ENVIRONMENTAL PRODUCT DECLARATION

Unit heater: TOP - size 4

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

Products included in the EPD:

Unit heater: TOP - size 4

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

EPD of multiple products based on worst-case results

EPD Owner
Kampmann GmbH & Co. KG

Programme
International EPD System
www.environdec.com

Programme operator
EPD International AB

Registration number
EPD-IES-0028762:001

Version date
2026-06-15

Validity date
2031-06-14

EPD INTERNATIONAL EPD SYSTEM

ECO PLATFORM EPD VERIFIED

KAMPMANN

GENERAL INFORMATION

Programme information

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

Product category rules

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)	
Product Category Rules (PCR)	2019:14 Construction products (EN 15804+A2) (version 2.0.1) 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. Review chair: Rob Rouwette (chair), Noa Meron (co-chair). The review panel may be contacted via the Secretariat www.environdec.com/support.

Verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via	☑ EPD verification through an individual EPD verification ☐ EPD verification through EPD Process Certification* ☐ EPD verification through a fully pre-verified tool
Third-party verifier	Hüdai Kara (Metsims Sustainability Consulting)
Approved by	International EPD System
Procedure for follow-up of data during EPD validity involves third party verifier	☐ Yes ☑ No

*EPD Process Certification involves an accredited certification body certifying and periodically auditing the EPD process and conducting external and independent verification of EPDs that are regularly published. More information can be found in the General Programme Instructions on www.environdec.com.

Ownership and limitations on use of EPD

Limitations

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.

Ownership

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

INFORMATION ABOUT EPD OWNER

EPD Owner	Kampmann GmbH & Co. KG
Contact person name	Imke Klompmaker
Contact person e-mail	imke.klompmaker@kampmann.de
Organisation address	Friedrich-Ebert-Str. 128-130 49811 Lingen (Ems) Germany
LCA Practitioner	Imke Klompmaker, imke.klompmaker@kampmann.de

Description of the organisation of the EPD Owner

Kampmann GmbH & Co. KG develops, produces and sells high-quality, customised systems for heating, cooling and ventilating buildings. Kampmann has set itself the goal of creating a feel-good climate in cooperation with its customers and partners. For this reason, the company's employees work for a good climate, for innovations, for sustainability and for cooperation with customers and partners in a spirit of partnership. In terms of sustainability, the goal for our products is to operate as efficient as possible, have a long service life, be versatile and be made of recyclable materials.

The company's main site is located in Lingen (Germany). There are additional production sites in Łęczyca (Poland) and Donaueschingen (Germany). The product groups include trench units, fan coils, unit heaters, door air curtains, decentralised ventilation units and air diffusers. The areas of application are, for example, office buildings, commercial and industrial buildings, hotels, retail chains, sales buildings and multi-functional halls.

PRODUCT INFORMATION

Product name	Unit heater: TOP - size 4
Product identification	Unit heater
Product description	TOP unit heaters are wall and ceiling-mounted unit heaters, which ensure a warm air solution for almost all hall requirements. A comprehensive range of modular accessories enable it to be adapted to technical requirements, as well as to different applications and room conditions. The visually attractive self-supporting housing is sendzimir galvanised and can be powder-coated on request. The product guarantees optimum decentralised heating and ventilation of factories, warehouses, industrial or commercial workshops and showrooms. Air is drawn in through the whisper-quiet sickle-blade fan and is blown through the heat exchanger into the room. Models with large heat exchanger capacity are ideal for use with low water temperatures. TOP unit heaters are supplied as standard with a single-row louvre. The air can optionally be discharged through a double-row louvre or other air diffuser, available as accessories.
Technical purpose of product	Heating of high-ceilinged buildings, industrial buildings, showrooms etc.
Manufacturing or service provision description	The following production steps are included: production of the required sheet metal parts in the sheet metal prefabrication, final assembly of the sheet metal parts and the other components of the product, testing of products according to the quality management system ISO 9001 and packing of the products for the final shipment.
Material properties	Mass per piece: 26.73 kg/piece
Manufacturing site	Kampmann Group 49811 Lingen Germany
UN CPC code	44824. Air heaters and hot air distributors, not electrically heated, incorporating a motor-driven fan or blower, of iron or steel
Geographical scope(s)	Global
Actual or technical lifespan	20 year(s)

PRODUCT IMAGES

TECHNICAL CHARACTERISTICS AND PERFORMANCE

Technical performance

Product name	Heat output [kW]	Cooling output [kW]	Air flow [m³/h]	Type category	Type category	Type category	Type category	Type category	Type category	Type category	Type category
TOP - size 4	18.1	3.6	1,547								

CONTENT DECLARATION

Content declaration of multiple products	The content declarations covers TOP - size 4 with heat exchanger copper-aluminium, very high heat exchanger performance and control option MC1 (worst-case product).
Hazardous and toxic substances	The product does not contain any substances from the SVHC candidate list in concentrations exceeding 0.1% of its weight.

PRODUCT CONTENT

Content name	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material[1], kg C/declared unit
Steel	15.6	11.6	0	0
Aluminium	6.7	0	0	0
Copper	2.9	0	0	0
Polyethylene (PE)	0.4	0	0	0
Polypropylene (PP)	0.4	0	0	0
Printed Circuit Board (PCB)	0.2	0	0	0
Ferrite	0.2	0	0	0
Polyamide (PA)	0.1	0	0	0
Others	0.2	0	0	0
Total	**26.7**	**11.6**	**0**	**0**
Note 1	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2			

PACKAGING MATERIALS

Material name	Mass, kg	Mass-% (versus the product)	Biogenic material[1], kg C/declared unit
Paperboard	0.5	1.8	0.04
Total	**0.5**	**1.8**	**0.04**
Note 1	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2		

BEST-CASE PRODUCT

Product name	TOP - size 4 (heat exchanger steel, low heat exchanger performance, electromechanical)
Hazardous and toxic substances	The product does not contain any substances from the SVHC candidate list in concentrations exceeding 0.1% of its weight.

