

PRODUCT DATA SHEET

Sarnafil® G 410-20 EL

POLYMERIC MEMBRANE FOR ADHERED ROOF WATERPROOFING

PRODUCT DESCRIPTION

Sarnafil® G 410-20 EL (thickness 2.0 mm) is a multi-layer, synthetic roof waterproofing sheet based on premium-quality polyvinyl chloride (PVC) with inlay of glass non-woven containing ultraviolet light stabilizers and flame retardant according to EN 13956.

Sarnafil® G 410-20 EL is a hot air weldable roof membrane, formulated for direct exposure and designed to use in all global climatic conditions.

Sarnafil® G 410-20 EL has a unique lacquer coating applied to the top of the membrane.

USES

Roof waterproofing membrane for exposed flat roofs:

- Fully bonded roof surfaces with contact adhesive Sarnacol® 2170 / 2172 Spray or Sarnacol® 2121 depending on substrates.

- Enhancement of Solar Reflection of existing PVC roofs (relevant only for colour RAL 9016 SR)

Roof waterproofing membrane for exposed roof junction zones:

- Roof waterproofing for junctions and flashings, e.g. wall and parapet junctions, roof lights, etc., which are permanently exposed in installations of Sarnafil® G 410-20 EL roof waterproofing systems with ballast.
- Fully bonded junction areas with contact adhesive Sarnacol® 2170 / 2172 Spray.
- Roof waterproofing for junctions and flashings in installations of Sarnafil® G 410 EL Felt type exposed roof waterproofing systems.

CHARACTERISTICS / ADVANTAGES

- Proven performance over decades.
- Lacquer coated surface.
- Various colours available.
- High reflectance properties for excellent cool roofing characteristics (relevant only for colour RAL 9016 SR).
- Resistant to permanent UV irradiation.
- High dimensional stability due to glass fleece inlay.
- Resistant against impact load and hail.
- High water vapour permeability.
- Resistant to all common environmental influences.
- Hot air welding without use of open flames.
- Recyclable.

APPROVALS / STANDARDS

Sarnafil® G 410-20 EL 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-4919 and provided with the CE-mark.
- Reaction to fire according to EN 13501-1.
- External fire performance tested according to EN 1187 and classified according to EN 13501-5: BROOF(t1).
- Official Quality Approvals and Agreement Certificates and approvals.
- Monitoring and assessment by approved laboratories.
- Quality Management system in accordance with EN ISO 9001/1400.

PRODUCT INFORMATION

Packaging	Sarnafil® G 410-20 EL standard rolls are wrapped individually in a blue PE-foil.	
	Packing unit:	see price list
	Roll length:	15.00 m
	Roll width:	2.00 m
	Roll weight:	75.00 kg
Appearance / Colour	Surface:	matt
	Colours:	
	Top surface:	light grey (nearest RAL 7047) window grey (nearest RAL 7040) traffic white (nearest RAL 9016) lead grey (Sika colour no. 9500) copper patina (Sika colour no. 6525) copper brown (nearest RAL 8004) traffic white, solar reflective (RAL 9016 SR)
	Bottom surface:	dark grey
Shelf Life	5 years from date of production in unopened, undamaged and original packaging.	
Storage Conditions	Rolls must be stored between +5 °C and +30 °C in a horizontal position on pallet, protected from direct sunlight, rain and snow. Do not stack pallets of rolls or any other material during transport or storage.	
Product Declaration	EN 13956	
Visible Defects	Pass	(EN 1850-2)
Length	15.00 m / 30.50 m (-0 / +5 %)	(EN 1848-2)
Width	2.00 m / 3.00 m (-0.5 / +1 %)	(EN 1848-2)
Effective Thickness	2.0 mm (-5 / +10 %)	(EN 1849-2)
Straightness	≤ 30 mm	(EN 1848-2)
Flatness	≤ 10 mm	(EN 1848-2)
Mass per unit area	2.5 kg/m ² (-5 / +10 %)	(EN 1849-2)

TECHNICAL INFORMATION

Resistance to Impact	hard substrate	≥ 1000 mm	(EN 12691)
	soft substrate	≥ 1500 mm	
Hail Resistance	rigid substrate	≥ 28 m/s	(EN 13583)
	flexible substrate	≥ 36 m/s	
Resistance to Static Load	soft substrate	≥ 20 kg	(EN 12730)
	rigid substrate	≥ 20 kg	
Tensile Strength	longitudinal (md) ¹⁾	≥ 10 N/mm ²	(EN 12311-2)
	transversal (cmd) ²⁾	≥ 9 N/mm ²	
¹⁾ md = machine direction ²⁾ cmd = cross machine direction			
Elongation	longitudinal (md) ¹⁾	≥ 230 %	(EN 12311-2)
	transversal (cmd) ²⁾	≥ 210 %	
¹⁾ md = machine direction ²⁾ cmd = cross machine direction			

