

PRODUCT DATA SHEET

SikaShield® HB79 MGF 4 mm

160 mil hybrid bituminous membrane surfaced with granules

PRODUCT DESCRIPTION

SikaShield® HB79 MGF 4 mm is a 2-in-1 modified bituminous roofing membrane with a thickness of 160 mil. The upper layer is APAO modified, which provides excellent heat resistance, while the under layer is SBS modified, which increases the elongation, elasticity, and cold flexibility properties. It is reinforced with a dimensionally stable composite inlay of a fiberglass mat compressed between two layers of non-woven spunbond polyester fabric and is flexible at -13°F (-25°C). The top surface is coated with mineral granules, which allows the permanent exposure to UV radiation.

USES

The Product is used as a roof membrane for:

- Flat or sloped roofs with up to 15 % gradient
- Balconies and terraces

CHARACTERISTICS / ADVANTAGES

- Combines the advantages of APAO and SBS bitumen
- High durability
- Highly flexible at low temperatures
- High heat resistance
- High impact and shear resistance
- Excellent fatigue strength
- Can be installed by torch, mop, cold adhesion or mechanical fixation
- Fully bonded
- Can be coated immediately after application
- Tiles can be placed directly onto the membrane

APPROVALS / STANDARDS

- Meets or exceeds the ASTM D6163, Type I, Grade G
- Underwriters Laboratory (UL)
- FM Global
- SikaShield® Pure-Air is certified according to the Photocatalytic Performance ISO 22197-1, D-tox, Nr. 25062020

PRODUCT INFORMATION

Chemical Base	Top Layer	APAO modified bitumen	
	Bottom layer	SBS modified bitumen	
Reinforcing Material	Composite inlay of a fiberglass mat compressed between two layers of non-woven spunbond polyester fabric		
Packaging	Roll width	39.4" (1.0 m)	(ASTM D5147)
	Roll length	32.8 ft (10 m)	
Shelf Life	36 months from the 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	Mineral Granules: <ul style="list-style-type: none"> ▪ Regular white ▪ High Reflective White ▪ Pure-Air (Smog Reduction) Refer to the price list for color variations.		
Bottom Surface	Type	Application method	
	Polyethylene Foil	Torch	
	Non-woven polypropylene	Cold and mop	
Effective Thickness	160 mils (4.0 mm) on the selvage edge		(ASTM D5147)
Weight	126 lbs/roll		

TECHNICAL INFORMATION

Hail Resistance	Pass class SH		(FM Global)
Resistance to Static Puncture	44 lbs (20 kg)		(EN 12730 - Method A)
Resistance to Dynamic Puncture	59" (1500 mm)		(EN 12691)
Tensile Strength	Longitudinal (MD)	82 lbf/in	(ASTM D5147)
	Transversal (CMD)	75 lbf/in	
Dimensional Stability	Longitudinal (MD)	0.0 %	(ASTM D5147)
	Transversal (CMD)	0.1 %	
Tear Strength	Longitudinal (MD)	140 lbf	(ASTM D5147)
	Transversal (CMD)	115 lbf	
Joint Shear Resistance	Longitudinal (MD)	74.23 lbf/in (650 N/50 mm)	(EN 12317-1)
	Transversal (CMD)	68.21 lbf/in (550 N/50 mm)	
External Fire Performance	Class A		(UL 790)

Behavior after Artificial Weathering	Flexibility at low temperature after heat conditioned at 70 °C:	-13 °F (-25 °C)	(ASTM D5147)
Solar Reflectance	High Reflective granules	0.63	(ASTM E1980-11)
	Pure-Air	0.45	
Thermal Emittance	High Reflective granules	0.90	(ASTM E1980-11)
	Pure-Air	0.92	
Solar Reflectance Index	High Reflective Granules	77	(ASTM E1980-11)
	Pure-Air	57	
Flow resistance	≥ 224 °F (107 °C)		(ASTM D5147)
Low Temperature Bend	≤ -13 °F (-25 °C)		(ASTM D5147)
Elongation at maximum tensile stress	Longitudinal (MD)	50%	(ASTM D5147)
	Transversal (CMD)	55%	
Low Temperature Bend	0.1 gr of loss		(ASTM D5147)

APPLICATION INFORMATION

Ambient Air Temperature	Minimum	41°F (5°C)
	Maximum	104°F (40°C)
Relative Air Humidity	80% max.	
Substrate Temperature	Minimum	41°F (5°C)
	Maximum	104°F (40°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.

USES

- 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 re-torch 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 or termination bars.
- 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.

AVAILABILITY/WARRANTY

AVAILABILITY

From Sika Corporation – Roofing Authorized Applicators when used within SikaShield 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.

ENVIRONMENTAL, HEALTH AND SAFETY

REGULATION (EC) NO 1907/2006 - REACH

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.
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.

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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

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Sika Corporation

201 Polito Avenue
Lyndhurst, NJ 07071
Phone: +1-800-933-7452
Fax: +1-201-933-6225
usa.sika.com



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