

PRODUCT DATA SHEET

SikaProof®-312 HDPE SG W IN

Pre-applied fully bonded HDPE self-adhesive membrane with protective sand layer and heat weldable selvedge for below ground waterproofing

DESCRIPTION

SikaProof®-312 HDPE SG W IN is a unique high performance HDPE based self adhesive fully bonded sheet membrane comprising of a virgin HDPE layer, coated with a high bond strength pressure sensitive adhesive, covered by a weatherproof protective inorganic sand sprinkled layer, and provided with heat weldable selvedge for below ground waterproofing of reinforced concrete structures. It is loose laid onto prepared substrates or formwork before fixing reinforcement and casting concrete. The adhesive layer is activated when the concrete is poured on the surface and forms a permanent bond with the fresh concrete which will prevent the ingress of water around the structure. Reinforcement can be directly laid on top of the membrane and it does not require screed protection.

USES

SikaProof®-312 HDPE SG W IN can be used for damp-proofing, waterproofing and concrete protection for basements, subway, tunnel and other below ground concrete structures against ground water ingress. Suitable for use on:

- Reinforced concrete base slabs
- Reinforced concrete walls with single and double-faced formwork
- Reinforced concrete footings and grade slab
- Extension and reconstruction works
- Prefabricated structures

CHARACTERISTICS / ADVANTAGES

- Pre-applied: Fixed before placing reinforcement and casting concrete
- Strong adhesive bond with fresh concrete
- High flexibility and crack-bridging capabilities
- No lateral water migration between the concrete structure and the membrane system
- Heat weldable selvedge for thermal jointing
- High watertightness tested according to various standards
- Fully and permanently bonded to the reinforced concrete structure
- Resistant to aggressive conditions in natural ground water and soil
- Temporarily resistant to weathering and UV exposure during construction
- Good resistance to heat and ozone
- Made up of non-recycled / virgin HDPE for long durability
- Sound anti-puncture performance
- Chlorine free, plasticizer free, phthalate free
- Eco-friendly material
- Sound anti-puncture performance
- Adaptable to settlement and distortion
- Can be combined with other approved Sika® Waterproofing / Joint Sealing Systems

PRODUCT INFORMATION

Product declaration

Bonded sheet membrane according to IS 16471 : 2017

Chemical base

HDPE sheet membrane with adhesive layer and sand topping

Packaging	Standard rolls are wrapped individually in a PE-foil		
	Roll length	20 m	
	Roll width	1.2 m, 1.5 m, or 2.0 m	
Shelf life	12 months from date of production		
Storage conditions	The product must be stored in original unopened and undamaged sealed packaging in dry conditions and temperatures between +5 °C and +30 °C. Protect from direct sunlight, rain, snow and ice, etc. 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.		
Appearance / Colour	HDPE side	White	
	Adhesive side	Off white	
Effective thickness	HDPE film	> 0.90 mm	(ASTM D3767)
	HDPE membrane composite	1.5 ± 0.1 mm	

TECHNICAL INFORMATION

Resistance to static puncture	≥ 1000 N	(ASTM E154)
Tensile strength	≥ 25 MPa (film)	(ASTM D412 mod)
Elongation	≥ 550 %	(ASTM D412 mod)
Adhesion in peel	≥ 1500 N/m	(ASTM D903 mod)
Joint shear resistance	>15000 N/m	(ASTM D 6392)
Foldability at low temperature	Unaffected at -23 °C	(ASTM D1970)
Water absorption	< 0.5 %	(ASTM D570)
Water tightness	> 71 m of hydrostatic head	(ASTM D5385 mod)
Permeability to water vapour	< 0.10 ng/Pa·s·m ²	(ASTM E96, method B)

APPLICATION INFORMATION

Ambient air temperature	+5 °C min. / +40 °C max.
Substrate temperature	+5 °C min. / +40 °C max.

SYSTEM INFORMATION

System structure	<p>The following system products must be used:</p> <ul style="list-style-type: none"> ▪ SikaProof®-312 HDPE SG W IN sheet membrane ▪ SikaProof® Sandwich Tape-100 IN, double sided self-adhesive tape <p>Ancillary products: Accessories and complementary products are available to provide detailing and connection solutions</p>
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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

Sika Method Statement: SikaProof®-312 HDPE SG W IN

ECOLOGY, 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 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

IMPORTANT

Strictly follow installation procedures

Strictly follow installation procedures as defined in Method Statements, application manuals and working instructions which must always be adjusted to the actual site conditions.

