



Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Sikaplan® WP 1100

from

Sika Services AG



BUILDING TRUST

Programme:

The International EPD System, www.environdec.com

Programme operator:

EPD International AB

Type of EPD:

EPD of a single product from a manufacturer

EPD registration number:

EPD-IES-0025028

Version date:

2025-08-28

Validity date:

2030-08-28

An EPD may be updated or republished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com



GENERAL INFORMATION

Programme Information	
Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
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Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): PCR 2019:14 Construction Products, version 2.0.1
PCR review was conducted by: The Technical Committee of the International EPD® System. See www.environdec.com for a list of members

Third-party Verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:
<input checked="" type="checkbox"/> Individual EPD verification without a pre-verified LCA/EPD tool
Third-party verifier: <i>Elisabet Amat Guasch</i> , eamat@greenize.es
Approved by: International EPD System
Procedure for follow-up of data during EPD validity involves third party verifier:
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.

For further information about comparability, see EN 15804 and ISO 14025.

INFORMATION ABOUT EPD OWNER

Owner of the EPD: Sika Services AG

Address: Tüffewies 16, 8048 Zürich

Contact: product.sustainability@ch.sika.com

Description of the organisation: Sika is a specialty chemicals company with a globally leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing, and protection in the building sector and industrial manufacturing. Sika has subsidiaries in 102 countries around the world and, in over 400 factories, produces innovative technologies for customers worldwide.

Product-related or management system-related certifications: N/A

PRODUCT INFORMATION

Product name: Sikaplan® WP 1100

Product identification: 241560

UN CPC code: 54530. Roofing and waterproofing services

Product description: Sikaplan® WP 1100 series of membranes are loosely laid homogeneous PVC-based sheet membranes for tunnel and below ground structures waterproofing. Several nominal thicknesses are available ranging from 1.5 to 3.2 mm. These membranes are manufactured with a yellow signal layer, which varies in thickness between less than 0.2 mm (HL2 type of membrane) to about 0.6 mm (HL type of membrane). Membranes are sealed by thermal jointing. The following membrane thicknesses are available:

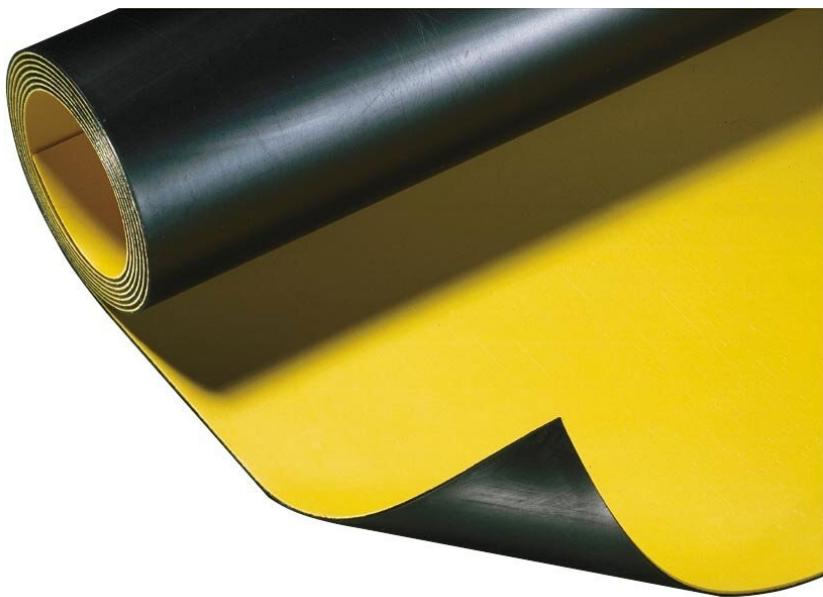
- Sikaplan® WP 1100-15 HL (1.5 mm total nominal thickness, 0.6 mm signal layer)
- Sikaplan® WP 1100-20 HL (2.0 mm total nominal thickness, 0.6 mm signal layer)
- Sikaplan® WP 1100-21 HL2 (2.1 mm total nominal thickness, \leq 0.2 mm signal layer)
- Sikaplan® WP 1100-22 HL2 (2.2 mm total nominal thickness, \leq 0.2 mm signal layer)
- Sikaplan® WP 1100-25 HL2 (2.5 mm total nominal thickness, \leq 0.2 mm signal layer)
- Sikaplan® WP 1100-30 HL (3.0 mm total nominal thickness, 0.6 mm signal layer)
- Sikaplan® WP 1100-31 HL2 (3.1 mm total nominal thickness, \leq 0.2 mm signal layer)
- Sikaplan® WP 1100-32 HL2 (3.2 mm total nominal thickness, \leq 0.2 mm signal layer)

