

Environmental Product Declaration



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

Alterna Solo shower enclosures/Alterna U shower enclosures

from

Saint-Gobain Distribution Sweden AB (SGDS)



Programme:	The International EPD® System, www.environdec.com
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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
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Accountabilities for PCR, LCA, and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): <i>Construction Products PCR 2019:14 version 1.3.4</i>
PCR review was conducted by: <i>Claudia Pena</i> , Claudia A. Peña, University of Concepción, Chile
Life Cycle Assessment (LCA)
LCA accountability: <i>Amit Lotan</i> , Carbonzero AB, Amit.lotan@carbonzero.se
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: <input type="checkbox"/> EPD verification by an individual verifier Third-party verifier: <i>Stephen Forson</i> , Viridis Pride Ltd, S.Forson@viridispride.com Approved by: The 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 registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same 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 equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. 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@saint-gobain.se)

Description of the organization: Saint-Gobain Distribution Sweden AB is the holding company for five of Sweden's leading trading companies within the construction, sheet metal, tiles, and installation sectors. All the companies have extensive industry experience and supply most of Sweden's craftsmen with materials for various projects. Customers of the different companies can also purchase support items from sister companies within the national Saint-Gobain group. In selected cases, we collaborate on joint projects to streamline logistics, which is often critical for the success of construction projects.

The trading companies are:

- Optimera - Construction trade for professional carpenters
- Dahl - Specialist in heating, plumbing, and sanitation
- Bevego - Building sheet metal, ventilation, and technical insulation
- Kakelspecialisten and Konradssons Kakel - Tiles, tiling, and bathroom fittings

The company focuses on sales and services for approximately 150,000 regular customers. The Saint-Gobain Distribution Sweden (SGDS) is owned by the French group Saint-Gobain, which is listed on the Paris Stock Exchange and operates in 64 countries with over 190,000 employees worldwide.

Name and location of production site(s): Zhejiang, China

Product information

Product name: Alterna Solo shower enclosures/Alterna U shower enclosures

Product identification: Round 90cm Clear Glass (Alterna Species. No 7302893)

Product Description: Alterna U Shower - Round 90cm Clear Glass

UN CPC code: 37112

Geographical scope: Raw materials and Manufacturing are from and in China. Products are sold in Sweden.

Technical specification:

Alterna U-shaped shower enclosure in 6 mm clear glass with aluminum profiles. Comes with a plastic magnetic strip, two doors, and two straight handles. U-shower with two pivot doors

Round 90cm Clear Glass

Size: 950*800*2000 mm

This document is consistent with the international standards of construction products EN 15804:2012+A2:2019 and with the life cycle assessment (LCA) standards ISO 14040, 2006 and ISO 14044, 2006

The study aligns with EN 15804:2012+A2:2019, PCR 2019:14 version 1.3.4 for Construction Products. Test Standards: UNI EN 14428

LCA information

Functional unit / declared unit: 1 unit of finished packed U Shower (82.5kg)

Reference service life: 50 years

Time representativeness: Manufacturing data from 2023.

Database(s) and LCA software used: SimaPro v9.5, Ecoinvent 3.10

Description of system boundaries: Cradle-to-gate with options, modules A1-A3, A4, A5, B1, C2-C4, D

