

## PRODUCT DATA SHEET

# Sarnafil® G 410-72 EnergySmart

72 mil thick PVC thermoplastic membrane

### PRODUCT DESCRIPTION

Sarnafil® G 410-72 EnergySmart Roof Membrane is a PVC thermoplastic membrane produced with an integral fiberglass mat reinforcement for excellent dimensional stability, is highly reflective, with heat-weldable seams, and a unique lacquer coating applied to the top of the membrane to reduce dirt pick up.

### USES

Used in adhered applications with various adhesives over various substrates.

### AREAS OF APPLICATION

- New Roofs
- Reroofs
- Recovers

### CHARACTERISTICS / ADVANTAGES



- Highly reflective
- Excellent dimensional stability
- Factory applied lacquer coated to reduce dirt pick up
- Hot-air welded seams for long-term performance
- Proven membrane performance
- Superior fire resistance

### APPROVALS / STANDARDS

- FM Global
- Underwriters Laboratories
- Underwriters Laboratories of Canada
- ICC Code Compliance – ESR 1157
- Miami-Dade County
- Florida Building Code
- NSF/ANSI 347: Platinum Certified
- California Title 24
- LEED / Green Globes

## PRODUCT INFORMATION

<b>Chemical Base</b>	High-quality, PVC membrane containing ultraviolet light stabilizers, flame retardant, and fiberglass reinforcement with a unique lacquer coating on the top surface.	
<b>Recycled Content</b>	9% Pre-consumer, 1% Post-consumer	
<b>Reinforcing Material</b>	Fiberglass	
<b>Packaging</b>	<p><b>72 mil (1.8 mm) Membrane (White, Reflective Gray, and Tan)</b>            10 ft x 100 ft (3 m x 30 m) roll, 471 lbs (214 kg) per roll,            4 rolls per pallet            5 ft x 100 ft (1.5 m x 30 m) roll, 236 lbs (107 kg) per roll,            9 rolls per pallet</p> <p><b>72 mil (1.8 mm) Membrane (Patina Green)</b>            6.56 ft x 49.2 ft (2 m x 15 m) roll, 159 lbs (72 kg) per roll,            19 rolls per pallet</p>	
<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.	
<b>Appearance / Color</b>	<ul style="list-style-type: none"> <li>▪ Top: White, Reflective Gray, Tan, and Patina Green</li> <li>▪ Bottom: Gray</li> </ul>	
<b>Overall Thickness</b>	72 mil (minimum thickness) 45 mil	(ASTM D-751) (ASTM Type II D-4434 Spec. Requirement)
<b>Thickness Above Scrim</b>	35 mil 16 mil	(ASTM D-7635) (ASTM Type II D-4434 Spec. Requirement)

## TECHNICAL INFORMATION

<b>Resistance to Static Puncture</b>	Pass 33 lbf (15 kg)	(ASTM D-5602) (ASTM Type II D-4434 Spec. Requirement)
<b>Resistance to Dynamic Puncture</b>	Pass 7.3 ft-lbf (10 J)	(ASTM D-5635) (ASTM Type II D-4434 Spec. Requirement)
<b>Tensile Strength</b>	100 lbf (445 N) 55 lbf (245 N)	(ASTM D-751) (ASTM Type II D-4434 Spec. Requirement)
<b>Elongation at Break</b>	250 & 220% MD & CMD <sup>1</sup> 250 & 220% MD & CMD <sup>1</sup>	(ASTM D-751) (ASTM Type II D-4434 Spec. Requirement)
<sup>1</sup> MD = Machine Direction, CMD = Cross Machine Direction.		
<b>Tear Strength</b>	20.5 lbf (91 N) 10 lbf (45 N)	(ASTM D-1004) (ASTM Type II D-4434 Spec. Requirement)
<b>Seam Strength</b>	Pass 75% of original <sup>2</sup>	(ASTM D-751) (ASTM Type II D-4434 Spec. Requirement)
<sup>2</sup> Failure occurs through membrane rupture not seam failure.		
<b>Linear Dimensional Change</b>	-0.01% 0.1%	(ASTM D-1204) (ASTM Type II D-4434 Spec. Requirement)

