

## PRODUCT DATA SHEET

# Sarnafil® G 410-12 L

Polymeric PVC detailing membrane for roof waterproofing

### DESCRIPTION

Sarnafil® G 410-12 L (thickness 1,2 mm) is a multilayer, synthetic roof waterproofing sheet based on polyvinyl chloride (PVC) with a glass non-woven inlay. It contains ultraviolet light stabilisers according to EN 13956 / GB 12952. Sarnafil® G 410-12 L is a hot-air weldable roof membrane, formulated for direct exposure and designed for use in all global climatic conditions.

### USES

Sarnafil® G 410-12 L may only be used by experienced professionals.

Waterproofing detailing membrane for:

- Exposed flat roofs (Sarnafil® S 327 L or Sarnafil® G 410 L Felt)
- Ballasted roofs e.g. Green roofs, Utility roofs, Inverted roofs, Gravel roofs (Sarnafil® G 476)

### CHARACTERISTICS / ADVANTAGES

- Proven performance over decades
- Lacquer coated surface
- Resistant to permanent UV exposure
- High dimensional stability from glass fleece inlay
- High water vapour permeability
- Resistant to all common environmental influences
- Resistant to micro-organisms
- Hot-air weldable
- No open flame equipment required

### ENVIRONMENTAL INFORMATION

- Conformity with LEED v4 MRc 3 (Option 2): Building Product Disclosure and Optimization - Sourcing of Raw Materials
- Conformity with LEED v4 MRc 4 (Option 2): Building Product Disclosure and Optimization - Material Ingredients

### APPROVALS / STANDARDS

- CE Marking and Declaration of Performance to EN 13956 - Polymeric sheets for roof waterproofing
- GB 12952, Sarnafil® G 410-12 L, Test report No. RS19-21

### PRODUCT INFORMATION

<b>Product Declaration</b>	EN 13956: Polymeric sheets for roof waterproofing GB 12952 - Type G
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<b>Chemical Base</b>	Polyvinyl Chloride (PVC)
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<b>Packaging</b>	Standard rolls are wrapped individually in a blue PE-foil.
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Packing unit	Refer to price list
Roll length	25,00 m
Roll width	2,00 m
Roll weight	82 kg

Refer to current price list for packaging variations.

<b>Shelf Life</b>	5 years from date of production.	
<b>Storage Conditions</b>	Product must be stored in original unopened and undamaged packaging in dry conditions and temperatures between +5 °C and +30 °C. Store in a horizontal position. Do not stack pallets of the rolls on top of each other, or under pallets of any other materials during transport or storage. Always refer to packaging.	
<b>Appearance / Colour</b>	Surface	<u>matt</u>
	Colours	
	Top Surface	<u>white (other colours on request)</u>
	Bottom surface	<u>dark grey</u>
<b>Visible Defects</b>	Pass	(EN 1850-2)
<b>Length</b>	25 m (-0 / +5 %)	(EN 1848-2)
<b>Width</b>	2 m (-0,5 / +1 %)	(EN 1848-2)
<b>Effective Thickness</b>	1,2 mm (-5 / +10 %)	(EN 1849-2)
<b>Overall Thickness</b>	1,2 mm (-5 % / +10 %)	(GB 12952)
<b>Straightness</b>	≤ 30 mm	(EN 1848-2)
<b>Flatness</b>	≤ 10 mm	(EN 1848-2)
<b>Mass per Unit Area</b>	1,62 kg/m <sup>2</sup> (-5 / +10 %)	(EN 1849-2)

## TECHNICAL INFORMATION

<b>Resistance to Impact</b>	hard substrate	<u>≥ 450 mm</u>	(EN 12691)
	soft substrate	<u>≥ 800 mm</u>	
	watertight		(GB/T20624.2)
<b>Resistance to Static Load</b>	soft substrate	<u>≥ 20 kg</u>	(EN 12730)
	rigid substrate	<u>≥ 20 kg</u>	
	watertight		(GB/T328.25)
<b>Tensile Strength</b>	longitudinal (md) <sup>1)</sup>	<u>≥ 8,5 N/mm<sup>2</sup></u>	(EN 12311-2)
	transversal (cmd) <sup>2)</sup>	<u>≥ 8,5 N/mm<sup>2</sup></u>	
	longitudinal (md) <sup>1)</sup>	<u>≥ 10 MPa</u>	(GB/T328.9)
	transversal (cmd) <sup>2)</sup>	<u>≥ 10 MPa</u>	
	<sup>1)</sup> md = machine direction		
	<sup>2)</sup> cmd = cross machine direction		
<b>Elongation at Break</b>	≥ 200 %		(GB/T328.9)
<b>Elongation</b>	longitudinal (md) <sup>1)</sup>	<u>≥ 180 %</u>	(EN 12311-2)
	transversal (cmd) <sup>2)</sup>	<u>≥ 180 %</u>	
	<sup>1)</sup> md = machine direction		
<sup>2)</sup> cmd = cross machine direction			
<b>Tear Strength</b>	≥ 50 N/mm		(GB/T529)
<b>Joint Peel Resistance</b>	Failure mode: C, no failure of the joint		(EN 12316-2)
	≥ 3 N/mm		(GB/T328.21)
<b>Dimensional Stability</b>	longitudinal (md) <sup>1)</sup>	<u>≤  0,2  %</u>	(EN 1107-2)
	transversal (cmd) <sup>2)</sup>	<u>≤  0,2  %</u>	
	≤ 0,1 %		(GB/T328.13)
	<sup>1)</sup> md = machine direction		
<sup>2)</sup> cmd = cross machine direction			

