Environmental Product Declaration

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

PANNELLI SANDWICH PANEL WITH STEEL COATING AND ROCKWOOL INSULATION CORE

from

PANURANIA SPA

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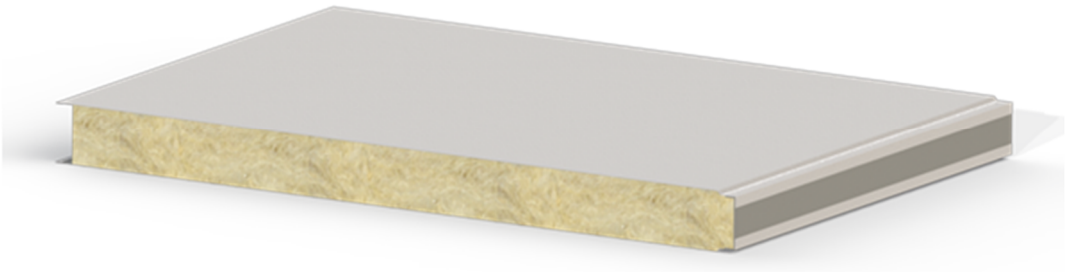
An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com



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

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): PCR2019-14 Construction products v.1.11>
PCR review was conducted by: *<name and organisation of the review chair, and information on how to contact the chair through the programme operator>*
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☐ EPD process certification ☐ EPD verification
Third party verifier: *<name and organisation of the third party verifier>* *In case of accredited certification bodies:* Accredited by: *<name of the accreditation body and accreditation number, where applicable>.* *In case of recognised individual verifiers:* Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☐ 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: Pan Urania S.P.A
Contact: Sig. Andrea di Marco
Description of the organization
Pan Urania S.p.A., thanks to its 40 years of experience, is a leader in the production of modular panels for walls, false ceilings and floors for prefabricated, industrial, civil, commercial buildings and for the construction of clean rooms.
Forty years ago, a small company, with courage and foresight, started the production of panels, in collaboration with its customers and developing various products with them.

The production over the years has been gradually growing both in the diversification of products and the relative turnover. This has allowed Pan Urania to be known and exported to many European countries, but also to other continents.

Pan Urania's know-out is at the service of those looking for quality products, easy to use with thermal, acoustic, mechanical and fireproof performance. Particular attention has always been paid to producing panels that during assembly did not require reworking such as dimensional cuts, allowing to speed up installation / assembly operations and reduce waste (avoiding processing waste), without sacrificing time and resources. for on-site adaptations..
The customization of the panels is a characteristic of the product, color, shape, size, greater resistance, specific materials, are some of the parameters used for the construction of the panel.

The production plants guarantee excellent technological efficiency performance as well as timely control of the environmental impact. The production is also carried out with the help of photovoltaic systems that cover about 50% of the electricity needs and a cogeneration plant that produces industrial hot water for heating the presses serving the process. The cogeneration plant fueled by methane gas also produces electricity fed into the network.

The company is committed in the environmental field to reduce the use of packaging, favoring recovery packaging and as far as possible composed of recyclable materials.
The lighting of both production rooms and offices are all LED technology.

Certifications related to the product and the management system
Pan Urania has implemented an integrated management system certified UNI EN ISO 9001: 2015 - EN ISO 14001: 2015 - EN ISO 45001: 2018.

Name and place of production
Pan Urania S.pA. has a single production plant located in the Municipality of Barberino Tavarnelle (FI) in Via Cristoforo Colombo 15/17/19.

Product information

Product identification

Insulating panel for building use in general and for modular prefabrication in different thicknesses of 60, 80, and 125 mm. with dimensions that may vary according to the specific requests of the customers. For the purpose of the present study, the panel with a size of 1200x2500 mm was considered

Pan Urania insulating panels have high thermal insulating and sound insulating characteristics

The performances vary according to the thickness of the panel

- Panel thickness 60 mm: 0,62 W/m^{2}K
- Panel thickness 80 mm: 0,47 W/m^{2}K
- Panel thickness 125 mm: 0,31 W/m^{2}K

The range of products included consist of a sheet metal casing and rock wool insulation core with a density of 80 kg / m^3.

Product description

The insulating sandwich panels consist of two external metal sheet supports, made of hot-dip galvanized and pre-painted steel, in order to increase corrosion protection which enclose an insulating core in rock wool glued to the surfaces of the sheets. The sandwich panels have the following characteristics

60 mm Panel	80 mm Panel	125 mm Panel
Internal and external metal sheest: precoating steel thikness 0,45 mm junction profile type: F-F upper/lower profile material: steel thickness 1.2 mm right/left profile material: steel thickness 1.2 mm	Internal and external metal sheets: precoating steel thikness 0,45 mm junction profile type: F-F upper/lower profile material: steel thickness 1.2 mm right/left profile material: steel thickness 1.2 mm	external metal sheet: pre-plasticized steel thikness 0,45 mm Internal metal sheet: precoating steel thikness 0,45 mm junction profile type: M-F upper/lower profile material: steel thckness 1.2 mm right/ profile material: MgO based panel (Ecoboard)

The insulating panels can be used for roofs and walls of industrial, commercial and civil buildings. They are light, versatile and easy to assemble and guarantee thermal and acoustic insulation, solidity, airtightness and safety in case of fire. Pan Urania offers an extremely wide production range of metal panels, which includes different thicknesses and surface finishes to create customized solutions.

