

## PRODUCT DATA SHEET

# Sarnafil® G 410-60 EnergySmart

### PVC THERMOPLASTIC MEMBRANE

#### PRODUCT DESCRIPTION

Sarnafil® G 410-60 EnergySmart Roof Membrane is a 60 mil (1.5 mm) 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.

#### WHERE TO USE

Sarnafil® G 410-60 EnergySmart is used in adhered applications with various adhesives over various substrates.

#### Areas of Application

- New roofs
- Reroofs
- Reroofs
- Flashings

#### 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 / CERTIFICATES

- FM Global
- Underwriters Laboratories
- Underwriters Laboratories of Canada
- ICC Code Compliance – ESR 1157
- Miami-Dade County
- Florida Building Code
- NSF/ANSI 347: Platinum Certified
- ENERGY STAR®
- California Title 24
- LEED / Green Globes
- CAN/CGSB-37.54-95. Type 2/Class B
- CSA-A123.21

## PRODUCT INFORMATION

<b>Composition / Manufacturing</b>	High-quality, PVC thermoplastic roof membrane containing ultraviolet light stabilizers, flame retardant, and fibreglass reinforcement with a unique lacquer coating on the top surface.	
<b>Recycled content</b>	9 % Pre-consumer, 1 % Post-consumer	
<b>Reinforcing Material</b>	Fibreglass	
<b>Packaging</b>	<p><b>Packaging (White, Reflective Grey, and Tan)</b>            3 m x 30 m (10 ft x 100 ft) roll, 177 kg (389 lb) per roll, 8 rolls per pallet            1.5 m x 30 m (5 ft x 100 ft) roll, 89 kg (195 lb) per roll, 12 rolls per pallet            Coverstrip: 20 cm x 30 m (8" x 100 ft) roll, 12 kg (25 lb) per roll, 25 rolls per pallet</p> <p><b>1.5 mm (60 mil) Membrane (Patina Green)</b>            2 m x 20 m (6.56 ft x 65.6 ft) roll, 76 kg (168 lb) per roll, 19 rolls per pallet            Coverstrip: 20 cm x 30 m (8" x 100 ft) roll, 12 kg (25 lb) per roll, 25 rolls per pallet</p>	
<b>Appearance / Colour</b>	<ul style="list-style-type: none"> <li>▪ Top: White, Reflective Grey, Tan, and Patina Green</li> <li>▪ Bottom: Grey</li> </ul>	
<b>Shelf Life</b>	Not applicable	
<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>Overall Thickness</b>	1.5 mm (60 mil) (minimum thickness) 1.14 mm (45 mil)	(ASTM D751) (ASTM Type II D4434 Spec. Requirement)
<b>Thickness Above Scrim</b>	0.69 mm (27 mil) 0.41 mm (16 mil)	(-) (ASTM Type II D4434 Spec. Requirement)

## TECHNICAL INFORMATION

<b>Resistance to Static Puncture</b>	Pass 15 kg (33 lbf)	(ASTM D5602) (ASTM Type II D4434 Spec. Requirement)
<b>Resistance to Dynamic Puncture</b>	Pass 10 J (7.3 ft-lbf)	(ASTM D5635) (ASTM Type II D4434 Spec. Requirement)
<b>Tensile Strength</b>	356 N (80 lbf/in) 245 N (55 lbf/in)	(ASTM D751) (ASTM Type II D4434 Spec. Requirement)
<b>Elongation at Break</b>	250 % & 220 % 250 % & 220 %	(ASTM D751), M. D. <sup>1</sup> & C.M.D. <sup>1</sup> (ASTM Type II D4434 Spec. Requirement)
	<sup>1</sup> M.D. = Machine Direction, C.M.D. = Cross Machine Direction.	
<b>Linear Dimensional Change</b>	-0.02 % 0.1 %	(ASTM D1204) (ASTM Type II D4434 Spec. Requirement)
<b>Tear Strength</b>	78 N (17.5 lbf/in) 45 N (10 lbf/in)	(ASTM D1004) (ASTM Type II D4434 Spec. Requirement)
<b>Seam Strength</b>	Pass 75 % of original <sup>2</sup>	(ASTM D751) (ASTM Type II D4434 Spec. Requirement)
	<sup>2</sup> Failure occurs through membrane rupture not seam failure.	

