

PRODUCT DATA SHEET

SARNAFIL® G 410 ENERGYSMART
ROOF® MEMBRANE 48 60 72 80 FELTBACK

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

PRODUCT INFORMATION**USES**

Sarnafil G 410 EnergySmart Roof Membrane is used in adhered applications with various adhesives over various substrates.

AREAS OF APPLICATION

- New Roofs
- Reroofs
- Flashings

FEATURES / BENEFITS

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

TESTS**CODES / APPROVALS**

- 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

PRODUCT DATA

FORM

COMPOSITION

High-quality, PVC membrane containing ultraviolet light stabilizers, flame retardant and polyester scrim reinforcement with a unique lacquer coating on the top surface.

COLOR

- Top: White, Reflective Gray, Tan, and Patina Green
- Bottom: Gray

PACKAGING (White, Reflective Gray, and Tan)

- **48 mil (1.2 mm) Membrane***
 - Bareback: 10 ft x 150 ft (3 m x 45 m) roll, 464 lbs (211 kg) per roll, 8 rolls per pallet
 - 5 ft x 150 ft (1.5 m x 45 m) roll, 232 lbs (105 kg) per roll, 12 rolls per pallet
 - Feltback: 10 ft x 100 ft (3 m x 30 m) roll, 363 lbs (165 kg) per roll, 9 rolls per pallet
- * Made to order, minimum volume required, extended production lead times. Consult with Sika – Roofing representative for further information.
- **60 mil (1.5 mm) Membrane**
 - Bareback: 10 ft x 100 ft (3 m x 30 m) roll, 389 lbs (177 kg) per roll, 8 rolls per pallet
 - 5 ft x 100 ft (1.5 m x 30 m) roll, 195 lbs (89 kg) per roll, 12 rolls per pallet
 - Coverstrip: 8 in x 100 ft (20 cm x 30 m) roll, 25 lbs (12 kg) per roll, 25 rolls per pallet
 - Feltback: 10 ft x 80 ft (3 m x 24 m) roll, 354 lbs (161 kg) per roll, 9 rolls per pallet
- **72 mil (1.8 mm) Membrane**
 - Bareback: 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
 - Feltback: 10 ft x 80 ft (3 m x 24 m) roll, 419 lbs (190 kg) per roll, 8 rolls per pallet
- **80 mil (2.0 mm) Membrane**
 - Bareback: 10 ft x 100 ft (3 m x 30 m) roll, 520 lbs (236 kg) per roll, 4 rolls per pallet
 - 5 ft x 100 ft (1.5 m x 30 m) roll, 260 lbs (118 kg) per roll, 9 rolls per pallet
 - Feltback: 10 ft x 80 ft (3 m x 24 m) roll, 459 lbs (208 kg) per roll, 8 rolls per pallet

PACKAGING (Patina Green)

- **48 mil (1.2 mm) Membrane***
 - Bareback: 6.56 ft x 65.6 ft (2 m x 20 m) roll, 133 lbs (60 kg) per roll, 19 rolls per pallet
 - 3.25 ft x 65.6 ft (1 m x 20 m) roll, 63 lbs (29 kg) per roll, 20 rolls per pallet
 - Feltback: 6.56 ft x 65.6 ft (2 m x 20 m) roll, 157 lbs (71 kg) per roll, 15 rolls per pallet.
- **60 mil (1.5 mm) Membrane**
 - Bareback: 6.56 ft x 65.6 ft (2 m x 20 m) roll, 168 lbs (76 kg) per roll, 19 rolls per pallet

Coverstrip: 8 in x 100 ft (20 cm x 30 m) roll, 25 lbs (12 kg) per roll,
25 rolls per pallet

Feltback: 6.56 ft x 65.6 ft (2 m x 20 m) roll, 190 lbs (86 kg) per roll,
10 rolls per pallet

- **72 mil (1.8 mm) Membrane**
Bareback: 6.56 ft x 49.2 ft (2 m x 15 m) roll, 159 lbs (72 kg) per roll,
19 rolls per pallet
Feltback: 6.56 ft x 49.2 ft (2 m x 15 m) roll, 177 lbs (80 kg) per roll,
10 rolls per pallet
- **80 mil (2.0 mm) Membrane**
Bareback: 6.56 ft x 49.2 ft (2 m x 15 m) roll, 175 lbs (79 kg) per roll,
19 rolls per pallet
Feltback: 6.56 ft x 49.2 ft (2 m x 15 m) roll, 193 lbs (88 kg) per roll,
10 rolls per pallet

STORAGE

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.

