Statement of Verification

BREG EN EPD No.: 000310 Issue 01
ECO EPD Ref. No. 000230

This is to verify that the
Environmental Product Declaration
provided by:
Sika Services AG

is in accordance with the requirements of:
EN 15804:2012+A1:2013
and
BRE Global Scheme Document SD207

This declaration is for:
SikaProof A+

Company Address

Tüffenwies 16
Zurich
8048
Switzerland

BUILDING TRUST

Signed for BRE Global Ltd	Emma Baker Operator	10 August 2020 Date of this Issue
09 August 2025 Date of First Issue		09 August 2025 Expiry Date

BRE Global Ltd., Garston, Watford WD25 9XX.
T: +44 (0)333 321 8811 F: +44 (0)1923 664603 E: Enquiries@breglobal.com

Environmental Product Declaration

EPD Number: 000310

General Information

EPD Programme Operator	Applicable Product Category Rules
BRE Global Watford, Herts WD25 9XX United Kingdom	BRE Global Product Category Rules (PCR) for Type III EPD of Construction Products to EN 15804+A1
Commissioner of LCA study	**LCA consultant/Tool**
Sika Services AG Tüffenwies 16 Zurich 8048 Switzerland	Sika Technology AG Tüffenwies 16 Zurich 8048 Switzerland www.sika.com/sustainability
Declared/Functional Unit	**Applicability/Coverage**
1 m^2 of waterproofing system for a reference service life of 60 years.	Product Average.
EPD Type	**Background database**
Cradle to Grave	GaBi

Demonstration of Verification
CEN standard EN 15804 serves as the core PCR [a]
Independent verification of the declaration and data according to EN ISO 14025:2010 ☐Internal ☒ External
(Where appropriate [b])Third party verifier: Nigel Jones
a: Product category rules b: Optional for business-to-business communication; mandatory for business-to-consumer communication (see EN ISO 14025:2010, 9.4)

Comparability
Environmental product declarations from different programmes may not be comparable if not compliant with EN 15804:2012+A1:2013. Comparability is further dependent on the specific product category rules, system boundaries and allocations, and background data sources. See Clause 5.3 of EN 15804:2012+A1:2013 for further guidance

Information modules covered

Product			Construction		Use stage							End-of-life					Benefits and loads beyond the system boundary
					Related to the building fabric					Related to the building							
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		D
Raw materials supply	Transport	Manufacturing	Transport to site	Construction – Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal		Reuse, Recovery and/or Recycling potential
☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑		☑

Note: Ticks indicate the Information Modules declared.

Manufacturing site(s)

This environmental product declaration is for 1 square metre of SikaProof® A+ produced by Sika Services AG at following manufacturing facilities:

Sika Manufacturing AG Industriestrasse 26 Sarnen 6060 Switzerland	

Construction Product:

Product Description

SikaProof® A+ is pre-applied fully bonded composite sheet membrane waterproofing system based on high flexible FPO membrane. SikaProof® A+ is available either in 1.0 m or 2.0 m wide sheets in the following thicknesses: 0.8 mm (SikaProof® A+ 08) and 1.2 mm (SikaProof® A+ 12). The results in this EPD refer to SikaProof® A+ 12 with a mass of 1,75 kg/m2 (-5/+10 %).

Technical Information

Property	Value, Unit
Resistance to Impact	≥ 400 mm
Tensile Strength (machine direction) as per EN 12311-2 Method A	≥ 750 N/50 mm
Tensile Strength (cross direction) as per EN 12311-2 Method A	≥ 750 N/50 mm
Modulus of Elasticity in Tension as per EN ISO 527-3	≤ 35 N/mm² (-/+ 10%)
Elongation (machine direction) as per EN 12311-2 Method A	≥ 1100%
Elongation (cross direction) as per EN 12311-2 Method A	≥ 1100%
Adhesion in Peel to Concrete after 28 days as per EN 1372	≥ 2.00 N/mm

Property	Value, Unit
Joint Shear Resistance as per EN 12317-2	≥ 100 N/50 mm
Reaction to Fire as per EN 13501-1	Class E
Accelerated Ageing in Alkaline Environment as per EN 1847 and EN 1928	Pass (28 d/+23°C) Pass (Method B, 24 h/60 kPa)
Watertightness as per EN 1928	Pass (Method B, 24 h/60 kPa)
Resistance to lateral water migration as per ASTM D5385 Modified	Pass, up to 7 bar
Durability of Watertightness against Ageing as per EN 1847 and EN 1928	Pass (12 weeks) Pass (Method B, 24 h/60 kPa)
Durability of Watertightness against Chemicals as per EN 1847 and EN 1928	Pass (28 d/+23°C) Pass (Method B, 24 h/60 kPa)

Further information about the product including product data sheets can be accessed via www.sika.com.