<b>Low Temperature Flexibility</b>	Pass Pass	(ASTM D2136), -40 °C (-40 °F) (ASTM Type II D4434 Spec. Requirement)
<b>Retention of Properties after Heat Ageing</b>	Tensile Strength, % of original Elongation, % of original Tensile Strength, % of original Elongation, % of original	Pass Pass 90 90 (ASTM D751) (ASTM D751) (ASTM Type II D4434 Spec. Requirement) (ASTM Type II D4434 Spec. Requirement)
<b>Resistance to UV Exposure</b>	10 000 hours 5000 hours Cracking (7x magnification) Discoloration (by observation) Crazing (7x magnification)	(ASTM G154) (ASTM Type II D4434 Spec. Requirement) None Negligible None
<b>Weight Change after Immersion in Water</b>	1.9 % ± 3.0 %	(ASTM D570) (ASTM Type II D4434 Spec. Requirement)
<b>Solar Reflectance</b>	<b>EnergySmart Colours</b> EnergySmart White <sup>2</sup> EnergySmart Tan <sup>2</sup> EnergySmart Reflective Grey <sup>3</sup> EnergySmart Patina Green	<b>Initial Solar Reflectance<sup>1</sup></b> 0.85 0.73 0.73 0.55 <b>3-Year Solar Reflectance<sup>1</sup></b> 0.74 0.65 0.66 0.46
	<sup>1</sup> Solar Reflectance testing according to ASTM C1549. <sup>2</sup> EnergySmart White and EnergySmart Tan membranes meet ENERGY STAR®, LEED, Green Globes, and California's Title 24 criteria for Low and Steep Slope applications. <sup>3</sup> EnergySmart Reflective Grey membrane meets LEED, Green Globes, and California's Title 24 criteria for Low and Steep Slope applications.	
<b>Thermal Emittance</b>	<b>EnergySmart Colours</b> EnergySmart White <sup>2</sup> EnergySmart Tan <sup>2</sup> EnergySmart Reflective Grey <sup>3</sup> EnergySmart Patina Green	<b>Initial Thermal Emittance<sup>1</sup></b> 0.86 0.85 0.89 0.86 <b>3-Year Thermal Emittance<sup>1</sup></b> 0.84 0.86 0.88 0.85
	<sup>1</sup> Thermal Emittance testing according to ASTM C1371, Slide Method. <sup>2</sup> EnergySmart White and EnergySmart Tan membranes meet ENERGY STAR®, LEED, Green Globes, and California's Title 24 criteria for Low and Steep Slope applications. <sup>3</sup> EnergySmart Reflective Grey membrane meets LEED, Green Globes, and California's Title 24 criteria for Low and Steep Slope applications.	

## Solar Reflectance Index

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

<sup>1</sup> EnergySmart White and EnergySmart Tan membranes meet ENERGY STAR®, LEED, Green Globes, and California's Title 24 criteria for Low and Steep Slope applications.

<sup>2</sup> EnergySmart Reflective Grey membrane meets LEED, Green Globes, and California's Title 24 criteria for Low and Steep Slope applications.

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

## 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.

## OTHER DOCUMENTS

### Availability

Sarnafil® G 410-60 EnergySmart is available directly from Sika Canada Authorized Applicators when used within a Sika® Sarnafil® Roofing or Waterproofing System. Contact Sika Canada or visit our website at [www.sika.ca](http://www.sika.ca) for further information.

### Warranty

Upon successful completion of the installed roof by the Sika Canada Authorized Applicator, Sika Canada can provide a warranty to the Building Owner via the Authorized Applicator.

## LIMITATIONS

- Ambient Air Temperature: -20 °C (-4 °F) min. / +60 °C (140 °F) max. during application.
- Substrate Temperature: -30 °C (-22 °F) min. / +60 °C (140 °F) max. during application.
- Not to be applied directly to polystyrene products.
- Sarnafil membranes are incompatible with asphalt, coal tar, heavy oils, roofing cements, creosote and some preservative materials.

## 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

### APPLICATION

Sarnafil® G 410-60 EnergySmart 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 45 kg (100 lb) steel roller. Sarnafil® G 410-60 EnergySmart 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

Sarnafil® G 410-60 EnergySmart requires no maintenance. As a prudent preventative measure, Sika Canada recommends that the Owner or that the Owner's designated representative inspect the installed roof system for damage, flashings, plugged drains, weathered sealants, etc. at least twice a year and after each storm.

## 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](http://www.sika.ca)

### **Sika Canada Inc.**

Head Office  
601, avenue Delmar  
Pointe-Claire, Quebec  
H9R 4A9  
1-800-933-SIKA  
[www.sika.ca](http://www.sika.ca)

### **Other locations**

Boisbriand (Quebec)  
Brantford; Cambridge;  
Sudbury; Toronto (Ontario)  
Edmonton (Alberta)  
Surrey (British Columbia)

SarnafilG410-60EnergySmart-en-CA-(02-2019)-6-1.pdf

### **Product Data Sheet**

Sarnafil® G 410-60 EnergySmart  
October 2021, Version 06.01  
020905052220153002