The manufacturing process of Pan Urania panels is divided into several stages, ranging from the acquisition of raw materials to the packaging of the finished product. The manufacture of the panels is carried out by means of a batch process, schematized in figure 3.

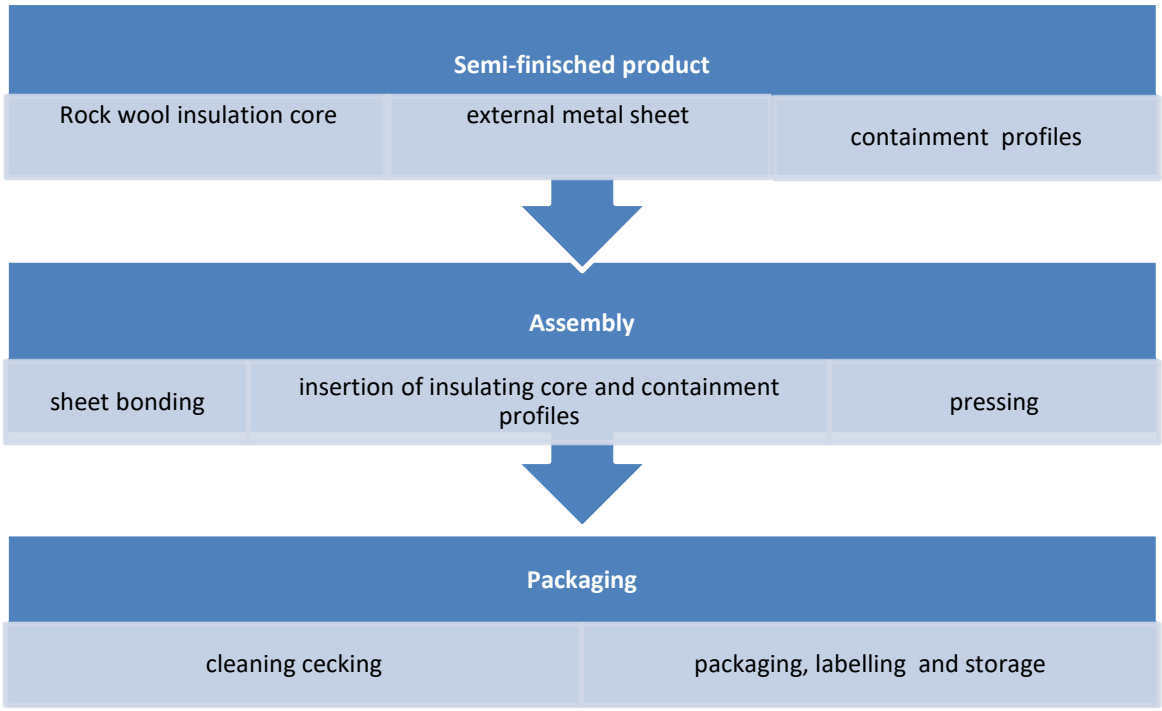


Figura 3 Productive process

Depending on the conditions of use, sandwich panels with steel cladding have an estimated life of 40/45 years, as defined on the basis of the methodology for evaluating the durability of building components developed by the German Federal Research Institution BBSR (Federal Institute for Building Research, Urban Affairs and Territorial Development).

The panels do not contain SVHC substances included in the ECHA Candidate List in concentrations greater than 0.1% by mass.

La colla utilizzata è del tipo poliuretanico bicomponente ottenuta con la polimerizzazione tra isocianato e poliolo. Nella reazione la colla assume uno stato fisico solido e, alla conclusione della stessa, non possiede più alcuna caratteristica di pericolosità.
The used glue is of the two-component polyurethane type obtained with the polymerization between isocyanate and polyol. In the reaction, the glue assumes a solid physical state and, at the end of the reaction, it no longer possesses any dangerous characteristics.

LCA informations

Declared Unit:
L'unità dichiarata è rappresentata da 1 m2 di pannello in lana di roccia (P2) prodotto, per tre varianti di spessore: 60 mm, 80 mm e 125 mm
The declared unit is represented by 1m^2 of panel P2 produced, for three variants of thickness: 60 mm, 80 mm and 125 mm.