PRODUCT CONTENT

Content name	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material[1], kg C/declared unit
Steel	38.3	19.1	0	0
Aluminium	0.2	0	0	0
Polyethylene (PE)	0.4	0	0	0
Polypropylene (PP)	0.4	0	0	0
Polycarbonate (PC)	0.3	0	0	0
Ferrite	0.2	0	0	0
Others	0.2	0	0	0
Total	**40**	**19.1**	**0**	**0**
Note 1	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2			

PACKAGING MATERIALS

Material name	Mass, kg	Mass-% (versus the product)	Biogenic material[1], kg C/declared unit
Paperboard	0.5	1.2	0.04
Total	**0.5**	**1.2**	**0.04**
Note 1	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2		

LCA INFORMATION

EPD based on declared or functional unit	Declared unit
Declared unit and reference flow	1 unit of unit heater Number of pieces: 1 piece(s)
Conversion factor to mass	0.0374
Are infrastructure or capital goods included in any upstream, core or downstream processes?	☐ Yes ☑ No
Data sources used for this EPD	ecoinvent database (general) ecoinvent 3.11 database
LCA Software	SimaPro 10.3
Additional information about the underlying LCA-based information	Cut-off rules: ≥ 99% per unit process and ≥ 95% per life-cycle stage (mass/energy/impact); any exclusions are documented in the LCA report.
Version of the EN 15804 reference package	EF Reference Package 3.1
Characterisation methods	Characterization factors of EN 15804 reference package based on EF 3.1 are utilized.
Technology description including background system	The product is a unit heater, used for heating of high-ceilinged buildings, industrial buildings, showrooms etc. The main components include a fan, a heat exchanger and the housing. The manufacturing process consists of metalworking, heat exchanger production and the assembly of the fan and other components. Pre-products include various types of metal and plastics. During the construction process stage, the unit is transported to the site and installed without additional structural requirements. In the use stage, the unit heater ensures continuous operation with regular replacement of components such as fan, valves and PCB. At end-of-life, the main materials (steel, copper, aluminium) can be separated and recycled, while plastics are mainly incinerated and other materials are disposed of through established waste treatment systems.
Scrap (recycled material) inputs contribution level	Less than 10% of the GWP-GHG results in modules A1-A3 come from scrap inputs

Data quality assessment

Description of data quality assessment and reference years	2024. No poor or very poor data used for the analysis.

DATA QUALITY ASSESSMENT

Process name	Source type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
Raw material extraction and processing	Internal Database/ External database	EPD owner/ Ecoinvent 3.11	2024	Secondary data	0%
Transport of raw materials	Internal Database/ External database	EPD owner/ Ecoinvent 3.11	2024	Primary data/ secondary data	2.3%
Manufacturing of product and waste treatment	Internal Database/ External database	EPD owner/ Ecoinvent 3.11	2024	Primary data/ secondary data	2.6%
Total share of primary data, of GWP-GHG results for A1-A3					**4.9%**
Note	The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories.				

Comment on the data sources and other information in the table	Allocation of waste treatment from manufacturing phase follows the polluter-pays principle.

ELECTRICITY USED IN THE MANUFACTURING PROCESS IN A3 (A5 FOR SERVICES)

Type of electricity mix	Specific electricity mix as generated, or purchased from an electricity supplier, demonstrated by a contractual instrument	
Energy sources	Hydro	100%
	Wind	0%
	Solar	0%
	Biomass	0%
	Geothermal	0%
	Waste	0%
	Nuclear	0%
	Natural gas	0%
	Coal	0%

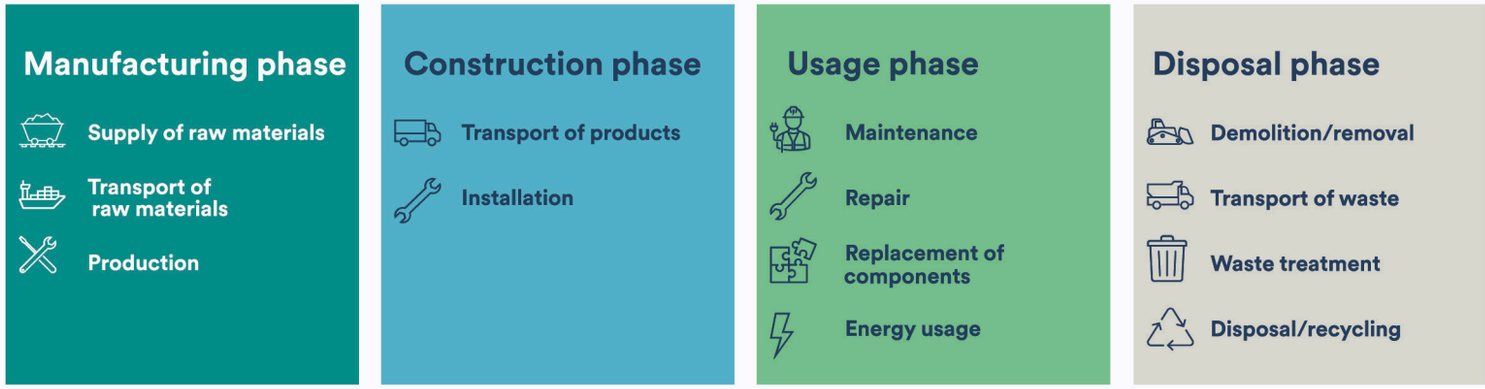
	Oil	0%
	Peat	0%
	Other	0%
Climate impact (GWP-GHG):	0.03 kg CO_2 eq./kWh	