Sikaplan® WP 1100-21 HL2 is used as the benchmark for this EPD.

Name and location of production site(s):

Sika Manufacturing GmbH
Germany
Troisdorf
53840
Mülheimer Str. 26
Troisdorf Germany

For more information, please visit: <https://www.sika.com/en/construction/waterproofing-systems.html>



CONTENT DECLARATION

Mass (weight) per declared unit: 2.73 kg/m²

Information on the environmental and hazardous/toxic properties of a substances contained in the product: The product does not contain substances listed in the candidate list of Substances of Very High Concern (SVHCs) (European Chemicals Agency (ECHA), 2025).

Other information on substances with hazardous and toxic properties: N/A

Product content	Content %	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/product or declared unit
Polymers	50-70	0	0	0
Processing aids	20-30	0	0	0
Fillers	5-20	0	0	0
Pigments	1-5	0	0	0
Stabilizers	1-5	0	0	0
TOTAL	100	0	0	0

Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material, kg C/product or declared unit
Plastic	0.02	1	0
Cardboard	0.05	2	<0.05
Pallet	0.06	2	<0.05
TOTAL	0.13	5	<0.05

1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO₂.

LCA INFORMATION

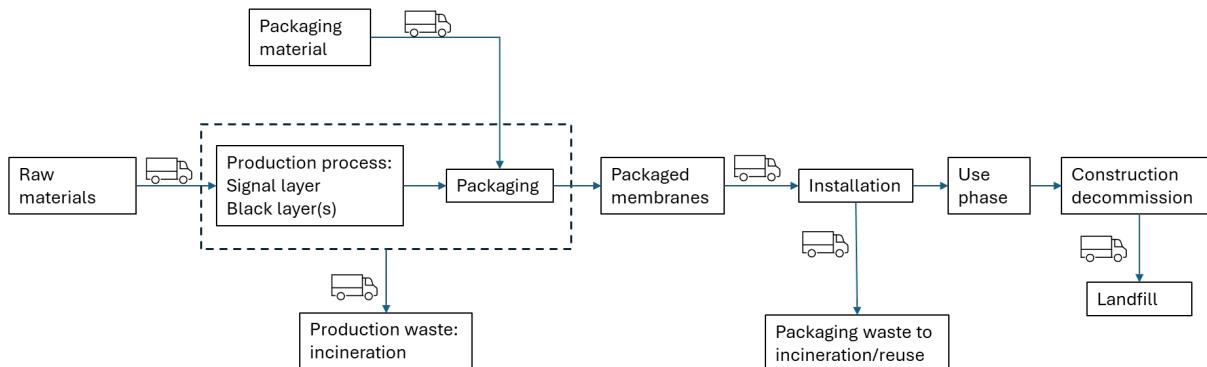
Declared unit: 1 m²

Conversion factor to mass: 2.73 kg/m²

Database(s) and LCA software used: Sphera MLC 2024.2 and Ecoinvent Version 3.10; Sphera LCA for Experts version 10.9.

Description of system boundaries: In accordance with the modular approach as defined in EN 15804, this cradle to gate with options EPD includes the product stage (A1-A3), construction process stage (A4-A5), end-of-life stage (C1-C4) and benefits beyond the system boundary (D).

Process flow diagram:



Production

The Sikaplan® WP 1100 membranes are manufactured by a calendaring process in Troisdorf, Germany.

Electricity information:

Electricity input: DE: Residual Electricity mix (Sphera). GWP total: 0.86 kg CO₂ eq./kWh. Residual mix.

