

PRODUCT DATA SHEET

Sarnafil® G 410-60 SA EnergySmart

PVC THERMOPLASTIC ROOF MEMBRANE

PRODUCT DESCRIPTION

Sarnafil® G 410-60 SA EnergySmart Roof Membrane is a PVC thermoplastic membrane with a factory applied pressure-sensitive adhesive backing and siliconized polyethylene release liner. It is produced with an integral fibreglass 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 SA EnergySmart is used in adhered systems for new roofs, reroofs, and all systems for flashings.

Areas of Application

Sika Approved Insulations and Cover Boards

- Polyisocyanurate Insulations
- High Density Polyisocyanurate Roof Boards
- DensDeck™ Prime
- Plywood

CHARACTERISTICS / ADVANTAGES



- Highly reflective
- VOC- and odour-free
- Factory applied adhesive to reduce on-site installation labor and ensure uniform adhesive application
- Low temperature application limit of -7 °C (20 °F)
- Guaranteed thickness
- Excellent dimensional stability
- Lacquer coating to reduce dirt pick up
- Proven membrane performance
- Heat welded seams
- Superior fire resistance

APPROVALS / CERTIFICATES

- FM Global
- Underwriters Laboratories, Inc.
- Underwriters Laboratories of Canada
- ICC Code Compliance – ESR 1157
- NSF/ANSI 347: Platinum Certified
- ENERGY STAR®
- California Title 24
- LEED v4 / Green Globes
- CSA-A123.21

PRODUCT INFORMATION

Composition / Manufacturing	High-quality, PVC thermoplastic roof membrane containing ultraviolet light stabilizers, flame retardant, fibreglass reinforcement, with a unique lacquer coating on the top surface and pressure-sensitive adhesive with a removable siliconized polyethylene release liner on the back surface.	
Reinforcing Material	Fibreglass	
Packaging	1.5 mm (60 mil) Membrane 2 m x 27 m (6.56 ft x 90 ft) roll, 119 kg (263 lb) per roll, 15 rolls per pallet	
Appearance / Colour	<ul style="list-style-type: none">▪ Top: White▪ Bottom: Grey▪ Pressure Sensitive Adhesive: Clear	
Shelf Life	Sarnafil® G 410-60 SA EnergySmart has a shelf life of up to 12 months. An extension may be offered, when properly stored between 16°C (60 °F) and 27 °C (80°F), and out of direct sunlight upon technical review.	
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.	
Overall Thickness	1.5 mm (60 mil) 1.14 mm (45 mil)	(ASTM D751) (ASTM Type II D4434 Spec. Requirement)
Thickness Above Scrim	0.69 mm (27 mil) 0.40 mm (16 mil)	(-) (ASTM Type II D4434 Spec. Requirement)

TECHNICAL INFORMATION

Resistance to Static Puncture	Pass 15 kg (33 lbf)	(ASTM D5602) (ASTM Type II D4434 Spec. Requirement)
Resistance to Dynamic Puncture	Pass 10 J (7.3 ft-lbf)	(ASTM D5635) (ASTM Type II D4434 Spec. Requirement)
Tensile Strength	356 N (80 lbf/in) 245 N (55 lbf/in)	(ASTM D751) (ASTM Type II D4434 Spec. Requirement)
Elongation at Break	250 % & 220 % 250 % & 220 %	(ASTM D751), M. D. ¹ & C.M.D. ¹ (ASTM Type II D4434 Spec. Requirement)
	¹ M.D. = Machine Direction, C.M.D. = Cross Machine Direction.	
Linear Dimensional Change	-0.02 % 0.1 %	(ASTM D1204) (ASTM Type II D4434 Spec. Requirement)
Seam Strength	Pass 75 % of original ²	(ASTM D751) (ASTM Type II D4434 Spec. Requirement)
	² Failure occurs through membrane rupture not seam failure.	
Low Temperature Flexibility	Pass Pass	(ASTM D2136), -40 °C (-40 °F) (ASTM Type II D4434 Spec. Requirement)