SYSTEM BOUNDARY

Description of the System boundary	b) Cradle to gate with options, modules C1-C4, module D and with optional modules (A1-A3 + C + D and additional modules).
Excluded modules	No, there is no excluded module, or there are no excluded modules

	Product stage			Construction process stage		Use stage							End of life stage				Beyond product life cycle
	Raw material supply	Transport	Manufacturing	Transport to site	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	X	X	X	X	X	X	X	X	X	X	X
Geography	Global	Global	Germany	Global	Global	Germany	Germany	Germany	Germany	Germany	Germany	Germany	Global	Global	Global	Global	Global
Share of specific data	4.9%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - products	4.5%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - sites				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Disclaimer	The share of specific/primary data and both variations (products and sites) refer to GWP-GHG results only.																

Process flow diagram(s) related images



DEFAULT SCENARIO

Name of the default scenario	Normal use of unit heater
Description of the default scenario	Normal conditions for delivery, use and end-of-life of the product

Module A4: Transport to the building site

Explanatory name of the default scenario in module A4	Default scenario
Brief description of the default scenario in module A4	Average values for transport by road, sea and air based on company data

Module A4 information	Value	Unit
Distance (road)	434.3	km
Vehicle type	EURO6	Dimensionless
Distance (air)	132.6	km
Aircraft type	Aircraft, long haul	Dimensionless
Distance (sea)	109.3	km
Ship type	Container ship	Dimensionless

Module A5: Installation in the building

Explanatory name of the default scenario in module A5	Default scenario
Description of the default scenario in module A5	Product is installed with 4-point brackets for ceiling installation. There is no use of energy during installation.

Module B1: Use

Explanatory name of the default scenario in module B1	Default scenario
Description of the default scenario in module B1	Module does not lead to environmental impacts.

Module B2: Maintenance

Explanatory name of the default scenario in module B2	Default scenario
Description of the default scenario in module B2	The recommended maintenance cycle for the product is cleaning it two times per year. During the cleaning, the product is vacuum cleaned (approximately 2 minutes per product). Per year, this results in 4 minutes of cleaning with a vacuum cleaner. In addition, common cleaning agent of approximately 10 ml (0.01 l) is used per product per year.

Module B2 information	Value	Unit
Maintenance cycle	2x	per year
Electricity use	0.06	kWh
Cleaning agent	0.01	litre(s)

Module B3: Repair

Explanatory name of the default scenario in module B3	Default scenario
Description of the default scenario in module B3	No repair necessary.

Module B4: Replacement

Explanatory name of the default scenario in module B4	Default scenario
Description of the default scenario in module B4	The fan and valves have to be replaced every 10 years and the PCB every 15 years. The environmental impacts are calculated based on one year of operation.

Module B5: Refurbishment

Explanatory name of the default scenario in module B5	Default scenario
Description of the default scenario in module B5	No refurbishment necessary.

Reference service life

Description of the default scenario in reference service life	The reference service life is considered to be 20 years.

Reference service life information	Value	Unit
Reference service life	20	year(s)

Module B6: Operational energy use

Explanatory name of the default scenario in module B6	Default scenario
Description of the default scenario in module B6	1,200 hours of operation per year (10 hours/day, 5 days/week, 6 months/year). Operational energy use (B6) uses the German market grid mix to represent typical operation in Germany.

Module B6 information	Value	Unit
Annual electricity use (B6)	144	kWh
Market grid mix: Germany (kg CO2 eq./kWh)	0.473	kg CO_2 eq.

Module B7: Operational water use

Explanatory name of the default scenario in module B7	Default scenario
Description of the default scenario in module B7	No water use necessary.

Module C: End-of-life

Explanatory name of the default scenario in module C	Default scenario
Description of the default scenario in module C	According to the JRC report, Annex C V.2.1, end-of-life coefficients for plastics and metals are determined. Metals are mostly assumed recycled after accounting the losses. According to the type of plastic materials, their end-of-life fate is determined and modelled. Impact of any material that do not go to recycling scheme are included at module C4.

Module C information	Value	Unit
Transport by truck	50	km
Amount for recycling	19.3	kg
Amount for incineration	0.4	kg
Amount for landfill	7	kg

Module D: Beyond product life cycle

Explanatory name of the default scenario in module D	Default scenario
Description of the default scenario in module D	Metals that are recycled are assumed to substitute the use of virgin metals. In addition, the benefits of heat recovery and electricity generation from the incineration of plastics are included.

Module D information	Value	Unit
Recycled metals	19.2	kg
Plastics for incineration	0.4	kg

ADDITIONAL SCENARIO 1

Name of the additional scenario	End-of-life: 100% recycling
Description of the additional scenario	In the scenario of 100% recycling, it is assumed that all the materials are recycled.

Module A4: Transport to the building site

Description of the additional scenario in module A4	No change compared to the default scenario

Module A5: Installation in the building

Description of the additional scenario in module A5	No change compared to the default scenario

Module B1: Use

Description of the additional scenario in module B1	No change compared to the default scenario

Module B2: Maintenance

Description of the additional scenario in module B2	No change compared to the default scenario

Module B3: Repair

Description of the additional scenario in module B3	No change compared to the default scenario

Module B4: Replacement

Description of the additional scenario in module B4	No change compared to the default scenario

Module B5: Refurbishment

Description of the additional scenario in module B5	No change compared to the default scenario

Reference service life

Description of the additional scenario in reference service life	No change compared to the default scenario

Module B6: Operational energy use

Description of the additional scenario in module B6	No change compared to the default scenario

Module B7: Operational water use

Description of the additional scenario in module B7	No change compared to the default scenario

Module C: End-of-life

Description of the additional scenario in module C	In order to replace the use of virgin plastics in module D, the plastics have to be processed and treated. These impacts belong to stage C3.

