BUILDING TRUST

BUILDING PRODUCT INFORMATION SHEET

Sarnafil® S 327-20 L

POLYMERIC PVC MEMBRANE FOR MECHANICALLY FASTENED ROOF WATERPROOFING

DESCRIPTION

Sarnafil® S 327-20 L (thickness 2.0 mm) is a polyester reinforced, multi-layer, synthetic roof waterproofing sheet based on polyvinyl chloride (PVC) containing ultraviolet light stabilizers according to EN 13956/GB 12952. Sarnafil® S 327-20 L is a hot air weldable roof membrane formulated for direct exposure and designed to use in all global climatic conditions.

USES

Sarnafil® S 327-20 L may only be used by experienced professionals.

Waterproofing membrane for:

Mechanically fastened roofing systems

FEATURES

- Proven performance over decades
- Lacquer coated surface
- Resistant to permanent UV exposure
- Resistant to permanent wind exposure
- Resistant to all common environmental influences
- Hot air weldable
- No open flame equipment required
- High water vapour permeability

SUSTAINABILITY

- Conformity with LEED v4 SSc 5 (Option 1): Heat Island Reduction - Roof (only white)
- 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 (only light grey and white)

LIMITATIONS OF USE

The installation of Sarnafil Membrane systems is complex and limited to Sika approved applicators only. The Sika technical literature should be referred to in all instances for the correct application procedures nzl.sika.com

APPROVALS / CERTIFICATES

- GB 12952, Sarnafil® S 327-20 L, Test report No. RS19-21
- CE Marking and Declaration of Performance to EN 13956 - Polymeric sheets for roof waterproofing
- Included in BRANZ Appraisal #619, Sarnafil Roof and Deck Membrane System

PRODUCT INFORMATION

Product identifier	Sarnafil® S 327-20 L
Place of manufacture	Overseas
Product declaration	EN 13956 Polymeric sheets for roof waterproofing GB 12952 Type P
Composition	Polyvinyl Chloride (PVC)
Packaging	Sarnafil® S 327-20 L standard rolls are wrapped individually in a blue PE-foil.

	Packing unit	Refer to price list
	Roll length	15.00 m
	Roll width	2.00 m
	Roll weight	81 kg
Shelf life	5 years from date of production.	
Storage conditions	Product must be stored in original unopened and undamaged sealed 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.	
Appearance and colour	Surface	matt
	Colours	
	Top Surface	light grey
	Bottom surface	dark grey
	Top surface of sheet, other colours on request, subject to minimum order quantities.	
Visible defects	Pass	(EN 1850-2)
Length	15 m (-0 % / +5 %)	(EN 1848-2)
Width	2 m (-0,5 % / +1 %)	(EN 1848-2)
Effective thickness	2,0 mm (-5 % / +10 %)	(EN 1849-2)
Overall thickness	2,0 mm (-5 % / +10 %)	(GB 12952)
Straightness	≤ 30 mm	(EN 1848-2)
Flatness	≤ 10 mm	(EN 1848-2)
Mass per area	2,4 kg/m² (-5 % / +10 %)	(EN 1849-2)

TECHNICAL INFORMATION

Resistance to impact	hard substrate	≥ 900 mm	(EN 12691)
	soft substrate	≥ 1250 mm	
	pass	(GB/T20624.2)	
Hail resistance	rigid substrate	≥ 35 m/s	(EN 13583)
	flexible substrate	≥ 40 m/s	
Resistance to static loading	soft substrate	≥ 20 kg	(EN 12730)
	rigid substrate	≥ 20 kg	
	pass	(GB/T328.25)	
Tensile strength	longitudinal (md)[1)]	≥ 1000 N/50 mm	(EN 12311-2)
	transversal (cmd)[2)]	≥ 1000 N/50 mm	
	longitudinal (md)[1)]	≥ 250 N/cm	(GB/T328.9)
	transversal (cmd)[2)]	≥ 250 N/cm	
	[1)] md = machine direction [2)] cmd = cross machine direction		
Elongation at maximum tensile stress	longitudinal (md)[1)]	≥ 15 %	(GB/T328.9)
	transversal (cmd)[2)]	≥ 15 %	
	[1)] md = machine direction [2)] cmd = cross machine direction		

