Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

Ultipro Vapour Barrier 0.11mm

from

Saint-Gobain Building Distribution (SGDS)

Program:	The International EPD® System, www.environdec.com
Program operator:	EPD International AB
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An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

General information

Program information

Program:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
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CEN standard EN 15804:2012 +A2 (2019) serves as the Core Product Category Rules (PCR)

Product category rules (PCR): PCR 2021:01 v 1.0.2 multi-purpose films

PCR review was conducted by: *The Technical Committee of the International EPD® System. Chair: Claudia A. Peña. Contact via info@environdec.com*

Independent third-party verification of the declaration and data, according to ISO 14025:2006:
☐ EPD process certification ☒ EPD verification

Third-party verifier: *Vladimir Koci, vladimir.koci@lcastudio.cz*

The procedure for follow-up of data during EPD validity involves third party verifier:

☐ Yes ☒ No

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

EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. EPDs made according to EN15804+A1, and EN15804+A2 are not comparable, especially since a majority of the environmental indicators are based on different versions. For further information about comparability, see EN 15804 and ISO 14025.

Company information

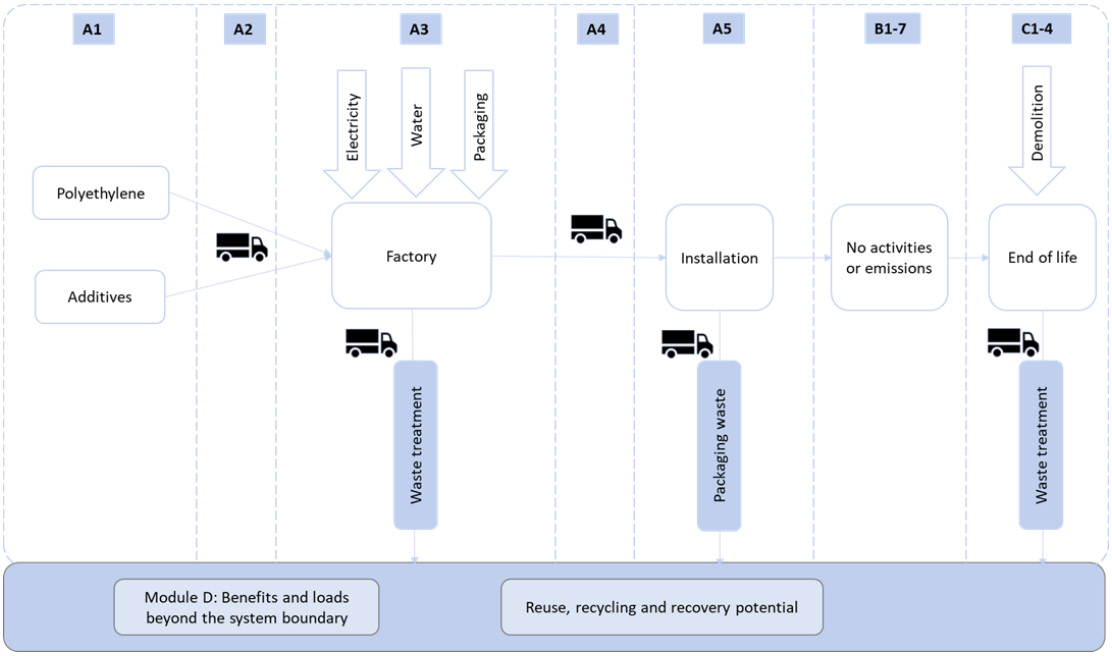
Owner of the EPD	Saint-Gobain Distribution Sweden
Contact	SGDS- Beriar Maroof (beriar.maroof@sgdsgruppen.se) Optimera - Henrik Björk (henrik.bjork@optimera.se)
Description of the organisation	SGDS Gruppen - specialists in collaboration for more efficient business in construction and installation. SGDS Gruppen AB is the head company of some of Sweden's leading trading companies in construction, sheet metal, tiles and installation. All the companies have a long and solid industry experience and provide most of Sweden's craftsmen with materials for various projects. Customers in different companies can also buy support items from the sister companies in the group. In selected cases, we take joint projects to facilitate the logistics of the supply of goods, which is then often critical for a smooth construction project. • Optimera - construction trade for professional carpenters • Dahl – heat, plumbing and sanitary specialist • Bevego - building sheet metal, ventilation and technical insulation • Kakelspecialisten and Konradsson's Tiles - tiles, tiling and bathroom fittings The company focuses on sales and services, with direct contact with about 150,000 customers regularly. Saint-Gobain Distribution Sweden group (SGDS) is owned by Saint-Gobain with a presence in 64 countries and over 190 000 employees worldwide.
Location of production site	Multiple manufacturers in Sweden