Dimensional Stability	longitudinal (md) ¹⁾	≤ 0.2 %		(EN 1107-2)	
	transversal (cmd) ²⁾	≤ 0.1 %			
¹⁾ md = machine direction ²⁾ cmd = cross machine direction					
Joint Shear Resistance	≥ 600 N/50 mm			(EN 12317-2)	
Foldability at Low Temperature	≤ -25°C			(EN 495-5)	
External Fire Performance	BROOF(t1) < 20°, > 20°			(EN1187) (EN13501-5)	
Reaction to Fire	Class E			(EN ISO 11925-2, classification to EN 13501-1)	
Effect of Liquid Chemicals, Including Water	On request			(EN 1847)	
UV Exposure	Pass (> 5 000 h / grade 0)			(EN 1297)	
Water Vapour Transimission	μ = 15 000			(EN 1931)	
Water Tightness	Pass			(EN 1928)	
Solar Reflectance Index	Colour	Initial	3-year aged	Test Institute	(ASTM E 1980-01)
	RAL 9016 SR	111 ¹⁾	99 ¹⁾	CRRC	
	RAL 9016	106 ¹⁾	77 ¹⁾	CRRC	
	Nr. 9525	55	-	Sika	
	Nr. 9500	4	-	Sika	
	Nr. 6525	34	-	Sika	
	RAL 8004		-	Sika	
CRRC tested products are listed in Cool Roof Raiting Council (CRRC) product date base. 1) Product tested at a thickness of 1.50 mm.					
USGBC LEED Rating	Colour	Initial	3-years aged	(ASTM E 1980-01)	
	RAL 9016 SR	SRI > 82	SRI > 64		
	RAL 9016	SRI > 82	SRI > 64		
Conform on the minimum requirements of LEED v4 SS credit 5 option 1 Heat Island reduction - roof.					

SYSTEM INFORMATION

System Structure	<p>Wide range of accessories is available e.g. prefabricated parts, roof drains, scuppers, walkway pad, decor profiles, protection sheets and separation layers.</p> <p>The following accessories shall be used:</p> <ul style="list-style-type: none"> ▪ Sarnafil® G 410-18EL Sheet for detailing ▪ Sarnafil® Metal Sheet ▪ Peel-stop® ▪ Sarna Seam Cleaner ▪ Sarnacol® 2170 / 2172 Spray (contact adhesive) ▪ Sarna Cleaner
Compatibility	<p>Not compatible with direct contact to other plastics, e.g. EPS, XPS, or PF.</p> <p>Not resistant to tar, bitumen, oil and solvent containing materials.</p>

APPLICATION INFORMATION

Ambient Air Temperature	Ambient temperature: -20 °C min. / +60 °C max.
Substrate Temperature	Substrate temperature: -30 °C min. / +60 °C max.

SUBSTRATE QUALITY The substrate surface must be uniform, smooth and

free of any sharp protrusions or burrs, etc.

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

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.

APPLICATION METHOD / TOOLS

Installation procedure:

According to the valid installation instructions for Sarnafil® G 410-EL types system fully bonded for exposed roofs.

Fully adhered roof surfaces and junction areas:

The roof waterproofing membrane is bonded to substrate by contact adhesive Sarnacol® 2170 / 2172 Spray. Seam overlaps are welded by hot air.

Adhering flashings

Sarnafil® G 410-20 EL is adhered to substrate layers such as reinforced concrete, rendering, timber panels, metal sheets etc. using Sarnacol® 2170 / 2172 Spray adhesive.

Welding Method:

Overlap seams are welded by electric heat 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 for manual welding
 - Sarnamatic® 661^{plus} / 681 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 shall be minimum 20 mm.

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

LIMITATIONS

Geographical / Climate

The use of Sarnafil® G 410-20 EL membrane is limited to geographical locations with average monthly minimum temperatures of -50°C.

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

VALUE BASE

All technical data stated in this 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 declared data and recommended uses for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data and uses.

ECOLOGY, HEALTH AND SAFETY

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)

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.

TECHNICAL ENQUIRIES

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SarnafilG410-20EL_en_GBSARNA_(05-2017)_1_1.pdf

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May 2017, Version 01.01

020905052000201001