

## 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 indicator<sup>1</sup>

<sup>1</sup> Available on White, Gray and Tan membranes

## 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

<b>Chemical Base</b>	Thermoplastic PVC membrane containing ultraviolet light stabilizers, flame retardant and polyester scrim reinforcement with a unique lacquer coating on the top surface.	
<b>Recycled Content</b>	9% Pre-consumer, 1% post-consumer	
<b>Reinforcing Material</b>	Polyester	
<b>Packaging</b>	<b>60 mil (1.5 mm) Membrane</b> 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	
<b>Appearance / Color</b>	<ul style="list-style-type: none"> <li>▪ Top: White, Reflective Gray, and Tan</li> <li>▪ Bottom: Gray</li> </ul>	
<b>Shelf Life</b>	N/A	
<b>Storage Conditions</b>	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.	
<b>Overall Thickness</b>	60 mil (1.5 mm), nominal 45 mil	(ASTM D-751) (ASTM Type III D-4434 Spec. Requirement)
<b>Thickness Above Scrim</b>	24 mil 16 mil	(ASTM D-7635) (ASTM Type III D-4434 Spec. Requirement)

## TECHNICAL INFORMATION

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

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

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

<b>Solar Reflectance</b>	<b>EnergySmart Colors</b>	<b>Initial Solar Reflectance</b>	<b>3-Year Solar Reflectance<sup>1</sup></b>
	EnergySmart White	0.86	0.72 <sup>2</sup>
	EnergySmart Reflective Gray	0.73	0.66
	EnergySmart Tan	0.72	0.65

<sup>1</sup> Solar Reflectance testing according to ASTM C-1549

<sup>2</sup> Solar Reflectance testing according to ASTM D-7897

<b>Thermal Emittance</b>	<b>EnergySmart Colors</b>	<b>Initial Thermal Emittance</b>	<b>3-Year Thermal Emittance<sup>1</sup></b>
	EnergySmart White	0.91	0.91 <sup>2</sup>
	EnergySmart Reflective Gray	0.89	0.88
	EnergySmart Tan	0.89	0.88

<sup>1</sup> Thermal Emittance testing according to ASTM C-1371, Slide Method

<sup>2</sup> Thermal Emittance testing according to ASTM D-7897

<b>Solar Reflectance Index</b>	<b>EnergySmart Colors</b>	<b>Initial Solar Reflectance Index</b>	<b>3-Year Solar Reflectance Index<sup>1</sup></b>
	EnergySmart White	106	89 <sup>2</sup>
	EnergySmart Reflective Gray	89	80
	EnergySmart Tan	89	78

<sup>1</sup> Solar Reflectance Index calculated according to ASTM E-1980

<sup>2</sup> Solar Reflectance Index calculated according to ASTM D-7897

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

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

<sup>1</sup>MD=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.

### MAINTENANCE

Standard maintenance of Sarnafil systems should include regular inspections of flashings, drains, and termination sealants at least twice a year and after each storm.

### 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](http://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

Sikaplan® Universal-60 EnergySmart  
February 2025, Version 02.01  
020905111000150010

SikaplanUniversal-60EnergySmart-en-US-(02-2025)-2-1.pdf