Product information

Product name	Ultipro vapour barrier 0.11mm
Product identification	0.11mm thick film made from >99% polyethylene and <1% additives
Product description	Age-resistant building foil intended for use as an air and vapor barrier in external walls, ceilings and floors.
UN CPC code	3633 semi manufactures of plastics; plates, sheets, film, foil and strip of plastics, not self-adhesive, non-cellular and not reinforced, laminated, supported or similarly combined with other materials
Use	The building foil prevents moisture from the inside of the building from penetrating into the wall, floor, or roof construction. It also has an airtight function. The building foil is made of polyethylene and is stabilized to withstand exposure to UV light, as well as heat and alkali. The product is certified according to the P marking rule for flexible barrier layers in buildings SP CR128. Installation instructions for ULTIPRO building foil can be found on the outer packaging. For more detailed descriptions regarding assembly, refer to Hus-AMA. ULTIPRO building foil is mounted on the warm side of the insulation to prevent moist air from migrating out into the cold construction and condensing there.

LCA information

Functional unit	1 m^2 film
Reference service life	Not applicable
Database(s) and LCA software used	Calculation completed in LCA for Experts (GaBi) v10.7 with an integrated Ecoinvent database 3.8
System boundaries	Cradle to gate with options (A1-A3, A4,C1-C4, D).



The product is made by multiple manufacturers in Sweden and sold in Sweden.
The end of life reflects the Swedish market where 74% of plastic is incinerated and 26% recycled. For the credit for recovered electricity and heat (module D), Swedish electricity grid mix was used.

Modules declared

X = modules included, ND = not declared

	Product stage			Assembly stage		Use stage							End of life stage				Benefits & loads beyond system boundary
	Raw materials	Transport	Manufacturing	Transport	Assembly*	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal**	Reuse-Recovery-Recycling-potential
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Declared	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	EU	EU	SE	EU									SE	EU	EU	EU	EU
Specific data used	Factory specific data used for A3																
Variation-Products	<10%																
Variation-Sites	<10%																

* Biogenic emissions from packaging is included in A5

** The product is not assumed to be sent to landfill. Instead C4 is used to balance the biogenic carbon.

Data

Generic database data was used for the production of raw materials, energy, transportation, packaging and end-of-life. Specific data was collected from the factories.

Time representativeness

The site-specific data used for the product manufacturing corresponds to 2022. The age of data from generic databases varies from 2013 – 2022.

Data quality

All datasets used came from reputable databases GaBi and Ecoinvent, with good technological representativeness and which represent either Sweden or EU28 average. Therefore, it could be considered good.

Allocation

No co-product allocation has been applied since no co-products are generated, and therefore allocation has not been relevant.

Cut-off criteria

The general rules for the exclusion of inputs and outputs follow the requirements in EN 15804.