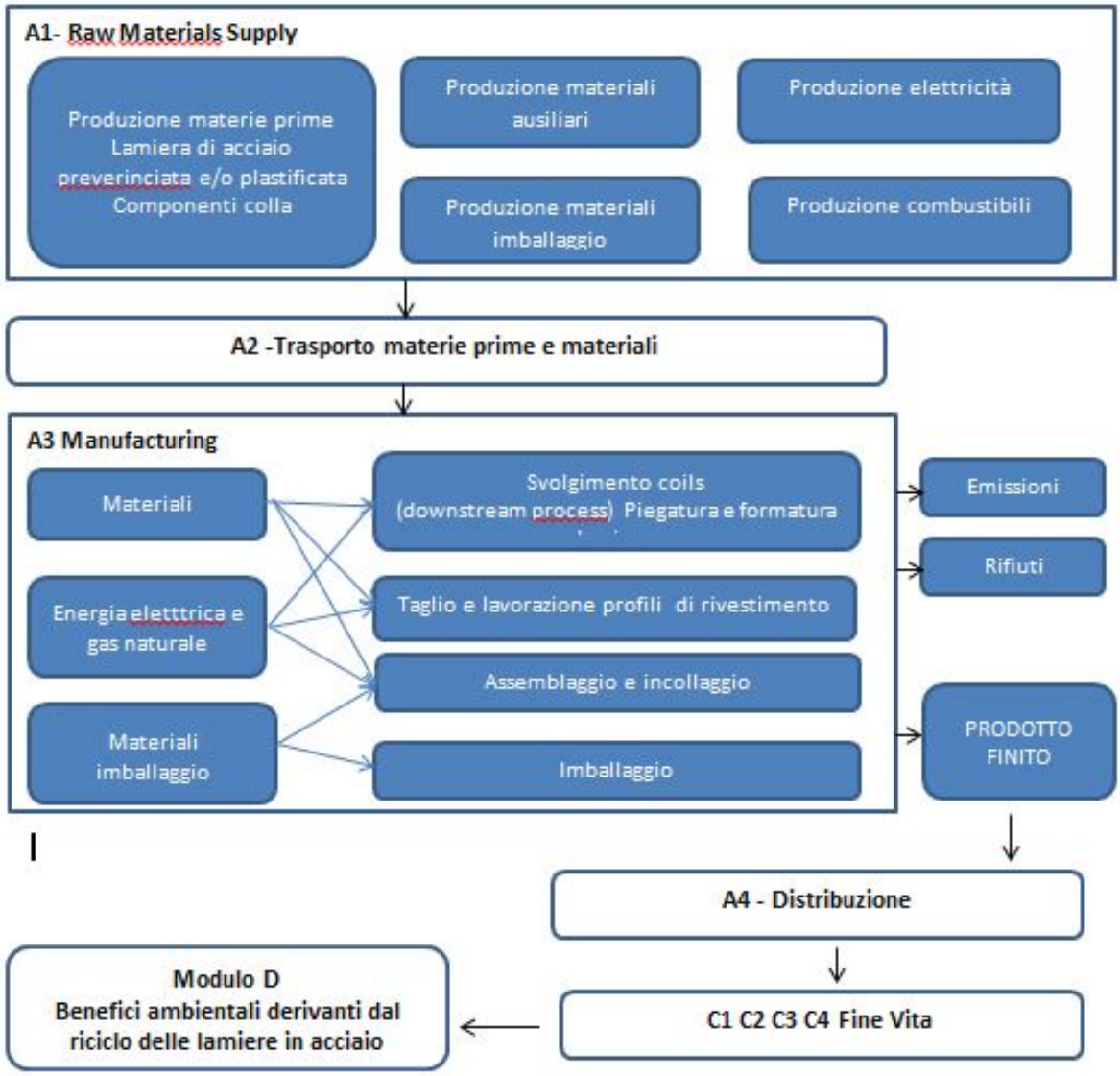
Reference service life
40/45 anni

Time representativeness:.
The primary data provided by the company regarding the product in question refer to the year 2021, while the secondary data used in the study come from the Ecoinvent v3.6 database and literature data.

Database and LCA software used
The LCA analysis was conducted using the SimaPro 9.1 software and the Ecoinvent v.3.6 database.

Description of system boundaries:
In this study, a "cradle-to-gate with options" approach was followed, therefore the analysis includes the production and procurement of raw materials, the panel production process, the distribution of the packaged product and the disposal of panel and packaging

System diagram:



Additional information

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The study was conducted by the company in collaboration with Dr. Chem. Marisa Valiani QUIN srl - chemist in the Register of Chemists-Physicists of the Tuscany region Section A at No. 1904

The inventory flows are similar for all thicknesses of the products studied.

The primary data relating to the production process of the panels were extrapolated from the information managed within the Integrated Quality - Environment - Company Safety System.
This information includes:

- the purchase and use of resources, materials and utilities including:
  - use of electricity. The data monitored by the Quality Environment Safety System were proportioned to the m^2 of total annual production of panels. The energy mix present in the Ecoinvent database in SimaPro was adapted to the individual energy sources declared in the bill. In the study of electricity consumption, the contribution of the energy generated to the photovoltaic system was also considered.
  - Use of methane, the company is equipped with condensing boilers and a cogeneration plant that it uses for the production of heat. By the way, a differentiation was made between the consumption recorded for the operation of the boilers and those attributable to the cogeneration plant
- data relating to the distribution of products. The sales data of 2021 were considered, assuming that the transport of the goods is carried out with Euro 5 trucks with a capacity of 16-32 T for the distance traveled from the company headquarters to the final destination
- environmental data relating to the production phase and in particular:
  - Consumption and waste production were taken from the company declaration and spread over the total m^2 of panels produced in 2021.
  - For emissions, the maximum mass flows recorded during the analysis campaign carried out in 2021 were considered.

Other data used concern:

- primary data from safety data sheets were used for the chemical characteristics of the polyol and isocyanate;
- for the production of prepainted steel and its external treatments as well as steel profiles, primary data from EPD and supplier LCA reports were used.
- for the production of plasticized sheet metal, rock wool and MgO panel (Ecoboard), Ecoinvent data was used starting from the information retrieved from the relative technical data sheets.
- for the transport of all raw materials, the actual distances from the place of production to the company site were used, assuming the various types of vehicles and related capacities (Euro 4 - Capacity <16 T and Euro 5 - Capacity 16-32 T) based on the specific product
- for the final disposal of waste of the end of life stage, a distance of 100 km was assumed between the waste production site and the final destination and a type of Euro 4 transport vehicle with a capacity of 16-32 T.

