CE

Construction

SikaProof® A-05/-08/-12

Fully bonded FPO sheet membrane waterproofing system for basement and other below ground structures

Product Description

SikaProof® A-05/-08/-12 is a fully and permanently bonded, self-adhesive, composite sheet membrane waterproofing system for reinforced concrete of the main structure. It consists of an embossed polyolefin (FPO) membrane laminated with a sealant grid and a non-woven fleece. SikaProof® A-05/-08/-12 is cold-applied and pre-applied, as it is installed without heat or open-flames, and before the steel reinforcement is fixed and the concrete is poured.

Uses

Damp-proofing, concrete protection, waterproofing and gas resistant membrane for basements and other below ground concrete structures against ground water ingress:

- Below ground reinforced concrete slabs
- Below ground reinforced concrete walls with both single and double -faced formwork
- Extensions and reconstruction works
- For prefabricated constructions

Characteristics / Advantages

- Can be used as a gas resistant membrane when used as part of a gas protection system according to BS8485:2007
- Cold-applied (no pre-heating or open flames) and pre-applied, before the reinforcement is fixed and the concrete is poured
- Fully and permanently bonded to the reinforced concrete of the main structure
- No lateral water underflow or migration between the concrete structure and the membrane system
- High watertightness tested according various standards
- Easy to install with fully adhered joints (no welding required)
- Temporary weathering and UV resistant
- Resistant to ageing
- High flexibility and crack-bridging ability
- Resistant to aggressive mediums in natural ground water and soil
- Can be combined with other approved Sika waterproofing systems including:
  - Sikaplan® WT membranes, FPO-based sheet waterproofing membranes
  - Sikadur-Combiflex SG system, FPO-based joint sealing system

Tests

Approval / Standards

- Product Declaration EN 13967 – Flexible sheets for waterproofing (type A&T) CE Certificate No. 1349-CPD-065, 16.08.2011
- German abP “allgemeines bauaufsichtliches Prüfzeugnis“, MPA NRW, approval No. P-22-MPANRW-8600, 26.05.2011
- DoP - SikaProof A05 - 02 07 04 10 300 0 000001 1193
- DoP - SikaProof A08 - 02 07 04 10 300 0 000002 1193
- DoP - SikaProof A12 - 02 07 04 10 300 0 000003 1193
- Radon permeability, Slovak Medical University, for SikaProof A-12, test report No. E-215/2011, 15.11.2011
- Radon permeability, Slovak Medical University, for SikaProof A-08, test report No. E-214/2011, 07.12.2011
- BBA technical approval for construction, Certificate No. 13/5075, 16.12.2013
- Cahier des Charges, French technical appraisa CCT 57, 28.02.2013
- BRANZ appraisal, New Zealand, No. 852 (2014), 05.02.2014
- ASTM Test reports No. 1240-13 A to C, 05.02.2014
- Function test for standard details, Wissbau, according German standards
  - For SikaProof A-08, test report No. 2010-212, 03.05.2011
  - For penetration details, test report No. 2010-212-6, 25.11.2011
  - For pile cap detail, test report No. 2012-212-7, 25.11.2011

Product Data

Form

Appearance / Colours

Light yellow sheet membrane, laminated with a fleece layer

Packaging

SikaProof® A-05/-08/-12 rolls are wrapped individually in a yellow PE-foil.

	Roll width	Roll length
SikaProof® A-05	1 m and 2 m	30 m
SikaProof® A-08	1 m and 2 m	25 m
SikaProof® A-12	1 m and 2 m	20 m

Storage

Storage Conditions / Shelf life

SikaProof® A-05/-08/-12 membrane rolls have a shelf-life of 18 months from date of production if stored properly in unopened, undamaged, original packaging, in a horizontal position, in dry conditions and at temperatures between +5°C and +30°C. They must be protected from direct sunlight, rain, snow and ice, etc. Do not stack pallets of the rolls on top of each other, or under pallets of any other materials during transport or storage.

