BUILDING TRUST

PRODUCT DATA SHEET

Sikaplan® VG-18

Polymeric PVC membrane for mechanically fastened roof waterproofing

DESCRIPTION

Sikaplan® VG-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. Sikaplan® VG-18 is a hot air weldable roof membrane formulated for direct exposure and designed to use in all global climatic conditions.

USES

Sikaplan® VG-18 may only be used by experienced professionals.
Waterproofing membrane for:
- Mechanically fastened roofing systems

FEATURES

- Resistant to UV exposure
- Resistant to permanent wind exposure
- Resistant against impact load and hail
- High water vapour permeability
- Resistant to most common environmental influences
- Hot air weldable
- No open flame equipment required

SUSTAINABILITY

- Conformity with LEED v4 MRc 3 (Option 2): Building Product Disclosure and Optimization - Sourcing of Raw Materials
- Conformity with LEED v2009 MRc 4 (Option 2): Recycled Content

CERTIFICATES AND TEST REPORTS

- CE Marking and Declaration of Performance to EN 13956 - Polymeric sheets for roof waterproofing
- FM Approved, Certificate of Compliance, Sikaplan® VG, Approval Identification No. 3X4A7.AM

PRODUCT INFORMATION

Product declaration	EN 13956: Polymeric sheets for roof waterproofing		
Composition	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:	67,76 kg	66,00 kg
	Refer to current price list for packaging variations.		
Shelf life	5 years from date of production.		
Storage conditions	Product must be stored in original unopened and undamaged 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.		
Appearance and colour	Surface	matt	
	Colours		
	Top surface	light grey (~RAL 7047)	
	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	20 m (-0 / +5 %)		(EN 1848-2)
Width	1,54 / 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 area	2,2 kg/m² (-5 / +10 %)		(EN 1849-2)

SYSTEM INFORMATION

System structure	The following products must be considered for use depending on roof design: ▪ 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. Please contact our customer service, for information of which products are sold in Denmark.
Compatibility	Not compatible in direct contact with bitumen, tar, fat, oil, solvent containing materials and other plastic materials, e.g. expanded polystyrene (EPS), extruded polystyrene (XPS), polyurethane (PUR), polyisocyanurate (PIR) or phenolic foam (PF). 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/50mm	(EN 12311-2)
	transversal (cmd)[2]	≥ 900 N/50mm	
	[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)
Watertightness	Pass		(EN 1928)
Water-vapour transmission rate	μ = 20 000		(EN 1931)
Effect of liquid chemicals, including water	Resistant to many chemicals. Contact Sika Technical Services for additional information.		(EN 1847)
Resistance to UV exposure	Pass (> 5 000 h / grade 0)		(EN 1297)
External fire performance	B_{ROOF}(t1) < 20° / > 20° B_{ROOF}(t2) B_{ROOF}(t3) < 10° / < 70°		(EN 13501-5)
Reaction to fire	Class E		(EN ISO 11925-2, classification to EN 13501-1)

APPLICATION INFORMATION

Ambient air temperature	-15 °C min. / +60 °C max.
Substrate temperature	-25 °C min. / +60 °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 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® VG-18 is prevented from direct contact with incompatible materials (refer to compatibility section).
- Sikaplan® VG-18 must be installed by loose laying and without stretching or installing under tension.
- The use of Sikaplan® VG-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

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® VG-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
Strictly follow installation procedures as defined in method statements, application manuals and working instructions which must always be adjusted to the actual site conditions.
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® VG-18 must always be installed at right angles to the deck direction. Sikaplan® VG-18 is fixed by fasteners and washers/tubes along the marked line, 10 mm from the edge of the membrane. Sikaplan® VG-18 is overlapped by 100 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® VG-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 (rounded edges) to ensure the integrity/completion of the weld. Any imperfections must be rectified by hot air welding.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data.

LEGAL NOTES

Any information or suggestions for use concerning Sika's products, which we either in writing or orally have given buyers or end-users of the product, have been given in good faith based on our own experiences and based on approved praxis and the technological and scientific knowledge on the time of giving such suggestions and information, which are given without any type of guarantees, and which do not lead to any further responsibility from Sika Danmark A/S, besides what is stated in the sales agreement in question. The buyer or end-user should themselves investigate or otherwise make sure, that our products are suitable for the use in question and further make sure that the products are kept and used correct and in agreement with the published rules and considering the actual conditions in order to avoid damages or less satisfactory results. Any order is accepted and any deliverance is affected according to the general terms of sales and delivery from Sika Danmark A/S, which are considered known and accepted, and which could be handed out when asked for. Our catalogues are not up-dated automatically. The present product data sheet is only for use in Denmark. Values stated in the present product data sheet should be seen as recommended, unless stated otherwise.

Sika Danmark A/S
Hirsemarken 5
3520 Farum
Tlf. +45 48 18 85 85
www.sika.dk