The threshold allowed by the PCR to use a maximum of 10% proxy data (generic data) in the study is respected for all impact categories.

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	IT, HR SH	IT, HR SH	IT	IT	nd	nd	nd	nd	nd	nd	nd	nd	nd	FR IT ES BE	nd	nd	nd
Specific data used	>90%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	<10%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	Not relevant					-	-	-	-	-	-	-	-	-	-	-	-

Module B (use phase) is not included in the system boundaries, while as regards modules C1 and C3, the de-construction / demolition and waste treatment activities, they are carried out manually so the related environmental impacts are negligible.

Module D, relating to information on the potential for reuse / recovery / recycling, is assessed considering the benefit of the avoided impact of future extractions and production of raw materials, brought about by the recycling of the main materials (steel). The processes necessary to make the materials of the product (at the end of life) new raw materials for subsequent life cycles are also considered.

Specifically this study includes te following processes:

- upstream processes,(A1 module) consisting in:
  - production extraction of the raw materials of the panel and packaging
  - primary energy generation.

- core processes (moduli A2-A3) including:
  - the transport of raw materials to the gate of the production site,
  - the production of the panel and its packaging

- downstream processes (A4-C1-C2-C3-C4 forms), inclusive of
  - distribution of the packaged product,
  - the transport of waste deriving from the dismantling and unpacking of the panels
  - waste collection and disposal.

Content information

Panel thickness 60 mm (1 m²)

Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
Internal steel sheet	3.63	nd	nd
External steel sheet	3.63	nd	nd
Rock wool	4.8	nd	nd
Totale steel for profiles	3.02	nd	nd
Polyurethane glue	0.41	nd	nd
TOTAL	15.48		
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**	
Wood	0,26	1.66	
MDF	0,08	0.5	
Steel	0,05	0.35	
Nylon	0,016	0.1	
Polplystyrene	0,012	0.08	
cardboard	0,006	0.04	
Polyethylene	0,003	0.02	
TOTAL	0.43	2.76	

Panel thickness 80 mm (1 m^2)

Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
Internal steel sheet	3.63	nd	nd
External steel sheet	3.63	nd	nd
Rock wool	6.4	nd	nd
Totale steel for profiles	3.49	nd	nd
Polyurethane glue	0.41	nd	nd
TOTAL	17.55		
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**	
Wood	0,36	2.05	
MDF	0,11	0.62	
Steel	0,08	0.43	
Nylon	0,022	0.13	
Polystyrene	0,018	0.1	
Cardboard	0,0085	0.049	
Polyethylene	0,0050	0.029	
TOTAL	0.60	3.41	

Panel Thickness 125 mm (1 m²)

Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
Internal steel sheet	3.79	nd	nd
External steel sheet	3.79	nd	nd
Rock wool	9.61	nd	nd
Totale steel for profiles	1.52	nd	nd
Polyurethane glue	0.41	nd	nd
MgO profile	2.57	nd	nd
Wood	0.37	nd	nd
TOTAL	22.06		
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**	
wood	1,125	5.10	
OSB	0,675	3.06	
steel	0,24	1.08	
Nylon	0,07	0.32	
Polystyrene	0,055	0.25	
cardboard	0,027	0.12	
Polyethyene	0,016	0.07	
TOTAL	2.21	10.00	

Environmental Information

Panel thickness 60 mm (1 m²)

Potential environmental impact – mandatory indicators according to EN 15804

Results per declared unit

Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	4,86E+01	5,11E-01	1,18E+00	5,03E+01	3,12E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	2,65E-01	nd	7,16E-01	1,20E-03
GWP-biogenic	kg CO_2 eq.	-3,11E-01	3,57E-04	1,86E-02	-2,92E-01	1,68E-03	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,41E-04	nd	2,15E-01	1,46E-02
GWP-luluc	kg CO_2 eq.	1,32E-02	1,55E-04	1,54E-04	1,35E-02	1,10E-03	nd	nd	nd	nd	nd	nd	nd	nd	nd	9,26E-05	nd	1,33E-05	-1,94E-04
GWP-total	kg CO_2 eq.	4,83E+01	5,12E-01	1,20E+00	5,01E+01	3,12E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	2,65E-01	nd	9,31E-01	1,56E-02
ODP	kg CFC 11 eq.	2,95E-06	1,20E-07	1,67E-07	3,24E-06	7,15E-07	nd	nd	nd	nd	nd	nd	nd	nd	nd	6,02E-08	nd	7,57E-09	2,19E-08
AP	mol H^+ eq.	2,94E-01	2,52E-03	2,59E-03	2,99E-01	1,59E-02	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,08E-03	nd	3,74E-04	-1,77E-03
EP-freshwater	kg PO_4^{3-} eq.	8,27E-02	1,13E-04	3,51E-04	8,31E-02	7,08E-04	nd	nd	nd	nd	nd	nd	nd	nd	nd	5,96E-05	nd	2,17E-05	-6,02E-04
EP-freshwater	kg P eq.	2,69E-02	3,67E-05	1,14E-04	2,71E-02	2,31E-04	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,94E-05	nd	7,05E-06	-1,96E-04
EP- marine	kg N eq.	1,50E-02	8,47E-04	5,00E-04	1,64E-02	5,45E-03	nd	nd	nd	nd	nd	nd	nd	nd	nd	3,25E-04	nd	2,15E-04	-2,52E-04
EP-terrestrial	mol N eq.	1,71E-01	9,27E-03	5,75E-03	1,86E-01	5,96E-02	nd	nd	nd	nd	nd	nd	nd	nd	nd	3,55E-03	nd	1,70E-03	-3,00E-03
POCP	kg NMVOC eq.	2,20E-01	2,78E-03	1,81E-03	2,24E-01	1,70E-02	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,09E-03	nd	4,59E-04	-7,60E-04
ADP-minerals&metals*	kg Sb eq.	5,10E-02	9,67E-06	6,20E-06	5,10E-02	8,52E-05	nd	nd	nd	nd	nd	nd	nd	nd	nd	7,17E-06	nd	2,15E-07	-7,10E-06
ADP-fossil*	MJ	5,66E+02	7,96E+00	1,70E+01	5,91E+02	4,75E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	4,00E+00	nd	3,48E-01	3,57E-01
WDP*	m^3	5,85E+00	2,53E-02	1,59E-01	6,03E+00	1,32E-01	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,11E-02	nd	8,96E-03	-2,46E-02
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption																		

