

Environmental Product Declaration



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

Altech Panel Radiators

from

Saint-Gobain Building Distribution (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

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	info@environdec.com

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>PCR 2019:14 Construction products. Version 1.11, date 2021-02-05.</i>
PCR review was conducted by: <i>The Technical Committee of the International EPD® System. Chair: Claudia A. Peña. Contact via info@environdec.com</i>
Life Cycle Assessment (LCA)
LCA accountability: <i>Simon Andersson, IVL Swedish Environmental Research Institute</i>
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: <input checked="" type="checkbox"/> EPD verification by individual verifier Third-party verifier: <i>Vladimír Kočí, Prague, Czech Republic, lcastudio.cz</i> 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 from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. 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 AB is the mother company of some of Sweden's leading trading companies of distribution of building material within construction products, sheet metal, tiles and installation products for plumbing, heating and sanitary.

- Optimera - construction products
- Dahl - plumbing, heating, sanitary, civil engineering, industry, cooling and facility management
- Bevego - sheet metal, ventilation and technical insulation
- Kakelspecialisten and Konradssons Tiles - tiles, tiling and bathroom equipment

The company's focus on sales and services to professional customers with direct contact to about 150 000 customers on a regular basis.

Saint-Gobain Distribution Sweden group (SGDS Gruppen AB) is owned by Saint-Gobain with presence in 64 countries and having over 190 000 employees worldwide.

Product-related or management system-related certifications:

ISO9001 and ISO14001

Location of production site:

Turkey

Product information

Product name:

Altech panel radiator

Product identification:

Models K11, K21, K22 and K33. All variants (all lengths and heights)

Product description:

Steel panel radiator produced in steel FePo1 AM in color RAL9016. Steel thickness accordingly to EN442, 1.20 +/- 0.09 mm. To be used for heating in commercial and private property and housing. Expected service lifetime is 50 years.

UN CPC code:

44823

UNSPSC code:

40101801

Geographical scope:

The Nordic countries

LCA information

Declared unit:

1 kg Altech panel radiator product

Time representativeness:

The data used to model product manufacturing corresponds to year 2021. The data from generic databases are from 2014 - 2021. No data used is older than 10 years.

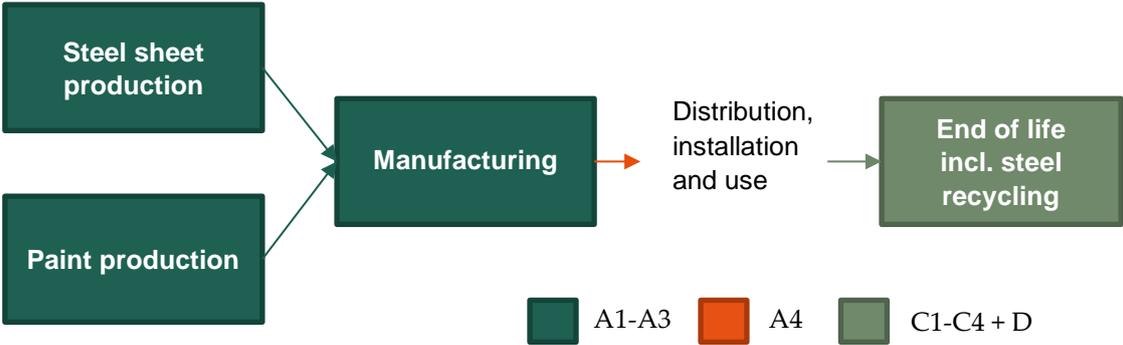
Database(s) and LCA software used:

Databases used are the Sphera GaBi databases (content version 2022.1). The LCA software used is GaBi (version 10.6).

Description of system boundaries:

Cradle to gate with options, modules C1-C4, module D and with optional module A4.

System diagram:



Steel sheet and paint (powder coating) are transported to a manufacturing plant where the radiators are manufactured. The radiators are transported to a central warehouse from where they are distributed to the final costumers. After use the product is transported to waste processing, and the steel is recycled.