Retention of Properties after Heat Ageing	Tensile Strength, % of original	Pass	(ASTM D751)
	Elongation, % of original	Pass	(ASTM D751)
	Tensile Strength, % of original	90	(ASTM Type II D4434 Spec. Requirement)
	Elongation, % of original	90	(ASTM Type II D4434 Spec. Requirement)

Resistance to UV Exposure	10 000 hours		(ASTM G154)
	5000 hours		(ASTM Type II D4434 Spec. Requirement)
	Cracking (7x magnification)	None	
	Discoloration (by observation)	Negligible	
	Crazing (7x magnification)	None	

Weight Change after Immersion in Water	1.9 %		(ASTM D570)
	+/- 3 %		(ASTM Type II D4434 Spec. Requirement)

Solar Reflectance	EnergySmart Colours	Initial Solar Reflectance¹	3-Year Solar Reflectance¹
	EnergySmart White ²		0.85
EnergySmartTan ²		0.73	0.65
EnergySmartReflective Gray ²		0.73	0.66
EnergySmartPatina Green ³		0.55	0.46

¹ Solar Reflectance testing according to ASTM C1549.

² EnergySmart White membranes meet ENERGY STAR®, LEED, Green Globes, and California's Title 24 criteria for Low and Steep Slope applications.

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

Thermal Emittance	EnergySmart Colours	Initial Thermal Emittance¹	3-Year Thermal Emittance¹
	EnergySmart White ²		0.86
EnergySmartTan ²		0.85	0.86
EnergySmart Reflective Gray ³		0.89	0.88
EnergySmart Patina Green ³		0.86	0.85

¹ Thermal Emittance testing according to ASTM C1371, Slide Method.

² EnergySmart White membranes meet ENERGY STAR®, LEED, Green Globes, and California's Title 24 criteria for Low and Steep Slope applications.

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

Solar Reflectance Index

EnergySmart Colours	Initial Solar Reflectance Index	3-Year Solar Reflectance Index
EnergySmart White ¹	107	90
EnergySmart Tan ²	89	78
EnergySmart Reflective Grey ²	90	80
EnergySmart Patina Green ³	64	51

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

² Meets ENERGY STAR®, LEED, Green Globes, and California's Title 24 criteria for Low and Steep Slope applications.

³ Meets ENERGY STAR®, LEED, Green Globes, and California's Title 24 criteria for 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 SA 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 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 and substrate temperatures: -7 °C (20 °F) or above during application
- Not to be applied directly to concrete decks, lightweight insulated concrete decks, gypsum decks or polystyrene products.
- Sarnafil® membranes are incompatible with asphalt, coal tar, heavy oils, roofing cements, creosote and some preservative materials.
- A static electric charge may develop when removing the release liner from the pressure-sensitive adhesive on the back of the membrane. Care should be used when removing and handling the release liner to avoid ignition. Lids must be closed on any flammable products and a fire extinguisher should be readily available.

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 SA EnergySmart is installed after proper preparation of the approved substrate. The membrane is unrolled and positioned in place with the selvage edge lapping the adjacent roll to allow for the 75 mm (3 in) side lap. Fold back half of the sheet onto itself in the long direction and carefully cut the release liner with the cutting tool provided by Sika without damaging the membrane. Peel back 75–127 mm (3–5 in) of the release liner and press firmly onto the substrate. Weight may be necessary on the membrane when first starting. Continue removing the release liner from the membrane in a smooth, wrinkle-free manner while maintaining the 75 mm (3 in) side lap. Immediately roll the membrane with a minimum 45 kg (100 lb) steel roller. Remove the remaining release liner from the other half of the membrane using the above process and immediately roll the membrane with the steel roller. Sarnafil® G 410-60 SA EnergySmart side lap seams are heat-welded together by trained operators using hot-air welding equipment. End laps and all cut edges are butted together and an 203 mm (8 in) Sarnafil® G 410 coverstrip is hot-air welded over the butt and cut edge joints.

Product Data Sheet

Sarnafil® G 410-60 SA EnergySmart

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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

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