Construction Installation

Energy and machinery used for installation are excluded, while the losses, overlaps and packaging waste management are included. During installation of the system, an installation loss of 1% and an overlap of 5% is considered for both tunneling and basement applications. The installation losses are assumed to head to incineration. Regarding the packaging waste, carton and PE film are assumed to be incinerated (worst case scenario), while the pallet is assumed to be used 10 times and then incinerated.

The product is delivered worldwide. Based on weighted average distances from sales in 2023 and an assumed additional distance from the shipping terminal to the construction site of 200 km, total distances of 1072 km by truck and 4256 km by ship are used in LCA model.

Use Information

Sikaplan[®] WP 1100-xx HL membranes are used mainly for basement waterproofing. They are loosely laid onto prepared substrates before installing the steel reinforcement and casting the concrete. The overlaps of the sheet membranes are jointed with hot air heating equipment. Refer to the method statement for detailed instructions on the installation of the membrane in basements.

Sikaplan[®] WP 1100-xx HL2 membranes are used mainly for tunnel waterproofing. They are also loosely laid onto prepared substrates before installing the steel reinforcement (if required) and casting the concrete. The overlaps of the sheet membranes are also jointed with hot air heating equipment. Refer to the method statement for detailed instructions on the installation of the membrane in tunnels.

End of Life

In tunnelling applications, the membrane is rarely removed. In basement applications, the building is demolished and the membrane can be easily separated from the construction debris. A landfill scenario has been applied in the LCA calculation. A demolition process using 1.1 kWh energy from diesel per tonne material, a transportation distance of 80 km by truck (Euro V) and a landfill compacting process using 1.6 kWh energy from diesel has been applied according to the PCR version 2.0.1 (EPD International, 2025).

Benefits and Loads Beyond the System Boundary

Contributions to Module D originate from waste incineration in A5. The disposal scenario considered at the end-of-life (Modules C1-C4) is 100% landfill of inert material, with no benefits/loads outside the system boundaries.

Data quality, cut-off and allocation

Primary data was collected from the production process and is representative for a 12-month period. The data was collected in 2024 and is representative for 2023. Waste and water data was gathered on factory level and allocated to the products based on mass. Mass allocation was applied whenever allocation was needed, e.g., for product transportation distances. No co-products are produced in the system.

All raw materials, upstream processes and downstream processes were modelled using secondary data, with Sphera MLC 2024.2 as the primary database. Where present, data gaps in raw material modelling were filled with generic datasets available through Ecoinvent 3.10 databases (reference year: 2024). The percentage of raw materials modelled using proxy data is well below 1% by mass. Cut-off rules according to EN 15804+A2, chapter 6.3.6 were followed. Excluded inputs and/or outputs did not exceed 1% of renewable and non-renewable primary energy usage and 1% of the total mass input of the relevant unit process.

Assumptions were made where primary data was not available. This applies to transportation and end of life scenarios.

Product losses are allocated to the module where they occur, e.g. additional production of membrane because of installation losses fall into module A5.

Process	Source type	Source	Reference year	Data category	Share of primary data GWP-GHG (A1-A3)
Product manufacturing	Collected data	EPD owner	2023	Primary data	7%
Raw material proxies	Database	Ecoinvent v3.10	2023	Secondary data – proxy	>0.1%
All other	Database	Sphera MLC, Ecoinvent v3.10	2023	Secondary data – representative	92.9%

Modules declared, geographical scope, share of primary data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage				Distribution/installation stage		Use stage						End-of-life stage				Beyond product life cycle
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	x	x	x	x	x	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x
Geography	GLO	DE	DE	GLO	GLO	-	-	-	-	-	-	-	GLO	GLO	GLO	GLO	GLO
Share of primary data	7%			0%	0%	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	0%			0%	0%	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%			0%	0%	-	-	-	-	-	-	-	-	-	-	-	-

