

PRODUCT DATA SHEET

Sikaplan® TM-12

POLYMERIC FPO MEMBRANE FOR MECHANICALLY FASTENED ROOF WATERPROOFING



DESCRIPTION

Sikaplan® TM-12 (thickness 1.2 mm) is a polyester reinforced, multi-layer, synthetic roof waterproofing sheet based on premium-quality flexible polyolefins (FPO) containing ultraviolet light stabilizers and flame retardant according to EN 13956.

Sikaplan® TM-12 is a hot air weldable roof membrane formulated for direct exposure and designed to use in all global climatic conditions.

USES

Waterproofing membrane for:

- Mechanically fastened roofing systems

CHARACTERISTICS / ADVANTAGES

- Resistant to UV exposure
- Resistant to permanent wind exposure
- Resistant against impact load and hail
- Resistant to all common environmental influences
- Resistant to micro-organisms
- Compatible with old bitumen
- Hot air weldable
- No open flame equipment required

SUSTAINABILITY

- Conformity with LEED v4 SSc 5 (Option 1): Heat Island Reduction - Roof
- Conformity with LEED v4 MRc 3 (Option 2): Building Product Disclosure and Optimization - Sourcing of Raw Materials
- Conformity with LEED v4 MRc 4 (Option 2): Building Product Disclosure and Optimization - Material Ingredients
- Conformity with LEED v2009 SSc 7.2 (Option 1): Heat Island Effect - Roof
- Conformity with LEED v2009 MRc 4 (Option 2): Recycled Content

APPROVALS / CERTIFICATES

- CE-marking and Declaration of Performance as Polymeric sheets for roof waterproofing according to EN 13956:2012, based on certificate of factory production control issued by notified factory production control certification body and type testing.

PRODUCT INFORMATION

Composition	Flexible polyolefins (FPO)	
Packaging	Sikaplan® TM-12 standard rolls are wrapped individually in a yellow PE-foil.	
	Roll length:	25,00 m
	Roll width:	2,00 m
	Roll weight:	64,00 kg
Appearance / Colour	Surface	matt
	Colour	
	Top surface	white (nearest RAL 9016)
	Bottom surface	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 + 30 °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.	
Product Declaration	EN 13956 - Polymeric sheets for roof waterproofing	
Visible Defects	Pass	(EN1850-2)
Length	25 m (-0 % / +5 %)	(EN 1848-2)
Width	2 m (-0,5 % / +1 %)	(EN 1848-2)
Effective Thickness	1,20 mm (-5 % / +10 %)	(EN 1849-2)
Straightness	≤ 30 mm	(EN 1848-2)
Flatness	≤ 10 mm	(EN 1848-2)
Mass per unit area	1,28 kg/m ² (-5 % / +10 %)	(EN 1849-2)

TECHNICAL INFORMATION

Resistance to Impact	hard substrate	≥ 500 mm	(EN 12691)
	soft substrate	≥ 700 mm	
Hail Resistance	rigid substrate	≥ 17 m/s	(EN 13583)
	flexible substrate	≥ 23 m/s	
Resistance to Static Load	soft substrate	≥ 20 kg	(EN 12730)
	rigid substrate	≥ 20 kg	
Tensile Strength	longitudinal (md) ¹⁾	≥ 800 N/50 mm	(EN 12311-2)
	transversal (cmd) ²⁾	≥ 800 N/50 mm	
¹⁾ md = machine direction ²⁾ cmd = cross machine direction			
Elongation	longitudinal (md) ¹⁾	≥ 13 %	(EN 12311-2)
	transversal (cmd) ²⁾	≥ 13 %	
¹⁾ md = machine direction ²⁾ cmd = cross machine direction			
Dimensional Stability	longitudinal (md) ¹⁾	≤ 0,5 %	(EN 1107-2)
	transversal (cmd) ²⁾	≤ 0,2 %	
¹⁾ md = machine direction ²⁾ cmd = cross machine direction			
Tear Strength	longitudinal (md) ¹⁾	≥ 250 N	(EN 12310-2)
	transversal (cmd) ²⁾	≥ 250 N	
¹⁾ md = machine direction ²⁾ cmd = cross machine direction			
Joint Peel Resistance	Failure mode: C, no failure of the joint		(EN 12316-2)
Joint Shear Resistance	≥ 500 N/50 mm		(EN 12317-2)
Foldability	≤ -25 °C		(EN 495-5)
External Fire Performance	BROOF (t1) < 20 °C		(ENV 1187) (EN 13501-5)
Reaction to Fire	Class E	(EN ISO 11925-2, classification to EN 13501-1)	
Effect of Liquid Chemicals, Including Water	On request		(EN 1847)