<b>Solar Reflectance</b>	0,80	(GJB 2502.2)
<b>Solar Reflectance Index</b>	106 (white, initial)	(ASTM E 1980)
<b>Foldability at Low Temperature</b>	≤ -25 °C no crack	(EN 495-5) (GB/T328.15)
<b>Water Absorption</b>	wet weight ≤ 4 % dry weight ≥ -0,4 %	(GB 12952)
<b>Watertightness</b>	Pass watertight	(EN 19289) (GB/T328.10)
<b>Water Vapour Transmission</b>	μ = 15 000	(EN 1931)
<b>Effect of Liquid Chemicals</b>	tensile strength retention ≥ 85 % elongation retention ≥ 80 % low temperature bend no crack	(GB/T18244)
<b>Resistance to UV Exposure</b>	Pass (> 5 000 h / grade 0)	(EN 1297)
<b>Resistance to Weathering</b>	tensile strength retention ≥ 85 % elongation retention ≥ 80 % low temperature bend no crack	(GB/T18244)
<b>Retention of Properties after Heat Ageing</b>	tensile strength retention ≥ 85 % elongation retention ≥ 80 % low temperature bend no crack	(GB/T18244)
<b>Reaction to Fire</b>	Class E	(GB 8624 / EN13501-1)

## SYSTEM INFORMATION

<b>System Structure</b>	The following products must be considered for use depending on roof design: <ul style="list-style-type: none"> <li>▪ Sarnafil® Metal Sheet</li> <li>▪ Sarnabar®</li> <li>▪ Sarna Seam Cleaner</li> <li>▪ Sarnacol® 2170 (contact adhesive)</li> <li>▪ Sarna Cleaner</li> </ul> Ancillary products: wide range of accessories is available e.g. prefabricated parts, roof drains, scuppers, walkway pads and decor profiles
<b>Compatibility</b>	Not compatible in direct contact with bitumen, tar, fat, oil, solvent containing materials and other plastic materials, e.g. expanded polystyrene (EPS), extruded polystyrene (XPS), polyurethane (PUR), polyisocyanurate (PIR) or phenolic foam (PF). These materials could adversely affect the product properties.

## APPLICATION INFORMATION

<b>Ambient Air Temperature</b>	-20 °C min. / +60 °C max.
<b>Substrate Temperature</b>	-30 °C min. / +60 °C max.

## BASIS OF PRODUCT DATA

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.

## FURTHER DOCUMENTS

- Installation**
- Application Manual

## LIMITATIONS

Installation work must only be carried out by Sika® trained and approved contractors experienced in this type of application.

- Ensure Sarnafil® G 410-12 L is prevented from direct contact with incompatible materials (refer to compatibility section).
- Do not apply to wet, damp or unclean surfaces
- The use of some ancillary products such as adhesives, cleaners and solvents is limited to temperatures above +5 °C. Observe temperature limitations in the appropriate Product Data Sheets.
- Special measures may be compulsory for installation below +5 °C ambient temperature due to safety requirements in accordance with national regulations.

## ECOLOGY

Fresh air ventilation must be ensured, when working (welding) in closed rooms. Installation of RAL 9016 SR type requires the use of UV protection goggles.

### REGULATION (EC) NO 1907/2006 - REACH

This product is an article as defined in article 3 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. A safety data sheet following article 31 of the same regulation is not needed to bring the product to the market, to transport or to use it. For safe use follow the instructions given in this product data sheet. Based on our current knowledge, this product does not contain SVHC (substances of very high concern) as listed in Annex XIV of the REACH regulation or on the candidate list published by the European Chemicals Agency in concentrations above 0.1 % (w/w)

## APPLICATION INSTRUCTIONS

### EQUIPMENT

#### Hot welding overlap seams

Electric hot-air welding equipment, such as hand held manual hot air welding equipment and pressure rollers or automatic hot air welding machines with controlled hot-air temperature capability of a minimum +600 °C.

Recommended type of equipment:

- Manual: Leister Triac
- Semi-automatic: Leister Triac Drive
- Automatic: Sarnamatic 681/ Leister Varimat

## SUBSTRATE QUALITY

The substrate surface must be uniform, smooth and free of any sharp protrusions or burrs, etc. Sarnafil® G 410-12 L must be separated from any incompatible substrates / materials by an effective separation layer to prevent accelerated ageing. 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

### Installation procedure

Strictly follow installation procedures as defined in method statements, application manuals and working instructions which must always be adjusted to the actual site conditions.

### Flashings

Refer to standard details in Application Manual

### Hot welding overlap seams

Overlap seams must be welded by electric hot welding equipment. 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 conditions prior to welding. The effective width of welded overlaps by hot-air must be a minimum 20 mm.

### Testing overlap seams

The seams must be mechanically tested with screwdriver (rounded edges) to ensure the integrity/completion of the weld. Any imperfections must be rectified by hot air welding.

## LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data.

## 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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### **Product Data Sheet**

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