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

Potential environmental impact – additional mandatory and voluntary indicators

Results per declared unit																		
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG	kg CO_2 eq.	4,87E+01	5,11E-01	1,18E+00	5,03E+01	3,12E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	2,65E-01	nd	7,16E-01	1,00E-03
Particulate matter	disease inc.	2,17E-06	4,55E-08	9,65E-09	2,22E-06	2,26E-07	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,85E-08	nd	5,10E-09	-2,03E-08
Ionising radiation#	kBq U-235 eq	1,07E+00	4,06E-02	4,36E-02	1,16E+00	2,45E-01	nd	nd	nd	nd	nd	nd	nd	nd	nd	2,06E-02	nd	2,07E-03	-1,62E-02
Ecotoxicity, freshwater*	CTUe	6,73E+02	6,34E+00	7,89E+00	6,88E+02	3,80E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	3,20E+00	nd	2,07E+00	-1,20E+01
Human toxicity, cancer*	CTUh	4,24E-08	1,60E-10	1,91E-10	4,27E-08	1,07E-09	nd	nd	nd	nd	nd	nd	nd	nd	nd	8,99E-11	nd	1,90E-10	-2,81E-10
Human toxicity, non-cancer*	CTUh	4,01E-07	7,17E-09	5,71E-09	4,14E-07	4,14E-08	nd	nd	nd	nd	nd	nd	nd	nd	nd	3,49E-09	nd	1,76E-09	-1,41E-08
Land use*	Pt	1,36E+02	8,51E+00	1,44E+00	1,46E+02	3,27E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	2,75E+00	nd	1,14E+00	-4,39E+00

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Use of resources

Results per declared unit																			
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	1,27E+02	1,02E-01	2,84E+00	1,30E+02	6,70E-01	nd	nd	nd	nd	nd	nd	nd	nd	nd	5,64E-02	nd	1,46E-02	-4,96E-01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	0,00E+00	nd	0,00E+00	0,00E+00
PERT	MJ	1,27E+02	1,02E-01	2,84E+00	1,30E+02	6,70E-01	nd	nd	nd	nd	nd	nd	nd	nd	nd	5,64E-02	nd	1,46E-02	-4,96E-01
PENRE	MJ	3,14E+02	1,23E-04	6,16E-05	3,14E+02	1,01E-03	nd	nd	nd	nd	nd	nd	nd	nd	nd	8,47E-05	nd	3,51E-06	2,42E-05
PENRM	MJ.	2,29E+02	8,45E+00	1,87E+01	2,57E+02	5,04E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	4,24E+00	nd	3,70E-01	3,85E-01
PENRT	MJ	5,44E+02	8,45E+00	1,87E+01	5,71E+02	5,04E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	4,24E+00	nd	3,70E-01	3,85E-01
SM	kg	1,54E+00	0,00E+00	0,00E+00	1,54E+00	0,00E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	0,00E+00	nd	0,00E+00	0,00E+00
RSF	MJ	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NRSF	MJ	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
FW	m^3	-1,78E+03	-1,15E+01	-9,14E+01	-1,88E+03	-6,50E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	-5,47E+00	nd	-2,16E+00	2,71E+01
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 production and output flows

Waste production

Results per declared unit																		
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	6,59E-01	1,96E-05	4,70E-05	6,59E-01	1,24E-04	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,05E-05	nd	1,01E-06	-4,53E-07
Non-hazardous waste disposed	kg	8,51E+00	6,41E-01	7,47E-01	9,90E+00	2,27E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,91E-01	nd	9,66E+00	8,23E-02
Radioactive waste disposed	kg	1,10E-03	5,43E-05	1,43E-05	1,16E-03	3,24E-04	nd	nd	nd	nd	nd	nd	nd	nd	nd	2,72E-05	nd	1,75E-06	5,57E-06

Output flows

Results per declared unit																			
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Material for recycling	kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Materials for energy recovery	kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Exported energy, electricity	MJ	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Exported energy, thermal	MJ	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

Information on biogenic carbon content

Results per declared unit		
BIOGENIC CARBON CONTENT	**Unit**	**QUANTITY**
Biogenic carbon content in product	kg C	nd
Biogenic carbon content in packaging	kg C	nd

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO_2.

