Environmental Product Declaration

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

Construction panel

from

CEWOOD

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	EPD-IES-0004024
Publication date:	2022-05-03
Revision:	2025-10-01
Validity:	2027-05-02

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
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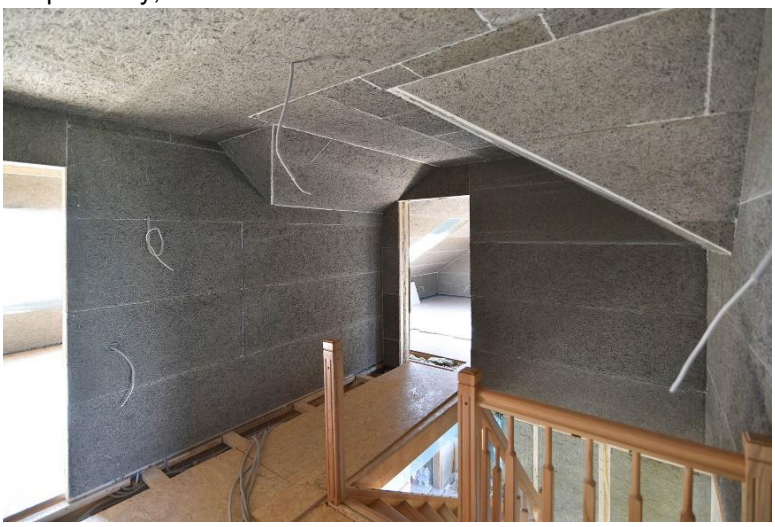
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): *Construction Products, PCR 2019:14 Version 1. UN CPC 37990*
PCR review was conducted by: *The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. Review chair: Claudia A. Peña, University of Concepción (Chile). The review panel may be contacted via the Secretariat info@environdec.com*
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☐ EPD process certification ☒ EPD verification
Third party verifier: *Marcel Gómez Ferrer, Marcel Gómez Consultoria Ambiental. Email: info@marcelgomez.com* Approved by: The International EPD® System
The EPD has been worked out by: Bureau Veritas Latvia SIA. Email: riga@bureauveritas.com
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: CEWOOD.
Contact: Ingars Udris: ingars.udris@cewood.com
Description of the organization: CEWOOD has successfully adopted 50-year-old Latvian traditions of manufacturing wood wool panels. CEWOOD SIA is a 100% Latvian company, currently employing over 100 employees.
The company was established in 2015. CEWOOD is the only manufacturer of panels of wood wool in the Baltic States, and it is among the leading companies of the field in the world. The quality standards set forth by the company have allowed to successfully expand the sales market of CEWOOD to include many countries.
The company is continuously working on optimization of production processes, launching new products, educating markets. Together with field experts — architects, interior designers, builders and object developers — preconditions are established with the aim to take full advantage of unique applications of CEWOOD panels.
Product-related or management system-related certifications: Powered by Green Certificate, Declaration or Performance Certificate, Emission Classification of Building Materials, NaturePlus Certificate, PEFC Certificate, ISO 50001 Certificate and FSC Certificate.
Name and location of production site(s): Latvia.

Product information

Product name: Construction Panels
Product identification: CW-G25R
Product description: CEWOOD construction panels are a natural material made in Latvia, friendly to the environment and health. Thanks to the natural raw material, panel structures create a pleasant microclimate, typical of an environment with natural wood finishing. During use, the construction panels do not lose their properties — this material has been tested in Europe over a span of 100 years now, but in Latvia for more than 50 years. The panels have high thermal inertia parameters, which allows protecting premises from rapid temperature fluctuations.

CEWOOD developed construction panel application units offer rational solutions for heat inertia properties, sound insulation and delimiting constructions in new buildings and renovation projects.

Wood wool width	3.0 mm
Panel thickness	15 mm, 25 mm, 35 mm, 50 mm, 75 mm, 100 mm
Panel density	7 kg/m^2, 10.5 kg/m^2, 14.5 kg/m^2, 19.5 kg/m^2, 28 kg/m^2, 36 kg/m^2
Size	2400x600 mm
Cement	Grey Portland cement
Thermal conductivity	λ = 0.066 W/mK
Fire safety class	B-s1, d0

UN CPC code: 379 - Other non-metallic mineral products n.e.c.

LCA information

Declared unit: In accordance with the PCR the declared unit is 1 square meter of construction panel with a specific thickness (e.g. 15 mm, 25 mm, 35 mm, 50 mm, 75 mm, 100 mm) installed and with a useful life of 50 years.

Reference service life: The reference service life for the Construction Panels is estimated at 50 years.

Time representativeness: The primary data was gathered internally. All production data corresponds to values for the year 2021.

Scope of the EPD: This EPD has a Global Scope, as installation activities and main raw materials are common independently from the region where the construction panels are to be installed. Nonetheless, it must be clarified, that transport distances to installation sites (Stage A4) in the model under study, correspond to several construction sites located in different parts of Europe. The scope of this EPD is Business to Business.