Module C information	Value	Unit
Transport by truck	50	km
Amount for recycling	26.7	kg

Module D: Beyond product life cycle

Description of the additional scenario in module D	The amount of metals that has been recycled are assumed to be substituting the use of virgin material of its own. For the recycling of plastics, it is assumed that the recycled plastics substitute the use of polypropylene.

Module D information	Value	Unit
Recycled metals	25.3	kg
Recycled plastics	1	kg

ADDITIONAL SCENARIO 2

Name of the additional scenario	End-of-life: 100% landfill
Description of the additional scenario	In the scenario of 100% landfill, it is assumed that all the materials are landfilled.

Module A4: Transport to the building site

Description of the additional scenario in module A4	No change compared to the default scenario

Module A5: Installation in the building

Description of the additional scenario in module A5	No change compared to the default scenario

Module B1: Use

Description of the additional scenario in module B1	No change compared to the default scenario

Module B2: Maintenance

Description of the additional scenario in module B2	No change compared to the default scenario

Module B3: Repair

Description of the additional scenario in module B3	No change compared to the default scenario

Module B4: Replacement

Description of the additional scenario in module B4	No change compared to the default scenario

Module B5: Refurbishment

Description of the additional scenario in module B5	No change compared to the default scenario

Reference service life

Description of the additional scenario in reference service life	No change compared to the default scenario

Module B6: Operational energy use

Description of the additional scenario in module B6	No change compared to the default scenario

Module B7: Operational water use

Description of the additional scenario in module B7	No change compared to the default scenario

Module C: End-of-life

Description of the additional scenario in module C	Landfilling impacts of plastic and metal materials are considered at stage C4.

Module C information	Value	Unit
Transport by truck	50	km
Amount for landfill	26.7	kg

Module D: Beyond product life cycle

Description of the additional scenario in module D	There are no benefits considered at module D because there is no substitution of the use of virgin (primary) materials.

ADDITIONAL SCENARIO 3

Name of the additional scenario	End-of-life: 100% incineration
Description of the additional scenario	In the scenario of 100% incineration, it is assumed that all the materials are incinerated.

Module A4: Transport to the building site

Description of the additional scenario in module A4	No change compared to the default scenario

Module A5: Installation in the building

Description of the additional scenario in module A5	No change compared to the default scenario

Module B1: Use

Description of the additional scenario in module B1	No change compared to the default scenario

Module B2: Maintenance

Description of the additional scenario in module B2	No change compared to the default scenario

Module B3: Repair

Description of the additional scenario in module B3	No change compared to the default scenario

Module B4: Replacement

Description of the additional scenario in module B4	No change compared to the default scenario

Module B5: Refurbishment

Description of the additional scenario in module B5	No change compared to the default scenario

Reference service life

Description of the additional scenario in reference service life	No change compared to the default scenario

Module B6: Operational energy use

Description of the additional scenario in module B6	No change compared to the default scenario

Module B7: Operational water use

Description of the additional scenario in module B7	No change compared to the default scenario

Module C: End-of-life

Description of the additional scenario in module C	Incineration related impacts are considered and modelled at stage C3.

Module C information	Value	Unit
Transport by truck	50	km
Amount for incineration	26.7	kg

Module D: Beyond product life cycle

Description of the additional scenario in module D	The incinerated plastics carry benefits at module D due to heat recovery during the incineration process. There is no benefits at module D due to incineration of metals.

Module D information	Value	Unit
Plastics for incineration	1	kg

ENVIRONMENTAL PERFORMANCE

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.

