Sarnafil® S 327-15EL
Polymeric membrane for roof waterproofing

### Product Description
Sarnafil® S 327-15EL (thickness 1.5 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 327-15EL is a hot air weldable roof membrane formulated for direct exposure and designed to use in all global climatic conditions. Sarnafil® S 327-15EL is produced with integral polyester scrim reinforcement for high strength used within the Sarnafast® spot fastening system and Sarnabar® linear mechanically fastened system.

Sarnafil® S 327-15EL has a unique lacquer coating applied to the top of the membrane.

Sarnafil® S 327-15EL has no built-in stress at the time of production and has a fully encapsulated reinforcement with no risk to delamination or water-wicking. Sarnafil® S 327-15EL can be produced in different colours.

### 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 in different colours
- Lacquer coated surface
- Recyclable

### Approval / Standards
Sarnafil® S 327-15EL 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-4920 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: Broof (t1), Broof (t2), Broof (t3).
- 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)
    - copper patina (Sika colour no. 6525)
    - window grey (nearest RAL 7040)
    - copper brown (nearest RAL 8004)
    - traffic white (nearest RAL 9016)
  - **Bottom surface:** dark grey

Top surface of sheet in other colours available on request, subject to minimum order quantities.

**Packaging**

Sarnafil® S 327-15EL standard rolls are wrapped individually in a blue PE-foil.

- **Packing unit:** see price list
- **Roll length:** 20.00 m
- **Roll width:** 2.00 m
- **Roll weight:** 72.00 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.

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**Technical Data**

**Product Declaration**

<table>
<thead>
<tr>
<th>EN 13956</th>
<th>EN 1850-2</th>
</tr>
</thead>
</table>

**Visible defects**

- Pass

**Length**

- 20 m (-0% / +5%)

**Width**

- 2 m (-0.5% / +1%)

**Straightness**

- ≤ 30 mm

**Flatness**

- ≤ 10 mm

**Effective thickness**

- 1.5 mm (-5% / +10%)

**Mass per unit area**

- 1.8 kg/m² (-5% / +10%)

**Water tightness**

- Pass

**Effects of liquid chemicals, including water**

- On request

**External fire performance:**

- BROOF (t1) < 20° / > 20°
- BROOF (t2) 30°
- BROOF (t3) < 70°

**Part 1-4**

- ENV 1187
- EN 13501-5

**Reaction to fire**

- Class E
- EN ISO 11925-2, classification to EN 13501-1

**Hail resistance:**

- Over rigid substrate
  - ≥ 22 m/s
- Over flexible substrate
  - ≥ 30 m/s

**Joint peel resistance**

- ≥ 300 N/50 mm

**Joint shear resistance**

- ≥ 800 N/50 mm

**Water vapour transmission properties**

- μ = 15000

**Tensile strength**

- Longitudinal (md)\(^1\) ≥ 1100 N/50 mm
- Transversal (cmd)\(^2\) ≥ 1100 N/50 mm

**Elongation,**

- Longitudinal (md)\(^1\) ≥ 12%
- Transversal (cmd)\(^2\) ≥ 12%
<table>
<thead>
<tr>
<th>Property</th>
<th>EN Reference</th>
<th>Value(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistance to Impact</td>
<td>EN 12691</td>
<td>hard substrate ≥ 600 mm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>soft substrate ≥ 900 mm</td>
</tr>
<tr>
<td>Resistance to Static Load</td>
<td>EN 12730</td>
<td>soft substrate ≥ 20 kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>rigid substrate ≥ 20 kg</td>
</tr>
<tr>
<td>Tear Strength</td>
<td>EN 12310-2</td>
<td>longitudinal (md) ≥ 200 N</td>
</tr>
<tr>
<td></td>
<td></td>
<td>transversal (cmd) ≥ 200 N</td>
</tr>
<tr>
<td>Dimension Stability</td>
<td>EN 1107-2</td>
<td>longitudinal (md) ≤ 0.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>transversal (cmd) ≤ 0.2%</td>
</tr>
<tr>
<td>Foldability at Low Temperature</td>
<td>EN 495-5</td>
<td>≤ -25 °C</td>
</tr>
<tr>
<td>UV exposure</td>
<td>EN 1297</td>
<td>Pass (&gt; 5000 h / grade 0)</td>
</tr>
</tbody>
</table>

**USGBC: LEED Rating**

- Conform on the SS Credit 7.2
- Heat Island Effect – Roofs
- 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

Wide range of accessories is available e.g. prefabricated parts, roof drains, scuppers, walkway pads and decor profiles.

The following materials are strongly recommended:
- Sarnafil® G 410-15EL Sheet for detailing
- Sarnafil® Metal Sheet
- Sarnabar®
- S-Welding Cord
- Sarna Seam Cleaner
- Sarnacol® 2170 (contact adhesive)
- Sarna Cleaner

### Application Details

**Substrate Quality**

The substrate surface must be uniform, smooth and free of any sharp protrusions or burrs, etc.

Sarnafil® S 327-15EL 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.

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.

### Application Conditions / Limits

**Temperature**

The use of Sarnafil® S 327-15EL membrane is limited to geographical locations with average monthly minimum temperatures of -50 °C.

Permanent ambient temperature during use is limited to +50 °C.

**Compatibility**

Not compatible with direct contact to other plastics, e.g. EPS, XPS, PUR, PIR or
## 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 fastening (Sarnabar):**
Unroll the Sarnafil® S 327-15EL 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 327-15EL membrane must be secured with a Sarnabar®. The 4 mm diameter S-Welding Cord protects the Sarnafil® S 327-15EL roof covering against tearing and peeling of by wind uplift.

**Fixing Method, spot fastening (Sarnafast®):**
Sarnafil® S 327-15EL must always be installed at right angles to the deck direction. Sarnafil® S 327-15EL 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 327-15EL 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® 661plus 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.
<table>
<thead>
<tr>
<th><strong>Value Base</strong></th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Local Restrictions</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Ecology, Health and Safety Information</strong></td>
<td>A Safety Data Sheet following EC-Regulation 1907/2006, Article 31 is not needed to bring the product to the market, to transport or to use it. The product does not damage the environment when used as specified.</td>
</tr>
</tbody>
</table>
| **REACH** | European Community Regulation on chemicals and their safe use (REACH: EC 1907/2006)  
This product is an article within the meaning of Regulation (EC) No 1907/2006 (REACH). It contains no substances which are intended to be released from the article under normal or reasonably foreseeable conditions of use. Therefore, there are no registration requirements for substances in articles within the meaning of Article 7.1 of the Regulation.  
Based on our current knowledge, this product does not contain SVHC (substances of very high concern) from the candidate list published by the European Chemicals Agency in concentrations above 0.1 % (w/w). |
| **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** | "Any information or suggestions for use concerning Sika’s products, which we either in writing or orally have given buyers or end-users of the product have been given in good faith based on our own experiences and based of approved praxis and the technological and scientific knowledge on the time of giving such suggestions and information, which are given without any type of guarantees, and which do not lead to any further responsibility from Sika Danmark A/S, besides what is stated in the sales agreement in question. The buyer or end-user should themselves investigate or otherwise make sure that our products are suitable for the use in question and further make sure that the products are kept and used correct and in agreement with the published rules and considering the actual conditions in order to avoid damages or less satisfactory results. Any order is accepted and any deliverance is affected according to the general terms of sales and delivery from Sika Denmark A/S, which are considered known and accepted, and which could be handed out when asked fore. Our catalogues are not up-dated automatically. The present product data sheet is only for use in Denmark. Values stated in the present product data sheet should be seen as recommended, unless stated otherwise."