Exposure to Bitumen	Pass ³⁾ <small>³⁾ Sikaplan® TM is compatible to old bitumen</small>			(EN 1548)	
Resistance to UV Exposure	Pass (> 5000 h / grade 0)			(EN 1297)	
Water Vapour Transmission	$\mu = 190\ 000$			(EN 1931)	
Watertightness	Pass			(EN 1928)	
Solar Reflectance	Colour	Initial	3 years aged	Test Institute Intertek	(ASTM C 1549)
	white	0,89	0,89		
Thermal Emittance	Colour	Initial	3 year aged	Test Institute Intertek	(ASTM C 1371)
	white	0,89	0,89		
Solar Reflectance Index	Colour	Initial	3 years aged	Test institute Intertek	(ASTM E 1980)
	white	100	83		
CRRC tested products are listed in Cool Roof Rating Council (CRRC) product data base.					
USGBC LEED Rating	Colour	Initial	3 years aged		(ASTM E 1980)
	white	SRI > 82	SRI > 64		
Conform on the minimum requirements of LEED V4 SS credit 5 option 1 Heat Island reduction - Roof.					

SYSTEMS

System Structure

The following accessories shall be used:

- Sarnafil® T 66-15 D Sheet for detailing
- Sarnafil® TS 77 strips
- Sarnafil® T Metal Sheet
- Sarnafil® T Welding Cord
- Sarnabar® / Sarnafast®
- Sarnafil® T Prep / Sarnafil® T Wet Task Set
- Sarnacol® T 660
- Solvent T 660
- Sarnafil® T Clean

Wide range of accessories is available e.g. prefabricated parts, roof drains, scuppers, walkway pads and decor profiles.

Compatibility

Sikaplan® TM-12 may be installed on all thermal insulations and levelling layers suitable for roofing. No additional separation layer is required. Sikaplan® TM-12 is suitable for installation directly on top of existing, carefully cleaned, levelled bituminous roofing, e.g. re-roofing over old flat roofs. Colour changes in membrane surface may occur if in direct contact with bitumen.

APPLICATION INFORMATION

Ambient Air Temperature -15 °C min. / +60 °C max.

Substrate Temperature -25 °C min. / +60 °C max.

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

Automatic : Leister Varimat

Semi-automatic: Leister Triac Drive

SUBSTRATE QUALITY

The substrate surface must be uniform, smooth and free of any sharp protrusions or burrs, e.t.c. Sikaplan® TM-12 must be separated from any incompatible substrates / materials by an effective separation layer to prevent accelerated ageing. The supporting layer must be compatible to the membrane, solvent resistant, clean, dry and free of grease and dust. Metal sheets must be degreased with Solvent T 660 before adhesive is applied.

APPLICATION

Installation procedure

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

Fixing method - General

The waterproofing membrane is installed by loose laying (without stretching membrane or installing under tension) with mechanical fastening in seam overlaps or independent from overlaps. Overlap seams are hot welded using specialised hot air equipment.

Fixing method-Spot fastening

Sikaplan® TM-12 must always be installed at right angles to the deck direction. Sikaplan® TM-12 is fixed by fasteners and washers/tubes along the marked line, 35 mm from the edge of the membrane. Sikaplan® TM-12 is overlapped by 120 mm. The spacing of the fasteners is in accordance with the project specific Sika calculations. At upstands and at all penetrations, the membrane must be secured by additional fasteners and washers/tubes. That protects the Sikaplan® TM-12 roof covering against tearing and peeling off by wind uplift.

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.

Testing overlap seams

The seams must be mechanically tested with screw driver or steel needle to ensure the integrity/completion of the weld. Any imperfections must be rectified by hot air welding.

FURTHER INFORMATION

Installation

- Application Manual

IMPORTANT CONSIDERATIONS

Installation work must only be carried out by Sika® trained and approved contractors, experienced in this type of application

- Ensure Sikaplan® TM-12 is prevented from direct contact with incompatible materials (refer to compatibility section)
- Sikaplan® TM-12 must be installed by loose laying and without stretching or installing under tension
- The use of Sikaplan® TM-12 membrane is limited to geographical locations with average monthly minimum temperatures of -50 °C. Permanent ambient temperature during use is limited to +50 °C.
- The use of some ancillary products such as adhesives, cleaners and solvents is limited to temperatures above +5 °C. Observe temperature limitations in the appropriate Product Data Sheets.
- Special measures may be compulsory for installation below +5 °C ambient temperature due to safety requirements in accordance with national regulations.

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.

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.

ECOLOGY, HEALTH AND SAFETY

Fresh air ventilation must be ensured, when working (welding) in closed rooms.

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).

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.

Sika Hellas ABEE

15 Protomagias Str.
14568 Kryoneri
Attica-Greece
Tel.: +30 210 8160 600
Fax: +30 210 8160 606
www.sika.gr | sika@gr.sika.com



Product Data Sheet
Sikaplan® TM-12
January 2019, Version 02.01
020910011000121001

SikaplanTM-12-en-GR-(01-2019)-2-1.pdf