Mandatory environmental performance indicators according to EN 15804

Impact category	Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Climate change - total	GWP-total	kg CO_2 eq.	1.36E+2	4.20E+0	7.62E+0	0.00E+0	6.20E-2	0.00E+0	2.47E+0	0.00E+0	6.78E+1	0.00E+0	0.00E+0	1.36E-1	1.14E+0	1.11E-1	-6.01E+1
Climate change - fossil	GWP-fossil	kg CO_2 eq.	1.35E+2	4.20E+0	7.47E+0	0.00E+0	5.94E-2	0.00E+0	2.47E+0	0.00E+0	6.77E+1	0.00E+0	0.00E+0	1.36E-1	1.14E+0	1.11E-1	-5.93E+1
Climate change - biogenic	GWP-biogenic	kg CO_2 eq.	-1.46E-1	0.00E+0	1.46E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Climate change - land use and land-use change	GWP-luluc	kg CO_2 eq.	1.22E+0	6.73E-4	1.36E-3	0.00E+0	2.60E-3	0.00E+0	6.41E-3	0.00E+0	1.18E-1	0.00E+0	0.00E+0	5.06E-5	2.99E-6	2.48E-5	-8.49E-1
Ozone depletion	ODP	kg CFC-11 eq.	2.10E-6	7.23E-8	7.75E-11	0.00E+0	1.09E-9	0.00E+0	6.68E-8	0.00E+0	6.75E-7	0.00E+0	0.00E+0	3.09E-9	2.08E-10	1.65E-9	-7.48E-7
Acidification	AP	mol H^+ eq.	2.25E+0	1.62E-2	1.74E-2	0.00E+0	2.75E-4	0.00E+0	4.04E-2	0.00E+0	1.48E-1	0.00E+0	0.00E+0	3.31E-4	1.55E-4	3.82E-4	-5.12E-1
Eutrophication aquatic freshwater	EP-freshwater	kg P eq.	1.29E-2	1.42E-5	3.03E-6	0.00E+0	6.58E-6	0.00E+0	3.31E-4	0.00E+0	1.06E-2	0.00E+0	0.00E+0	1.07E-6	1.63E-7	6.49E-7	-3.63E-3
Eutrophication aquatic marine	EP-marine	kg N eq.	1.65E-1	6.02E-3	3.98E-3	0.00E+0	7.98E-5	0.00E+0	3.57E-3	0.00E+0	2.94E-2	0.00E+0	0.00E+0	8.52E-5	7.30E-5	1.80E-4	-4.99E-2
Eutrophication terrestrial	EP-terrestrial	mol N eq.	2.11E+0	6.60E-2	4.22E-2	0.00E+0	6.03E-4	0.00E+0	4.50E-2	0.00E+0	3.41E-1	0.00E+0	0.00E+0	9.41E-4	7.89E-4	1.63E-3	-5.94E-1
Photochemical ozone formation	POCP	kg NMVOC eq.	7.13E-1	2.33E-2	1.38E-2	0.00E+0	1.79E-4	0.00E+0	1.59E-2	0.00E+0	9.62E-2	0.00E+0	0.00E+0	5.53E-4	1.95E-4	5.91E-4	-2.26E-1
Depletion of abiotic resources - minerals and metals	ADP-minerals&metals[1]	kg Sb eq.	2.61E-2	4.21E-6	4.61E-5	0.00E+0	3.85E-7	0.00E+0	7.00E-4	0.00E+0	1.14E-4	0.00E+0	0.00E+0	3.96E-7	2.93E-8	1.30E-7	-2.82E-3
Depletion of abiotic resources - fossil fuels	ADP-fossil[1]	MJ, net calorific value	1.87E+3	5.79E+1	7.74E+1	0.00E+0	9.35E-1	0.00E+0	3.64E+1	0.00E+0	1.02E+3	0.00E+0	0.00E+0	2.06E+0	1.12E-1	1.36E+0	-8.17E+2
Water use	WDP[1]	m^3 world eq. deprived	-6.30E+1	1.35E-1	-2.38E+1	0.00E+0	2.90E-2	0.00E+0	1.09E+0	0.00E+0	2.57E+0	0.00E+0	0.00E+0	9.37E-3	4.68E-3	2.28E-2	-7.00E+0
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																
General disclaimer	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/A1-A5 for services).																
Disclaimer 1	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																

Additional mandatory environmental performance indicators

Impact category	Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Climate change - GWP-GHG	GWP-GHG[1]	kg CO_2 eq.	1.37E+2	4.21E+0	7.49E+0	0.00E+0	6.22E-2	0.00E+0	2.48E+0	0.00E+0	6.81E+1	0.00E+0	0.00E+0	1.36E-1	1.14E+0	1.23E-1	-6.03E+1
Acronyms	GWP-GHG = Global warming potential greenhouse gas.																
General disclaimer	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/A1-A5 for services).																
Disclaimer 1	The GWP-GHG indicator is termed GWP-IOBC/GHG in the ILCD+EPD+ data format. The 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 CO_2 is set to zero.																

Additional voluntary environmental performance indicators according to EN 15804

Impact category	Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter emissions	PM	Disease incidence	1.04E-5	1.46E-7	2.44E-7	0.00E+0	2.57E-9	0.00E+0	1.87E-7	0.00E+0	5.66E-7	0.00E+0	0.00E+0	1.35E-8	6.75E-10	8.56E-9	-4.63E-6
Ionizing radiation - human health	IRP[1]	kBq U235 eq.	2.62E+2	1.18E-2	6.05E+1	0.00E+0	2.08E-3	0.00E+0	1.05E-1	0.00E+0	3.50E+0	0.00E+0	0.00E+0	8.50E-4	1.33E-4	1.78E-3	-3.47E+0
Eco-toxicity - freshwater	ETP-fw[2]	CTUe	2.40E+3	3.82E+0	1.11E+1	0.00E+0	5.08E-1	0.00E+0	6.85E+1	0.00E+0	1.87E+2	0.00E+0	0.00E+0	2.42E-1	1.25E+0	1.06E+2	-2.82E+2
Human toxicity - cancer effects	HTP-c[2]	CTUh	3.12E-7	3.86E-10	4.32E-9	0.00E+0	4.25E-11	0.00E+0	4.89E-9	0.00E+0	7.14E-9	0.00E+0	0.00E+0	2.25E-11	2.72E-11	2.79E-10	-1.24E-7
Human toxicity - non-cancer effects	HTP-nc[2]	CTUh	1.93E-5	4.17E-8	4.50E-8	0.00E+0	5.01E-10	0.00E+0	3.47E-7	0.00E+0	3.65E-7	0.00E+0	0.00E+0	1.32E-9	1.22E-9	1.24E-8	-3.28E-6
Land-use related impacts/soil quality	SQP[2]	Dimensionless	7.83E+2	2.05E+1	2.78E+0	0.00E+0	5.78E-1	0.00E+0	1.78E+1	0.00E+0	1.41E+2	0.00E+0	0.00E+0	2.07E+0	2.97E-2	2.85E+0	-1.45E+2
Acronyms	PM = Potential incidence of disease due to particulate matter emissions; IRP = Potential human exposure efficiency relative to U235; ETP-fw = Potential comparative toxic unit for ecosystems; HTP-c = Potential comparative toxic unit for humans; HTP-nc = Potential comparative toxic unit for humans; SQP = Potential soil quality index.																
General disclaimer	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/A1-A5 for services).																
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 of these results are high or as there is limited experience with the indicator.																

