BUILDING TRUST

PRODUCT DATA SHEET

Sikaplan® WT 1200-20 C

FPO MECHANICALLY FIXED MEMBRANE FOR BASEMENT AND TUNNEL WATERPROOFING

DESCRIPTION

Sikaplan® WT 1200-20 C is a polyolefin (FPO-PE), mechanically fixed, heat weldable, flexible sheet waterproofing membrane with a glass fibre reinforcing inlay. Thickness 2,0 mm.

USES

Sikaplan® WT 1200-20 C may only be used by experienced professionals.

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

CHARACTERISTICS / ADVANTAGES

- Flexible in cold temperatures
- Reinforced and dimensional stable during installation
- Resistant against ageing
- Resistant to permanent water temperature up to + 40°C
- Suitable for contact with acidic soft water and alkaline environments
- Resistant to root penetration and microbiological degradation
- Optimised workability, heat weldable
- Hand welding without extrusion seams
- Can be installed on damp and wet substrates
- Temporary UV stable for installation
- Bitumen resistant

APPROVALS / STANDARDS

- CE Marking and Declaration of Performance to EN 13491:2004/A1:2006 - Geosynthetic barriers — Characteristics required for use as a fluid barrier in the construction of tunnels and underground structures
- CE Marking and Declaration of Performance to EN 13361 - Geosynthetic barriers - For use in the construction of reservoirs and dams
- CE Marking and Declaration of Performance to EN 13362 - Geosynthetic barriers - Characteristics required for use in the construction of canals
- CE Marking and Declaration of Performance to EN 13967 - Flexible sheets for waterproofing - Damp proofing and basement tanking

PRODUCT INFORMATION

Product Declaration	EN 13967 - Flexible sheets for waterproofing. EN 13491 - Geosynthetic barriers for tunnels and associated underground structures
Chemical Base	Polyolefin (FPO-PE) with glass fibre fleece inlay

Packaging	Roll size	
	Length:	15,00 m or as required
	Width:	2,00 m
	Weight:	~61,2 kg
	Refer to current price list for packaging variations	
Appearance / Colour	Surface:	
	Top:	smooth
	Colour:	top: green underside: 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	EN 13967: mandatory only for European countries	(1213-CPR-016)
Effective Thickness	2.00 (- 5/+ 10 %) mm	(EN 1849-2)
Straightness	≤ 50 mm/ 10 m	(EN 1848-2)
Mass per Unit Area	2.04 (- 5/+ 10 %) kg/m²	(EN 1849-2)

TECHNICAL INFORMATION

Tensile Strength	≥ 10 N/mm² (machine direction) ≥ 8.5 N/mm² (cross direction)	(EN12311-2)
	≥ 10 N/mm² ± 2.0 (machine direction) ≥ 9 N/mm² ± 2.0 (cross direction)	(ISO 527)
Elongation	≥ 450 % (machine/ cross direction)	(EN12311-2)
	≥ 450 % (machine/ cross direction)	(ISO 527)
Burst Strength	≥ 50 % (D= 1,0 m)	(EN 14151)
Resistance to Static Puncture	≥ 2.2 (±0.40) kN	(EN ISO 12236)
Resistance to Impact	Watertight at ≥ 700 mm drop height (500 g falling weight)	(EN 12691)
Resistance to Static Load	≥ 20 kg (Method B, 24h/ 20 kg)	(EN 12730)
Permeability to Liquid Water	< 10^{-7} m³ x m^{-2} x d^{-1}	[EN 14150]
Water Vapour Transimission	90 000 (± 25 000) µ (+ 23 °C/ 75 % r. h)	(EN 1931)
Water Tightness	Pass (Method B, 24h/ 60 kPa)	(EN 1928 B)
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)	≥ 650 N	(EN 12310-1)
Joint Shear Resistance	≥ 800 N/ 50 mm	(EN 12317-2)
Dimensional Change after Heat	< 2.0 % (machine/ cross)	(+ 80 °C/ 6h) (EN 1107-2)
Coefficient of Thermal Expansion	120 x 10^{-6} (± 50 x 10^{-6}) 1/K	(ASTM D 696-91)

Resistance to Oxidation	Change of tensile strength: Change in elongation:	≤ 20 % ≤ 20 %	(EN 14575)
Chemical Resistance	Change in elongation: (hydrolysis under acid conditions): Change in elongation: (synthetic leachate water): Change in elongation:	≤10 % ≤10 % ≤10 %	(EN 14414)
Durability of Water Thightness against Ageing	Pass (12 weeks) Pass (Method B, 24h/ 60 kPa)		(EN 1296)(EN 1928)
Durability of Water Tightness against Chemicals	Pass (28d/+ 23 °C) Pass (Method B, 24h/ 60 kPa)		(EN 1847)(EN 1928)
Microbiological Resistance	Change of tensile strength: Change in elongation	≤10 % ≤10 %	(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/m2)	(EN 12224)
Resistance to Root Penetration	Pass		(CEN/TS 14416)
Reaction to Fire	Class E		(EN ISO 11925-2)
Exposure to Bitumen	Pass (Method A, 28d/+ 70 °C)		(EN 1928)(EN 1548)
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(type specific to environment)
- 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.

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.

FURTHER DOCUMENTS

- Sika Method Statement: Sikaplan® WT sheet membrane system for waterproofing of tunnels

LIMITATIONS

Installation works must only be carried out by Sika® trained contractors, experienced in the waterproof lining of tunnels and below ground structures.

- Particular precautions must be taken in wet conditions, at temperatures below +5°C, and when the relative air humidity (RH) is more than 80%.
- The effectiveness of these precautions must be proven by taking measurements.
- Fresh air ventilation must always be ensured and in accordance with all relevant local regulations for confined working.
- The membrane is not resistant to permanent contact with bitumen and plastics other than PVC. Use a separation geotextile layer (> 150 g/m²).
- The membrane is not UV stabilised and cannot be installed on structures permanently exposed to sunlight and weathering.

ECOLOGY HEALTH AND SAFETY

REGULATION (EC) NO 1907/2006 - REACH

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

EQUIPMENT

Hot welding overlap seams
Electric hot air welding equipment, such as hand held manual hot air welding equipment and pressure rollers or automatic hot air welding machines with controlled hot air temperature capability of a minimum +600 °C.
Recommended type of equipment:

- Manual: Leister Triac PID
- Automatic : Leister Twinny S
- Semi-automatic: Leister Triac Drive

Or other suitable equivalent electric hot air welding equipment.

SUBSTRATE QUALITY

Refer to Sika Method Statement: Sikaplan® WT sheet membrane system for waterproofing of tunnels

APPLICATION METHOD / TOOLS

Installation procedure

Strictly follow installation procedures as defined in method statements, application manuals and working instructions which must always be adjusted to the actual site conditions.
Installation method - General
The waterproofing membrane is installed by loose laying and mechanically fastened, or loose laid and ballasted. Overlap seams are hot welded.
Preparation of overlap seams
Before seam welding, Sarnafil® T Clean must be used for seam cleaning of slightly soiled membrane surfaces.
After seam cleaning and before seam welding, Sarnafil® T Prep must be used for seam preparation of membrane surfaces.
Hot welding method
Overlap seams must be welded by electric hot welding equipment. Welding parameters including temperature, machine speed, air flow, pressure and machine settings must be evaluated, adapted and checked on site according to the type of equipment and the climatic conditions prior to welding.

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

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