

PRODUCT DATA SHEET

Sikaplan® WT 1200-30 C

FPO MECHANICALLY FIXED MEMBRANE FOR BASEMENT AND TUNNEL WATERPROOFING

DESCRIPTION

Sikaplan® WT 1200-30 C is a polyolefin (FPO-PE), mechanically fixed, heat weldable, flexible sheet waterproofing membrane with a glass fibre reinforcing inlay. Thickness 3,0 mm.

USES

Sikaplan® WT 1200-30 C may only be used by experienced professionals.

- Waterproofing of basements and cut-and-cover structures against groundwater

CHARACTERISTICS / ADVANTAGES

- Resistant against ageing
- Contains no solvents, heavy metals, halogens, and plasticisers
- Recyclable
- Resistant against root penetrations and microorganisms
- Optimised flexibility, tensile strength and multi-axial elongation
- Flexible in cold temperatures
- Dimensional stable
- Resistant against permanent water temperatures of max. +40°C
- Suitable for contact with acidic soft water and alkaline environment
- Optimised workability, thermal weldable
- Can be installed on damp and wet substrates
- Temporary UV stable for installation (350 MJ/m² acc. EN 12224)
- Bitumen resistant

PRODUCT INFORMATION

Product Declaration

EN 13967 - Flexible sheets for waterproofing. EN 13491 - Geosynthetic barriers for tunnels and associated underground structures

Packaging	Roll size	2,00m (width) x 10,00m (length) Or roll length individual as specified by agreement
Appearance / Colour	Surface Colour	smooth top layer: green bottom layer: black
Shelf Life	5 years from date of production	
Storage Conditions	Product must be stored in original unopened and undamaged sealed packaging in dry conditions and temperatures between + 5 °C and + 35 °C. Store in a horizontal position. Do not stack pallets of the rolls on top of each other, or under pallets of any other materials during transport or storage. Always refer to packaging.	
Visible Defects	Pass	(EN 1850-2)
Effective Thickness	3.00 (- 5/+ 10%) mm	(EN 1849-2)
Straightness	≤ 50 mm/ 10 m	(EN 1848-2)
Mass per Unit Area	3.06 (- 5/+ 10%) kg/m ²	(EN 1849-2)

TECHNICAL INFORMATION

Tensile Strength	≥ 10 N/mm ² (machine direction) ≥ 8,5 N/mm ² (cross direction) 10 N/mm ² ± 2.0 (machine direction) 9 N/mm ² ± 2.0 (cross direction)	(EN12311-2) (ISO 527)
Elongation	≥ 450% (machine/ cross direction)	(EN12311-2)(ISO 527)
Burst Strength	≥ 50% (D= 1,0 m)	(EN 14151)
Resistance to Static Puncture	3,2 kN (± 0.40)	(EN ISO 12236)
Resistance to Impact	Watertight at 1250 mm drop height (500 g falling weight)	(EN 12691)
Resistance to Static Load	≥ 20 kg (Method B, 24h/ 20 kg)	(EN 12730)
Water Vapour Transimission	100 000 μ (± 30 000) μ (+ 23°C/ 75% r. h)	(EN 1931)
Water Tightness	Pass (Method B, 24h/ 60 kPa)	(EN 1928)
Foldability at Low Temperature	No cracks at - 50°C	(EN 495-5)
Tear Strength	≥ 65 kN/m (Method B, V= 50 mm/min)	(ISO 34)
Resistance to tear (nail shank)	≥ 850 N	(EN 12310-1)
Joint Shear Resistance	≥ 900 N/ 50 mm	(EN 12317-2)
Coefficient of Thermal Expansion	190 x 10 ⁻⁶ (± 50 x 10 ⁻⁶) 1/K	(ASTM D 696-91)
Resistance to Oxidation	(90d/ 85°C) Change of tensile strength: ≤ 25% Change in elongation: ≤ 25%	(EN 14575)
Chemical Resistance	A (hydrolysis under acid conditions): Change in elongation: ≤ 10% B (hydrolysis under alkaline conditions): Change in elongation: ≤ 10% D (synthetic leachate water): Change in elongation: ≤ 10%	(EN 14414)

Durability of Water Tightness against Ageing	(12 weeks) Pass (Method B, 24h/ 60 kPa)	(EN 1296)(EN 1928)
Durability of Water Tightness against Chemicals	(28d/+ 23°C) Pass (Method B, 24h/ 60 kPa)	(EN 1847)(EN 1928)
Microbiological Resistance	Change of tensile strength: ≤ 15% Change in elongation: ≤ 15%	(EN 12225)
Accelerated Ageing in Alkaline Environment Tensile Strength	Pass (Appendix C, 24 weeks/+ 90°C)	(EN 12311-2)
Resistance to Environmental Stress Cracking	≥ 200h	(EN 14576)(ASTM D 5397-99)
Resistance to Weathering	Remaining tensile strength and elongation: ≥ 75% (350 MJ/m ²)	(EN 12224)
Resistance to Root Penetration	Pass	(CEN/TS 14416)
Reaction to Fire	Class E	(EN ISO 11925-2)(EN 13501-1)
Exposure to Bitumen	Pass (Method A, 28d/+ 70°C)	(EN 1548)(EN 1928)
Service Temperature	- 10°C min./+ 40°C max.	
Ambient Maximum Temperature of Liquids	+ 40°C	

