BUILDING TRUST

PRODUCT DATA SHEET

SikaShield® P44 PE Defend RT 4 mm

Anti-root plastomeric bituminous membrane flexible at -10 °C

DESCRIPTION

SikaShield® P44 PE Defend RT 4 mm is an APP modified bituminous waterproofing membrane with a thickness of 4 mm. It contains an anti-root additive, which allows the membrane to be in direct contact with the soil. It is reinforced with a non-woven polyester fabric dimensionally stabilised with glass fibre and is flexible at -10 °C. The underside of the product has a burn-off film for easy torch-application.

USES

The Product is used as a waterproofing membrane for:
- Balconies and terraces under a heavy protection layer such as tiles or gravel.
- Flat and sloped roofs under protective layers or ballast
- Roof gardens
- Roof garden with final waterproofing layer in contact with soil
- Car park decks
- Wet areas
- Basements and other below ground structures
- Horizontal reinforced concrete slabs, decks and podiums
- Vertical reinforced concrete walls

The Product is used as a:
- Base sheet in multi-layer systems

Please note:
- The Product is not suitable for roofs permanently exposed to UV radiation.

CHARACTERISTICS / ADVANTAGES

- Good resistance to root penetration
- Can be applied in direct contact with soil
- Good resistance to humic acids and fertilizers
- Resistant to aggressive mediums in natural ground water and soil
- Good durability
- Fully bonded
- Easy to install by torching method
- Good mechanical properties (tensile, tear, shear)

APPROVALS / STANDARDS

- CE marking and declaration of performance based on EN 13707:2004+A2:2009 Flexible sheets for waterproofing — Reinforced bitumen sheets for roof waterproofing
- CE marking and declaration of performance based on EN 13969:2004/A1:2006 Flexible sheets for waterproofing — Bitumen damp proof sheets including bitumen basement tanking sheets
- Resistance to root damage FLL, Hochschule Geisenheim University

PRODUCT INFORMATION

Chemical Base	Composition	APP modified bitumen with anti-root additive	
	Reinforcing material	non-woven polyester fabric dimensionally stabilised with glass fibre	
Packaging	Roll width	1.0 m	(EN 1848-1)
	Roll length	10.0 m	
	Refer to the current price list for available packaging variations.		
Appearance / Colour	Top surface	Polyethylene film	
	Bottom surface	Polyethylene film	
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 +5 °C and +35 °C. Protect the Product from direct weather exposure and sunlight. Store in a vertical position. Pallets may be stacked on top of the rolls if all following conditions are met: ▪ The rolls have a wooden board on top, separating them from the pallet above. ▪ The weight of the pallet above is equal to or less than the weight of the rolls. Always refer to packaging.		
Effective Thickness	Effective thickness	4.0 mm ± 0.2 mm	(EN 1849-1)

TECHNICAL INFORMATION

Resistance to Tearing (nail shank)	Longitudinal (MD)	140 N ± 42 N	(EN 12310-1)
	Transversal (CMD)	140 N ± 42 N	
Joint Shear Resistance	Longitudinal	350 N/50 mm ± 70 N/50 mm	(EN 12317-1)
	Transversal	250 N/50 mm ± 50 N/50 mm	
Reaction to Fire	Class E		(EN 13501-1)
Water Tightness	Method B: 24 hours at 60 kPa	Pass	(EN 1928)
Flexibility at low temperature	≤ -10 °C		(EN 1109)
Maximum tensile force	Longitudinal (MD)	400 N/50 mm ± 80 N/50 mm	(EN 12311-1)
	Transversal (CMD)	300 N/50 mm ± 60 N/50 mm	
Elongation at maximum tensile force	Longitudinal (MD)	35 % ± 15 %	(EN 12311-1)
	Transversal (CMD)	40 % ± 15 %	

APPLICATION INFORMATION

Ambient Air Temperature	Minimum	+5 °C
	Maximum	+40 °C
Relative Air Humidity	Maximum	80 %
Substrate Temperature	Maximum	+40 °C
	Minimum	+5 °C

BASIS OF PRODUCT DATA

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.

FURTHER DOCUMENTS

Application of torch-applied membranes
Note: Always make reference to local regulations, standards, guidelines and established practice when using torch-applied membranes.
- Method Statement - Roofing build-up with bituminous membranes
- Method Statement — Bituminous membranes for below ground

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

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.

SUBSTRATE PREPARATION

PRIMING

1.Apply Sika® Igolflex P-10+ primer at a rate of 6-8m2 per litre. Note: Consumption rates will vary depending onsubstrate type and porosity.
2. Allow the primer to dry before membrane installation

APPLICATION

IMPORTANT
Unrolling at low temperatures
At low temperatures, the membrane becomes less flexible.
1. Be careful when unrolling to avoid damaging the membrane.

IMPORTANT
Damage through footwear
Footwear with spikes or sharp protrusions may puncture the membrane.
1. Use footwear with a flat profile when walking over the membrane.

IMPORTANT
Damage through overheating
The polyester melts at +260 °C. If it is damaged through overheating, the membrane becomes unusable.
1. Keep moving the flame while torching to avoid overheating the membrane.

IMPORTANT
Reduced adhesion through insufficient heating
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.
1. If the membrane does not adhere to other elements, lift and retorch the unbonded areas.

IMPORTANT
Application at less than +5 °C
When applying the membranes at temperatures lower than +5 °C, use heating equipment to ensure that the substrate temperature is within the given temperature range.
IMPORTANT
Application on sloped surfaces
For slopes with an inclination greater than 15 %, multi-layered roofs must be carefully designed and, if necessary, integrated with mechanical fastenings.

Seasonal symbol
Note: If a seasonal symbol is printed on the roll's label, it is advisable to use the membrane during the indicated season.
Tackiness at high temperatures
Note: When laying the membrane at high temperatures, the integral adhesive will become 'tacky' and may restrict laying operations.
ALIGNMENT
IMPORTANT
Avoid coinciding joints
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 100 mm on the sides and 150 mm on each end or as specified by the supplier.
2. At the end overlap, cut off a corner measuring 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

DETAILING
1. 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.

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.

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.

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