Construction

Sika® Waterbar WT

FPO based profile waterstops for joint sealing

Product Description	Sika® Waterbar WT are flexible waterstops based on flexible polyolefin (FPO), 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, some with an integral injection hose.
Uses	Sika® Waterbar WT are used to waterproof construction and expansion joints in reinforced concrete, such as those in water retaining structures – including reservoirs, canals, sewage plants, dams and sea walls etc. Plus those required in the below ground watertight construction of many buildings and structures including basements, underground car parks, subways and underpasses etc.
Characteristics / Advantages	■ Highly resistant to ageing ■ High tensile strength and elongation ■ Resistant to root penetration and micro-organisms ■ Resistant to all natural aggressive mediums in ground water and soil ■ High water vapour transmission capability ■ High resistance to mechanical stress ■ High dimensional stability ■ High flexibility in cold temperatures ■ Hot air weldable ■ Suitable for use in contact with soft water (aggressive to concrete) ■ Can be installed on damp and wet substrates

Tests

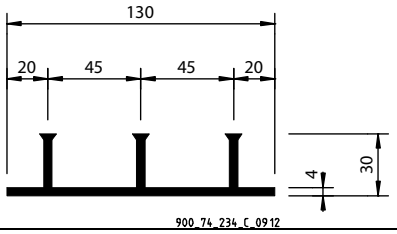
Approval / Standards

Product Data

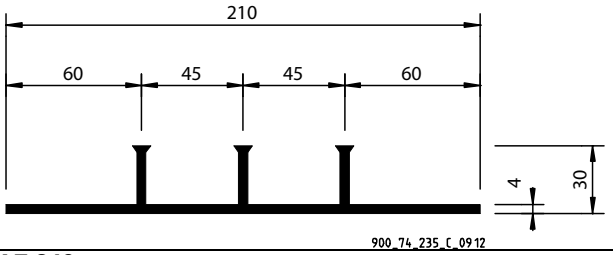
Form

Appearance / Colours	Colours:	grey		
Packaging	Roll size:	AF 130 = 25.0 m AF 310 = 25.0 m AFI 600 = 25.0 m DF 400 = 25.0 m	AF 210 = 25.0 m AF 400 = 25.0 m AF 600 = 20.0 m	AF 240 = 25.0 m AF 500 = 25.0 m
	Unit weight:	AF 130 = 0.87 kg/m kg/m AF 310 = 1.65 kg/m kg/m AFI 600 = 4.00 kg/m DF 400 = 2.39 kg/m	AF 210 = 1.16 kg/m AF 400 = 2.24 kg/m AF 600 = 4.00 kg/m	AF 240 = 1.39 AF 500 = 3.07

AF 130



AF 210



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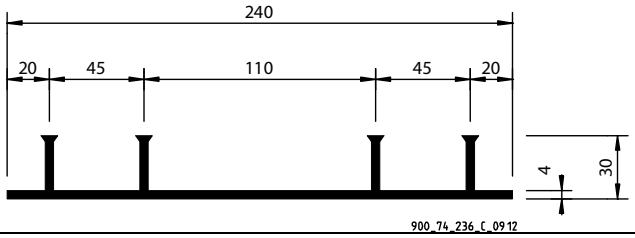
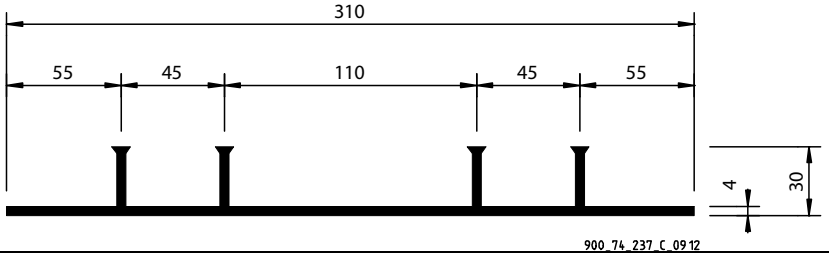
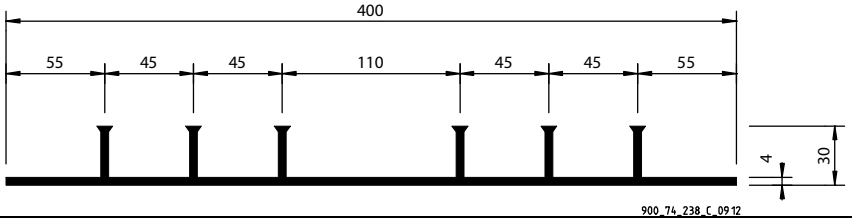