EQUIPMENT

- Measuring tape
- Marking pen
- Razor knife
- Scissors
- Pressure roller
- Clean lint-free cloth
- Metal straight edge for cutting
- Hot air gun (Leister Triac)
- Automatic thermal jointing machine (Leister Twinny or Leister Varimat)

SUBSTRATE QUALITY

IMPORTANT

The substrate application surface must be smooth, uniform and clean with no standing water.

SikaProof®-312 HDPE SG W IN must be applied on a sufficiently stable substrate to avoid movement during the construction works. Large gaps and voids (≥ 12 – 15 mm) must be filled before membrane installation. Substrate can be damp or slightly wet. Suitable membrane fixing substrates include:

- Concrete blinding
- Formwork
- Rigid thermal insulation
- Plywood sheets / form
- Shotcrete
- Dimpled sheet drainage board

APPLICATION

IMPORTANT

Application by trained personnel

The application of this Product must only be carried out by an applicator that is trained or approved by Sika. The applicator must also be experienced in this type of application.

IMPORTANT

Unsuitable weather conditions for application

Do not install the membrane during continuous or prolonged rain, snowfall or sandstorm. If SikaProof®-312 HDPE SG W IN is to be applied below $+5$ °C, exceptions are possible under special circumstances with appropriate precautions. Contact Sika Technical Services for more information.

IMPORTANT

Penetrations and construction joints

Additional Sika joint sealing solutions must be used for connections around penetrations and for construction joints.

IMPORTANT

Use of double-faced formwork

In cases of double-faced formwork, the membrane may show debonding from concrete, this does not affect the watertight performance of membrane. It is preferred to use post applied systems in projects with double-faced formwork.

IMPORTANT

Covering the membrane system

Permanent exposure to UV light will reduce the performance of the membrane system.

1. Concrete must be placed within 45 days after membrane system installation.
2. Proper concrete installation (mix design and workmanship) is required to achieve optimum bond of the membrane system to the concrete.

Installation method

After substrate conditions have been fulfilled, the waterproofing membrane is installed by loose laying onto horizontal / inclined substrates or fastening onto vertical substrates.

Longitudinal joints

Side lap joints of SikaProof®-312 HDPE SG W IN are sealed by overlapping the membranes by 80 mm in seldge provided and hot air welding or thermal jointing in longitudinal direction. Prior to this the sheet is to be cleaned with dry cloth and aligned properly. No dust, oil traces and contamination should be present on seldge. The weld joint is made with suitable heat welding machine with a temperature range $+275$ °C to $+375$ °C and speed of 0.8 to 2 m/min. Temperature and speed to be adjusted as per environmental conditions. Any level differences below membrane will affect weld joint.

Transverse joints

Transverse joints shall be sealed by removing the granular sanded layer with a hot air tool (scraping) and then overlapped by 80 mm and jointing in same way as longitudinal joints.

Detailing

Form all details and connections using the appropriate SikaProof® ancillary products outlined in the Sika® Method Statement: SikaProof®-312 HDPE SG W IN.

Inspection and quality control of installation

A final inspection before placing concrete must be carried out to ensure the complete membrane system has been correctly installed, any damage repaired, and the surface of the adhesive layer is clean.

Concrete placement

Place concrete directly onto or against the membrane within 45 days after installation. No mortar or protection screed must be used before placement of reinforcement and concrete.

Formwork removal

After removing the formwork, all penetrations such as shuttering anchors, any membrane damage and construction joints must be sealed using the appropriate SikaProof® ancillary products or complementary Sika® Waterproofing Systems.

Backfilling protection

After formwork removal and before backfilling, SikaProof®-312 HDPE SG W IN system must be protected with an appropriate protection sheet as soon as possible or at the latest within 45 days.

Note: Suitable ancillary systems such as spray applied coatings, liquid applied membranes, preformed modified membranes may be used in vertical and detailing applications. Please seek advice on these transitions from Sika Technical Services.

Reference must be made to the Sika Method Statement: SikaProof®-312 HDPE SG W IN

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 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.

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Product Data Sheet

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