Tear strength	longitudinal (md)[1]	≥ 200 N	(EN 12310-2)
	transversal (cmd)[2]	≥ 200 N	
	longitudinal (md)[1]	≥ 250 N	(GB/T328.19)
	transversal (cmd)[2]	≥ 250 N	
	[1] md = machine direction [2] cmd = cross machine direction		
Joint peel resistance	Failure mode: C, no failure of the joint		(EN 12316-2)
	≥ 3 N/mm		(GB/T328.21)
Joint shear resistance	≥ 800 N/50 mm		(EN 12317-2)
Dimensional stability	longitudinal (md)[1]	≤ |0,4| %	(EN 1107-2)
	transversal (cmd)[2]	≤ |0,4| %	
	longitudinal (md)[1]	≤ |0,5| %	(GB/T328.13)
	transversal (cmd)[2]	≤ |0,5| %	
	[1] md = machine direction [2] cmd = cross machine direction		
Solar reflectance	0,80		(GJB 2502.2)
Solar reflectance index	Colour	Initial	(ASTM E 1980)
	white	108	
Foldability at low temperature	≤ -25 °C		(EN 495-5)
	≤ -25 °C		(GB/T328.15)
Water absorption	wet weight	≤ 4 %	(GB 12952)
	dry weight	≥ -0,4 %	
Watertightness	pass		(EN 1928)
			(GB/T328.10)
Water-vapour transmission rate	μ = 15 000		(EN 1931)
Effect of liquid chemicals, including water	breaking strength retention	≥ 85 %	(GB 12952)
	elongation at break ret.	≥ 80 %	
	low temperature bend	pass	
Resistance to UV exposure	Pass (> 5000 h / grade 0)		(EN 1297)
Resistance to weathering	breaking strength retention	≥ 85 %	(GB/T18244)
	elongation at break ret.	≥ 80 %	
	low temperature bend	no crack	
Retention of properties after heat ageing	breaking strength retention	≥ 85 %	(GB/T18244)
	elongation at break ret.	≥ 80 %	
	low temperature bend	pass	
External fire performance	B_{ROOF} (t1) < 20°		(EN 1187)
			(EN 13501-5)
Reaction to fire	Class E		(EN ISO 11925-2, classification to EN 13501-1)
Elongation	longitudinal (md)[1]	≥ 12 %	(EN 12311-2)
	transversal (cmd)[2]	≥ 12 %	
	[1] md = machine direction [2] cmd = cross machine direction		

SYSTEM INFORMATION

System structure	The following products must be considered for use depending on roof design: ■ Sarnafil® G 410-20 L Sheet for detailing ■ Sarnafil® Metal Sheet PVC ■ Sarnabar® / Sarnafast® ■ S-Welding Cord PVC ■ Sarnacol® 2170 (contact adhesive) ■ Sarna Cleaner Ancillary Products: e.g. Prefabricated parts, roof drains, scuppers, walkway pad, decor profiles, protection sheets.
Compatibility	Not compatible in direct contact with bitumen, tar, fat, oil, solvent containing materials and other plastic materials. Must be isolated from contact with building wrap systems (including building wraps with self-adhesive backings) and flashing tapes. Refer to Sika for detailing advice. Insulated boards of expanded polystyrene (EPS), extruded polystyrene (XPS), polyurethane (PUR), polyisocyanurate (PIR) or phenolic foam (PF) should be isolated from the membrane either with integral aluminium or glass tissue facers, or with separation cloth such as Sarnafil S-Felt. Direct contact with any of the above materials could adversely affect the product properties.

APPLICATION INFORMATION

Ambient air temperature	-20 °C min. / +60 °C max.
Substrate temperature	-30 °C min. / +60 °C max.

MANUFACTURER AND IMPORTER INFORMATION

Manufacturer information	Address	Sika China Ltd, 28 Jing Dong Road, Suzhou Industrial Park, Suzhou Jiangsu 215121, China
Importer information	Address	Sika (NZ) Limited 85-91 Patiki Road Avondale, Auckland 1026 New Zealand
	Phone number	0800 745 269
	Website	https://nzl.sika.com/
	Email address	info@nz.sika.com
	NZBN	9429000018791

BUILDING CODE INFORMATION

Building Code clauses	B2 Durability: Performance clause B2.3.1 - (b) 15 years E2 External Moisture: Performance clauses E2.3.1, E2.3.2 and E2.3.6 F2 Hazardous Building Materials: Performance clause F2.3.1
Building Code compliance statements	Performance B2.3.1 (b) 15 years: The BRANZ appraisal for this product states that, in their opinion, it achieves this durability requirement, when installed and maintained in accordance with the BRANZ Appraisal and relevant Sika technical literature. nzl.sika.com. According to Sika's "Service Improvement" records, maintained within its ISO9001:2015 Quality Management System, this product has performed successfully since it was introduced in 2009.

Performance E2.3.1, E2.3.2 and E2.3.6: The BRANZ Appraisal for this product nzl.sika.com states that it will meet the E2.3.1, E2.3.2 and E2.3.6 weathertightness requirements when installed by a trained Sika applicator in accordance with the BRANZ Appraisal and all relevant Sika technical literature nzl.sika.com

Performance F2.3.1. The BRANZ Appraisal for this product nzl.sika.com states that, in their opinion, it meets this requirement and does not present a health hazard to people. Refer to the product safety data sheet nzl.sika.com for further information if required

BASIS OF PRODUCT DATA

All technical data in this document are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

IMPORTANT CONSIDERATIONS

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

- Ensure Sarnafil® S 327-20 L is prevented from direct contact with incompatible materials (refer to compatibility section).
- The use of Sarnafil® S 327-20 L membrane is limited to geographical locations with average monthly minimum temperatures of - 50 °C. Permanent ambient temperature during use is limited to + 50 °C.
- 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.
- Sarnafil® S 327-20 L must be installed by loose laying and without stretching or installing under tension.