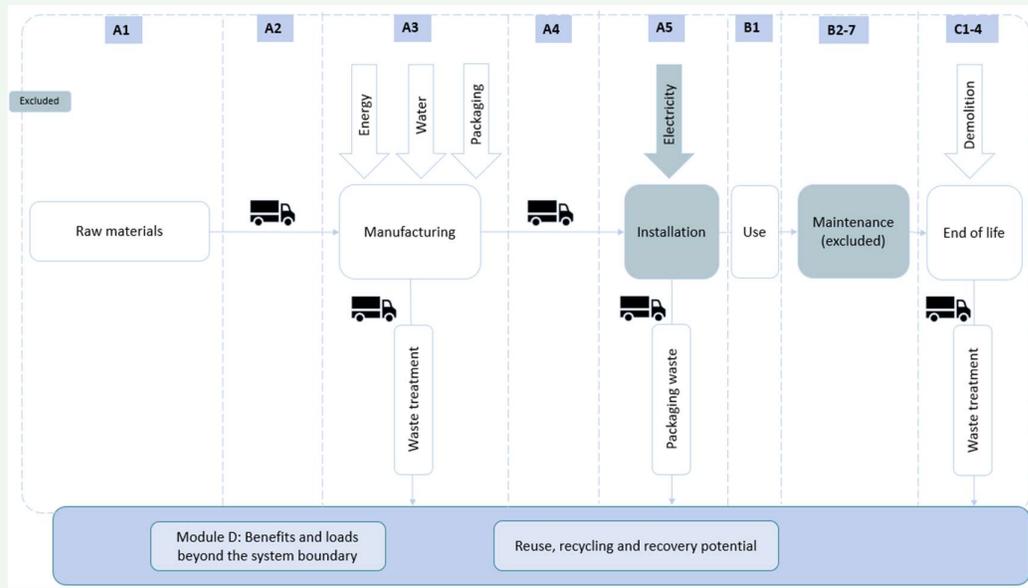
Allocation: Allocation criteria are based on mass. They produce a range of specifications, including different materials. Data was provided in several formats, including per tonne, annual volume, and annual tonnage. These were converted to per tonne using mass allocation.

Cut-off criteria: All input and output flows in a unit process were considered, taking into account the value of all flows in the unit process and the corresponding LCI where data was available.

Conservative assumptions filled data gaps with average or generic data. Any assumptions in such

cases were documented. The use of cut-off criterion on mass inputs and primary energy at the unit process level (1%) and the information module level (5%).

System diagram:



More information:

Manufacturing Description:

- Incoming material inspection
- Forming
- Reinforcement
- Accessories installation
- Product inspection
- Packaging and warehousing

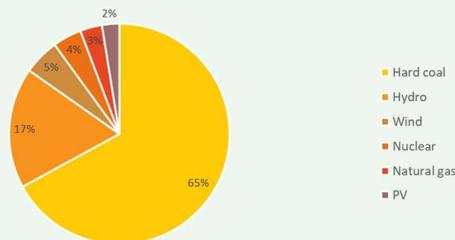
A1. Raw material supply

This module considers the extraction and processing of all raw materials at different manufacturers in China.

A2. Transport to manufacturer

Transportation from RM extraction in China to manufacturing in China and to the company warehouse in Sweden

A3 electricity: The electricity mix used in this study can be seen in Figure 6. The power mix is based on the Ecoinvent dataset “CN: Electricity grid mix.” The data set represents China’s annual average electricity mix, with a total climate change of 0.083 kg CO2e per kWh.



Production and supplier waste is being disposed of at this stage.

- Waste Glass is disposed of for recycling (94%) and landfilling (6%)
- Waste Cardboard is disposed of for recycling (100%)
- Waste Polyethylene disposed of for recycling (26%) and incineration with energy recovery (74%)

A4 transport to Swedish sellers - The products are sold in Sweden. A weighted average transport distance was calculated and used.

	Truck	Ship
Vehicle and fuel types	Truck-trailer, Euro 0 - 6 mix, 34 - 40t gross weight / 27t payload capacity Using 0.021 kg diesel per tkm	Container ship, 5.000 to 200.000 dwt payload capacity, deep sea
Distance /km	850	10500
Capacity utilisation /%	61 Dataset default value	70 Dataset default value
Volume capacity utilization factor	1	1

A5, Construction installation

This stage is partially included to balance the biogenic content in packaging.

This packing is incinerated fully, and the D module presents the energy recovered.

Waste Cardboard is disposed of for incineration (100%)

Plastic waste is 26% recycled, 74% is incinerated with energy recovery

B1-B7 Use stage

The B1 Use phase includes no additional use and, therefore, has zero values. B2-B7 is not declared.

C1 Deconstruction/Demolition

This stage includes the deconstruction and/or demolition of the building. However, this is negligible as the product is manually disabled, so all C1 values are equal to zero.

C2 Transport

This stage represents the transport distance to the waste processing facility. Transport distance to waste processing is assumed to be 50km by truck.

C3 Waste processing

This stage includes any waste treatment needed.

- Glass waste is 94% recycled and 6% landfilled
- Plastic waste is 26% recycled, 74% is incinerated with energy recovery
- Aluminium waste is 100% recycled

C4 Final Disposal

This includes any material that is landfilled.

