

PRODUCT DATA SHEET

Sikaplan® Universal-60 EnergySmart

60 mil thick PVC thermoplastic membrane

PRODUCT DESCRIPTION

Sikaplan® Universal-60 EnergySmart Roof Membrane is a PVC thermoplastic membrane produced with a polyester scrim reinforcement. Sikaplan Universal-60 utilizes the Pro-Weld™ visual indicator to provide real-time feedback that the proper seam welding temperature and speed settings are being used during installation.

USES

Used in adhered and mechanically attached applications to approved substrates.

AREAS OF APPLICATION

- Adhered roof systems
- In-seam disc systems
- In-seam batten, double-weld systems
- RhinoBond® systems
- New construction and reroofing

CHARACTERISTICS / ADVANTAGES



- Highly reflective
- Excellent tear strength resistance
- Factory applied lacquer coating to reduce dirt pick up
- Hot-air welded seams for long-term performance
- Pro-Weld™ visual welding temperature indicator¹

¹ White membrane only

APPROVALS / STANDARDS

- FM Global
- Underwriters Laboratories
- Underwriters Laboratories of Canada
- ICC Code Compliance – ESR 1157
- Miami-Dade County
- Florida Building Code
- California Title 24
- LEED/Green Globes

PRODUCT INFORMATION

Chemical Base	Thermoplastic PVC membrane containing ultraviolet light stabilizers, flame retardant and polyester scrim reinforcement with a unique lacquer coating on the top surface.	
Recycled Content	9% Pre-consumer, 1% post-consumer	
Reinforcing Material	Polyester	
Packaging	60 mil (1.5 mm) Membrane 10 ft x 100 ft (3 m x 30 m) roll, 343 lbs (156 kg) per roll, 8 rolls per pallet 5 ft x 100 ft (1.5 m x 30 m) roll, 172 lbs (78 kg) per roll, 12 rolls per pallet	
Appearance / Color	<ul style="list-style-type: none"> ▪ Top: White, Reflective Gray, and Tan ▪ Bottom: Gray 	
Shelf Life	N/A	
Storage Conditions	Store rolls on pallets and fully protected from the weather with clean canvas tarpaulins. Unvented polyethylene tarpaulins are not accepted due to the accumulation of moisture beneath the tarpaulin in certain weather conditions that may affect the ease of membrane weldability. Refer to Technical Bulletin 23-03 for additional storage information for rolls utilizing the Pro-Weld visual welding temperature indicator.	
Overall Thickness	60 mil (1.5 mm), nominal 45 mil	(ASTM D-751) (ASTM Type III D-4434 Spec. Requirement)
Thickness Above Scrim	24 mil 16 mil	(ASTM D-7635) (ASTM Type III D-4434 Spec. Requirement)

TECHNICAL INFORMATION

Resistance to Static Puncture	Pass 33 lbf (15 kg)	(ASTM D-5602) (ASTM Type III D-4434 Spec. Requirement)
Resistance to Dynamic Puncture	Pass 14.7 ft-lbf (20 J)	(ASTM D-5635) (ASTM Type III D-4434 Spec. Requirement)
Tensile Strength	303 lbf (1348 N) 200 lbf (890 N)	(AST D-751) (ASTM Type III D-4434 Spec. Requirement)
Linear Dimensional Change	0.24% 0.5%	(ASTM D-1204) (ASTM Type III D-4434 Spec. Requirement)
Tear Strength	45 lbf (200 N) 45 lbf (200 N)	(ASTM D-751) (ASTM Type III D-4434 Spec. Requirement)
Seam Strength	Pass 75% of original ¹	(ASTM D-751) (ASTM Type III D-4434 Spec. Requirement)
¹ Failure occurs through membrane rupture not seam failure.		
Retention of Properties after Heat Ageing	Breaking Strength, % of original: Pass Elongation, % of original: Pass Breaking Strength, % of original: 90 Elongation, % of original: 90	(ASTM D-751) (ASTM D-751) (ASTM Type III D-4434 Spec. Requirement) (ASTM Type III D-4434 Spec. Requirement)

UV Exposure	Pass	(ASTM G-154)
	5,000 hours	(ASTM Type III D-4434 Spec. Requirement)
	Cracking (7x magnification)	None
	Crazing (7x magnification)	None

Weight Change after Immersion in Water	2.5%	(ASTM D-570)
	±3.0%	(ASTM Type III D-4434 Spec. Requirement)

Solar Reflectance	EnergySmart Colors	Initial Solar Reflectance	3-Year Solar Reflectance¹
	EnergySmart White	0.86	0.72 ²
	EnergySmart Reflective Gray	0.73	0.66
	EnergySmart Tan	0.72	0.65

¹ Solar Reflectance testing according to ASTM C-1549

² Solar Reflectance testing according to ASTM D-7897

Thermal Emittance	EnergySmart Colors	Initial Thermal Emittance	3-Year Thermal Emittance¹
	EnergySmart White	0.91	0.91 ²
	EnergySmart Reflective Gray	0.89	0.88
	EnergySmart Tan	0.89	0.88

¹ Thermal Emittance testing according to ASTM C-1371, Slide Method

² Thermal Emittance testing according to ASTM D-7897

Solar Reflectance Index	EnergySmart Colors	Initial Solar Reflectance Index	3-Year Solar Reflectance Index¹
	EnergySmart White	106	89 ²
	EnergySmart Reflective Gray	89	80
	EnergySmart Tan	89	78

¹ Solar Reflectance Index calculated according to ASTM E-1980

² Solar Reflectance Index calculated according to ASTM D-7897

Low Temperature Bend	Pass	(ASTM D-2136)
	Pass -40°F (-40°C)	(ASTM Type III D-4434 Spec. Requirement)

Elongation at break	20 & 20% MD & CMD ¹	(ASTM D-751)
	15 & 15% MD & CMD ¹	(ASTM Type III D-4434 Spec. Requirement)

¹MD=Machine Direction, CMD=Cross Machine Direction

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

AVAILABILITY/WARRANTY

AVAILABILITY

From Sika Corporation – Roofing Authorized Applicators when used within Sikaplan systems.

WARRANTY

Upon successful completion of the installed roof by the Sika Authorized Applicator in compliance with Sika requirements, Sika Corporation will provide a warranty to the Building Owner via the Sika Authorized Applicator.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

APPLICATION INSTRUCTIONS

APPLICATION

In mechanically attached applications, Sikaplan Universal-60 EnergySmart is installed on acceptable substrates and fastened to the roof deck using the approved attachment method. In adhered applications, the membrane is unrolled into approved Sikaplan or Sarnacol adhesive in accordance with Sika's technical requirements and then pressed into place with a minimum 75 lb (34 kg) steel roller. The membrane is heat-welded together by trained mechanics using hot-air welding equipment.

OTHER RESTRICTIONS

See Legal Disclaimer.

LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

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Product Data Sheet

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