Technical Data

Chemical Base	Membrane Layer:	Flexible Polyolefin (FPO)			
	Sealant grid:	Polyolefin (PO)			
	Fleece layer:	Polypropylene (PP)			
Product Declaration	EN 13967, mandatory for European countries				
Visible Defects	Pass				EN 1850-2
Straightness	≤ 50 mm / 10 m				EN 1848-2
Mass per Unit Area	SikaProof® A-05	0,85 kg/m^2		(-5 /+10%)	EN 1849-2
	SikaProof® A-08	1.15 kg/m^2		(-5 /+10%)	
	SikaProof® A-12	1.50 kg/m^2		(-5 /+10%)	
Thickness		Total Thickness (=deff)	Master Membrane Thickness	Deviation	EN 1849-2
	SikaProof® A-05	1.10 mm	0.50 mm	(-5 /+10%)	
	SikaProof® A-08	1.35 mm	0.80 mm	(-5 /+10%)	
	SikaProof® A-12	1.70 mm	1.20 mm	(-5 /+10%)	
Watertightness to Liquid Water	Pass				EN 1928 B (24 h/60 kPa)
Resistance to Impact	SikaProof® A-05	≥ 150 mm			EN 12691
	SikaProof® A-08	≥ 250 mm			
	SikaProof® A-12	≥ 350 mm			
Durability of Watertightness against Ageing	Pass				EN 1296 (12 weeks) EN 1928 B (24h / 60 kPa)
Durability of Watertightness against Chemicals	Pass				EN 1847 (28 d/+23 °C) EN 1928 B (24h / 60 kPa)
Accelerated Ageing in an Alkaline Environment, Tensile Strength	Pass				EN 1847 (28 d/+23 °C) EN 1928 B (24 h/60 kPa)
Resistance to Tear - Nail Shank (Machine Direction)	SikaProof® A-05	≥ 375 N			EN 12310-1
	SikaProof® A-08	≥ 400 N			
	SikaProof® A-12	≥ 550 N			
Resistance to Tear - Nail Shank (Cross Direction)	SikaProof® A-05	≥ 400 N			EN 12310-1
	SikaProof® A-08	≥ 450 N			
	SikaProof® A-12	≥ 600 N			
Joint Strength	SikaProof® A-05	≥ 125 N / 50 mm			EN 12317-2
	SikaProof® A-08	≥ 200 N / 50 mm			
	SikaProof® A-12	≥ 300 N / 50 mm			
Tensile Strength (Machine Direction)	SikaProof® A-05	≥ 400 N / 50 mm			EN 12311-1
	SikaProof® A-08	≥ 450 N / 50 mm			
	SikaProof® A-12	≥ 700 N / 50 mm			
Tensile Strength (Cross Direction)	SikaProof® A-05	≥ 300 N / 50 mm			EN 12311-1
	SikaProof® A-08	≥ 450 N / 50 mm			
	SikaProof® A-12	≥ 700 N / 50 mm			
Elongation (Machine Direction)	SikaProof® A-05	≥ 550 %			EN 12311-1
	SikaProof® A-08	≥ 700 %			
	SikaProof® A-12	≥ 900 %			

Elongation (Cross Direction)	SikaProof® A-05	≥ 900 %		EN 12311-1
	SikaProof® A-08	≥ 1000 %		
	SikaProof® A-12	≥ 1150 %		
Water Vapour Transmission	SikaProof® A-05	0.63 g/m² x 24 h m = 57'500 Sd = 63 m	(- /+20%)	EN 1931 (+23°C / 75% r.h.)
	SikaProof® A-08	0.51 g/m² x 24 h m = 58'000 Sd = 78 m	(- /+20%)	
	SikaProof® A-12	0.35 g/m² x 24 h m = 67'000 Sd = 114 m	(- /+20%)	
Resistance to Static Load	≥ 20 kg			EN 12730 (Method B, 24 h/20 kg)
Reaction to Fire	Class E			EN 13501-1:2000

Additional Data (not CE relevant)