Main Product Contents

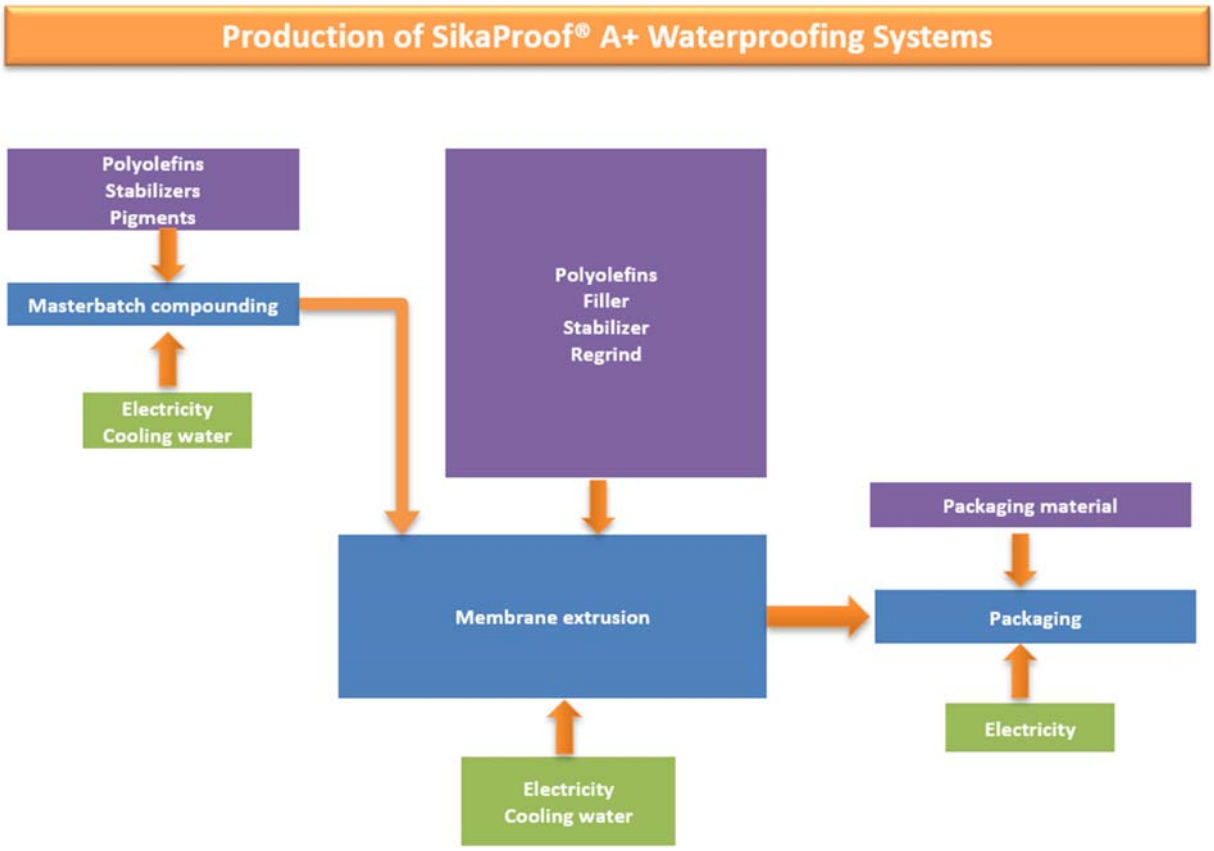
Material/Chemical Input	%
Thermoplastic polyolefins	50 – 70
Fillers	20 – 30
Pigments	0 – 1
Stabilizers (UV/heat)	0 – 1

Production Process

The SikaProof® A+ membrane is manufactured by a state-of-the-art extrusion process in Sarnen, Switzerland.

The polymer and additives are compounded into a masterbatch and then blended with the other material inputs by means of automatic dosing units and extruded into the membrane. Line start-up waste and edge trim are processed and fed back into the production process. The membrane is cooled on large rolls and the final thickness of the extruded membrane is automatically monitored and adjusted.

