 5) (DIN 53505) Waterbars for expansion joints: 70 ± 5 (DIN 53505)
Elongation at Break	Waterbars for construction joints: > 200% (DIN 53455) Waterbars for expansion joints: ≥ 300% (DIN 53455)

Resistance

Chemical Resistance	Permanent Exposure: Water, seawater and sewage at temperature of +23°C Temporary Exposure: Dilute inorganic alkalis, mineral acids and mineral oils
Alkali Resistance	Approved according to the specification of CRD-C 572-65 (US Corps of Engineers).

System Information

Application Instructions

Application Method / Tools	*Centrally Placed Waterbars:* Installation in the centre of the concrete structures. Easy anchoring of Sika®-Waterbars h to reinforcement with special fixing clips (5 pieces per m'). *Centrally Placed Reinforced Waterbars (Type Forte):* Installation as with centrally placed waterbars. Due to their external reinforcement Sika® Waterbars h Type Forte are more dimensionally stable and less fixing clips are necessary (approx. 2 pieces per m'). *Surface Waterbars:* Installation on the surface of the formwork or on the surface of the base / drylean blinding concrete. *Joint Finishing Types:* Installation by pushing onto the formwork or onto the joint lining. *Welding:* Sika®-Waterbars h are made from thermoplastic PVC, and can therefore be heat welded easily. The ends must be secured into a welding clamp (available for each type) and cut precisely. Then the cut edges must be heated with suitable welding equipment (also available), until an even, molten bead of PVC appears. The welding equipment is then removed and the molten ends pressed firmly together immediately. The welding temperature is ~ +200°C.
Notes on Application / Limitations	In situations with negative water pressure surface waterbars cannot be used.

Value Base

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

Construction

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

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 the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. 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 user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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