ENVIRONMENTAL PERFORMANCE

LCA results for Sikaplan® WP 1100 21 HL2

Mandatory impact category indicators according to EN 15804

Results per 1m²

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq.	5.73E+00	5.08E-01	8.55E-01	ND	1.17E-03	2.49E-02	0.00E+00	4.49E-02	4.67E-03						
GWP-fossil	kg CO ₂ eq.	5.92E+00	5.03E-01	4.91E-01	ND	1.17E-03	2.45E-02	0.00E+00	4.46E-02	-7.55E-02						
GWP-biogenic	kg CO ₂ eq.	-2.73E-01	0.00E+00	3.58E-01	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.03E-02						
GWP-luluc	kg CO ₂ eq.	8.66E-02	5.07E-03	5.54E-03	ND	6.54E-07	4.04E-04	0.00E+00	2.58E-04	-7.65E-05						
ODP	kg CFC 11 eq.	1.06E-09	7.93E-14	6.39E-11	ND	1.72E-16	2.42E-15	0.00E+00	1.17E-13	-3.37E-10						
AP	mol H ⁺ eq.	8.90E-03	8.11E-03	1.07E-03	ND	1.09E-05	9.92E-05	0.00E+00	3.20E-04	-1.39E-04						
EP-freshwater	kg P eq.	4.56E-05	7.72E-07	2.81E-06	ND	5.94E-09	1.03E-07	0.00E+00	1.06E-07	-4.91E-06						
EP-marine	kg N eq.	3.02E-03	1.95E-03	3.14E-04	ND	5.60E-06	4.69E-05	0.00E+00	8.66E-05	-4.64E-05						
EP-terrestrial	mol N eq.	3.05E-02	2.15E-02	3.33E-03	ND	6.13E-05	5.24E-04	0.00E+00	9.53E-04	-4.95E-04						
POCP	kg NMVOC eq.	1.60E-02	5.55E-03	1.34E-03	ND	1.52E-05	9.20E-05	0.00E+00	2.62E-04	-1.71E-04						
ADP-minerals& metals*	kg Sb eq.	6.41E-06	4.98E-08	3.89E-07	ND	1.54E-10	2.05E-09	0.00E+00	3.01E-09	-8.38E-08						
ADP-fossil*	MJ	1.44E+02	6.17E+00	9.17E+00	ND	1.54E-02	3.14E-01	0.00E+00	5.88E-01	-1.18E+00						
WDP*	m ³	3.36E-01	2.28E-03	4.12E-02	ND	6.98E-05	3.58E-04	0.00E+00	5.00E-03	-1.01E-02						
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals& metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption															

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

Additional mandatory and voluntary impact category indicators

Results per 1m²

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ¹	kg CO ₂ eq.	6.03E+00	5.10E-01	9.96E-02	ND	1.17E-03	2.49E-02	1.69E-03	4.33E-02	-7.61E-02						
PM	Disease incidence	8.17E-08	1.39E-07	1.39E-08	ND	9.08E-11	5.89E-10	0.00E+00	3.95E-09	-1.71E-09						
IRP	kBq U235 eq.	2.36E-01	9.06E-04	1.49E-02	ND	3.94E-06	5.67E-05	0.00E+00	6.72E-04	-5.63E-03						
ETP-fw	CTUe	5.91E+01	4.80E+00	3.96E+00	ND	1.21E-02	2.31E-01	0.00E+00	3.43E-01	-2.87E-01						
HTP-c	CTUh	2.42E-09	9.12E-11	1.55E-10	ND	2.37E-13	4.63E-12	0.00E+00	8.05E-12	-3.11E-10						
HTP-nc	CTUh	1.04E-07	3.42E-09	6.75E-09	ND	4.76E-12	2.06E-10	0.00E+00	3.04E-10	-5.35E-10						
SQP	dimensionless	3.70E+01	2.30E+00	2.41E+00	ND	3.00E-03	1.55E-01	0.00E+00	1.66E-01	-7.83E+00						
Acronyms	PM = Particulate matter emissions; IRP = Ionizing radiation, human health; ETP-fw = Eco-toxicity – freshwater; HTP-c = Human toxicity, cancer effect; HTP-nc = Human toxicity, non-cancer effects; SQP = Land use related impacts/Soil quality															

