

PRODUCT DATA SHEET

Sikaplan® WP 1100-21 HL2

2.1 MM THICK PVC SHEET WATERPROOFING MEMBRANE FOR BASEMENTS AND TUNNELS WITH A THIN SIGNAL LAYER

PRODUCT DESCRIPTION

Sikaplan® WP 1100-21 HL2 is a flexible, 2.1 mm thick, homogeneous sheet waterproofing membrane. It contains a ≤ 0.2 mm thick signal layer and is based on high-quality polyvinylchloride (PVC-p).

WHERE TO USE

The Product is designed for:

- Waterproofing of basements against water ingress
- Waterproofing of tunnels against water ingress

CHARACTERISTICS / ADVANTAGES

- Certified for öBV tunnel guidelines, table 4.6 and table 4.7
- Contains no recycled materials and no DEHP (DOP) plasticisers
- Proven performance over decades
- High resistance to ageing
- Good resistance to microbial degradation
- Good resistance to root penetration
- Suitable for contact with acidic (soft) water and alkaline environments
- Optimised flexibility, tensile strength and multi-axial elongation
- Optimised workability and thermally weldable

APPROVALS / CERTIFICATES

- CE Marking and Declaration of Performance to EN 13491 - Geosynthetic barriers — Characteristics required for use as a fluid barrier in the construction of tunnels and underground structures
- CE Marking and Declaration of Performance to EN 13967 — Flexible sheets for waterproofing - Damp proofing and basement tanking
- Meets the requirements according to the öBV Directive "Tunnelabdichtung", table 4-6, issued in December 2012
- Meets the requirements according to the öBV Directive "Tunnelabdichtung", table 4-7, issued in December 2012
- Fulfils the requirements of annex C.5 of SIA 272:2009

PRODUCT INFORMATION

Composition / Manufacturing	PVC-p	
Packaging	Roll width	2.2 m
	Roll length	20 m or specified

Shelf Life	5 years from date of production		
Storage Conditions	The Product must be stored in original unopened and undamaged sealed packaging in dry conditions and temperatures between +5 °C and +35 °C. Protect the Product from direct weather exposure. 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 / Colour	Surface texture	smooth	
	Signal layer colour	yellow	
	Bottom layer colour	black	
Effective Thickness	2.10 mm (-0.10 mm / +0.21 mm) including signal layer		(EN 1849-2)
	Signal layer thickness	≤ 0.2 mm	
Mass per unit area	2.70 kg/m ² (-0.13 kg/m ² / +0.27 kg/m ²)		(EN 1849-2)

TECHNICAL INFORMATION

Resistance to Impact	Method A, 500 g falling weight	Watertight at 750 mm drop height	(EN 12691)
Resistance to Static Puncture	> 2.5 kN		(EN ISO 12236)
Long Term Compression Strength	Water tightness, aged 48 hours	Watertight at 7.0 N/mm ²	(ÖBV Annex 1)
Tensile Strength	Longitudinal (MD)	17 N/mm ² ± 2 N/mm ²	(EN ISO 527-3)
	Transversal (CMD)	17 N/mm ² ± 2 N/mm ²	
Modulus of Elasticity in Tension	Longitudinal (MD)	≤ 20 N/mm ²	(EN ISO 527-3)
	Transversal (CMD)	≤ 20 N/mm ²	
Elongation	At break, longitudinal (MD)	> 300 %	(EN ISO 527-3)
	At break, transversal (CMD)	> 300 %	
Burst Strength	D = 1.0 m	≥ 80 %	(EN 14151)
Service Temperature	Minimum	-10 °C	
	Maximum	+35 °C	
Ambient Maximum Temperature of Liquids	+35 °C		
Foldability	No cracks at -20 °C		(EN 495-5)

Chemical Resistance

Change in tensile strength and elongation, 0.5 % sulphuric acid test, aged 360 days at +50 °C

< 20 %

(EN 1847)