Water resistance to lateral water underflow of membrane system	SikaProof® A-08	Pass up to 7.0 bar		ASTM D 5385 mod.
	SikaProof® A-12	Pass up to 7.0 bar		
Radon Gas Diffusion Coefficient	SikaProof® A-08	(2.0 +/- 0.3) x 10^{-12} m^2/s		Certificate E-214/2011
	SikaProof® A-12	(5.3 +/- 0.7) x 10^{-12} m^2/s		Certificate E-215/2011
	SikaProof® A-08 joints	(6.1 +/- 1.1) x 10^{-12} m^2/s		Certificate E-225/2012
Methane Gas Permeability	SikaProof® A-08	140 ml / m² x d	(- /+10%)	ISO 7229
	SikaProof® A-08 joints	180 ml / m² x d		
CO^2 Gas Permeability	SikaProof® A-08	862 ml / m² x d	(- /+10%)	ISO 7229
Root Resistance	SikaProof® A-08 joints	Pass		CEN/TS 14416

ASTM Data

All ASTM Data see Report, Nelson Testing Lab

Hydrostatic Pressure	SikaProof® A-05	Pass		ASTM D 5385 (100 psi))
	SikaProof® A-08	Pass		
	SikaProof® A-12	Pass		
Low Temperature Flexibility	SikaProof® A-05	Pass		ASTM D 1970 (-20 °F)
	SikaProof® A-08	Pass		
	SikaProof® A-12	Pass		
Crack Cycling	SikaProof® A-05	Pass		ASTM C 836 (-15°F, 10 cycles)
	SikaProof® A-08	Pass		
	SikaProof® A-12	Pass		
Tensile Strength	SikaProof® A-05	≥ 1'125 psi		ASTM D 412
	SikaProof® A-08	≥ 1'125 psi		
	SikaProof® A-12	≥ 1'255 psi		
Elongation	SikaProof® A-05	≥ 650 %		ASTM D 412
	SikaProof® A-08	≥ 685 %		
	SikaProof® A-12	≥ 725%		

Puncture Resistance	SikaProof® A-05	≥ 125 lbs		ASTM E 154
	SikaProof® A-08	≥ 140 lbs		
	SikaProof® A-12	≥ 180 lbs		
Peel Adhesion to Concrete	SikaProof® A-05	≥ 42 lbs/in		ASTM D 903
	SikaProof® A-08	≥ 48 lbs/in		
	SikaProof® A-12	≥ 50 lbs/in		
Lap peel adhesion	SikaProof® A-05	≥ 40 lbs/in		ASTM D 1876
	SikaProof® A-08	≥ 40 lbs/in		
	SikaProof® A-12	≥ 40 lbs/in		
Water Vapor Transmission	SikaProof® A-05	≥ 0.40 perms	(- /+20%)	ASTM E 96
	SikaProof® A-08	≥ 0.35 perms		
	SikaProof® A-12	≥ 0.25 perms		
Water Absorption	SikaProof® A-05	≥ 2.2 %	(- /+20%)	ASTM D 570
	SikaProof® A-08	≥ 2.2 %		
	SikaProof® A-12	≥ 1.2 %		

System Information

System Components

- SikaProof® A-05, membrane in rolls of widths 1.0 and 2.0 m
- SikaProof® A-08, membrane in rolls of widths 1.0 and 2.0 m
- SikaProof® A-12, membrane in rolls of widths 1.0 and 2.0 m
- SikaProof® Tape-150, self-adhesive tape for internal jointing, based on butyl-rubber, in 150 mm width
- SikaProof® ExTape-150, self-adhesive tape for external jointing, based on butyl-rubber, in 150 mm width

Accessories

- SikaProof® A -08 / -12 Edge, preformed sheet in L-shape, to form the waterproofing system edges, corners and connections
- SikaProof® Patch-200 B, external membrane patching tape for sealing any local damage or penetrations, supplied in 200 mm width
- SikaProof® FixTape-50, for fixing and repairing around details and penetrations
- SikaProof® MetalSheet, to create special details, such as pile heads

Application Details

Recommended System

General criteria	SikaProof® A-05	SikaProof® A-08	SikaProof® A-12
Typical use	Damp-proofing / concrete protection / waterproofing	Waterproofing for civil engineered structures	Waterproofing for civil engineered structures
Typical application	Slab on ground/ Walls / Precast elements	Base slabs / Walls / Precast elements	Base slab / Walls / Precast elements
Crack-bridging ability	Not tested	≤ 1 mm	≤ 2 mm

This spreadsheet is not exhaustive. It can be used as general selection guide for specific decision criteria.