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

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	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	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	TR	TR	TR	TR-NC	-	-	-	-	-	-	-	-	NC	NC	NC	NC	NC
Specific data used	9%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	<2%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	Not relevant			-	-	-	-	-	-	-	-	-	-	-	-	-	-

X: Module declared, ND: Module not declared, TR: Turkey, NC: The Nordic countries

The results presented reflects the K11 model, which is the worst case as defined in the PCR.

Allocation:

Weight allocation has been applied to allocate the manufacturing data, delivered for the complete plant, to 1 kg Altech panel radiator product.

Data quality:

Site-specific manufacturing data has been retrieved from the manufacturer. The upstream and downstream processes have been modelled based on generic data from databases, for paint production an existing EPD from the paint supplier has been used. The collected data was reviewed according to EN 15804 and is deemed as of good quality.

Cut-off criteria:

The maximum cut-off criteria established by the PCR is 1% of all material and energy flows to a single unit process and 5% of total inflows (mass and energy) per module, e.g. per module A1-A3, A4-A5, C1-C4 and module D. No cut-offs exceeding this limit have been made.

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
Steel	0.98	Unknown	0%
Paint	0.016	0%	0%
TOTAL	1.0	Unknown	0%
Packaging materials	Weight, kg	Weight-% (versus the product)	
Corrugated fiberboard	0.022	2.2%	
Polyethylene film	0.017	1.7%	
TOTAL	0.039	3.9%	

No substances that appear in the REACH candidate list of SVHC (Candidate List of Substances of Very High Concern) are present or used in the product.

Environmental Information

Potential environmental impact – mandatory indicators according to EN 15804

Results per 1 kg Altech panel radiator product

Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq.	2.9E+00	1.3E-02	5.8E-02	2.9E+00	4.6E-02	3.3E-04	7.2E-03	1.5E-02	2.2E-03	-1.4E+00
GWP-biogenic	kg CO ₂ eq.	-1.8E-03	1.3E-04	-3.7E-02	-3.9E-02	5.5E-05	-4.6E-07	7.2E-05	3.1E-06	-6.5E-05	-7.7E-04
GWP-luluc	kg CO ₂ eq.	4.3E-03	1.3E-04	1.0E-04	4.5E-03	5.1E-07	1.9E-06	7.7E-05	1.1E-05	4.1E-06	-3.0E-05
GWP-total	kg CO ₂ eq.	2.9E+00	1.3E-02	3.0E-02	2.9E+00	4.6E-02	3.4E-04	7.3E-03	1.5E-02	2.1E-03	-1.4E+00
ODP	kg CFC 11 eq.	7.2E-09	2.1E-18	8.4E-10	8.0E-09	2.6E-15	2.0E-17	1.2E-18	6.5E-15	5.2E-15	-3.2E-15
AP	mol H ⁺ eq.	8.6E-03	1.4E-05	1.6E-04	8.8E-03	1.8E-03	1.9E-06	7.7E-06	1.5E-05	1.6E-05	-2.4E-03
EP-freshwater	kg PO ₄ ³⁻ eq.	5.3E-05	2.8E-07	5.3E-06	5.8E-05	3.1E-08	3.1E-09	1.6E-07	3.0E-08	1.1E-08	-9.1E-07
EP-freshwater	kg P eq.	1.7E-05	9.2E-08	1.7E-06	1.9E-05	1.0E-08	1.0E-09	5.3E-08	9.9E-09	3.7E-09	-3.0E-07
EP-marine	kg N eq.	1.6E-03	3.8E-06	5.1E-05	1.7E-03	4.5E-04	9.5E-07	2.1E-06	6.3E-06	4.0E-06	-4.7E-04
EP-terrestrial	mol N eq.	1.7E-02	5.2E-05	5.3E-04	1.8E-02	4.9E-03	1.1E-05	2.9E-05	7.4E-05	4.4E-05	-4.7E-03
POCP	kg NMVOC eq.	6.1E-03	1.0E-05	2.2E-04	6.3E-03	1.3E-03	1.8E-06	5.6E-06	1.7E-05	1.2E-05	-2.1E-03
ADP-minerals&metals*	kg Sb eq.	2.0E-06	1.2E-09	8.0E-09	2.0E-06	1.7E-09	2.8E-11	6.9E-10	2.6E-09	2.3E-10	-3.4E-06
ADP-fossil*	MJ	2.9E+01	1.6E-01	1.6E+00	3.1E+01	5.6E-01	4.5E-03	9.2E-02	5.2E-02	2.9E-02	-1.3E+01
WDP	m ³	7.8E-01	1.8E-04	1.8E-02	8.0E-01	8.2E-05	3.0E-06	1.0E-04	3.0E-03	2.4E-04	-3.7E+00
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 of these results are high or as there is limited experience with the indicator.