Change in impact load, 0.5 % sulphuric acid, aged 360 days at +50 °C

≤ 30 %

Change in mass, 0.5 % sulphuric acid, aged 360 days at +50 °C

< 4 %

Change in tensile strength, 5–6 % sulphurous acid test, aged 90 days at +23 °C

< 20 %

Foldability at low temperatures, 5–6 % sulphurous acid test, aged 90 days at +23 °C

No cracks at -20 °C

Change in impact load, saturated lime wash, aged 360 days at +50 °C

≤ 30 %

Change in tensile strength and elongation, saturated lime wash, aged 360 days at +50 °C

< 20 %

(EN 14415)

Change in mass, saturated lime wash, aged 360 days at +50 °C

< 4 %

Behaviour after Storage in Warm Water

Change in tensile strength, aged 360 days at +70 °C

< 20 %

(EN 14415)

Change in elongation, aged 360 days at +70 °C

< 20 %

Change in mass, aged 360 days at +70 °C

< 4 %

Reduction of impact load, aged 360 days at +70 °C

≤ 30 %

Dimensional change, aged 360 days at +70 °C

< 2 %

Resistance to Oxidation

Change in tensile strength, aged 90 days at +85 °C

< 10 %

(EN 14575)

Change in elongation, aged 90 days at +85 °C

< 10 %

Foldability at low temperatures, aged 90 days at +85 °C

No cracks at -20 °C

Microbiological Resistance

Change in tensile strength, aged 16 weeks

< 15 %

(EN 12225)

Change in elongation, aged 16 weeks

< 15 %

Resistance to UV Exposure

Not permanently UV stable

Resistance to Weathering

Not resistant to permanent weathering

Dimensional Change after Heat	Longitudinal (MD), aged 6 hours at +80 °C	< 2 %	(EN 1107-2)
	Transversal (CMD), aged 6 hours at +80 °C	< 2 %	
	Blisters, aged 6 hours at +80 °C	No blisters	
Durability of Watertightness against Ageing	Aged 12 weeks, tested 24 hours at 60 kPa	pass	(EN 1296)
Reaction to Fire	Class E		(EN 13501-1)

SYSTEMS

System Structure

Ancillary Products:

- Sika® FlexoDrain
- Sikaplan® Geotextiles
- Sika® Drains
- Sika® W Tundrains
- Sikaplan® WP Drainage Angles
- Sikaplan® WP Disc
- Sika® Waterbars WP
- Sikaplan® WP Tape
- Sikaplan® WP Control Sockets
- Sikaplan®-8 Separation
- Sikaplan® WP Trumpet Flange
- Sika® Anchors
- Sikaplan® WP Protection Sheets

BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

ENVIRONMENT, HEALTH & SAFETY

This product is a manufactured article that does not require Safety Data Sheets to be marketed, transported or applied at the jobsite, according to the Hazardous Product Act - Section 2. Based on our current knowledge, this product is not classified as dangerous and does not contain any hazardous materials. Always wear personal protective equipment (including safety goggles and gloves) to manipulate and install Sika® products.

APPLICATION INSTRUCTIONS

IMPORTANT

Strictly follow installation procedures

Strictly follow installation procedures as defined in Method Statements, application manuals and working instructions which must always be adjusted to the actual site conditions.

SUBSTRATE QUALITY

For information on substrate quality / pre-treatment, refer to the following Sika® method statement:

- Sikaplan® WP sheet membrane (PVC) system for waterproofing tunnels

APPLICATION METHOD / TOOLS

For information on application, refer to the following Sika® method statement:

- Sikaplan® WP sheet membrane (PVC) system for waterproofing tunnels
- Shotcrete application directly onto sheet waterproofing membranes

IMPORTANT

Application by trained personnel

The application of this Product must only be carried out by Sika® trained and/or approved contractors, experienced in this type of application.

IMPORTANT

Ventilation in confined spaces

Always ensure good ventilation when applying the Product in a confined space.

IMPORTANT

Not resistant to bitumen and plastics

The Product is not resistant to permanent contact with bitumen and some types of plastics other than PVC.

1. For use over or adjacent to these materials, apply a separation layer of polypropylene geotextile (≥ 150

g/m²).

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 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 recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. 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 or may be downloaded from our website at: www.sika.ca

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Product Data Sheet

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