

PRODUCT DATA SHEET

Sika Waterbar® - FPO Type WT AF

External FPO waterbars with lateral welding strips

PRODUCT DESCRIPTION

Sika Waterbar® - FPO Type WT AF are highly flexible waterbars made from FPO (flexible polyolefin), designed for the watertight sealing of construction joints in combination with Sikaplan® WT sheet waterproofing membranes and accessoires in concrete structures.

Sika Waterbar® - FPO Type WT AF can be produced in different shapes and sizes to suit different applications.

WHERE TO USE

Sika Waterbar® - FPO Type WT AF are designed for use in combination with Sikaplan WT sheet membranes in the construction of watertight concrete structures for the flexible bridging and sealing of compartment and construction joints.

Typical areas of application include:

- Tunnels
- Basements
- Underground garages
- Water tanks
- Pipelines
- Water treatment plants
- Dams
- Retaining walls

Sika Waterbar® - FPO Type WT AF may only be used by experienced professionals.

PRODUCT INFORMATION

Composition / Manufacturing	FPO (flexible polyolefin)
Packaging	Rolls with standard length of 25m or special lengths on request packed on

CHARACTERISTICS / ADVANTAGES

Sika Waterbar® - FPO Type WT AF provide the following characteristics and benefits:

- High strength and elongation
- Resistant to ageing
- Resistant to root growth
- Resistant to microbiological attack
- Resistant to natural substances that are corrosive to concrete
- High resistance to mechanical stress
- Dimensionally stable
- High elasticity, even at low temperatures
- Suitable for hot air or hot wedge welding
- Resistant to a broad spectrum of chemical agents; testing is recommended for specific situations and combinations of chemicals

APPROVALS / CERTIFICATES

Manufacturer's test certificate (any other testing and certification by agreement).

Standard directives:

- ZTV-ING, part 5, section 5, TL/TP KDB
- DB Regulation 853.4101
- DVS 2225
- Welding machine operating instructions
- Directions for use

	pallets
Appearance / Colour	Grey
Shelf Life	The product does not expire if stored correctly.
Storage Conditions	▪ To be stored on the pallets as supplied on a flat base. ▪ For long term storage ≥ 6 months in enclosed areas: the storage area should be covered, cool, dry, free from dust and moderately ventilated. Sika Waterbar® - FPO Type WT AF must be protected from heat sources and strong artificial lights with a high UV content. ▪ For short term storage > 6 weeks and < 6 months in enclosed areas on construction sites, outdoors: as for long term storage i.e. in dry storage protected by suitable covers from direct sunlight, snow and ice or any other form of contamination, store separate from other potentially harmful materials, plant and equipment such as structural steel, reinforcement or fuels etc., store away from traffic and site roads in a dry area. ▪ For short term storage ≤ 6 weeks on construction sites, outdoors: protected from contamination or damage, protected by suitable covers from strong sunlight and snow or ice.

TECHNICAL INFORMATION

Shore A Hardness	89 $\pm$ 5	(DIN EN ISO 868)
Tensile Strength	≥ 15 MPa, longitudinal	(DIN EN ISO 527 - 1/3)
Modulus of Elasticity in Tension	≤ 70 MPa, longitudinal	(DIN EN ISO 527 - 1/3)
Elongation	≥ 600 %, longitudinal	(DIN EN ISO 527 - 1/3)
Reaction to Fire	Class E	(DIN EN ISO 11925-2)
Behaviour after heat welding	Behaviour of joint in shear test	Tear outside the joint Temporary joint factor $f_z \geq 0.6$ (DIN EN 12317-2; DVS 2226-1, 2)
	Behaviour of joint in peel test	Peeling resistance $R_s = \geq 6.0$ N/mm (DIN EN 12316-2, DVS 2226-1, 3)

APPLICATION INFORMATION

Ambient Air Temperature	Minimum	5 °C
	Maximum	35 °C
Installations at ambient temperature below 5 °C requires suitable protective measures and may also require the production of separate test reports, to comply with local regulations.		
Substrate Temperature	Minimum	0 °C
	Maximum	35 °C

