

PRODUCT DATA SHEET

Sikaplan® U-18

Polymeric membrane for mechanically fastened and ballasted roof waterproofing

DESCRIPTION

Sikaplan® U-18 (thickness 1,8 mm) is a polyester reinforced multi-layer, synthetic roof waterproofing sheet based on polyvinyl chloride (PVC) containing ultraviolet light stabiliser and flame retarder with inlay of glass non-woven according to EN 13956. It is hot air weldable roof membrane formulated for direct exposure and designed to use in all global climatic conditions.

USES

Roof waterproofing membrane for exposed roofs:

- Loose laid and mechanically fastened

Roof waterproofing membrane for roofs with ballast (e.g. gravel, concrete slabs, green roof (intensive, extensive), terraces with pedestrian traffic):

- Loose laid with ballast
- Green roofs
- Utility roofs

PRODUCT INFORMATION

Product declaration	EN 13956 - Polymeric sheets for roof waterproofing	
Composition	Polyvinyl chloride (PVC)	
Packaging	Packing unit:	see price list
	Roll length:	15,00 m
	Roll width:	2,00 m
	Roll weight:	65 kg
Shelf life	If stored properly the product keeps its performance.	
Storage conditions	Store 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.	

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Appearance and colour	Surface:	structured
	Colours:	
	Top surface:	light grey (nearest RAL 7047)
	Bottom surface:	dark grey
Visible defects	Pass	(EN 1850-2)
Length	15,00 m (-0 % / +5 %)	(EN 1848-2)
Width	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	2,1 kg/m ² (-5 % / +10 %)	(EN 1849-2)

SYSTEM INFORMATION

System structure	<p>The following products must be considered for use depending on roof design:</p> <ul style="list-style-type: none"> ▪ Sikaplan® S-15/S-20 unreinforced 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) <p>Wide range of accessories is available e.g. prefabricated parts, roof drains, scuppers, walkway pads and decor profiles.</p>
Compatibility	<p>Not compatible with direct contact to other plastics, e.g. EPS, XPS, PUR, PIR or PF. Not resistant to tar, bitumen, oil and solvent containing materials. These materials could adversely affect the product properties.</p>

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	
Resistance to static loading	soft substrate	≥ 20 kg	(EN 12730)
	rigid substrate	≥ 20 kg	
Resistance to root penetration	Pass		(EN 13948)
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	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 %
	transversal (cmd) ²⁾	≤ 0,5 %
<small>1) md = machine direction 2) cmd = cross machine direction</small>		
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	On request	(EN 1847)
Resistance to UV exposure	Pass (> 5000 h / grade 0)	(EN 1297)
External fire performance	B _{ROOF} (t1) < 20°	(CEN/TS 1187, EN 13501-5)
	Resistance to flying sparks and radiant heat Fulfilled for roof pitch < 20° (for tested roof structures)	(CEN/TS 1187, DIN 4102-23)
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 Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

FURTHER INFORMATION

Installation
▪ Application Manual

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 the 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 with 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.

SUBSTRATE QUALITY

The substrate surface must be uniform, smooth and free of any sharp protrusions or burrs, etc. Sikaplan® U-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.

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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