TECHNICAL DATA
TYPICAL PHYSICAL PROPERTIES*

Properties	ASTM Test Method	ASTM Type II D4434 Spec. Requirement	Typical Results			
Overall Thickness, mil	D751	45	48	60	72	80
Thickness Over Scrim, mil	--	16	22	27	35	40
Reinforcing Material	--	--	Fiberglass			
Felt Weight, oz/sq yd (feltback membrane only)	--	--	9	9	9	9
Breaking Strength, lbf/in (N)	D751	55 (245)	60 (267)	80 (356)	100 (445)	110 (489)
Elongation at Break, % M. D. ¹ & C.M.D. ¹	D751	250 & 220	250 & 220	250 & 220	250 & 220	250 & 220
Seam Strength, % of original ²	D751	75	Pass	Pass	Pass	Pass
Retention of Properties After Heat Aging	D3045	--	--	--	--	--
Tensile Strength, % of original	D751	90	Pass	Pass	Pass	Pass
Elongation, % of original	D751	90	Pass	Pass	Pass	Pass
Tearing Resistance, lbf (N)	D1004	10 (45)	15 (67)	17.5 (78)	20.5 (91)	22 (98)
Low Temperature Bend, -40°F (-40°C)	D2136	Pass	Pass	Pass	Pass	Pass
Accelerated Weathering Test, Hours (Florescent Light UV exposure)	G154	5,000	10,000	10,000	10,000	10,000
Cracking (7x magnification)	--	None	None	None	None	None
Discoloration (by observation)	--	Negligible	Negligible			
Crazing (7x magnification)	--	None	None	None	None	None
Linear Dimensional Change, %	D1204	0.1	-0.02	-0.02	-0.01	-0.01
Weight Change After Immersion in Water, %	D570	± 3.0	2.4	1.9	1.8	1.7
Static Puncture Resistance, lbf (kg)	D5602	33 (15)	Pass	Pass	Pass	Pass
Dynamic Puncture Resistance, ft-lbf (J)	D5635	7.3 (10)	Pass	Pass	Pass	Pass
Recycled Content	--	--	9% Pre-consumer, 1% Post-consumer			

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

¹M.D. = Machine Direction, C.M.D. = Cross Machine Direction.

²Failure occurs through membrane rupture not seam failure.

EnergySmart Colors	INITIAL SOLAR REFLECTANCE ¹	3-YEAR SOLAR REFLECTANCE ¹	INITIAL THERMAL EMITTANCE ²	3-YEAR THERMAL EMITTANCE ²	INITIAL SOLAR REFLECTANCE INDEX	3-YEAR SOLAR REFLECTANCE INDEX
EnergySmart White ³	0.85	0.74	0.86	0.84	107	90
EnergySmart Tan ³	0.73	0.65	0.85	0.86	89	78
EnergySmart Reflective Gray ⁴	0.73	0.65	0.89	0.88	90	78
EnergySmart Patina Green ⁵	0.55	0.46	0.86	0.85	64	51

¹Solar Reflectance testing according to ASTM C1549.

²Thermal Emittance testing according to ASTM C1371, Slide Method.

³EnergySmart White and EnergySmart Tan membranes meet ENERGY STAR®, LEED, Green Globes, and California's Title 24 criteria for Low and Steep Slope applications.

⁴EnergySmart Reflective Gray membrane meets LEED, Green Globes, and California's Title 24 criteria for Low and Steep Slope applications.

SYSTEM INFORMATION

APPLICATION INSTRUCTIONS

APPLICATION

Sarnafil G 410 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 100 lb (45 kg) steel roller. Sarnafil G 410 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.

AVAILABILITY

From Sika Corporation – Roofing Authorized Applications for use within Sarnafil systems.

MAINTENANCE

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

WARRANTY

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

LEGAL NOTES

All information provided by Sika Corporation ("Sika") concerning Sika products, including but not limited to, any recommendations and advice relating to the application and use of Sika products, is given in good faith based on Sika's current experience and knowledge of its products when properly stored, handled and applied under normal conditions in accordance with Sika's instructions. In practice, the differences in materials, substrates, storage and handling conditions, actual site conditions and other factors outside of Sika's control are such that Sika assumes no liability for the provision of such information, advice, recommendations or instructions related to its products, nor shall any legal relationship be created by or arise from the provision of such information, advice, recommendations or instructions related to its products. The user of the Sika product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with the full application of the product(s). Sika reserves the right to change the properties of its products without notice. All sales of Sika product(s) are subject to its current terms and conditions of sale which are available at usa.sarnafil.sika.com or by calling 800-451-2504.

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Sika warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor.

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SIKA CORPORATION – ROOFING

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Product Data Sheet
Sarnafil G 410 EnergySmart
4-17-18, VERSION #14

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