Resource use indicators according to EN 15804

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ, net calorific value	4.62E+2	4.06E-1	2.44E+0	0.00E+0	2.48E-1	0.00E+0	4.92E+0	0.00E+0	2.04E+2	0.00E+0	0.00E+0	3.10E-2	5.94E-3	6.50E-2	-2.35E+2
PERM	MJ, net calorific value	6.01E+0	0.00E+0	-6.01E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PERT	MJ, net calorific value	4.68E+2	4.06E-1	-3.57E+0	0.00E+0	2.48E-1	0.00E+0	4.92E+0	0.00E+0	2.04E+2	0.00E+0	0.00E+0	3.10E-2	5.94E-3	6.50E-2	-2.35E+2
PENRE	MJ, net calorific value	1.87E+3	5.79E+1	7.74E+1	0.00E+0	9.35E-1	0.00E+0	3.64E+1	0.00E+0	1.02E+3	0.00E+0	0.00E+0	2.06E+0	1.12E-1	1.36E+0	-8.17E+2
PENRM	MJ, net calorific value	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PENRT	MJ, net calorific value	1.87E+3	5.79E+1	7.74E+1	0.00E+0	9.35E-1	0.00E+0	3.64E+1	0.00E+0	1.02E+3	0.00E+0	0.00E+0	2.06E+0	1.12E-1	1.36E+0	-8.17E+2
SM	kg	3.11E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
RSF	MJ, net calorific value	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	MJ, net calorific value	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	m^3	-6.10E+1	1.35E-1	-2.36E+1	0.00E+0	2.88E-2	0.00E+0	1.11E+0	0.00E+0	2.55E+0	0.00E+0	0.00E+0	9.39E-3	4.39E-3	2.63E-2	-7.43E+0
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.															
General disclaimer	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/A1-A5 for services).															

Waste indicators according to EN 15804

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NHWD	kg	2.08E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
RWD	kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Acronyms	HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed.															
General disclaimer	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/A1-A5 for services).															

Output flow indicators according to EN 15804

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
CRU	kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	kg	3.50E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.93E+1	0.00E+0	0.00E+0
MER	kg	0.00E+0	0.00E+0	4.93E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.10E-1	0.00E+0	0.00E+0
EEE	MJ, net calorific value	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.88E-1
EET	MJ, net calorific value	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	7.70E+0
Acronyms	CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy.															
General disclaimer	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/A1-A5 for services).															

Results of an alternative modelling approach

Description of the scenario/method	Alternative end-of-life scenario: 100% incineration

Impact category	Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global warming potential - total	GWP-total	kg CO2 eq.	1.36E+2	4.20E+0	7.62E+0	0.00E+0	6.20E-2	0.00E+0	2.47E+0	0.00E+0	6.78E+1	0.00E+0	0.00E+0	1.36E-1	3.61E+0	0.00E+0	-1.57E+0
Global warming potential - fossil fuels	GWP-fossil	kg CO2 eq.	1.35E+2	4.20E+0	7.47E+0	0.00E+0	5.94E-2	0.00E+0	2.47E+0	0.00E+0	6.77E+1	0.00E+0	0.00E+0	1.36E-1	3.61E+0	0.00E+0	-1.57E+0
Global warming potential - biogenic	GWP-biogenic	kg CO2 eq.	-1.46E-1	0.00E+0	1.46E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Global warming potential - land use and land use change	GWP-luluc	kg CO2 eq.	1.22E+0	6.73E-4	1.36E-3	0.00E+0	2.60E-3	0.00E+0	6.41E-3	0.00E+0	1.18E-1	0.00E+0	0.00E+0	5.06E-5	5.32E-4	0.00E+0	-3.52E-4
Depletion potential of the stratospheric ozone layer	ODP	kg CFC-11 eq.	2.10E-6	7.23E-8	7.75E-11	0.00E+0	1.09E-9	0.00E+0	6.68E-8	0.00E+0	6.75E-7	0.00E+0	0.00E+0	3.09E-9	9.28E-9	0.00E+0	-5.90E-8
Acidification potential, accumulated exceedance	AP	mol H+ eq.	2.25E+0	1.62E-2	1.74E-2	0.00E+0	2.75E-4	0.00E+0	4.04E-2	0.00E+0	1.48E-1	0.00E+0	0.00E+0	3.31E-4	3.48E-3	0.00E+0	-1.68E-3
Eutrophication potential - freshwater	EP-freshwater	kg P eq.	1.29E-2	1.42E-5	3.03E-6	0.00E+0	6.58E-6	0.00E+0	3.31E-4	0.00E+0	1.06E-2	0.00E+0	0.00E+0	1.07E-6	7.81E-6	0.00E+0	-1.94E-5
Eutrophication potential - marine	EP-marine	kg N eq.	1.65E-1	6.02E-3	3.98E-3	0.00E+0	7.98E-5	0.00E+0	3.57E-3	0.00E+0	2.94E-2	0.00E+0	0.00E+0	8.52E-5	1.48E-3	0.00E+0	-4.73E-4
Eutrophication potential - terrestrial	EP-terrestrial	mol N eq.	2.11E+0	6.60E-2	4.22E-2	0.00E+0	6.03E-4	0.00E+0	4.50E-2	0.00E+0	3.41E-1	0.00E+0	0.00E+0	9.41E-4	1.58E-2	0.00E+0	-5.11E-3
Photochemical ozone creation potential	POCP	kg NMVOC eq.	7.13E-1	2.33E-2	1.38E-2	0.00E+0	1.79E-4	0.00E+0	1.59E-2	0.00E+0	9.62E-2	0.00E+0	0.00E+0	5.53E-4	4.84E-3	0.00E+0	-2.62E-3
Abiotic depletion potential - non-fossil resources	ADPE	kg Sb eq.	2.61E-2	4.21E-6	4.61E-5	0.00E+0	3.85E-7	0.00E+0	7.00E-4	0.00E+0	1.14E-4	0.00E+0	0.00E+0	3.96E-7	1.24E-6	0.00E+0	-2.59E-6
Abiotic depletion potential - fossil resources	ADPF	MJ, net calorific value	1.87E+3	5.79E+1	7.74E+1	0.00E+0	9.35E-1	0.00E+0	3.64E+1	0.00E+0	1.02E+3	0.00E+0	0.00E+0	2.06E+0	7.68E+0	0.00E+0	-2.51E+1
Water (user) deprivation potential	WDP	m3 world eq. deprived	-6.30E+1	1.35E-1	-2.38E+1	0.00E+0	2.90E-2	0.00E+0	1.09E+0	0.00E+0	2.57E+0	0.00E+0	0.00E+0	9.37E-3	1.48E-1	0.00E+0	-3.96E-2
Acronyms	see above																
Disclaimers	see above																
General disclaimer	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/A1-A5 for services).																

