

PRODUCT DATA SHEET

Sikaplan® Fastened-60 EnergySmart

PVC THERMOPLASTIC ROOF MEMBRANE

PRODUCT DESCRIPTION

Sikaplan® Fastened-60 EnergySmart is a thermoplastic PVC roof membrane designed with polyester scrim reinforcement.

WHERE TO USE

Sikaplan® Fastened-60 EnergySmart is mechanically-attached using various attachment components over approved substrates.

Areas of Application

- In-seam disc systems
- In-seam batten, double-weld systems
- RhinoBond® systems
- New construction and reroofing

CHARACTERISTICS / ADVANTAGES



- Highly Reflective
- Excellent tear strength resistance
- Hot-air welded seams for strength and long term performance
- Factory-applied lacquer coated to reduce dirt pick up

APPROVALS / CERTIFICATES

- 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
- CSA-A123.21

PRODUCT INFORMATION

| | | |
|------------------------------------|---|--|
| Composition / Manufacturing | PVC thermoplastic roof membrane containing ultraviolet light stabilizers, flame retardant and polyester scrim reinforcement with a unique lacquer coating on the top surface. | |
| Recycled content | 9 % Pre-consumer, 1 % Post-consumer | |
| Reinforcing Material | Polyester | |
| Packaging | 1.5 mm (60 mil) Membrane <ul style="list-style-type: none"> ▪ 3 m x 30 m (10 ft x 100 ft) roll, 158 kg (348 lb) per roll, 8 rolls per pallet ▪ 1.5 m x 30 m (5 ft x 100 ft) roll, 79 kg (174 lb) per roll, 12 rolls per pallet | |
| Appearance / Colour | Top: White, Reflective Grey, and Tan Bottom: Dark Grey | |
| Shelf Life | Not applicable | |
| 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) nominal 1.14 mm (45 mil) | (ASTM D751) (ASTM Type III D4434 Spec. Requirement) |
| Thickness Above Scrim | 0.6 mm (24 mil) 0.4 mm (16 mil) | (-) (ASTM Type III D4434 Spec. Requirement) |

TECHNICAL INFORMATION

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| Resistance to Static Puncture | Pass 15 kg (33 lbf) | (ASTM D5602) (ASTM Type III D4434 Spec. Requirement) |
| Resistance to Dynamic Puncture | Pass 20 J (14.7 ft-lbf) | (ASTM D5635) (ASTM Type III D4434 Spec. Requirement) |
| Tensile Strength | 1348 N (303 lbf) 890 N (200 lbf) | (ASTM D751), M.D. ¹ & C.M.D. ¹ (ASTM Type III D4434 Spec. Requirement) |
| | ¹ M.D. = Machine Direction, ¹ C.M.D. = Cross Machine Direction. | |
| Elongation at Break | 20 % & 20 % 15 % & 15 % | (ASTM D751), M. D. ¹ & C.M.D. ¹ (ASTM Type III D4434 Spec. Requirement) |
| | ¹ M.D. = Machine Direction, ¹ C.M.D. = Cross Machine Direction. | |
| Linear Dimensional Change | 0.24 % 0.5 % max. | (ASTM D1204) (ASTM Type III D4434 Spec. Requirement) |
| Seam Strength | Pass 75 % of original ² | (ASTM D751) (ASTM Type III 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 III D4434 Spec. Requirement) |
| Retention of Properties after Heat Ageing | Tensile Strength, % of original: Pass Elongation, % of original: Pass Tensile Strength, % of original: 90 Elongation, % of original: 90 | (ASTM D-3045) (ASTM D-751) (ASTM Type III D4434 Spec. Requirement) |

| | | |
|----------------------------------|--------------------------------|--|
| Resistance to UV Exposure | 10,000 h | (ASTM G154) (ASTM Type III D4434 Spec. Requirement) |
| | Cracking (7x magnification) | None |
| | Discoloration (by observation) | Negligible |
| | Crazing (7x magnification) | None |

| | | |
|---|-----------------------|--|
| Weight Change after Immersion in Water | 2.5 % ± 3.0 % max. | (ASTM D570) (ASTM Type III D4434 Spec. Requirement) |
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| Solar Reflectance | EnergySmart Colours | Initial Solar Reflectance¹ | 3-Year Solar Reflectance¹ |
|--------------------------|-----------------------------|--|---|
| | EnergySmart White | 0.85 | 0.75 |
| | EnergySmart Reflective Grey | 0.73 | 0.65 ² |
| | EnergySmart Tan | 0.72 | 0.65 ² |

¹ Solar Reflectance testing according to ASTM C1549.

² CRRC Rapid Ratings: These are interim laboratory-aged values that simulate weathered values. These values will be replaced with the measured three-year aged values upon completion of the weathering process. SRI values calculated using Rapid Ratings may change once the aged rating replaces the interim rating.

| Thermal Emittance | EnergySmart Colours | Initial Thermal Emittance¹ | 3-Year Thermal Emittance¹ |
|--------------------------|-----------------------------|--|---|
| | EnergySmart White | 0.89 | 0.90 |
| | EnergySmart Reflective Grey | 0.89 | 0.88 ² |
| | EnergySmart Tan | 0.89 | 0.88 ² |

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

² CRRC Rapid Ratings: These are interim laboratory-aged values that simulate weathered values. These values will be replaced with the measured three-year aged values upon completion of the weathering process. SRI values calculated using Rapid Ratings may change once the aged rating replaces the interim rating.

| Solar Reflectance Index | EnergySmart Colours | Initial Solar Reflectance Index | 3-Year Solar Reflectance Index |
|--------------------------------|-----------------------------|--|---------------------------------------|
| | EnergySmart White | 107 | 93 |
| | EnergySmart Reflective Grey | 90 | 78 ¹ |
| | EnergySmart Tan | 88 | 78 ¹ |

¹ CRRC Rapid Ratings: These are interim laboratory-aged values that simulate weathered values. These values will be replaced with the measured three-year aged values upon completion of the weathering process. SRI values calculated using Rapid Ratings may change once the aged rating replaces the interim rating.



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

Sikaplan® Fastened-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 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.

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APPLICATION INSTRUCTIONS

APPLICATION

Sikaplan® Fastened-60 EnergySmart is installed on acceptable substrates and attached to the roof deck using the approved attachment method. The membrane is heat-welded together by trained operators using hot-air welding equipment. Sikaplan® Fastened-60 EnergySmart can be used for flashings on Sikaplan® Fastened roof projects.

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 the 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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Product Data Sheet

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