

Sarnafil® TS 77-20E

Polymeric membrane for roof waterproofing

Product Description

Sarnafil® TS 77-20E (thickness 2.0 mm) is a Polyester reinforced, multi-layer, synthetic roof waterproofing sheet based on premium-quality flexible polyolefins (FPO) containing ultraviolet light stabilizers, flame retardant and an inlay of glass non-woven according to EN 13956.

Sarnafil® TS 77-20E is a hot air weldable roof membrane formulated for direct exposure and designed to use in all global climatic conditions. Sarnafil® TS 77-20E is produced with an inlay of glass non-woven for dimensional stability and a polyester reinforcement for high strength. Sarnafil® TS 77-20E is provided for mechanically attached roof systems.

Sarnafil® TS 77-20E has no built-in stress at the time of production and has a fully encapsulated carrier with no risk to delamination or water-wicking. The dimensional stability of Sarnafil® TS 77-20E is excellent.

Uses

Waterproofing membrane for:

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

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 resistance against impact load
- Excellent weldability
- No risk of delamination or water-wicking
- Compatible to old bitumen (not recommended for RAL 9016 SR)

Highest reflectance properties for excellent cool roofing characteristics and bifacial Photovoltaic panels (relevant only for colour RAL 9016 SR)

- Recyclable

Approval / Standards

Sarnafil® TS 77-20E is designed and manufactured to meet the most international recognised standards.

- Polymeric sheets for roof waterproofing according to EN 13956, certified by notified body 1213-CPD-3915 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:	Standard:	matt
		Solar reflective:	glossy
	Colours:		
	Top surface:	beige	
		window grey (nearest RAL 7040)	
		copper brown (nearest RAL 8004)	
		reseda green (nearest RAL 6011)	
		traffic white (nearest RAL 9016)	
		traffic white, solar reflective (RAL 9016 SR)	
	Bottom surface:	black	
Packaging	Sarnafil® TS 77-20E 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:	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.		

Technical Data

Product Declaration	EN 13956	
Visible defects	Pass	EN 1850-2
Length	15 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	2.0 mm (-5 % / +10 %)	EN 1849-2
Mass per unit area	2.4 kg/m ² (-5 % / +10 %)	EN 1849-2
Water tightness	Pass	EN 1928
Effects of liquid chemicals, including water	On request	EN 1847
External fire performance Part 1-4	BROOF (t1) > 20° BROOF (t2) BROOF (t3) < 10°	ENV 1187 EN 13501-5
Reaction to fire	Class E	EN ISO 11925-2 classification to EN 13501-1
Hail resistance		EN 13583
rigid substrate	≥ 28 m/s	
flexible substrate	≥ 36 m/s	
Joint peel resistance	≥ 300 N/50 mm	EN 12316-2
Joint shear resistance	≥ 500 N/50 mm	EN 12317-2
Water vapour transmission properties	μ = 200'000	EN 1931
Tensile strength		EN 12311-2
longitudinal (md)¹⁾	≥ 900 N/50 mm	
transversal (cmd)²⁾	≥ 800 N/50 mm	
Elongation		EN 12311-2
longitudinal (md)¹⁾	≥ 12 %	
transversal (cmd)²⁾	≥ 12 %	
Resistance to impact		EN 12691
hard substrate	≥ 900 mm	
soft substrate	≥ 1250 mm	
Resistance to static load		EN 12730
soft substrate	≥ 20 kg	
rigid substrate	≥ 20 kg	
Tear strength		EN 12310-2
longitudinal (md)¹⁾	≥ 300 N	
transversal (cmd)²⁾	≥ 300 N	
Dimension stability		EN 1107-2
longitudinal (md)¹⁾	≤ 0.2 %	
transversal (cmd)²⁾	≤ 0.1 %	
Foldability at low temperature	≤ -20 °C	EN 495-5
UV exposure	Pass (> 5000 h / grade 0)	EN 1297
Exposure to bitumen³⁾	Pass	EN 1548

¹⁾md = machine direction

²⁾cmd = cross machine direction

³⁾ Sarnafil® T is compatible to old bitumen

CIGS-Reflectance		
RAL 9016 SR types (initial)	95 %	Reflectivity according to EN 410 in conjunction with CIGS Sensitivity
RAL 9016 traffic white (initial)		
Beige (initial)		
Solar Reflectance		
RAL 9016 SR types (initial)	0.88	ASTM C 1549
RAL 9016 traffic white (initial)	0.83	
Beige (initial)	0.65	
Initial Emittance		
RAL 9016 SR types (initial)	0.85	ASTM E 408, ASTM C1371, others
RAL 9016 traffic white (initial)	0.88	
Beige (initial)	0.86	
SRI (Solar Reflectance Index)		
RAL 9016 SR types (initial)	111	ASTM E 1980
RAL 9016 traffic white (initial)	105	
Beige (initial)	78	
USGBC: LEED Rating		
RAL 9016 SR types (initial)	Conform on the SS Credit 7.2	ASTM E 1980-01
RAL 9016 traffic white (initial)	Heat Island Effect – Roofs	
Beige (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 and walkway pads.</p> <p>The following materials are strongly recommended:</p> <ul style="list-style-type: none"> Sarnafil® T 66-15 D Sheet for detailing Sarnafil® TS 77 strips Sarnafil® T Metal Sheet Sarnabar Sarnafil® T Welding Cord Sarnafil® T Prep / Sarnafil® T Wet Task Set Sarnacol® T 660 Solvent T 660 Sarnafil® T Clean
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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>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 Solvent T 660 before adhesive is applied.</p>
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Application Conditions / Limits

Temperature	<p>The use of Sarnafil® TS 77-20E membrane is limited to geographical locations with average monthly minimum temperatures of -50 °C.</p> <p>Permanent ambient temperature during use is limited to +50 °C.</p>
Compatibility	<p>Sarnafil® TS 77-20E may be installed on all thermal insulations and levelling layers suitable for roofing. No additional separation layer is required. Probably a fire protection layer is necessary.</p> <p>Sarnafil® TS 77-20E is suitable for installation directly on top of existing, carefully cleaned, levelled bituminous roofing, e.g. re-roofing over old flat roofs.</p> <p>Colour changes in membrane surface may occur in case of direct contact with bitumen.</p> <p>In case of Photovoltaic applications (RAL 9016 SR) it is advised to remove bitumen before applying the TS 77-20E membrane.</p> <p>In case of existing roof build up needs to be removed, Sarnafil® TS 77-20E can be adhered directly on to the bituminous vapour control layer for partitioning and protection of the day work.</p>

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	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.
REACH	<p>European Community Regulation on chemicals and their safe use (REACH: EC 1907/2006)</p> <p>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.</p> <p>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).</p>
Protective Measures	<p>Fresh air ventilation must be ensured, when working (welding) in closed rooms.</p> <p>Installation of RAL 9016 SR type requires the use of UV protection goggles.</p> <p>Local safety regulations must be observed.</p>
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 note: 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 suitability for the intended application and purpose. Sika products. The proprietary rights of third parties must be observed. Users must always refer to the current terms of sale and delivery. Users must always refer to the local Product Data Sheet for the product concerned, copies of which will be provided upon request.



Sika Ireland Ltd
Sika House
Ballymun Ind.Est
Dublin 11
Ireland

Phone +353 1 8620706
Telefax +353 1 8620707
Irl.sika.com