Panel thickness 80 mm (1 m^2)

Potential environmental impact – mandatory indicators according to EN 15804

Results per declared unit

Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	5,33E+01	6,03E-01	1,18E+00	5,50E+01	2,58E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	3,02E-01	nd	4,27E-01	1,26E-03
GWP-biogenic	kg CO_2 eq.	-5,72E-01	4,22E-04	1,86E-02	-5,53E-01	1,39E-03	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,61E-04	nd	3,18E-01	1,53E-02
GWP-luluc	kg CO_2 eq.	1,57E-02	1,83E-04	1,54E-04	1,60E-02	9,09E-04	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,05E-04	nd	9,10E-06	-2,02E-04
GWP-total	kg CO_2 eq.	5,27E+01	6,03E-01	1,20E+00	5,45E+01	2,58E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	3,02E-01	nd	7,46E-01	1,63E-02
ODP	kg CFC 11 eq.	3,25E-06	1,42E-07	1,67E-07	3,55E-06	5,90E-07	nd	nd	nd	nd	nd	nd	nd	nd	nd	6,85E-08	nd	6,69E-09	2,28E-08
AP	mol H^+ eq.	3,27E-01	2,98E-03	2,59E-03	3,33E-01	1,31E-02	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,23E-03	nd	3,77E-04	-1,85E-03
EP-freshwater	kg PO_4^{3-} eq.	8,97E-02	1,33E-04	3,51E-04	9,02E-02	5,85E-04	nd	nd	nd	nd	nd	nd	nd	nd	nd	6,78E-05	nd	1,98E-05	-6,29E-04
EP-freshwater	kg P eq.	2,92E-02	4,32E-05	1,14E-04	2,94E-02	1,90E-04	nd	nd	nd	nd	nd	nd	nd	nd	nd	2,21E-05	nd	6,46E-06	-2,05E-04
EP- marine	kg N eq.	1,79E-02	1,00E-03	5,00E-04	1,94E-02	4,50E-03	nd	nd	nd	nd	nd	nd	nd	nd	nd	3,70E-04	nd	2,28E-04	-2,63E-04
EP-terrestrial	mol N eq.	2,09E-01	1,10E-02	5,75E-03	2,26E-01	4,93E-02	nd	nd	nd	nd	nd	nd	nd	nd	nd	4,05E-03	nd	1,73E-03	-3,13E-03
POCP	kg NMVOC eq.	2,44E-01	3,29E-03	1,81E-03	2,49E-01	1,41E-02	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,24E-03	nd	4,74E-04	-7,94E-04
ADP-minerals&metals*	kg Sb eq.	5,40E-02	1,13E-05	6,20E-06	5,40E-02	7,04E-05	nd	nd	nd	nd	nd	nd	nd	nd	nd	8,16E-06	nd	1,50E-07	-7,42E-06
ADP-fossil*	MJ	6,21E+02	9,39E+00	1,70E+01	6,47E+02	3,92E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	4,55E+00	nd	3,71E-01	3,73E-01
WDP*	m^3	6,86E+00	2,98E-02	1,59E-01	7,05E+00	1,09E-01	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,27E-02	nd	6,06E-03	-2,57E-02
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption																		

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

Potential environmental impact – additional mandatory and voluntary indicators

Results per declared unit																		
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG	kg CO_2 eq.	5,33E+01	6,03E-01	1,18E+00	5,51E+01	2,58E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	3,02E-01	nd	4,27E-01	1,00E-03
Particulate matter	disease inc.	2,42E-06	5,38E-08	9,65E-09	2,48E-06	1,87E-07	nd	nd	nd	nd	nd	nd	nd	nd	nd	2,10E-08	nd	6,02E-09	-2,13E-08
Ionising radiation #	kBq U-235 eq	1,24E+00	4,79E-02	4,36E-02	1,33E+00	2,02E-01	nd	nd	nd	nd	nd	nd	nd	nd	nd	2,34E-02	nd	1,96E-03	-1,69E-02
Ecotoxicity, freshwater*	CTUe	7,70E+02	7,48E+00	7,89E+00	7,85E+02	3,14E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	3,64E+00	nd	1,38E+00	-1,25E+01
Human toxicity, cancer*	CTUh	5,18E-08	1,88E-10	1,91E-10	5,22E-08	8,82E-10	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,02E-10	nd	1,61E-10	-2,93E-10
Human toxicity, non-cancer*	CTUh	4,54E-07	8,46E-09	5,71E-09	4,68E-07	3,42E-08	nd	nd	nd	nd	nd	nd	nd	nd	nd	3,97E-09	nd	1,39E-09	-1,47E-08
Land use*	Pt	1,78E+02	1,01E+01	1,44E+00	1,89E+02	2,70E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	3,14E+00	nd	1,49E+00	-4,59E+00