For further more information how to choose the appropriate Sika solution for basement waterproofing contact your local Sika representative.

Substrate Quality

The substrate for the SikaProof® A-05/-08/-12 membrane needs sufficient stability to avoid movement during the construction works.

A smooth, uniform and clean substrate surface is essential to prevent membrane damage. Large gaps and voids (> 12-15 mm) be closed before installation of the SikaProof® A-05/-08/-12 membrane system. The substrate can be damp or slightly wet, but ponding water must be avoided.

Suitable substrates to fix the SikaProof® A-05/-08/-12 membrane system onto are:

- Concrete blinding
- Formwork
- Rigid thermal insulation
- Geotextile
- Compacted soil/fill with geotextile (only for low requirements)
- Plywood

Application Conditions / Limitations

Bonding Surface Temperature	+5°C min. / + 35°C
Bonding Surface Moisture	Dry, respect the dew point
Ambient Air Temperature	+5°C min. / + 35 °C

Application Instructions

Application Method

SikaProof® A is a pre-applied waterproofing sheet, installed before the reinforcement is fixed and the structural concrete is poured.

The overlap joints of SikaProof® A membranes are not welded, they are fully adhered by self-adhesive strips prefabricated on the membrane sheet or with detailing tapes SikaProof® ExTape-150 outside and SikaProof® Tape-150 inside.

Installation procedure:

- Ensure the substrate fulfil the requirements.

1. Start to install first the perimeter edges and connections, using an SikaProof® A Edge sheet or standard membrane sheets.
2. Form the corners with the used membrane sheets, according to the manual.
3. Lay the SikaProof® A membrane sheets on the horizontal and vertical surfaces using the 1.0 or 2.0 m width rolls (as appropriate) and adhere the overlap joints with the self- adhesive strips lengthways and for cross joints using the SikaProof® ExTape-150 outside and SikaProof® Tape-150 inside.
4. Form the details, according to the method statement using the appropriate accessory products.

- After the installation is finished, it is recommended to inspect the applied SikaProof® A system, to check all the overlap joints, connections and details, to ensure they are correctly installed and fully adhered.
- Also before the concrete is poured onto SikaProof® A system, it is recommend to inspect the SikaProof® A system finally, to ensure an optimum fully bond between SikaProof® A system and the main concrete structure to be waterproofed.

5. After removing the formwork all penetrations, such as shuttering anchors, any membrane damage and any construction joints have to be sealed on the external side (membrane side) using the appropriate accessory or complementary products.

- After removing the formwork SikaProof® A system has to be protected within the limitation, see next section.
- Before backfilling the excavation pit the SikaProof® A membranes has to be protected.

For further more detailed information about the installation method, please refer to the current Method Statement and Application Manual.

Construction

Notes on Application / Limitations

- SikaProof® A membranes must only be installed by trained and approved Sika contractors.
- Do not apply SikaProof® A membranes during continuous or prolonged rainfall.
- SikaProof® A membrane is not permanently UV and weather resistant. The membrane sheets have to be protected against permanent UV/weather exposure:
  - For example, the structural concrete has to be casted onto SikaProof® A membrane within 4 weeks in the climate of central Europe. For more detailed informations refer to the current method statement.
  - SikaProof® A membrane cannot be installed on structures permanently exposed to UV light and weathering.
- For the fully bond of the SikaProof® A membrane system to the structural concrete an adequate concrete quality (mix design) is required, refer to the current method statement.
- An additional joint sealing using SikaSwell® S-2 or SikaSwell® A is recommended for connections, penetrations and constructions joints.

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

European Community Regulation on chemicals and their safe use (REACH: EC 1907/2006)

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.

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).

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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