ECOLOGY, HEALTH AND SAFETY

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

DESIGN REQUIREMENTS

Roofs and decks must be designed and constructed to shed precipitated moisture and take account of snowfalls in snow prone areas. Refer to NZS3604 and E2/AS1 for further information.

When fully bonded, this membrane is suitable for applications in areas subject to a maximum wind pressure of 6 kPa design differential ULS, subject to the limitations of the substrate

Timber framing systems must comply with NZS3604, or where specific engineering design is used, must be of at least the equivalent stiffness requirements of NSZ 3604

Decks using Sarnafil membrane systems must be protected with either tiles or timber decking resting on Sika approved pedestal supports

All roofs and decks must be designed to have falls that are in accordance with E2/AS1 - 8.5 Membrane Roofs and Decks clause 8.5.1. Allowance for deflection and settlement of the roof substrate mut be considered, to ensure falls are maintained and water ponding on the membrane is avoided.

Separation or protection from heat sources such as fireplaces, flues, chimneys, etc must be provided to Sarnafil membrane systems. Refer to Part 7 of NZ Building Code Acceptable Solutions C/AS1 and C/AS2, and Verification Method C/VM1 for approved separation methods.

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
- Automatic : Leister Varimat
- Semi-automatic: Leister Triac Drive

SUBSTRATE QUALITY

The substrate surface must be uniform, smooth and free of any sharp protrusions or burrs, etc. Sarnafil® S 327-20 L must be separated from any incompatible substrates / materials by an effective separation layer to prevent accelerated ageing. The supporting layer must be compatible with 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. **Fixing method - General** The waterproofing membrane is installed by loose laying (without stretching membrane or installing under tension) with mechanical fastening in seam overlaps or independent from overlaps. Overlap seams are hot welded using specialised hot air equipment. **Fixing method - Linear fastening (Sarnabar®)** Unroll the Sarnafil® S 327-20 L membrane, overlap by 80 mm, weld immediately and fix to the substructure by means of the Sarnafast® fasteners. The preferred type of

fastening will be advised by Sika. The spacing of the fasteners is in accordance with the project specific Sika calculations. The perimeter piece ends must be secured with the Sarnabar® Load Distribution Plate. For protection fasten a piece of Sarnafil® S 327-20 L 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® S 327-20 L and weld. After installation the Sarnabar® must immediately be made watertight with a Sarnafil® S 327-20 L cover strip. At upstands and at all penetrations, the Sarnafil® S 327-20 L membrane must be secured with a Sarnabar®. The 4 mm diameter S-Welding Cord protects the Sarnafil® S 327-20 L roof covering against tearing and peeling off by wind uplift. **Fixing method - Spot fastening (Sarnafast®)** Sarnafil® S 327-20 L must always be installed at right angles to the deck direction. Sarnafil® S 327-20 L is fixed by means of the Sarnafast® fasteners and barbed washers/tubes along the marked line, 35 mm from the edge of the membrane. Sarnafil® S 327-20 L is overlapped by 120 mm. The spacing of the fasteners is in accordance with the project specific Sika calculations. At upstands and at all penetrations, the Sarnafil® S 327-20 L membrane must be secured with a Sarnabar®. The 4 mm diameter S-Welding Cord protects the Sarnafil® S 327-20 L roof covering against tearing and peeling off by wind uplift.

Fixing method - Field fastening (Sarnaweld or Rhinobond)

Sarnafil® S 327-20 L is fixed by induction welding Sarnadisc hot melt coated washers and Sarnafast® fasteners according to the project specific instructions. Sarnafil® S 327-20 L is overlapped by 80 mm. The spacing of the fasteners is in accordance with the project specific Sika calculations. At upstands and at all penetrations, the Sarnafil® S 327-20 L membrane must be secured with a Sarnabar®. The 4 mm diameter S-Welding Cord protects the Sarnafil® S 327-20 L roof covering against tearing and peeling off by wind uplift.

Hot welding method 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. **Testing overlap seams** The seams must be mechanically tested with a screw driver (rounded edges) to ensure the integrity/completion of the weld. Any imperfections must be rectified by hot air welding.

MAINTENANCE REQUIREMENTS

For membrane cleaning requirements refer to the Sika "Roof Cleaning Guideline - Roofing and Balcony Membranes" available at nzl.sika.com.

If the membrane is damaged it must be repaired as soon as any such damage occurs. Contact Sika NZ for advice on 0800 SIKANZ

The membrane system must be checked annually (or sooner if required), for damage, rubbish, outlet blockages or coating deterioration. All debris must be removed and blockages cleared. Any damage identified must be repaired immediately. Contact Sika NZ for advice on 0800 SIKANZ

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 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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

The building product/building product line is not subject to warning or ban under section 26 of the Building Act 2004.

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