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Use of resources

Results per declared unit																			
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	1,40E+02	1,20E-01	2,84E+00	1,43E+02	5,53E-01	nd	nd	nd	nd	nd	nd	nd	nd	nd	6,42E-02	nd	1,07E-02	-5,18E-01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	0,00E+00	nd	0,00E+00	0,00E+00
PERT	MJ	1,40E+02	1,20E-01	2,84E+00	1,43E+02	5,53E-01	nd	nd	nd	nd	nd	nd	nd	nd	nd	6,42E-02	nd	1,07E-02	-5,18E-01
PENRE	MJ	3,29E+02	1,44E-04	6,16E-05	3,29E+02	8,31E-04	nd	nd	nd	nd	nd	nd	nd	nd	nd	9,64E-05	nd	2,64E-06	2,53E-05
PENRM	MJ.	2,69E+02	9,97E+00	1,87E+01	2,98E+02	4,16E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	4,83E+00	nd	3,95E-01	4,02E-01
PENRT	MJ	5,98E+02	9,97E+00	1,87E+01	6,27E+02	4,16E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	4,83E+00	nd	3,95E-01	4,02E-01
SM	kg	1,61E+00	0,00E+00	0,00E+00	1,61E+00	0,00E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	0,00E+00	nd	0,00E+00	0,00E+00
RSF	MJ	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NRSF	MJ	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
FW	m^3	-2,09E+03	-1,36E+01	-9,14E+01	-2,20E+03	-5,37E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	-6,23E+00	nd	-1,48E+00	2,83E+01
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 production and output flows

Waste production

Results per declared unit																		
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	6,98E-01	2,30E-05	4,70E-05	6,98E-01	1,03E-04	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,19E-05	nd	9,86E-07	-4,73E-07
Non-hazardous waste disposed	kg	9,97E+00	7,60E-01	7,47E-01	1,15E+01	1,87E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	2,17E-01	nd	1,29E+01	8,59E-02
Radioactive waste disposed	kg	1,17E-03	6,41E-05	1,43E-05	1,25E-03	2,67E-04	nd	nd	nd	nd	nd	nd	nd	nd	nd	3,10E-05	nd	2,04E-06	5,82E-06

Output flows

Results per declared unit																			
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Material for recycling	kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Materials for energy recovery	kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Exported energy, electricity	MJ	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Exported energy, thermal	MJ	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

Information on biogenic carbon content

Results per declared unit		
BIOGENIC CARBON CONTENT	**Unit**	**QUANTITY**
Biogenic carbon content in product	kg C	nd
Biogenic carbon content in packaging	kg C	nd

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO_2.

Panel thickness 125 mm (1 m²)

Potential environmental impact – mandatory indicators according to EN 15804

Results per declared unit

Indicator	Unit	A1	A2	A3	Tot.A 1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	5,26E+01	7,86E-01	1,18E+00	5,46E+01	3,22E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	4,03E-01	nd	9,92E-01	1,06E-03
GWP-biogenic	kg CO_2 eq.	-3,98E+00	5,54E-04	1,86E-02	-3,96E+00	1,73E-03	nd	nd	nd	nd	nd	nd	nd	nd	nd	2,15E-04	nd	9,44E-01	1,30E-02
GWP-luluc	kg CO_2 eq.	3,19E-02	2,37E-04	1,54E-04	3,22E-02	1,14E-03	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,41E-04	nd	1,92E-05	-1,71E-04
GWP-total	kg CO_2 eq.	4,87E+01	7,87E-01	1,20E+00	5,07E+01	3,23E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	4,04E-01	nd	1,94E+00	1,39E-02
ODP	kg CFC 11 eq.	3,45E-06	1,85E-07	1,67E-07	3,80E-06	7,39E-07	nd	nd	nd	nd	nd	nd	nd	nd	nd	9,16E-08	nd	1,35E-08	1,94E-08
AP	mol H^+ eq.	6,77E-01	3,91E-03	2,59E-03	6,84E-01	1,69E-02	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,65E-03	nd	8,11E-04	-1,57E-03
EP-freshwater	kg PO_4^{3-} eq.	8,17E-02	1,73E-04	3,51E-04	8,22E-02	7,31E-04	nd	nd	nd	nd	nd	nd	nd	nd	nd	9,07E-05	nd	4,12E-05	-5,33E-04
EP-freshwater	kg P eq.	2,66E-02	5,63E-05	1,14E-04	2,68E-02	2,38E-04	nd	nd	nd	nd	nd	nd	nd	nd	nd	2,95E-05	nd	1,34E-05	-1,73E-04
EP-marine	kg N eq.	4,78E-02	1,32E-03	5,00E-04	4,96E-02	5,89E-03	nd	nd	nd	nd	nd	nd	nd	nd	nd	4,94E-04	nd	4,17E-04	-2,23E-04
EP-terrestrial	mol N eq.	2,00E+00	1,44E-02	5,75E-03	2,02E+00	6,45E-02	nd	nd	nd	nd	nd	nd	nd	nd	nd	5,41E-03	nd	3,77E-03	-2,65E-03
POCP	kg NMVOC eq.	2,27E-01	4,32E-03	1,81E-03	2,33E-01	1,83E-02	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,66E-03	nd	1,03E-03	-6,72E-04
ADP-minerals&metals*	kg Sb eq.	8,29E-02	1,46E-05	6,20E-06	8,30E-02	8,80E-05	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,09E-05	nd	3,14E-07	-6,29E-06
ADP-fossil*	MJ	6,14E+02	1,23E+01	1,70E+01	6,43E+02	4,90E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	6,08E+00	nd	7,42E-01	3,16E-01
WDP*	m^3	1,45E+01	3,91E-02	1,59E-01	1,47E+01	1,36E-01	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,69E-02	nd	1,25E-02	-2,18E-02
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption																		

