

PRODUCT DATA SHEET

SikaShield® E54 PE 3 mm

118 mil thick elastomeric base ply bituminous membrane

PRODUCT DESCRIPTION

SikaShield® E54 PE 3 mm is a 118 mil thick SBS modified bituminous waterproofing membrane. It is reinforced with a non-woven polyester fabric dimensionally stabilized with fiberglass and is flexible at -0.4°F (-18°C). The top surface is coated with a smooth surface, which ensures the bond of the overlying layer. The underside of the product has a burn-off film for easy torch application or a non-woven polypropylene fabric for cold or hot application.

USES

The Product is used as a base ply roofing membrane for:

- Flat and sloped roofs
- Inverted roofs
- New construction and refurbishment projects
- Single slab or prefabricated
- Stressed skin structures

CHARACTERISTICS / ADVANTAGES

- Double reinforcement
- No cant strip needed
- Excellent dimensional stability
- Easy to install by various methods (torch, cold and mop)
- Fully bonded
- High durability
- Good mechanical properties (tensile, tear, shear)

APPROVALS / STANDARDS

- Meets or exceeds the ASTM D6163, Type I, Grade S
- Underwriters Laboratory (UL)
- FM Global

TECHNICAL INFORMATION

Dimensional Stability	Longitudinal (MD)	0.1 %	(ASTM D5147)
	Transversal (CMD)	0.1 %	
Tear Strength	Longitudinal (MD)	117 lbf	(ASTM D5147)
	Transversal (CMD)	80 lbf	
External Fire Performance	Class A		(UL 790)
Permeability to Water Vapor	0.6 ng/(Pa·s·m ²) 0.01 Perms		(ASTM E96)
Flow resistance	≥ 249.8 °F (121 °C)		(ASTM D5147)
Permeability to air	0.000002 [L/(Pa·m ² ·s)] at 75 Pa		(ASTM E2178)
Low Temperature Bend	≤ -0.4°F (-18°C)		(ASTM D5147)
Maximum tensile force	Longitudinal (MD)	69.7 lbf/in	(ASTM D5147)
	Transversal (CMD)	56.1 lbf/in	
Elongation at maximum tensile force	Longitudinal (MD)	59.3 %	(ASTM D5147)
	Transversal (CMD)	64.2 %	

PRODUCT INFORMATION

Chemical Base	SBS modified bitumen		
Reinforcing Material	non-woven spunbond polyester fabric stabilized with fiberglass		
Packaging	Roll width	39.4" (1.0 m)	(ASTM D5147)
	Roll length	32.8 ft (10.0 m)	
Shelf Life	36 months from date of production		
Storage Conditions	The Product must be stored in original unopened and undamaged packaging in dry conditions and temperatures between 41°F (5°C) and 95°F (35°C). Store in a vertical 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.		
Top surface	Smooth surface (PE foil or sand)		
Bottom Surface	Type	Application Method	
	Polyethylene Foil	Torch	
	Non-woven Polypropylene	Cold and Mop	
Effective Thickness	118 mil (3.0 mm)		(ASTM D5147)
Weight	88 lb/roll		

APPLICATION INFORMATION

Ambient Air Temperature	Minimum	41°F (5°C)
	Maximum	86°F (30°C)
Relative Air Humidity	Max. 80 %	

Substrate Temperature

Minimum	41°F (5°C)
Maximum	86°C (30°C)

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

AVAILABILITY/WARRANTY

AVAILABILITY

From Sika Corporation – Roofing Authorized Applicators for use within Sarnafil or Sikaplan systems.

WARRANTY

Upon successful completion of the installed roof by the Sika Authorized Applicator in compliance with Sika requirements, Sika Corporation will provide a warranty to the Building Owner via the Sika Authorized Applicator.

LIMITATIONS

- At low temperatures, the membrane becomes less flexible. Be careful when unrolling to avoid damaging the membrane.
- Footwear with spikes or sharp protrusions may puncture the membrane. Use footwear with a flat profile when walking over the membrane.
- The reinforcement melts at 500°F (260°C). If it is damaged through overheating, the membrane becomes unusable. Keep moving the flame while torching to avoid overheating the membrane.
- Make sure to heat the membrane sufficiently. If it is not sufficiently heated, the adhesion to the substrate, between layers or on the overlaps will be reduced. If the membrane does not adhere to other elements, lift and retorch the unbonded areas.
- When applying the membranes at temperatures lower than 41°F (5°C), use heating equipment to ensure that the substrate temperature is within the given temperature range.
- For slopes with an inclination greater than 15 %, multi-layered roofs must be carefully designed and, if necessary, integrated with mechanical fastenings.
- If a seasonal symbol is printed on the roll's label, it is advisable to use the membrane during the indicated season.
- When laying the membrane at high temperatures, the integral adhesive will become 'tacky' and may restrict laying operations.