Results of an alternative modelling approach

Description of the scenario/method	Alternative end-of-life scenario: 100% landfill

Impact category	Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global warming potential - total	GWP-total	kg CO2 eq.	1.36E+2	4.20E+0	7.62E+0	0.00E+0	6.20E-2	0.00E+0	2.47E+0	0.00E+0	6.78E+1	0.00E+0	0.00E+0	1.36E-1	0.00E+0	3.60E-1	0.00E+0
Global warming potential - fossil fuels	GWP-fossil	kg CO2 eq.	1.35E+2	4.20E+0	7.47E+0	0.00E+0	5.94E-2	0.00E+0	2.47E+0	0.00E+0	6.77E+1	0.00E+0	0.00E+0	1.36E-1	0.00E+0	3.60E-1	0.00E+0
Global warming potential - biogenic	GWP-biogenic	kg CO2 eq.	-1.46E-1	0.00E+0	1.46E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0

Global warming potential - land use and land use change	GWP-luluc	kg CO2 eq.	1.22E+0	6.73E-4	1.36E-3	0.00E+0	2.60E-3	0.00E+0	6.41E-3	0.00E+0	1.18E-1	0.00E+0	0.00E+0	5.06E-5	0.00E+0	1.05E-4	0.00E+0
Depletion potential of the stratospheric ozone layer	ODP	kg CFC-11 eq.	2.10E-6	7.23E-8	7.75E-11	0.00E+0	1.09E-9	0.00E+0	6.68E-8	0.00E+0	6.75E-7	0.00E+0	0.00E+0	3.09E-9	0.00E+0	6.62E-9	0.00E+0
Acidification potential, accumulated exceedance	AP	mol H+ eq.	2.25E+0	1.62E-2	1.74E-2	0.00E+0	2.75E-4	0.00E+0	4.04E-2	0.00E+0	1.48E-1	0.00E+0	0.00E+0	3.31E-4	0.00E+0	1.57E-3	0.00E+0
Eutrophication potential - freshwater	EP-freshwater	kg P eq.	1.29E-2	1.42E-5	3.03E-6	0.00E+0	6.58E-6	0.00E+0	3.31E-4	0.00E+0	1.06E-2	0.00E+0	0.00E+0	1.07E-6	0.00E+0	6.75E-6	0.00E+0
Eutrophication potential - marine	EP-marine	kg N eq.	1.65E-1	6.02E-3	3.98E-3	0.00E+0	7.98E-5	0.00E+0	3.57E-3	0.00E+0	2.94E-2	0.00E+0	0.00E+0	8.52E-5	0.00E+0	8.25E-4	0.00E+0
Eutrophication potential - terrestrial	EP-terrestrial	mol N eq.	2.11E+0	6.60E-2	4.22E-2	0.00E+0	6.03E-4	0.00E+0	4.50E-2	0.00E+0	3.41E-1	0.00E+0	0.00E+0	9.41E-4	0.00E+0	6.61E-3	0.00E+0
Photochemical ozone creation potential	POCP	kg NMVOC eq.	7.13E-1	2.33E-2	1.38E-2	0.00E+0	1.79E-4	0.00E+0	1.59E-2	0.00E+0	9.62E-2	0.00E+0	0.00E+0	5.53E-4	0.00E+0	2.43E-3	0.00E+0
Abiotic depletion potential - non-fossil resources	ADPE	kg Sb eq.	2.61E-2	4.21E-6	4.61E-5	0.00E+0	3.85E-7	0.00E+0	7.00E-4	0.00E+0	1.14E-4	0.00E+0	0.00E+0	3.96E-7	0.00E+0	5.26E-7	0.00E+0
Abiotic depletion potential - fossil resources	ADPF	MJ, net calorific value	1.87E+3	5.79E+1	7.74E+1	0.00E+0	9.35E-1	0.00E+0	3.64E+1	0.00E+0	1.02E+3	0.00E+0	0.00E+0	2.06E+0	0.00E+0	5.52E+0	0.00E+0
Water (user) deprivation potential	WDP	m3 world eq. deprived	-6.30E+1	1.35E-1	-2.38E+1	0.00E+0	2.90E-2	0.00E+0	1.09E+0	0.00E+0	2.57E+0	0.00E+0	0.00E+0	9.37E-3	0.00E+0	3.36E-2	0.00E+0
Acronyms	see above																
Disclaimers	see above																
General disclaimer	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/A1-A5 for services).																