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Potential environmental impact – additional mandatory and voluntary indicators

Results per declared unit																		
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG	kg CO_2 eq.	5,27E+01	7,86E-01	1,18E+00		3,23E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	4,04E-01	nd	9,92E-01	9,00E-04
Particulate matter	disease inc.	5,30E-06	7,06E-08	9,65E-09	5,38E-06	2,42E-07	nd	nd	nd	nd	nd	nd	nd	nd	nd	2,81E-08	nd	1,24E-08	-1,80E-08
Ionising radiation #	kBq U-235 eq	2,59E+00	6,25E-02	4,36E-02	2,69E+00	2,53E-01	nd	nd	nd	nd	nd	nd	nd	nd	nd	3,13E-02	nd	3,94E-03	-1,43E-02
Ecotoxicity, freshwater*	CTUe	1,54E+03	9,77E+00	7,89E+00	1,56E+03	3,92E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	4,87E+00	nd	2,91E+00	-1,06E+01
Human toxicity, cancer*	CTUh	1,42E-07	2,45E-10	1,91E-10	1,42E-07	1,17E-09	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,37E-10	nd	3,82E-10	-2,49E-10
Human toxicity, non-cancer*	CTUh	1,71E-06	1,11E-08	5,71E-09	1,73E-06	4,36E-08	nd	nd	nd	nd	nd	nd	nd	nd	nd	5,31E-09	nd	3,11E-09	-1,25E-08
Land use*	Pt	5,08E+02	1,33E+01	1,44E+00	5,23E+02	3,38E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	4,19E+00	nd	1,49E+00	-4,59E+00

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Use of resources

Results per declared unit																			
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	1,39E+02	1,57E-01	2,84E+00	1,42E+02	6,92E-01	nd	nd	nd	nd	nd	nd	nd	nd	nd	8,58E-02	nd	2,23E-02	-4,39E-01
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	0,00E+00	nd	0,00E+00	0,00E+00
PERT	MJ	1,39E+02	1,57E-01	2,84E+00	1,42E+02	6,92E-01	nd	nd	nd	nd	nd	nd	nd	nd	nd	8,58E-02	nd	2,23E-02	-4,39E-01
PENRE	MJ	1,62E+02	1,87E-04	6,16E-05	1,62E+02	1,04E-03	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,29E-04	nd	5,49E-06	2,14E-05
PENRM	MJ.	4,62E+02	1,30E+01	1,87E+01	4,94E+02	5,20E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	6,46E+00	nd	7,90E-01	3,41E-01
PENRT	MJ	6,25E+02	1,30E+01	1,87E+01	6,56E+02	5,20E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	6,46E+00	nd	7,90E-01	3,41E-01
SM	kg	7,92E-01	0,00E+00	0,00E+00	7,92E-01	0,00E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	0,00E+00	nd	0,00E+00	0,00E+00
RSF	MJ	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
NRSF	MJ	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
FW	m^3	-4,47E+03	-1,78E+01	-9,14E+01	-4,58E+03	-6,71E+01	nd	nd	nd	nd	nd	nd	nd	nd	nd	-8,33E+00	nd	-3,16E+00	2,40E+01
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 production and output flows

Waste production

Results per declared unit																		
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	3,47E-01	3,00E-05	4,70E-05	3,47E-01	1,28E-04	nd	nd	nd	nd	nd	nd	nd	nd	nd	1,59E-05	nd	2,04E-06	-4,01E-07
Non-hazardous waste disposed	kg	1,31E+01	1,00E+00	7,47E-01	1,49E+01	2,34E+00	nd	nd	nd	nd	nd	nd	nd	nd	nd	2,91E-01	nd	2,58E+01	7,28E-02
Radioactive waste disposed	kg	1,39E-03	8,37E-05	1,43E-05	1,49E-03	3,34E-04	nd	nd	nd	nd	nd	nd	nd	nd	nd	4,15E-05	nd	4,00E-06	4,93E-06

Output flows

Results per declared unit																			
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Material for recycling	kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Materials for energy recovery	kg	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Exported energy, electricity	MJ	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Exported energy, thermal	MJ	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

Information on biogenic carbon content

Results per declared unit		
BIOGENIC CARBON CONTENT	**Unit**	**QUANTITY**
Biogenic carbon content in product	kg C	nd
Biogenic carbon content in packaging	kg C	nd

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO_2.

References

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- Construction products pcr 2019:14 version 1.1 valid until: 2024-12-202
- International Organisation for Standardization (ISO), Environmental management – Life Cycle assessment – Principles and framework. ISO 14040:2006, Geneva
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- International Organisation for Standardization (ISO), 2006c Environmental labels and declarations Type III environmental declarations -- Principles and procedures. ISO 14025:2006, Geneva
- Marcegaglia Spa - Life cycle assessment report - pickled – rolled – galvanized – painted coils 2019
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- Eurostat: https://ec.europa.eu/eurostat/web/waste/overview
- Ecoinvent, 2019. Swiss Centre for Life Cycle Assessment, v3.6 (www.ecoinvent.ch)

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