Content declaration

Product components	Weight /m²	Post-consumer materials weight %	Biogenic materials weight % and kg C/m²
Polyethylene	> 99%	0	0
Additives	< 1%	0	0
Total	0.10 kg	0	0
Packaging materials	**Weight (kg/m²)**	**Weight-% (versus the product)**	**Weight biogenic carbon, kg C/m²**
Cardboard	7.1E-03	7 %	3.2E-03
PE	6.1E-04	1 %	0
Pallet	5.1E-03	5 %	2.1E-03
Total	1.3E-02	13 %	5.2E-03

Information on the biogenic carbon content

Biogenic carbon content	Unit per FU	Amount
Biogenic carbon content in the product	kg C	0
Biogenic carbon content in packaging	kg C	5.25E-03

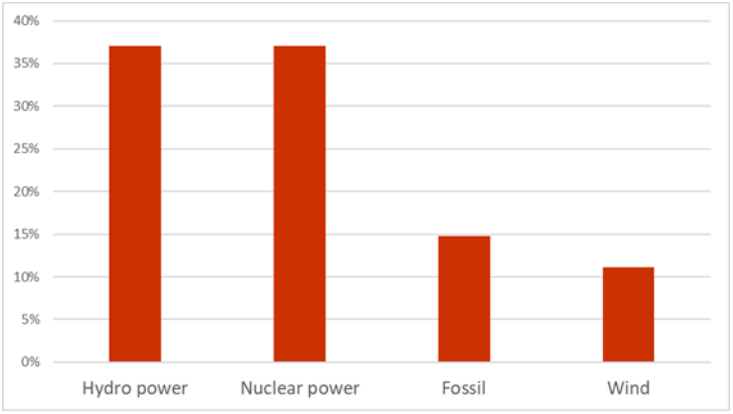
1 kg biogenic carbon is equivalent to 44/12 kg CO2.

Information on energy content

Energy content	Unit per FU	Amount
Energy content in the product	MJ	9.02

Manufacturing electricity grid mix

The manufacturers used different electricity mixes. For confidentiality not every grid mix used is shown. A commonly used Swedish electricity supplier is Vattenfall. It was modelled to have a total climate change impact of 0.084 kg CO2e/kWh with the energy mix shown below.



Disclaimers

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.

Using the results of modules A1-A3 without considering the results of module C is discouraged.

ILCD classification	Indicator	Disclaimer
ILCD Type 1	Global warming potential (GWP)	None
	Depletion potential of the stratospheric ozone layer (ODP)	None
	Potential incidence of disease due to PM emissions (PM)	None
ILCD Type 2	Acidification potential, Accumulated Exceedance (AP)	None
	Eutrophication potential, Fraction of nutrients reaching freshwater end compartment (EP-freshwater)	None
	Eutrophication potential, Fraction of nutrients reaching marine end compartment (EP-marine)	None
	Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	None
	Formation potential of tropospheric ozone (POCP)	None
	Potential Human exposure efficiency relative to U235 (IRP)	1
ILCD Type 3	Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)	2
	Abiotic depletion potential for fossil resources (ADP-fossil)	2
	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	2
	Potential Comparative Toxic Unit for ecosystems (ETP-fw)	2
	Potential Comparative Toxic Unit for humans (HTP-c)	2
	Potential Comparative Toxic Unit for humans (HTP-nc)	2
	Potential Soil quality index (SQP)	2
Disclaimer 1 – This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.		
Disclaimer 2 – 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.		