Glass waste for landfilling: 3.72 kg

D Benefits and loads beyond the system boundary

Emission credits obtained from energy recovery and/or recycling materials.

Modules declared, geographical scope, and Specific data used.

	Product stage			Construction process stage		Use stage							End-of-life stage				Resource recovery
	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	Reuse-Recovery-Recycling-potential
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	X	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	CN	CN, SE	CN	SE	SE	SE	-	-	-	-	-	-	SE	SE	SE	SE	SE
Specific data used	<10%				-	-	-	-	-	-	-	-	-	-	-	-	-
Product Variation	0			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Site Variation	0			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Content information Per 1 Product including packaging (Functional unit – 82.5kg)

Product Components	Weight, kg	Weight-%	Post-consumer recycled material, weight-% of product	Biogenic material, weight-% and kg C/kg
Aluminium	6.5	9.40	0	0
Glass	62	89.66	0	0
ABS	0.2	0.29	0	0
Stainless steel	0.2	0.29	0	0
Synthetic rubber	0.15	0.22	0	0
PVC	0.1	0.14	0	0
Total	69.15	100	0	0
Packaging materials	Maximum weight, kg		Weight biogenic carbon, kg C/kg	
PS foam	0.6	0.87	0	
Packaging film	0.19	0.27	0	
Cardboard	12.6	18.22	43% 5.84	
Total	13.39	19.36	43% 5.84	

None of the raw materials used in this product, and at the time of production of the EPD, fall within the Candidate List of Substances of Very High Concern for the Authorization of the European Chemicals Agency. In any case, the eventual presence of Substances of Very High Concern would be reported in the safety data sheets for each product/product group

Results of the Environmental Performance Indicators

Per 1 Product including packaging (Functional unit – 82.5kg) Alterna Solo shower enclosures/Alterna U shower enclosures

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

There is a discouraging of the use of the results of modules A1-A3 (A1-A5 for services) without considering the results of module C

Using EN15804 reference package EF3.1

Mandatory impact category indicators according to EN 15804 +A2

Indicator	Unit	A1-A3	A4	A5	B1	C1	C2	C3	C4	D
Climate change-Total	kg CO2 eq	2.28E+01	9.36E-01	6.14E+00	0.00E+00	0.00E+00	3.23E-02	1.08E-01	2.34E-05	-5.31E+00
Climate change - Biogenic	kg CO2 eq	-6.13E+00	0.00E+00	6.13E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Climate change - Fossil	kg CO2 eq	2.89E+01	9.36E-01	8.17E-03	0.00E+00	0.00E+00	3.23E-02	1.08E-01	2.34E-05	-5.31E+00
Climate change - Land use and LU change	kg CO2 eq	3.36E-02	7.11E-04	2.49E-06	0.00E+00	0.00E+00	1.60E-05	7.69E-07	1.41E-08	-2.47E-03
Ozone depletion	kg CFC11 eq	1.42E-06	1.43E-08	3.35E-10	0.00E+00	0.00E+00	7.04E-10	2.87E-10	6.77E-13	-1.34E-07
Acidification	mol H+ eq	1.48E-01	2.66E-02	6.88E-05	0.00E+00	0.00E+00	7.07E-05	2.05E-05	1.76E-07	-1.98E-02
Eutrophication, freshwater	kg P eq	1.09E-03	4.05E-06	9.72E-08	0.00E+00	0.00E+00	2.63E-07	1.91E-08	2.28E-10	-2.59E-04
Eutrophication, marine	kg N eq	2.63E-02	6.53E-03	3.01E-05	0.00E+00	0.00E+00	1.74E-05	9.57E-06	6.73E-08	-4.39E-03
EP-terrestrial	mol N eq	2.94E-01	7.23E-02	3.12E-04	0.00E+00	0.00E+00	1.81E-04	9.82E-05	7.25E-07	-5.10E-02
Photochemical ozone formation	kg NMVOC eq	1.07E-01	1.96E-02	7.96E-05	0.00E+00	0.00E+00	1.10E-04	2.93E-05	2.52E-07	-2.80E-02
Resource use, m&m ²	kg Sb eq	4.95E-04	1.05E-06	1.51E-08	0.00E+00	0.00E+00	1.06E-07	5.62E-09	3.25E-11	-3.61E-06
Resource use, fossils ²	MJ	4.26E+02	1.15E+01	5.62E-02	0.00E+00	0.00E+00	4.59E-01	2.37E-02	5.83E-04	-6.18E+01
Water use ²	m ³ depriv.	9.97E+00	2.79E-02	8.71E-03	0.00E+00	0.00E+00	1.89E-03	5.70E-04	2.58E-05	-3.87E-01
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								