Process flow diagram



Construction Installation

SikaProof® A+ is loose laid onto prepared substrates or formwork before fixing reinforcement and casting concrete. The overlaps of the sheets are either sealed with self-adhesive tapes or thermally jointed with hot air heating equipment. Due to the overlaps the average consumption of membrane per $1m^2$ is approx. 3.33%. The installation must be carried out only by Sika instructed contractors. Please refer to the product data sheet and method statement for detailed instructions.

Use Information

During the services life of the building there is no ordinary maintenance, repair/refurbishment or replacement required, if the SikaProof® A+ membrane system is correctly and properly applied.

The high durability and reliability of the fully bonded waterproofing membranes system SikaProof® A+ will limit any repair work to a minimum, if a membrane damage occurs.

A basement waterproofing solution lasts the lifetime of the building as it remains incorporated within the foundation. A 60-year building service life for SikaProof® A+ can thus be assumed. As certified by the British Board of Agrément (BBA) for SikaProof® A, “under normal service conditions the products will provide an effective barrier to the transmission of moisture and will resist the ingress of radon for the life of the structure in which they have been incorporated” (BBA Certificate 13/5075, 2017). The service life of SikaProof® A+ is therefore assumed to be equal or higher as that of SikaProof® A.

End of Life

At the end of its service life the building is demolished and as the SikaProof® A+ system is attached to the concrete it is generally taken to landfill. The demolition process concerns mainly the concrete structure of which the SikaProof® A+ system is a minor part. Therefore, no other steps are considered necessary for this stage except for the transportation to landfill and landfilling.

Life Cycle Assessment Calculation Rules

Declared / Functional unit description

1m^2 of SikaProof® A+ waterproofing system for a reference service life of 60 years.

System boundary

In accordance with the modular approach as defined in EN 15804, this cradle to grave EPD includes the product stage (A1-A3), construction process stage (A4-A5), use stage (B1-B7) and end-of-life stage (C1-C4).

Data sources, quality and allocation

The primary data provided by Sika derive from the plant at Sarnen, Switzerland for 2020. Background LCI datasets are taken from the databases of GaBi software and ecoinvent Version 3.6. All datasets are less than 10 years old.

Production waste that was reclaimed and reused internally was simulated as closed-loop recycling in Modules A1-A3.

Benefits from incineration of product loses and for the disposal of packaging are credited in Module D; this also applies to the reuse of wooden pallets.

Cut-off criteria

All data was taken into consideration (recipe constituents, thermal energy used, electricity used).

Transportation was considered for all inputs and outputs.

The manufacturing of the production machines and systems and associated infrastructure were not considered in the LCA.

LCA Results

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts									
			GWP	ODP	AP	EP	POCP	ADPE	ADPF
			kg CO_2 equiv.	kg CFC 11 equiv.	kg SO_2 equiv.	kg $(PO_4)^{3-}$ equiv.	kg C_2H_4 equiv.	kg Sb equiv.	MJ, net calorific value.
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	4.30E+00	3.19E-09	5.97E-03	1.17E-03	1.03E-03	4.18E-06	1.20E+02
Construction process stage	Transport	A4	8.65E-02	1.41E-17	1.96E-04	4.81E-05	-6.80E-05	7.14E-09	1.17E+00
	Construction	A5	5.36E-01	1.38E-10	2.95E-04	5.87E-05	4.34E-05	1.84E-07	5.29E+00
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	2.68E-02	4.37E-18	5.70E-05	1.39E-05	-1.90E-05	2.21E-09	3.63E-01
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Disposal	C4	2.56E-02	1.42E-16	1.64E-04	1.85E-05	1.24E-05	9.89E-09	3.64E-01
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-7.22E-02	-1.83E-09	-3.10E-04	-8.07E-04	-3.91E-05	-1.00E-07	-2.63E+00

GWP = Global Warming Potential;
ODP = Ozone Depletion Potential;
AP = Acidification Potential for Soil and Water;
EP = Eutrophication Potential;
POCP = Formation potential of tropospheric Ozone;
ADPE = Abiotic Depletion Potential – Elements;
ADPF = Abiotic Depletion Potential – Fossil Fuels;

LCA Results (continued)

Parameters describing resource use, primary energy								
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	5.12E+00	2.20E+00	7.32E+00	6.47E+01	6.08E+01	1.26E+02
Construction process stage	Transport	A4	6.59E-02	0.00E+00	6.59E-02	1.17E+00	0.00E+00	1.17E+00
	Construction	A5	4.25E-01	-9.52E-02	3.30E-01	6.47E+01	2.54E+00	5.55E+00
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	2.04E-02	0.00E+00	0.00E+00	3.64E-01
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Disposal	C4	0.00E+00	0.00E+00	4.91E-02	0.00E+00	0.00E+00	3.74E-01
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	-1.93E+00	0.00E+00	0.00E+00	-3.19E+00