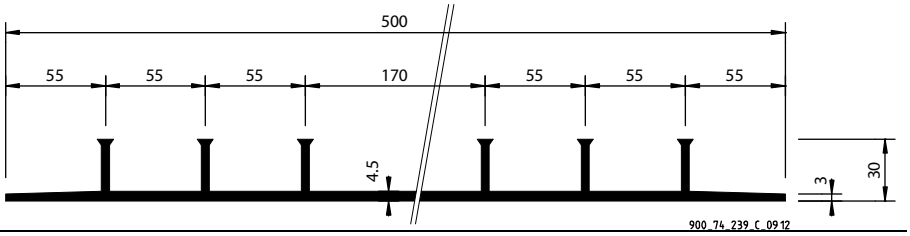
AF 310



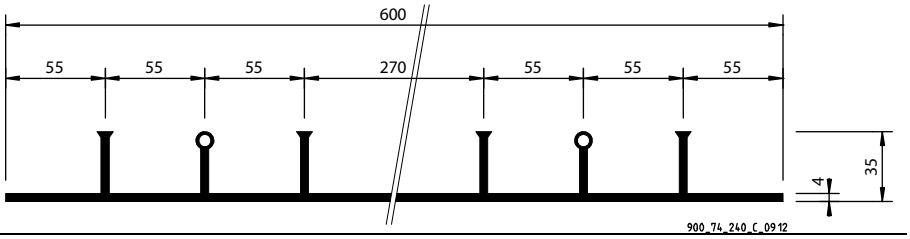
AF 400



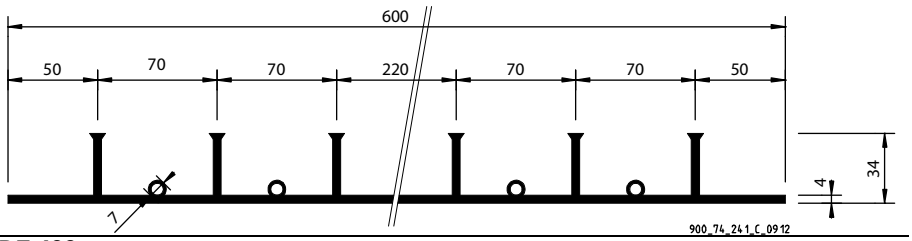
AF 500



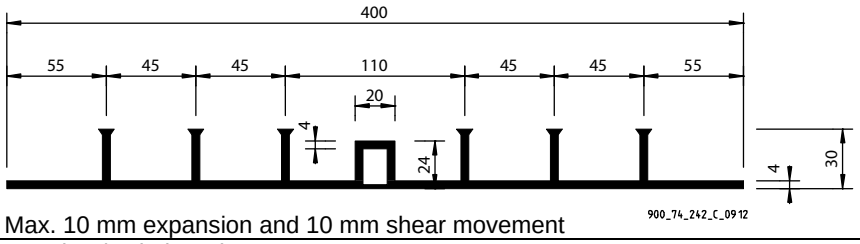
AFI 600



AF 600



DF 400



Max. 10 mm expansion and 10 mm shear movement

Junction / Jointing Pieces:
A wide range of standard junction / jointing pieces are available for jointing. The Sika Waterbar WT profiles all have a 500 mm free wing flap, 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 / jointing pieces available:

- Cross piece flat
- T-piece flat
- L-piece flat
- L-piece vertical pins inside
- L-piece vertical pins outside

Additional Special Waterbars or special custom made profiles and pieces can be produced according to our clients specifications and requirements on request

Storage	
Storage Conditions / Shelf-Life	Rolls must be stored in their original packaging, in a horizontal position and in cool and dry conditions. They must be protected from direct sunlight, rain, snow and ice, etc. These products do not expire if stored correctly.
Mechanical / Physical Properties	
Tensile Strength	Machine: 17 (± 2.0) N/mm^2 ISO 527 – 3/5
Elongation	Machine: ≥ 650 % ISO 527 – 3/5
Elastic Modulus E_{1-2}	Machine and cross direction: ≤ 70 N/mm^2 ISO 527-1/3
Resistance	
Reaction to Fire	Class E EN ISO 11925-2
Behaviour of welding	Tensile shearing test: Break outside the welding seam Short time welding factor: fz = ≥ 0.6 EN 12317-2 Peeling resistance: = ≥ 6 N/mm EN 12316-2