Additional mandatory and voluntary impact category indicators

Indicator	Unit	A1-A3	A4	A5	B1	C1	C2	C3	C4	D
GWP-GHG ¹	kg CO ₂ eq	2.28E+01	9.36E-01	6.14E+00	0.00E+00	0.00E+00	3.23E-02	1.08E-01	2.34E-05	-5.31E+00

Resource use indicators

Indicator	Unit	A1-A3	A4	A5	B1	C1	C2	C3	C4	D
PERE	MJ	5.20E+01	8.69E-02	4.73E+00	0.00E+00	0.00E+00	7.22E-03	4.30E-04	4.94E-06	-2.04E+00
PERM	MJ	3.11E+00	0.00E+00	-4.73E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	5.51E+01	8.69E-02	2.34E-03	0.00E+00	0.00E+00	7.22E-03	4.30E-04	4.94E-06	-2.04E+00
PENRE	MJ	4.09E+02	1.15E+01	5.62E-02	0.00E+00	0.00E+00	4.59E-01	2.37E-02	5.83E-04	-6.39E+01
PENRM	MJ	1.74E+01	0.00E+00	-5.01E+00	0.00E+00	0.00E+00	0.00E+00	-2.85E+00	0.00E+00	2.05E+00
PENRT	MJ	4.26E+02	1.15E+01	5.62E-02	0.00E+00	0.00E+00	4.59E-01	2.37E-02	5.83E-04	-6.18E+01
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	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	0.00E+00	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m ³	3.00E-01	9.85E-04	2.98E-04	0.00E+00	0.00E+00	6.61E-05	1.93E-05	6.19E-07	-1.16E-02
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								

Waste indicators

Indicator	Unit	A1-A3	A4	A5	B1	C1	C2	C3	C4	D
HW	kg	0.00E+00								
NHW	kg	0.00E+00	1.68E-02	0.00E+00	0.00E+00	0.00E+00	9.58E-03	4.88E-03	3.72E+00	-3.43E+00
RW	kg	0.00E+00								

HW: Hazardous waste disposed; NHW: Non-hazardous waste disposed; RW: Radioactive waste disposed

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.

Output flow indicators

Indicator	Unit	A1-A3	A4	A5	B1	C1	C2	C3	C4	D
CR	kg	0.00E+00								
MFR	kg	1.28E+01	0.00E+00	2.05E-01	0.00E+00	0.00E+00	0.00E+00	6.51E+01	0.00E+00	0.00E+00
MER	kg	0.00E+00								
EEE	MJ	2.30E+00	0.00E+00	2.74E+01	0.00E+00	0.00E+00	0.00E+00	1.31E+00	0.00E+00	0.00E+00
ETE	MJ	4.49E+00	0.00E+00	5.46E+01	0.00E+00	0.00E+00	0.00E+00	2.55E+00	0.00E+00	0.00E+00

CR: Components for reuse; MFR: Materials for recycling; MER: Materials for energy recovery; EEE: Exported electric energy; ETE: Exported thermal energy

Disclaimers

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
	Potential Human exposure efficiency relative to U238 (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.		

References

EN 15804:2012+A2	Sustainability of construction works – Environmental product declaration – Core rules for the product category of construction products
EPD International (2024)	General Programme Instructions International EPD® System, version 5.0
ISO 14020:2022	International Standard ISO 14020 – Environmental statements and programs for products – Principles and general requirements
ISO 14025:2006	International Standard ISO 14025 – Environmental labels and declarations — Type III environmental declarations — Principles and procedures
ISO 14040:2006	International Standard ISO 14040: Environmental Management – Life cycle assessment – Principles and framework. Second edition 2006-07-01.
PCR 2019:2014	Construction products v1.3.4
Ecoinvent	Ecoinvent Database V3.10
Simapro	SimaPro software V9.5
Electricity Grid Mix	Electricity grid mix of China - https://www.iea.org/countries/china
Test Standard	Standard UNI EN 14428 “Shower enclosures – Functional requirements and test methods”

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