

PRODUCT DATA SHEET

Sikaplan® TM-12 (KR)

POLYMERIC TPO MEMBRANE FOR MECHANICALLY FASTENED ROOF WATERPROOFING

DESCRIPTION

Sikaplan® TM-12 (KR) (thickness 1.2 mm) is a Polyester reinforced, multi-layer, synthetic roof waterproofing sheet based on premium-quality thermoplastic polyolefins (TPO) and is an outdoor, indoor roofing membrane with superior performance such as UV stabilizer, anti-fungicide, and discoloration.

Sikaplan® TM-12 (KR) (thickness 1.2 mm) is a hot air weldable roof membrane formulated for direct exposure. Sikaplan® TM-12 (KR) (thickness 1.2 mm) is produced with a polyester reinforcement for high strength. Sikaplan® TM-12 (KR) (thickness 1.2 mm) is provided for mechanically attached roof systems. The dimensional stability of Sikaplan® TM-12 (KR) is excellent.

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
- Recyclable

APPROVALS / CERTIFICATES

- KS Marking and Declaration of Performance to KS F 4911 - Waterproofing Sheets of Synthetic Polymer
- Quality Management system in accordance with ISO 9001

PRODUCT INFORMATION

Composition	Thermoplastic polyolefins (TPO)	
Packaging	Sikaplan® TM-12 (KR) standard rolls are wrapped individually in a blue PE-foil.	
	Packing unit	see price list
	Roll length	30.00 m
	Roll width	1.34 m
	Roll weight	±53.06 kg
Appearance / Colour	Surface:	matt
	Colour:	
	Top surface:	white (nearest RAL 9016) light grey (nearest RAL 7035)
	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	ASTM D6878		
Length	30m(-0%/ +3%)		(ASTM D751)
Width	1.34m(-0%/ +3%)		(ASTM D751)
Overall Thickness	1.2mm(-10%/ +15%)		(ASTM D751)
Thickness Above Scrim	≥0.38mm(-10%/ +15%)		(ASTM D7635/D7635M)

TECHNICAL INFORMATION

Tensile Strength	longitudinal (md) ¹⁾	≥ 976 N	(ASTM D751)
	transversal (cmd) ²⁾	≥ 976 N	
	¹⁾ md = machine direction ²⁾ cmd = cross machine direction		
Elongation at Break	longitudinal (md) ¹⁾	≥ 15 %	(ASTM D751)
	transversal (cmd) ²⁾	≥ 15 %	
	¹⁾ md = machine direction ²⁾ cmd = cross machine direction		
Linear Dimensional Change	≤±1% (6 hours at 70°C)		(ASTM D1204)
Tear Strength	longitudinal (md) ¹⁾	≥ 245 N	(ASTM D751)
	transversal (cmd) ²⁾	≥ 245 N	
	¹⁾ md = machine direction ²⁾ cmd = cross machine direction		
Seam Strength	≥290 N		(ASTM D751)
Flexibility at low Temperature	Brittleness point	≤-40°C	(ASTM D2137)
Retention of Properties after Heat Aging	Weight change	≤±1.5%	(ASTM D573)
	Inspect at 7x magnification for cracks when bent over a 3 in. diameter mandrel	Pass	
Resistance to Weathering	Visual inspection	Pass (0.7W/m²,4000 hours)	(ASTM G155)
Natural Weathering	Ozone resistance	Pass	(ASTM D1149)
Water Absorption	≤±3.0%		(ASTM D471)

SYSTEMS

System Structure

The following products must be considered for use depending on roof design:

- Sikaplan® TD-15 KR 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 (KR) may be installed on all thermal insulations and leveling layers suitable for roofing. No additional separation layer is required.

Probably a fire protection layer is necessary.

Sikaplan® TM-12 (KR) 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, etc. Sikaplan® TM-12 (KR) 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 (KR) must always be installed at right angles to the deck direction. Sikaplan® TM-12 (KR) is fixed by fasteners and washers/tubes along the marked line, 35 mm from the edge of the membrane. Sikaplan® TM-12 (KR) is overlapped by 140 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 (KR) roof covering against tearing and peeling off by winduplift.

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 screwdriver 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 (KR) is prevented from direct contact with incompatible materials (refer to compatibility section)
- Sikaplan® TM-12 (KR) must be installed by loose laying and without stretching or installing under tension
- The use of Sikaplan® TM-12 (KR) 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 Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

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 the exact product data and uses.

ECOLOGY, HEALTH AND SAFETY

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

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 Korea Ltd.

135 gil 16, Nonhyun-ro
Gangnam-ku, Seoul, Korea
Tel : +82 2 6912 1500
Fax: +82 2 6912 1555
web: <http://kor.sika.com>



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