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;
PERM = Use of renewable primary energy resources used as raw materials;
PERT = Total use of renewable primary energy resources;
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials;
PENRM = Use of non-renewable primary energy resources used as raw materials;
PENRT = Total use of non-renewable primary energy resource

LCA Results (continued)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ net calorific value	MJ net calorific value	m^3
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	0.00E+00	0.00E+00	0.00E+00	3.58E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	7.63E-05
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	2.33E-03
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	2.37E-05
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	9.42E-05
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-1.01E-03

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

LCA Results (continued)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG
	Total (of product stage)	A1-3	5.03E-05	7.30E-02	2.38E-03
Construction process stage	Transport	A4	5.46E-08	1.79E-04	1.46E-06
	Construction	A5	2.18E-06	5.54E-03	1.06E-04
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.69E-08	5.57E-05	4.50E-07
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00
	Disposal	C4	5.71E-09	1.88E+00	4.20E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.12E-09	-1.31E-03	-2.12E-04

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

LCA Results (continued)

Other environmental information describing output flows – at end of life						
			CRU	MFR	MER	EE
			kg	kg	kg	MJ per energy carrier
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	6.99E-01
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	1.97E+00
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse;
MFR = Materials for recycling

MER = Materials for energy recovery;
EE = Exported Energy

Scenarios and additional technical information

Scenarios and additional technical information			
Scenario	Parameter	Units	Results
A4 – Transport to the building site	Transport of the SikaProof® A+ membranes to the building site		
	Diesel / Euro 5 Truck	L/km	0.0049
	Distance:	km	600
	Capacity utilisation (not incl. empty returns)	%	85
	Bulk density of transported products	kg/m^3	1136.25
A5 – Installation in the building	Installation of the SikaProof® A+ membranes in the building		
	Ancillary materials for installation	%	3.33
	Waste materials from installation wastage	%	1
B2 – Maintenance	Maintenance of the SikaProof® A+ membranes		
	No maintenance necessary	N/A	N/A
B3 – Repair	Repair of the SikaProof® A+ membranes		
	No repair necessary	N/A	N/A
B4 – Replacement	Replacement of the SikaProof® A+ membranes		
	No replacements necessary	N/A	N/A
B5 – Refurbishment	Refurbishment of the SikaProof® A+ membranes		
	No refurbishment necessary	N/A	N/A
Reference service life	Reference service life of the SikaProof® A+ membranes		
	Reference service life	years	60
B6 – Use of energy; B7 – Use of water	Use of water and energy associated with the use of SikaProof® A+ membranes		
	None needed	N/A	N/A
C2 End of life	Transport of the SikaProof® A+ membranes to the final disposal site		
	Diesel / Euro 5 Truck	L/km	0.0049
	Distance	km	250
	Capacity utilisation (not incl. empty returns)	%	85

Scenarios and additional technical information			
Scenario	Parameter	Units	Results
	Bulk density of transported product	kg/m^3	1136.25
C4, End of life			
	Waste for final disposal to Landfill	%	100
Module D	The benefits from incineration of waste produced during installation are credited in Module D as avoided generation of electricity and thermal energy, since in modern incineration plants the energy of combustion is used to produce power and thermal energy. The partial reuse of pallets from packaging is also included in Module D as avoided production of new pallets.		

Summary, comments and additional information

Interpretation

The displayed results apply to SikaProof® A+12. To calculate results for other thicknesses, the following formula can be used:

$I_x = ((x + 0.28) / 1.48) * I_{1.2}$

[I_x = the unknown parameter value for SikaProof® A+ systems with a membrane thickness of "x" mm (e.g. 0.8 mm)]

Figure 1 shows the relative contributions of the different modules to the various environmental impact categories and to primary energy use in a dominance analysis.

As can be seen from the results, the product stage (Modules A1-A3) contributes the most significantly to all environmental impact categories and primary energy use. The installation of the membranes (Module A5) also plays a role due to waste disposal and the impacts from the losses and overlap, however to a lesser extent than the product stage. For this reason, the product stage is examined more closely in the following interpretation.