Environmental Information

Potential environmental impact – indicators according to EN 15804+A2

Results per functional unit: 1 m²									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	kg CO2 eq	1.93E-01	4.06E-03	1.04E-02	3.34E-05	3.92E-04	1.01E-01	9.11E-03	-4.82E-02
GWP-fossil	kg CO2 eq	2.12E-01	4.08E-03	0	3.36E-05	3.94E-04	1.01E-01	0	-4.81E-02
GWP-biogenic	kg CO2 eq	-1.94E-02	-6.03E-05	1.04E-02	-4.57E-07	-5.83E-06	3.47E-06	9.11E-03	-1.19E-04
GWP-luluc	kg CO2 eq	1.62E-04	3.77E-05	0	3.05E-07	3.65E-06	1.69E-06	0	-2.96E-06
ODP	kg CFC-11 eq	3.66E-08	3.59E-16	0	4.29E-18	3.57E-17	1.99E-14	0	-1.19E-13
AP	mole H+ eq	6.37E-04	7.70E-06	0	1.73E-07	7.44E-07	1.26E-05	0	-6.40E-05
EP-freshwater	kg P eq	2.98E-06	1.48E-08	0	1.20E-10	1.43E-09	5.31E-09	0	-8.18E-08
EP-marine	kg N eq	1.73E-04	3.18E-06	0	8.08E-08	3.08E-07	3.43E-06	0	-1.90E-05
EP-terrestrial	mole N eq	1.86E-03	3.64E-05	0	8.95E-07	3.51E-06	5.80E-05	0	-1.99E-04
POCP	kg NMVOC eq	6.53E-04	6.86E-06	0	2.26E-07	6.63E-07	9.85E-06	0	-6.77E-05
ADP-minerals & metals	kg Sb eq	4.63E-08	2.65E-10	0	2.18E-12	2.56E-11	1.76E-10	0	-2.54E-09
ADP-fossil	MJ	7.89E+00	5.53E-02	0	4.49E-04	5.35E-03	4.53E-02	0	-1.57E+00
WDP	m3	4.82E-02	4.71E-05	0	3.99E-07	4.59E-06	9.63E-03	0	-6.85E-03
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								

Use of resources

Results per functional unit: 1 m²									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	7.15E-01	3.93E-03	0	3.27E-05	3.85E-04	1.09E-02		-2.67E-01
PERM	MJ	2.21E-01	0	0	0	0	0	0	0
PERT	MJ	9.37E-01	3.93E-03	0	3.27E-05	3.85E-04	1.09E-02	0	-2.67E-01
PENRE	MJ	3.14E+00	5.56E-02	0	4.50E-04	5.37E-03	4.53E-02	0	-9.74E-01
PENRM	MJ	4.76E+00	0	0	0	0	0	0	-5.95E-01
PENRT	MJ	7.90E+00	5.56E-02	0	4.50E-04	5.37E-03	4.53E-02	0	-1.57E+00
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m3	1.89E-03	4.33E-06	0	3.59E-08	4.26E-07	2.29E-04	0	-4.46E-04
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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water								

Additional voluntary indicators

Results per functional unit: 1 m²									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG	kg CO2 eq	1.88E-01	4.00E-03	1.04E-02	3.29E-05	3.87E-04	1.01E-01	0	-4.76E-02
Acronyms	GWP-GHG global warming potential - greenhouse gases;								

These indicators support comparability with EPDs based on the previous version of EN 15804 (EN 15804:2012+A1:2013).

Waste and output flows

Waste

Results per functional unit: 1 m²									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	kg	1.87E-09	2.03E-13	0	1.39E-15	1.85E-14	3.60E-13	0	-2.11E-11
NHWD	kg	2.01E-03	8.02E-06	0	6.88E-08	7.81E-07	9.22E-03	0	-5.97E-04
RWD	kg	7.34E-05	7.67E-08	0	8.44E-10	9.30E-09	1.63E-06	0	-9.41E-05
Acronyms	HW Hazardous waste disposed; NHW Non-hazardous waste disposed; RW Radioactive waste disposed								

Output flows

Results per functional unit: 1 m²									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
CRU	kg	0	0	0	0	0	0	0	0
MFR	kg	6.35E-04	0	0	0	0	1.42E-02	0	0
MER	kg	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	1.85E-01	0	0
EET	MJ	0	0	0	0	0	3.30E-01	0	0
Acronyms	CRU Components for reuse; MFR Materials for recycling; MER Materials for energy recovery; EEE Exported electric energy; ETE Exported thermal energy								

References

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