System Information

System Structure	Ancillary products: - Sikaplan® WT 1200 - Sikaplan® WT 2200 - Sikaplan® WT 5200 - Sikaplan® WT 5210 - Sikaplan® WT 6200 - Sikaplan® WT 6210 - Sikaplan® WP Protection sheet

Application Details

Substrate Quality	In-situ concrete: Clean, sound and dry, homogeneous, free from oils and grease, dust and loose or friable particles. Shotcrete: The profile of the shotcrete surface must not exceed a ratio of length to depth of 5:1 and its min. radius must be 20 cm. The shotcrete surface must not contain broken aggregates. Any leaks should first be sealed with Sika® waterproof plugging mortar, or drained with Sika® FlexoDrain. Where necessary to achieve this desired profile/surface, apply a fine sprayed concrete layer on the shotcrete surface with a min. thickness of 5 cm and aggregate diameter not exceeding 4 mm. Steel (girders, joists, reinforcement mesh, anchors, etc.) must also all be covered with a minimum 5 cm of fine sprayed concrete. The surface of the shotcrete and fine sprayed concrete must be clean (no loose stones, nails, wires, etc.).

Application Conditions / Limitations

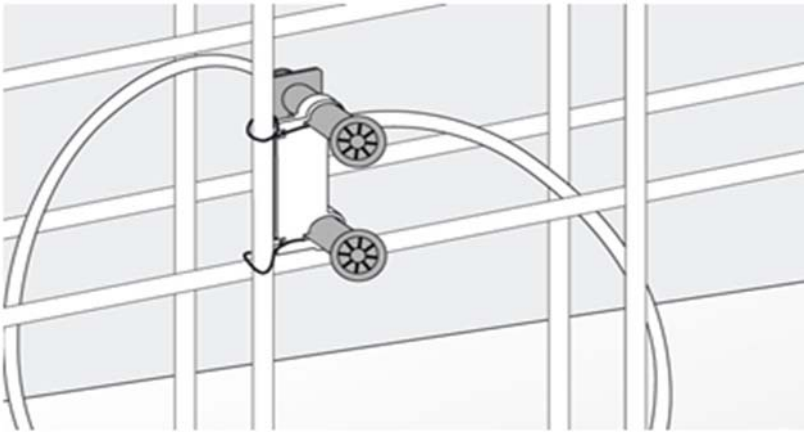
Substrate Temperature	0°C min. / +35°C max.
Ambient Temperature	+5°C min. / +35°C max. For installation below +5°C ambient temperature, special measures for safety requirements may be required in accordance with relevant national regulations.

Application Instructions

Application Method / Tools	Installation: Install directly on the concrete blinding, in the external formwork or weld directly to the Sikaplan® WT tunnel and basement waterproofing membranes. Sika® Waterbar WT is made of flexible polyolefins, and is easy to weld. The ends are secured in a timber formers (available form Sika for each type) and are heated with a suitable hot air gun (also available form Sika) until an even melt is obtained. The hot air gun is then removed and the molten ends are pressed firmly together in the form. The melt temperature is ca. +200°C. Joints: At corners and joints any Injection tubes must be cut back by about 100 mm on both sides and bridged/jointed with flexible injection hoses (8 mm external diameter.

Construction

Length of injection hose sections:
The length of individual injection hose sections should not exceed 10 – 12 m, as with normal injection hoses.



Hose Injection Points:
The connection pieces for the hose injection-points have to be installed. This connection consists of the Sika® Double-Shutter-Packer, which has both an inlet and outlet opening complete with connecting hoses. The Double-Shutter-Packer is fixed vertically to the rebars with the tie wires so that it cannot be displaced. The height of the packers from the substrate must take into consideration the finished level (i.e. after floor screeds etc.) to allow easy future injection if required.. Vertical fixing of the packers results in better stability during concreting.

Cleaning:
Use Sarnafil® T Prep for seam preparation and cleaning of any slightly soiled Waterbar or membrane surfaces.

Welding:
The specific site welding parameters for Sika® Waterbar WT or Sikaplan® WT membranes such as speed and temperature must be established with trials on site, prior to any welding works.

Notes on Application / Limitations	Installation works should only be carried out by Sika® trained contractors, experienced in the waterproofing of tunnels, basements and other underground structures. The water tightness of the structure must be approved after completion of the joint tape installation works according to the requirements of the client's specifications. The Sika® Waterbar WT is not UV stabilised and must not be installed on structures where it is permanently exposed to UV-light and weathering. In situations with negative water pressure surface mounted waterbars must not 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.
Local Restrictions	Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

Health and Safety Information

See separate Safety Data Sheet.

Legal Notes

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