**Solar Reflectance**

EnergySmart Colors	Initial Solar Reflectance <sup>1</sup>	3-Year Solar Reflectance <sup>1</sup>
EnergySmart White <sup>2</sup>	0.85	0.74
EnergySmart Tan <sup>2</sup>	0.73	0.65
EnergySmart Reflective Gray <sup>2</sup>	0.73	0.66
EnergySmart Patina Green <sup>3</sup>	0.55	0.46

<sup>1</sup> Solar Reflectance testing according to ASTM C1549.

<sup>2</sup> Meets LEED, Green Globes, and California's Title 24 criteria for Low and Steep Slope applications.

<sup>3</sup> Meets LEED, Green Globes, and California's Title 24 criteria for Steep Slope applications.

**Solar Reflectance Index**

EnergySmart Colors	Initial Solar Reflectance Index <sup>1</sup>	3-Year Solar Reflectance Index <sup>1</sup>
EnergySmart White <sup>2</sup>	107	90
EnergySmart Tan <sup>2</sup>	89	78
EnergySmart Reflective Gray <sup>2</sup>	90	80
EnergySmart Patina Green <sup>3</sup>	64	51

<sup>1</sup> Solar Reflectance Index calculated according to ASTM E1980.

<sup>1</sup> Meets LEED, Green Globes, and California's Title 24 criteria for Low and Steep Slope applications.

<sup>2</sup> Meets LEED, Green Globes, and California's Title 24 criteria for Steep Slope applications.

**Thermal Emittance**

EnergySmart Colors	Initial Thermal Emittance <sup>1</sup>	3-Year Thermal Emittance <sup>1</sup>
EnergySmart White <sup>2</sup>	0.86	0.84
EnergySmart Tan <sup>2</sup>	0.85	0.86
EnergySmart Reflective Gray <sup>2</sup>	0.89	0.88
EnergySmart Patina Green <sup>3</sup>	0.86	0.85

<sup>1</sup> Thermal Emittance testing according to ASTM C1371, Slide Method.

<sup>2</sup> Meets LEED, Green Globes, and California's Title 24 criteria for Low and Steep Slope applications.

<sup>3</sup> Meets LEED, Green Globes, and California's Title 24 criteria for Steep Slope applications.

**Low Temperature Bend**

Pass	(ASTM D-2136)
Pass -40°F (-40°C)	(ASTM Type II D-4434 Spec. Requirement)

**Weight Change after Immersion in Water**

1.8%	(ASTM D-570)
± 3.0%	(ASTM Type II D-4434 Spec. Requirement)

**UV Exposure**

10,000 hours	(ASTM G-154)
5,000 hours	(ASTM Type II D-4434 Spec. Requirement)
Cracking (7x magnification)	None
Discoloration (by observation)	Negligible
Crazing (7x magnification)	None

<b>Retention of Properties after Heat Ageing</b>	Tensile Strength, % of original: Pass	(ASTM D-3045)
	Elongation, % of original: Pass	(ASTM D-751)
	Tensile Strength, % of original: 90	(ASTM Type II D-4434 Spec. Requirement)
	Elongation, % of original: 90	

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## 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 for use within Sarnafil or 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

Sarnafil G 410 is installed after proper preparation of the approved substrate. The membrane is unrolled into Sarnacol® adhesive in accordance with Sika's technical requirements and then pressed into place with a minimum 75 lb (34 kg) steel roller. Sarnafil G 410 seams are heat-welded together by trained operators using hot-air welding equipment. Different Sarnacol adhesives require different application methods. Please consult Sika's Specifications or Applicator Handbook for detailed installation procedures.

## MAINTENANCE

Standard maintenance of Sarnafil and Sikaplan 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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