

Sarnafil® S 327-12EL

Polymeric membrane for roof waterproofing

Product Description

Sarnafil® S 327-12EL (thickness 1.2 mm) is a Polyester reinforced, multi-layer, synthetic roof waterproofing sheet based on premium-quality polyvinyl chloride (PVC) containing ultraviolet light stabilizers and flame retardant according to EN 13956.

Sarnafil® S 327-12EL is a hot air weldable roof membrane formulated for direct exposure and designed to use in all global climatic conditions.

Sarnafil® S 327-12EL is produced with an integral polyester scrim reinforcement for high strength used within the Sarnafast spot fastening system and Sarnabar linear mechanically fastened system.

Sarnafil® S 327-12EL has a unique lacquer coating applied to the top of the membrane to resist staining from airborne dirt and pollutants.

Sarnafil® S 327-12EL has no built-in stress at the time of production and has a fully encapsulated reinforcement with no risk to delamination or water-wicking.

Uses

Waterproofing membrane for:

- Mechanically fastened roofs

Characteristics / Advantages

- Outstanding resistance to weathering, including permanent UV irradiation
- Excellent flexibility in cold temperatures
- No built-in stress at the time of production
- High dimensional stability
- High water vapour permeability
- Excellent weldability
- No risk of delamination or water-wicking
- Can be produced also in a variety of colours
- Lacquer coated surface
- Recyclable

Approval / Standards

Sarnafil® S 327-12EL is designed and manufactured to meet most international recognised standards.

- Polymeric sheets for roof waterproofing according to EN 13956, certified by notified body 1213-CPD-3917 and provided with the CE-mark.
- Reaction to fire according to EN 13501-1.
- External fire performance tested according to ENV 1187 and classified according to EN 13501-5: B_{ROOF}(t1).
- Official Quality Approvals and Agreement Certificates and approvals.
- Monitoring and assessment by approved laboratories.
- Quality Management system in accordance with EN ISO 9001/14001.

Appearance / Colours

Surface. matt

Colours: Top surface : light grey (nearest RAL 7047)
lead grey (Sika colour no. 9500)

Bottom surface: dark grey

Packaging

Sarnafil® S 327-12EL standard rolls are wrapped individually in a blue PE-foil.

Packing unit: up to 27 rolls per pallet
Roll length: 20.00 m
Roll width: 2.00 m
Roll weight: 60.00 kg



Storage Conditions / Shelf-Life

Rolls must be stored in a horizontal position on pallet and protected from direct sunlight, rain and snow. Product does not expire if correctly stored.

Do not stack pallets of rolls during transport or storage.

Technical Data

Product Declaration	EN 13956	
Visible defects	Pass	EN 1850-2
Length	20 m (- 0% / + 5%)	EN 1848-2
Width	2 m (- 0.5% / + 1%)	EN 1848-2
Straightness	≤ 30 mm	EN 1848-2
Flatness	≤ 10 mm	EN 1848-2
Effective thickness	1.2 mm (- 5% / + 10%)	EN 1849-2
Mass per unit area	1.5 kg/m ² (- 5% / + 10%)	EN 1849-2
Water tightness	Pass	EN 1928
External fire performance: Part 1-4		EN 1187
	B _{ROOF} (t1) < 20°, > 20° B _{ROOF} (t2) B _{ROOF} (t3) □ 70°	EN 13501-5
Reaction to fire	Class E	EN ISO 11925-2, classification to EN 13501-1
Hail resistance:		EN 13583
rigid substrate	≥17 m/s	
flexible substrate	≥25 m/s	
Joint peel resistance	≥ 300 N/50mm	EN 12316-2
Joint shear resistance	≥ 800 N/50mm	EN 12317-2
Water vapour transmission properties	μ = 15'000	EN 1931
Tensile strength		EN 12311-2
longitudinal (md)¹⁾	≥ 1000 N/50mm	
transversal (cmd)²⁾	≥ 1000 N/50mm	
Elongation,		EN 12311-2
longitudinal (md)¹⁾	≥ 12 %	
transversal (cmd)²⁾	≥ 12 %	
Resistance to impact,		EN 12691
hard substrate	≥ 450 mm	
soft substrate	≥ 800 mm	
Resistance to static load,		EN 12730
soft substrate	≥ 20 kg	
rigid substrate	≥ 20 kg	
Tear strength		EN 12310-2
longitudinal (md)¹⁾	≥ 200 N	
transversal (cmd)²⁾	≥ 200 N	
Dimension stability,		EN 1107-2
longitudinal (md)¹⁾	≤ 0.3%	
transversal (cmd)²⁾	≤ 0.2%	
Foldability at low temperature	≤ -25 °C	EN 495-5
UV exposure	Pass (> 5000 h)	EN 1297

¹⁾md = machine direction

²⁾cmd = cross machine direction

USGBC: LEED Rating	Conform on the SS Credit 7.2 Heat Island Effect – Roofs	ASTM E1980-01
RAL 9016 traffic white (initial)	SRI > 78	

All values related to the reflectance / emittance properties provided in this Product Data Sheet refer to the initial (as produced) status of the product.