ENVIRONMENTAL, HEALTH AND SAFETY

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 the 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

SUBSTRATE QUALITY

SYSTEM DESIGN

Consider the following when designing the system:

- The supporting structure must be of sufficient structural strength to support all new and existing layers of the system build-up.
- If used as a roof system, the complete system must be designed to withstand and be secured against wind uplift loadings.

SUBSTRATE CONDITION

The substrate surface must be uniform, firm, smooth and free of any sharp protrusion or burrs, clean, dry, free of grease, laitance, oil, dust and loosely adhering particles.

APPLICATION

ALIGNMENT

To avoid coinciding joints, lay the membranes parallel to one another. When applying on another bituminous membrane, make sure to straddle the overlaps of the previous layer.

1. Unroll the membrane.
2. Align the membrane.
3. Re-roll the membrane before application.

MEMBRANE OVERLAPS

1. Overlap the membranes by a minimum of 4" (100 mm) on the sides and 6" (150 mm) on each end or as specified by the supplier.
2. At the end overlap, cut off a corner measuring 4" (100 mm) per side at an angle of 45°.

TORCHING

1. Heat the substrate and the backing film on the underside of the membrane with a gas burner.
2. When the backing film starts to melt, the membrane is ready to stick.
3. Roll the heated membrane forward and press it firmly against the substrate to bond it.

Product Data Sheet

SikaShield® E54 PE 3 mm
November 2024, Version 02.01
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4. Make sure a bead of melted bitumen is visible along the full length of the overlap sides and ends when laying.

Suitable substrates for torching

- Concrete
- Perlite screed
- Bituminous membranes with a smooth surface
- Coatings (check the compatibility)
- Brick masonry
- Cementitious screeds

HOT ADHESIVE BONDING (MOPPING)

Apply the hot melt at the required consumption onto the surface.

1. Note: Refer to the individual Product Data Sheet of the hot melt adhesive.
2. Apply the membrane onto the hot melt while still hot.
3. Roll the surface of the applied membrane with a roller from the center to the edge to remove any air bubbles.
4. Seal the overlaps with hot melt or by torching.

Suitable substrates for mopping

- Concrete
- Bituminous membranes with a smooth surface
- Coatings (check the compatibility)
- Brick masonry
- Cementitious screeds

NOTE: Different hot melt products are compatible with this membrane. Contact Sika® Technical Services for information on choosing the right one for your project.

COLD ADHESIVE BONDING

1. Apply the recommended adhesive at the required consumption onto the surface.
2. Apply the membrane onto the adhesive while still fresh. It cannot be cured.
3. Roll the surface of the applied membrane with a roller from the center to the edge to remove any air bubbles.
4. Seal the overlaps with hot melt or by torching/welding.

Suitable substrates for cold adhesion

- Concrete
- Metal
- Perlite screed
- Bituminous membranes with a smooth surface
- Brick masonry
- Cementitious screeds
- Plasterboards

- Plasters

FASTENING

When used as a roofing sheet, the membrane can be mechanically fixed to the substrate by using the correct type of fasteners.

The number of fixings, type and position depend on wind uplift forces to be resisted, pull-out strength of the fixing screws, the elastic limit of the membrane and the appropriate safety factors.

Contact Sika Technical Service for additional information.

Suitable substrates for fastening

- Concrete
- Wood
- Metal
- Perlite screed
- Bituminous membranes
- Coatings (check the compatibility)

DETAILING

Use a sharp knife to cut in all details such as internal and external corners, upstands, vent pipes, drains, support metalwork etc.

Refer to the relevant method statement for further information on detailing.

MAINTENANCE

Standard maintenance of SikaShield system should include regular inspections of flashings, drains and terminations sealants at least twice a year and after each storm.

OTHER RESTRICTIONS

See Legal Disclaimer.

LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always

read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

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Product Data Sheet

SikaShield® E54 PE 3 mm
November 2024, Version 02.01
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