SYSTEMS

System Structure	Total width (mm)	Width of momevent part (mm)	Thickness (mm)	Sealing ribs (mm)	Distance of sealing ribs (mm)	Width of welding strip (mm)
	a	b	c	N / f*	d	e
WT AF 310/30						
310	110	4	4 / 30	45	55	
WT AF 400/30						
400	110	4	6 / 30	45	55	

*N = number of sealing ribs / f = height of profile (height of sealing ribs incl. baseplate)

BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

ENVIRONMENT, HEALTH & SAFETY

This product is a manufactured article that does not require Safety Data Sheets to be marketed, transported or applied at the jobsite, according to the Hazardous Product Act - Section 2. Based on our current knowledge, this product is not classified as dangerous and does not contain any hazardous materials. Always wear personal protective equipment (including safety goggles and gloves) to manipulate and install Sika® products.

APPLICATION INSTRUCTIONS

APPLICATION METHOD / TOOLS

General

Based on DIN 18197 and according to Sika welding guidelines, only butt joints should be formed on site with Sika Waterbar® - FPO Type WT AF.

Prefabricated formpieces:

Standard formpieces (flat or vertical) for Sika Waterbar® - FPO Type WT AF include: cross pieces, T-pieces and L-pieces. Prefabricated formpieces help to reduce the required butt joints on site to a minimum. Contact your Sika Technical Representative for more information.

Special formpieces:

Combined formpiece systems using combinations of different standard connections and profiles. The standard maximum total length of formpiece systems is

20 m. Longer formpiece systems on request. Contact your Sika Technical Representative for more information.

System components / related products:

Sika WT sheet waterproofing membranes / protective sheets.

Substrate conditions:

Hardened concrete surfaces:

- Clean, undamaged, even, dry and free from oil, dirt, dust, protrusions, arrises and any loose or friable particles.

Sprayed concrete surfaces:

- The lenght to depth ratio of the profile of the sprayed concrete surface must not be less than 5:1. The minimum vertical curve radius is limited to 20 cm, which must be maintained.
- The substrates and surfaces formed by applying sprayed concrete must be clean and free from loose particles such as rebound, rock, nails, tie-wire etc.
- Voids and defects must be repaired with suitable Sika sealing mortars or the Sika FlexoDrain system before installing Sikaplan® welded profiles.
- In order to achieve the required surface quality, the sprayed concrete surface can be levelled with an additional thin coat of sprayed mortar, minimum layer thickness 5 cm, and maximum particle diameter 4 mm.
- Steel components and surfaces (columns, support structures, mesh reinforcement, anchors etc.) should also be prepared / treated as described above.

Positioning:

The Sika Waterbar® - FPO Type WT AF are laid directly on the concrete surface or fixed to the external formwork facing. They can also be welded directly to the Sikaplan® WT sheet waterproofing membranes. Sika Waterbar® - FPO Type WT AF are cast into the concrete structure, flush with outer face.

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July 2026, Version 01.01

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The anchorage depth of the stop-end anchors must be 30 mm minimum. Detailed information on installation is given in the relevant method statement and instruction for use. If there are very high stresses or difficult concreting conditions, the waterbars can be combined with integrated injection hoses installed locally on the lateral anchoring ribs to additionally inject / grout around the cast-in parts at a later date.

Sika Waterbar® - FPO Type WT AF are also available with integrated injection hose channel. Contact your Sika Technical Representative for more information.

Installation instructions:

Installation must be carried out by Sika trained and qualified personnel, who must also have suitable experience in waterproofing of appropriate below ground structures.

The Sika Waterbar® - FPO Type WT AF are not designed to be UV-stable and must not be exposed to permanent UV radiation / exposed to weathering.

Welded profiles must not be used in negative hydrostatic pressure situations.

Chemical agent temperature:

Separate tests are always required for any special stress or exposure due to temperature and / or chemical agents.

Welding machines:

The specific welding parameters for Sika Waterbar® - FPO Type WT AF and Sikaplan® WT sheet waterproofing membranes must be set for each project and site conditions before starting the welding works and these must be confirmed on samples.

Cleaning:

Use cleaner to prepare Sika Waterbar® - FPO Type WT AF and waterproofing membrane surfaces and joints as necessary.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

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 recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. 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 or may be downloaded from our website at: www.sika.ca

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SikaWaterbar-FPOTypeWTAF-en-CA-(07-2026)-1-1.pdf