The dominant influence in all environmental impact categories arises from the raw materials involved in the production of the membrane, which represent at least 89% of the impacts in each environmental impact category. The exception is ozone depletion potential, where the main contributors to the product stage are split between the packaging materials (55%) and the raw materials (45%).

Within the raw materials, the polymers play an important role in terms of GWP (93%), AP (87%), POCP (93%), ADPF (69%), ADPE (85%), PERT (85%) and PENRT (98%). The influence of the stabilisers can be seen in ODP (79%), while the influence of the pigments can be seen in ODP (21%), AP (8%), EP (4%), POCP (4%), ADPE (19%), and PERT (7%). The influence of the fillers is generally lower than the other raw materials but can be seen in GWP (5%), AP (3%), EP (3%), ADPE (9%) and PERT (8%).

The polymers, which make up the highest share of the membrane mass, have the greatest influence on the environmental impact categories. The greatest influence in the production process of the membranes is the power consumption. The production process contributes the most to PERT (23%), EP (2.3%) and GWP (1.9%).

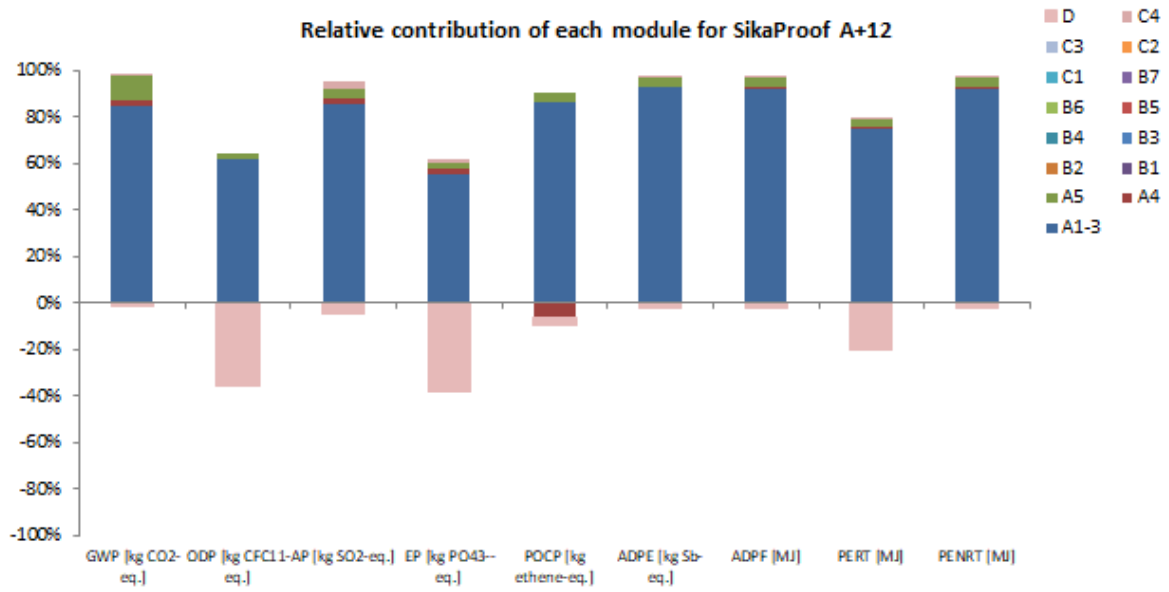


Figure 1

References

BBA (British Board of Agrément). Agrément Certificate 13/5075 Product Sheet 1. Sika Tanking Membranes: SikaProof A, 2017.

BRE Global. BRE Global Product Category Rules for Type III environmental product declaration of construction products to EN 15804:2012+A1. PN 514 Rev 2.0. Watford, BRE, 2018.

BSI. Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products. BS EN 15804:2012+A1:2013. London, BSI, 2013.

BSI. Environmental labels and declarations – Type III Environmental declarations – Principles and procedures. BS EN ISO 14025:2010 (exactly identical to ISO 14025:2006). London, BSI, 2010.

BSI. Environmental management – Life cycle assessment – Principles and framework. BS EN ISO 14040:2006. London, BSI, 2006.

BSI. Environmental management – Life cycle assessment – requirements and guidelines. BS EN ISO 14044:2006. London, BSI, 2006.

ecoinvent Version 3.6: Database for Life Cycle Assessment. Swiss Centre for Life Cycle Inventories (ecoinvent Centre), 2020.

thinkstep; GaBi 9.2.1.68: Software-System and Databases for Life Cycle Engineering. Copyright, TM. Stuttgart, Echterdingen, 1992-2020.