Results of an alternative modelling approach

Description of the scenario/method	Alternative end-of-life scenario: 100% recycling

Impact category	Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global warming potential - total	GWP-total	kg CO2 eq.	1.36E+2	4.20E+0	7.62E+0	0.00E+0	6.20E-2	0.00E+0	2.47E+0	0.00E+0	6.78E+1	0.00E+0	0.00E+0	1.36E-1	2.05E-3	0.00E+0	-8.06E+1
Global warming potential - fossil fuels	GWP-fossil	kg CO2 eq.	1.35E+2	4.20E+0	7.47E+0	0.00E+0	5.94E-2	0.00E+0	2.47E+0	0.00E+0	6.77E+1	0.00E+0	0.00E+0	1.36E-1	2.04E-3	0.00E+0	-7.95E+1
Global warming potential - biogenic	GWP-biogenic	kg CO2 eq.	-1.46E-1	0.00E+0	1.46E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Global warming potential - land use and land use change	GWP-luluc	kg CO2 eq.	1.22E+0	6.73E-4	1.36E-3	0.00E+0	2.60E-3	0.00E+0	6.41E-3	0.00E+0	1.18E-1	0.00E+0	0.00E+0	5.06E-5	1.96E-6	0.00E+0	-1.12E+0
Depletion potential of the stratospheric ozone layer	ODP	kg CFC-11 eq.	2.10E-6	7.23E-8	7.75E-11	0.00E+0	1.09E-9	0.00E+0	6.68E-8	0.00E+0	6.75E-7	0.00E+0	0.00E+0	3.09E-9	2.51E-11	0.00E+0	-1.07E-6
Acidification potential, accumulated exceedance	AP	mol H+ eq.	2.25E+0	1.62E-2	1.74E-2	0.00E+0	2.75E-4	0.00E+0	4.04E-2	0.00E+0	1.48E-1	0.00E+0	0.00E+0	3.31E-4	1.10E-5	0.00E+0	-6.79E-1
Eutrophication potential - freshwater	EP-freshwater	kg P eq.	1.29E-2	1.42E-5	3.03E-6	0.00E+0	6.58E-6	0.00E+0	3.31E-4	0.00E+0	1.06E-2	0.00E+0	0.00E+0	1.07E-6	1.70E-7	0.00E+0	-4.81E-3
Eutrophication potential - marine	EP-marine	kg N eq.	1.65E-1	6.02E-3	3.98E-3	0.00E+0	7.98E-5	0.00E+0	3.57E-3	0.00E+0	2.94E-2	0.00E+0	0.00E+0	8.52E-5	4.51E-6	0.00E+0	-6.67E-2
Eutrophication potential - terrestrial	EP-terrestrial	mol N eq.	2.11E+0	6.60E-2	4.22E-2	0.00E+0	6.03E-4	0.00E+0	4.50E-2	0.00E+0	3.41E-1	0.00E+0	0.00E+0	9.41E-4	4.98E-5	0.00E+0	-7.93E-1
Photochemical ozone creation potential	POCP	kg NMVOC eq.	7.13E-1	2.33E-2	1.38E-2	0.00E+0	1.79E-4	0.00E+0	1.59E-2	0.00E+0	9.62E-2	0.00E+0	0.00E+0	5.53E-4	1.48E-5	0.00E+0	-3.09E-1
Abiotic depletion potential - non-fossil resources	ADPE	kg Sb eq.	2.61E-2	4.21E-6	4.61E-5	0.00E+0	3.85E-7	0.00E+0	7.00E-4	0.00E+0	1.14E-4	0.00E+0	0.00E+0	3.96E-7	2.15E-9	0.00E+0	-3.73E-3
Abiotic depletion potential - fossil resources	ADPF	MJ, net calorific value	1.87E+3	5.79E+1	7.74E+1	0.00E+0	9.35E-1	0.00E+0	3.64E+1	0.00E+0	1.02E+3	0.00E+0	0.00E+0	2.06E+0	2.87E-2	0.00E+0	-1.14E+3

Water (user) deprivation potential	WDP	m3 world eq. deprived	-6.30E+1	1.35E-1	-2.38E+1	0.00E+0	2.90E-2	0.00E+0	1.09E+0	0.00E+0	2.57E+0	0.00E+0	0.00E+0	9.37E-3	6.77E-5	0.00E+0	-1.03E+1
Acronyms	see above																
Disclaimers	see above																
General disclaimer	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/A1-A5 for services).																

ABBREVIATIONS

Not applicable

REFERENCES

- General Programme Instructions of the International EPD® System. Version 5.0.1 (2025-02-27)
- ISO 14020:2000/ Environmental Labels and Declarations — General principles
- EN 15804:2012+A2:2019/AC:2021 Sustainability of construction works - Environmental Product Declarations — Core rules for the product category of construction products
- ISO 14025/ DIN EN ISO 14025:2011-10: Environmental labels and declarations - Type III environmental declarations — Principles and procedures
- ISO 14040/44/ DIN EN ISO 14040:2006-10, Environmental management - Life cycle assessment - Principles and framework (ISO14040:2006) and Requirements and guidelines (ISO 14044:2006)
- PCR for Construction Products and Construction Services/ Prepared by IVL Swedish Environmental Research Institute, Swedish environmental Protection Agency, SP Trä, Swedish Wood Preservation Institute, Swedisol, SCDA, Svenskt Limträ AB, SSAB, The International EPD System, 2019:14 Version 2.0.1
- The International EPD® System/ The International EPD® System is a programme for type III environmental declarations, maintaining a system to verify and register EPD®s as well as keeping a library of EPD®s and PCRs in accordance with ISO 14025. www.environdec.com
- European Commission, JRC report, Annex C version 2.1 (2020-05)

VERSION HISTORY

Original version of the EPD