Resource use indicators

Results per 1m²

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	1.68E+01	3.86E-01	1.17E+00	ND	6.83E-04	2.65E-02	0.00E+00	1.00E-01	-1.77E+00						
PERM	MJ	1.99E+00	0.00E+00	1.20E-01	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
PERT	MJ	1.88E+01	3.86E-01	1.20E+00	ND	6.83E-04	2.65E-02	0.00E+00	1.00E-01	-1.77E+00						
PENRE	MJ	9.23E+01	6.17E+00	7.02E+00	ND	1.54E-02	3.14E-01	0.00E+00	5.88E-01	-1.18E+00						
PENRM	MJ	5.13E+01	0.00E+00	3.08E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
PENRT	MJ	1.44E+02	6.17E+00	9.17E+00	ND	1.54E-02	3.14E-01	0.00E+00	5.88E-01	-1.18E+00						
SM	kg	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
FW	m ³	2.76E-02	3.71E-04	2.19E-03	ND	2.27E-06	2.98E-05	0.00E+00	1.53E-04	-3.53E-04						

¹ This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero.

Acronyms PERE = Use of renewable primary energy excluding renewable primary energy resources 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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

Waste indicators

Results per 1m ²																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	3.41E-03	2.31E-10	2.05E-04	ND	2.08E-12	1.02E-11	0.00E+00	1.45E-10	-7.40E-04						
Non-hazardous waste disposed	kg	7.08E-02	8.31E-04	4.75E-02	ND	1.54E-06	4.88E-05	0.00E+00	2.87E+00	-5.71E-04						
Radioactive waste disposed	kg	1.91E-03	7.78E-06	1.20E-04	ND	4.66E-08	4.06E-07	0.00E+00	5.92E-06	-3.94E-05						

Output flow indicators

Results per 1m ²																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
Exported energy, electricity	MJ	0.00E+00	0.00E+00	2.74E-01	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
Exported energy, thermal	MJ	0.00E+00	0.00E+00	4.96E-01	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						

ADDITIONAL ENVIRONMENTAL INFORMATION

To convert the results from the benchmark membrane layer thickness to other membrane layer thicknesses, the following formula can be used:

$$([Impact]/2.1) * [\text{thickness in mm}] * 1.01$$

The following membrane thicknesses are available:

- Sikaplan® WP 1100-15 HL (1.5 mm total nominal thickness)
- Sikaplan® WP 1100-20 HL (2.0 mm total nominal thickness)
- Sikaplan® WP 1100-21 HL2 (2.1 mm total nominal thickness)
- Sikaplan® WP 1100-22 HL2 (2.2 mm total nominal thickness)
- Sikaplan® WP 1100-25 HL2 (2.5 mm total nominal thickness)
- Sikaplan® WP 1100-30 HL (3.0 mm total nominal thickness)
- Sikaplan® WP 1100-31 HL2 (3.1 mm total nominal thickness)
- Sikaplan® WP 1100-32 HL2 (3.2 mm total nominal thickness)

Sikaplan® WP 1100-21 HL2 is used as the benchmark for this EPD.

ABBREVIATIONS

Abbreviation	Definition
CEN	European Committee for Standardization
CPC	Committee for Programme and Coordination
DE	Germany
ECHA	European Chemicals Agency
EF	Environmental Footprint
EN	European Norm (Standard)
EPD	Environmental Product Declaration
GLO	Global
GPI	General Programme Instructions
ISO	International Organization for Standardization
N/A	Not applicable
ND	Not Declared
PCR	Product Category Rules
SVHC	Substances of Very High Concern
UN	United Nations

REFERENCES

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EPD International. (2025). *Product Category Rules (PCR) Construction Products 2019:14 v. 2.0.1*. EPD International AB.

European Chemicals Agency (ECHA). (2025, 05 01). *Authorisation List Annex XIV*. Retrieved from European Chemicals Agency ECHA: https://echa.europa.eu/authorisation-list?p_p_id=disslists_WAR_disslistsportlet&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&_disslists_WAR_disslistsportlet_cur=1&_disslists_WAR_disslistsportlet_substance_identifier_field_key=&_disslists_WAR_disslistsportlet

European Committe for Standardization. (2022). *EN 15804+A2 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products*. Brussels: European Committe for Standardization.

VERSION HISTORY

Original Version of the EPD, 2025-08-28