System Information

System Structure	<p>Wide range of accessories is available e.g. prefabricated parts, roof drains, scuppers, walkway pads and decor profiles.</p> <p>The following materials are strongly recommended:</p> <p>Sarnafil® G 410-15EL Sheet for detailing Sarnafil® Metal Sheet Sarnabar S- Welding Cord Sarna Seam Cleaner Sarnacol® 2170 (contact adhesive) Sarna Cleaner</p>
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Application Details

Substrate Quality	<p>The substrate surface must be uniform, smooth and free of any sharp protrusions or burrs, etc.</p> <p>Sarnafil® S 327-12EL must be separated from any incompatible substrates by an effective separation layer to prevent accelerated ageing. Prevent from direct contact with bitumen, tar, fat, oil, solvent containing material and direct contact to other plastic materials, e.g. expanded polystyrene (EPS), extruded polystyrene (XPS), polyurethane (PUR), polyisocyanurate (PIR) or phenolic foam (PF) as this could adversely affect the product properties.</p> <p>The supporting layer must be compatible to the membrane, solvent resistant, clean, dry and free of grease and dust. Metal sheets must be degreased with Sarna Cleaner before adhesive is applied.</p>
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Application Conditions / Limits

Temperature	<p>The use of Sarnafil® S 327-12EL membrane is limited to geographical locations with average monthly minimum temperatures of -50 °C. Permanent ambient temperature during use is limited to +50 °C.</p>
Compatibility	<p>Not compatible with direct contact to other plastics, e.g. EPS, XPS, PUR, PIR, PF. Not resistant to tar, bitumen, oil and solvent containing materials.</p>

Installation Instructions

Installation Method / Tools

Installation procedure:
According to the valid installation instructions for Sarnafil® S 327EL-types system for mechanically fastened roofs.

Fixing Method, linear fasting (Sarnabar):

Unroll the Sarnafil® S 327-12EL membrane, overlap by 80 mm, weld immediately and to fix the substructure by means of Sarnabars. The type of fastening and the distance will be advised by Sika. The perimeter piece ends must be secured with the Sarnafil® Load Distribution Plate. For protection fasten a piece of Sarnafil® under bar end and plate. Leave a 10 mm clearance between bar ends. Do not fasten in hole nearest bar end. Cover the bar ends with a piece of Sarnafil® and weld. After installation the Sarnabars must immediately be made watertight with a Sarnafil® cover strip. At upstands and at all penetrations, the Sarnafil® S 327-12EL membrane must be secured with a Sarnabar. The 4 mm diameter S-Welding Cord protects the Sarnafil® S 327-12EL roof covering against tearing and peeling of by wind uplift.

Fixing Method, spot fasting (Sarnafast):

Sarnafil® S 327-12EL must always be installed at right angles to the deck direction. Sarnafil® S 327-12EL is fixed by means of the Sarnafast fasteners and barbed washers along the marked line, 35 mm from the edge of the membrane. Sarnafil® S 327-12EL is overlapped by 120 mm. The spacing of the fasteners is in accordance with the project specific calculations made by Sika.

Welding Method:

Overlap seams are welded by electric hot air welding equipment, such as manual hot air welding machines and pressure rollers or automatic hot air welding machines with controlled hot air temperature.

Recommended type of equipment: Leister Triac PID for manual welding
Sarnamatic 661^{plus} for automatic welding

Welding parameters including temperature, machine speed, air flow, pressure and machine settings must be evaluated, adapted and checked on site according to the type of equipment and the climatic situation prior to welding. The effective width of welded overlaps by hot air should be minimum 20 mm.

The seams must be mechanically tested with screw driver to ensure the integrity / completion of the weld. Any imperfections must be rectified by hot air welding.

Notes on Installation / Limits

Installation works must be carried out only by Sika instructed contractors for roofing.

Temperature limits for the installation of the membrane:

Substrate temperature: -30 °C min. / +60 °C max.

Ambient temperature: -20 °C min. / +60 °C max.

Installation of some ancillary products, e.g. contact adhesives / cleaners is limited to temperatures above +5 °C. Please observe information given by Product Data Sheets.

Special measures may be compulsory for installation below +5 °C ambient temperature due to safety requirements in accordance with national regulations.

Value Base	All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.
Local Restrictions	Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.
Ecology, Health and Safety Information	The product does not fall within the EU-regulation of hazardous goods. As a result, a material safety data sheet following EU-Guideline 91/155 EWG is not needed to bring the product to the market, transport or use it. The product does not damage the environment when used as specified.
Protective Measures	Fresh air ventilation must be ensured, when working (welding) in closed rooms. Local safety regulations must be observed.
Transportation Class	The product is not classified as hazardous good for transport.
Disposal	The material is recyclable. Disposal must be according to local regulations. Please contact your local Sika sales organisation for more information.

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 written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. 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.**



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