SYSTEM INFORMATION

System Structure

Ancillary Products:

- Sikaplan® WT Disc
- Sikaplan® WT Fixation Plate PE
- Sikaplan® W Felt PP
- Sikaplan® W Tundrain
- Sikaplan® WT Protection Sheets
- Sika® Waterbar WT for waterproofing of concrete joints and compartments
- Sikaplan® WT Tape 200, bonded with Sikadur -31
- Sarnafil® T Clean, cleaner for soiled membrane surfaces
- Sarnafil® T Prep for seam preparation, prior to heat welding

APPLICATION INFORMATION

Ambient Air Temperature

+ 5°C min./+ 45°C max. For installation below + 5° ambient temperature, special measures are required in accordance with relevant national regulations and Sika guidelines.

BASIS OF PRODUCT DATA

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.

LIMITATIONS

- Installation works must only be carried out by Sika® trained contractors, experienced in the lining of tunnels and below ground structures. Particular protective precautions must be taken in wet conditions, at temperatures below + 5°C as well as at a relative air humidity of more than 80%. The effectiveness of the measure must be proven separately.
- Fresh air ventilation must always be ensured, when

working (welding) in closed rooms and in accordance with all local regulations.

- The membrane is not UV stabilized and cannot be installed on structures permanently exposed to UV light and weathering.

ECOLOGY HEALTH AND SAFETY

REGULATION (EC) NO 1907/2006 - REACH

This product is an article within the meaning of Article 3.3 of Regulation (EC) No. 1907/2006. A safety data sheet following EC- Regulation 1907/2006, article 31 is not needed to bring the product to the market to transport or use it. The product does not damage the environment when used as specified.

European Community Regulation on chemicals and their safe use (REACH: EC 1907/2006)
This product is an article as defined in article 3 of regulation (EC) No 1907/2006 (REACH). It contains no substances which are intended to be released from the article under normal or reasonably foreseeable conditions of use. A safety data sheet following article 31 of the same regulation is not needed to bring the product to the market, to transport or to use it. For safe use follow the instructions given in this product data sheet.

Based on our current knowledge, this product does not contain SVHC (substances of very high concern) as listed in Annex XIV of the REACH regulation or on the candidate list published by the European Chemicals Agency in concentrations above 0.1 % (w/w).

APPLICATION INSTRUCTIONS

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 10:1 and its min. radius must be 20 cm. The shotcrete surface must not contain broken aggregates. Any leaks must be sealed with Sika® waterproof plugging mortar, or drained with Sika® FlexoDrain. Where necessary to achieve the desired profile/surface, apply a fine sprayed concrete layer on the shotcrete surface with a min. thickness of 3-5 cm and aggregate diameter not exceeding 8 mm. Steel (girders, reinforcement mesh, anchors, etc.) must also be covered with a minimum of 4 cm fine sprayed concrete. The shotcrete surface must be cleaned (no loose stones, nails, wires, etc.). A polypropylene geotextile ($\geq 500 \text{ g/m}^2$) or a compatible drainage layer must be installed prior to the membrane application.

APPLICATION METHOD / TOOLS

Installation procedure

Reference must be made to further documentation where applicable, such as relevant method statement, application manual and installation or working instructions.

The membrane is installed loose laid and mechanically fastened, or loose laid and ballasted in accordance with the separate Sika Method Statement for sheet waterproofing membrane installations. The jointing faces must be dry and free from contaminations. For contaminated/soiled membranes, follow the Sika Method Statement. Sarnafil® T Prep must be used for the seam preparation unless the coat influenced by

weather conditions and/or oxidation is pressed out of the area of the joining faces during the welding, e.g. by the heated wedge. Clean, freshly unpacked rolls can be automatically heat welded without any preparation. All membrane overlaps must be heat welded by using hand welding guns and pressure rollers or automatic heat welding machines, with individually adjustable and electronically controlled welding temperatures (such as the manual Leister Triac PID / automatic: Leister Twinny S / semi-automatic: Leister Triac Drive). Welding parameters, such as speed and temperature must be established with trials on site, prior to any welding works. The execution of T-joints demands particular preparation of the weld area; on the already fabricated weld the overlaps must be machined off carefully.

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.

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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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