BUILDING TRUST

PRODUCT DATA SHEET

Sikaplan® G-18

Polymeric PVC membrane for mechanically fastened roof waterproofing

PRODUCT DESCRIPTION

Sikaplan® G-18 (thickness 1.8 mm) is a polyester reinforced, multi-layer, synthetic roof waterproofing sheet based on polyvinyl chloride (PVC) containing ultraviolet light stabilisers and flame retardant according to EN 13956. It is hot air weldable and formulated for direct exposure and designed for 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 to most common environmental influences
- Hot air weldable
- No open flame equipment required
- High water vapour permeability

ENVIRONMENTAL INFORMATION

- Conformity with LEED v4 SSc 5 (Option 1): Heat Island Reduction - Roof (only traffic white)
- Conformity with LEED v4 MRc 2 (Option 1): Building Product Disclosure and Optimization – Environmental Product Declarations
- Conformity with LEED v4 MRc 3 (Option 2): Building Product Disclosure and Optimization - Sourcing of Raw Materials
- IBU Environmental Product Declaration (EPD) available

APPROVALS / STANDARDS

- BBA Agrement Certification (09/4668)
- EN13501-5 Broof(t4) (as part of system)
- Polymeric sheets for roof waterproofing according to EN 13956, certified by notified body 1213-CPD-4125/4127 and provided with the CE-mark
- Reaction to fire according to EN 13501-1. Class E (membrane alone)
- Factory Mutual (FM) Approval Class: 4470
- Quality Management system in accordance with EN ISO 9001/14001

PRODUCT INFORMATION

Product Declaration	EN 13956 - Polymeric sheets for roof waterproofing		
Chemical Base	Polyvinyl chloride (PVC)		
Packaging	Packing unit	Refer to price list	Refer to price list
	Roll length	20.00 m	15.00 m
	Roll width	1.54 m	2.00 m
	Roll weight	67.70 kg	66.00 kg
Shelf Life	5 years from date of production.		
Storage Conditions	Product must be stored 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 trans-		

port or storage. Always refer to packaging.

Appearance / Colour	Surface	Matt	
	Colours		
	Top surface	Light grey (nearest RAL 7047) Lead grey (nearest RAL 7012) Brick red (nearest RAL 8004) Pale green (nearest RAL 6021) Traffic white (nearest RAL 9016)	
	Bottom surface	Dark grey	
	Top surface of sheet in other colours available on request, subject to minimum order quantities.		
Visible Defects	Pass		(EN 1850-2)
Length	15 m / 20 m (-0 % / +5 %)		(EN 1848-2)
Width	1.54 m / 2.00 m (-0.5 % / +1 %)		(EN 1848-2)
Effective Thickness	1.8 mm (-5 % / +10 %)		(EN 1849-2)
Straightness	≤ 30 mm		(EN 1848-2)
Flatness	≤ 10 mm		(EN 1848-2)
Mass per unit area	2.2 kg/m² (-5 % / +10 %)		(EN 1849-2)

SYSTEM INFORMATION

System Structure	Ancillary products: ▪ Sikaplan®-18 D, un-reinforced sheet for detailing ▪ Moulded corner pieces, prefabricated corners and pipe flashings ▪ Sika® Trocal® Metal Sheet Type S ▪ Sika® Trocal Cleaner-2000 ▪ Sika® Trocal Cleaner L-100 ▪ Sika® Trocal C-733 (Contact adhesive) Wide range of accessories is available e.g. prefabricated parts, roof drains, scuppers, walkway pads and decor profiles.
Compatibility	Not compatible with direct contact to other plastics e.g. EPS, XPS or PF – note Sikaplan G is compatible with PIR that has Glass tissue or foil facing, but not compatible with unfaced PIR material and should not be in direct contact. Not resistant to tar, bitumen, oil and solvent containing materials. These materials could adversely affect the product properties.

TECHNICAL INFORMATION

Resistance to Impact	hard substrate	≥ 500 mm	(EN 12691)
	soft substrate	≥ 800 mm	
Hail Resistance	rigid substrate	≥ 27 m/s	(EN 13583)
	flexible substrate	≥ 32 m/s	
Tensile Strength	longitudinal (md)[1)]	≥ 1000 N/50 mm	(EN 12311-2)
	transversal (cmd)[2)]	≥ 900 N/50 mm	
	[1)] md = machine direction [2)] cmd = cross machine direction		
Elongation	longitudinal (md)[1)]	≥ 15 %	(EN 12311-2)
	transversal (cmd)[2)]	≥ 15 %	
	[1)] md = machine direction [2)] cmd = cross machine direction		

Tear Strength	longitudinal (md)[1)]	≥ 150 N	(EN 12310-2)
	transversal (cmd)[2)]	≥ 150 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	≥ 600 N/50 mm		(EN 12317-2)
Dimensional Stability	longitudinal (md)[1)]	≤ |0.5| %	(EN 1107-2)
	transversal (cmd)[2)]	≤ |0.5| %	
	[1)] md = machine direction [2)] cmd = cross machine direction		
Foldability at Low Temperature	≤ -25 °C		(EN 495-5)
Water Tightness	Pass		(EN 1928)
Water Vapour Transimission	μ = 20 000		(EN 1931)
Effect of Liquid Chemicals, Including Water	On request		(EN 1847)
UV Exposure	Pass (> 5000 h / grade 0)		(EN 1297)
External Fire Performance	B_{ROOF}(t4) ≤ 10° (as part of roof system)		(EN 13501-5)
Reaction to Fire	Class E		(EN ISO 11925-2, classification to EN 13501-1)

APPLICATION INFORMATION

Ambient Air Temperature	Ambient temperature: -15 °C min. / +60 °C max.
Substrate Temperature	Substrate temperature: -25 °C min. / +60 °C max.

VALUE BASE

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

FURTHER DOCUMENTS

Installation
- Application Manual

LIMITATIONS

Installation work must only be carried out by Sika® trained and approved contractors, experienced in this type of application.
- Ensure Sikaplan® G-18 is prevented from direct contact with incompatible materials (refer to compatibility section).
- Sikaplan® G-18 must be installed by loose laying and without stretching or installing under tension.
- The use of Sikaplan® G-18 membrane is limited to geographical locations with average monthly minimum temperatures of -25 °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.

ECOLOGY, HEALTH AND SAFETY

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

REGULATION (EC) NO 1907/2006 - REACH

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
Automatic: Leister Varimat or similar
Semi-automatic: Leister Triac Drive

SUBSTRATE QUALITY

The substrate surface must be uniform, smooth and free of any sharp protrusions or burrs, etc. Sikaplan® G-18 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 Sika® Trocal Cleaner-2000 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® G-18 must always be installed at right angles to the deck direction. Sikaplan® G-18 is fixed by fasteners and washers/tubes along the marked line, 10 mm from the edge of the membrane. Sikaplan® G-18 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. The fasteners and washers/tubes protect the Sikaplan® G-18 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 to ensure the integrity/completion of the weld. Any imperfections must be rectified by hot air welding.

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.

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.

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