Potential environmental impact – additional mandatory and voluntary indicators

Results per 1 kg Altech panel radiator product

Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	C1	C2	C3	C4	D
GWP-GHG ¹	kg CO ₂ eq.	2.8E+00	1.2E-02	5.7E-02	2.9E+00	4.5E-02	3.3E-04	7.1E-03	1.5E-02	2.2E-03	-1.3E+00

Use of resources

Results per 1 kg Altech panel radiator product

Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	C1	C2	C3	C4	D
PERE	MJ	1.3E+00	1.7E-02	5.3E-01	1.9E+00	2.2E-03	2.6E-04	9.7E-03	6.2E-03	4.3E-03	8.4E-01
PERM	MJ	0	0	0	0	0	0	0	0	0	0
PERT	MJ	1.3E+00	1.7E-02	5.3E-01	1.9E+00	2.2E-03	2.6E-04	9.7E-03	6.2E-03	4.3E-03	8.4E-01
PENRE	MJ	2.9E+01	1.6E-01	1.6E+00	3.1E+01	5.6E-01	4.5E-03	9.2E-02	5.2E-02	2.9E-02	-1.3E+01
PENRM	MJ.	0	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.9E+01	1.6E-01	1.6E+00	3.1E+01	5.6E-01	4.5E-03	9.2E-02	5.2E-02	2.9E-02	-1.3E+01
SM	kg	0	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0
FW	m ³	1.9E-02	2.2E-05	5.6E-04	1.9E-02	3.3E-06	2.9E-07	1.2E-05	7.1E-05	7.3E-06	-8.6E-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

¹ The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Waste production and output flows

Waste production

Results per 1 kg Altech panel radiator product

Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	C1	C2	C3	C4	D
Hazardous waste disposed	kg	1.1E-04	8.4E-12	6.6E-09	1.1E-04	2.3E-12	2.2E-14	4.8E-12	1.0E-12	1.5E-12	2.9E-09
Non-hazardous waste disposed	kg	8.8E-02	3.7E-05	1.4E-03	8.9E-02	5.2E-05	6.4E-07	2.1E-05	1.6E-03	1.5E-01	1.7E-01
Radioactive waste disposed	kg	4.2E-06	2.4E-07	8.3E-06	1.3E-05	6.3E-07	5.5E-09	1.4E-07	1.3E-06	3.2E-07	1.4E-06

Output flows

Results per 1 kg Altech panel radiator product

Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	C1	C2	C3	C4	D
Components for re-use	kg	0	0	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	3.51E-02	3.51E-02	0	0	0	8.00E-01	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0	0	0

References

ISO (2000): ISO 14020:2000, Environmental labels and declarations – General principles

ISO (2006a): ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures

General Programme Instructions of the International EPD® System. Version 3.01.

PCR 2019:14 Construction products. Version 1.11.

CEN (2019): EN 15804:2012+A2:2019, Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.