Database(s) and LCA software used: The Ecoinvent 3.11. was used to conduct the quantitative evaluation in this study. This database provided the life cycle inventory data for raw and processes materials in the background system. The LCA software used was Simapro 10.2. To obtain the results in accordance with the provisions of EN 15804:2012+A2:2019, the “EN 15804:A1+A2:2019 method”, “EDIP 2003”, “CED (LHV)” and “IPCC GWP100a” methodologies have been used for environmental impacts, waste generation, use of resources and biogenic carbon content, respectively.

Description of system boundaries:
Cradle to gate with options. The LCA was carried out considering the product stage A1-A3, modules C1–C4, module D and the additional optional modules A4-A5.

Data quality: The foreground data was collected internally considering the latest available average production amounts and measures during the last year. Data regarding waste processes and scenarios was taken from waste scenarios for the European region for each specific product contained in Ecoinvent 3.11.

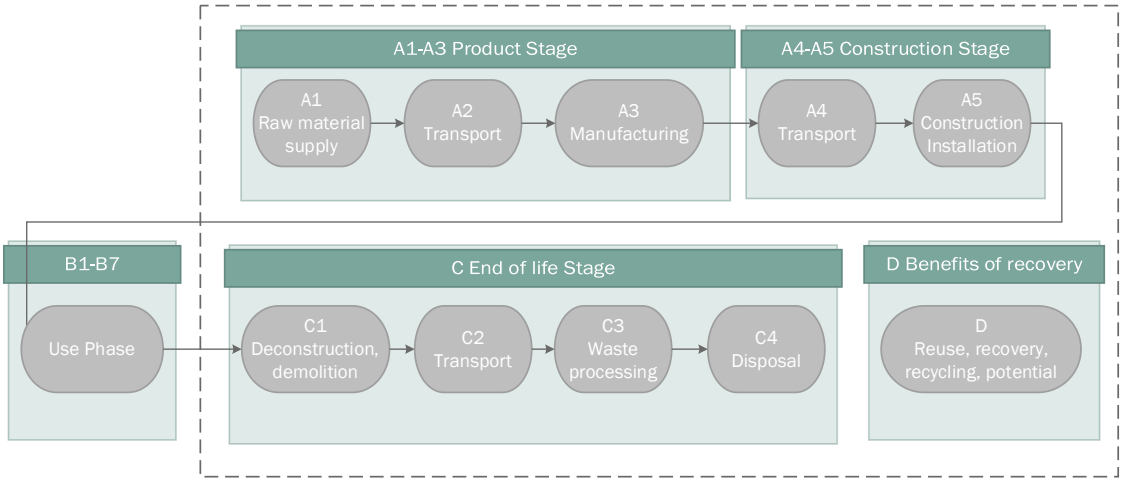
According to the criteria of the UN Environment Global Guidance on LCA database development, the quality level can be defined as very good. Data is geographically representative as it comes from the area of study, it is technical representative as it comes from processes and products under study using the same state of technology defined in goal and scope, and it is also time representative as data used was collected less than 3 years difference between the reference year according to the documentation. A data quality rating was performed with a rating system where 1 means excellent and 5 poor. An average for each criterion is presented as follows:

Technological Representativeness, TeR	Geographic representativeness, GeR	Time Representativeness, TiR	Precision, P	Average DQR
1.70	2.43	1.65	1.04	1.7

Cut-off criteria: All major raw materials and processes have been considered and only less than 1% of total material and energy flows were excluded, and 5% of materials and energy per module.

Allocation: Following the recommendations in the EN 15804 and PCR 2019:14, allocation among products and co-products has been avoided. Material and energy flows have been allocated to the main product following physical/mass criteria.

System diagram:



More information: During this LCA, the *polluters pay,* and modularity principles have been followed. As well as double counting avoided

The processes related to infrastructure, construction and production of equipment and tools that are not directly consumed in the production process, have been excluded. Activities personnel-related, such as transportation to and from work, and research and development activities have been excluded. Long term emissions are also excluded from the impacts.

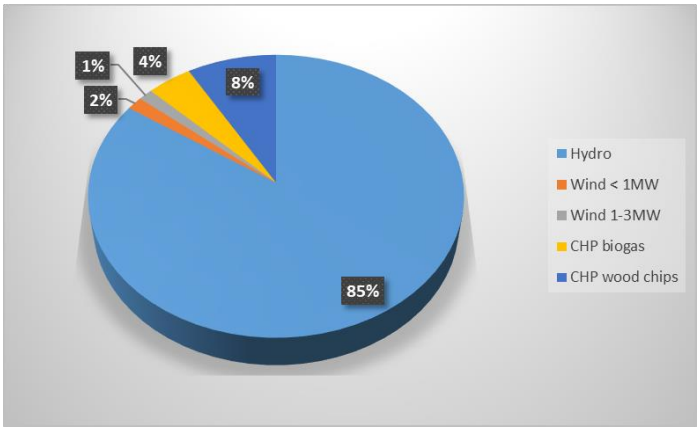
Stages and Production description

Product Stage

A1: This stage considers the extraction and processing of all raw materials.

A2: This stage accounts for the transport activities of raw materials to the facilities in Latvia. This stage includes road transport by lorries, and water transport by ferry.

A3: This stage includes the manufacturing process conducted in the facilities previous to the transport to the different locations around the world. The use of packaging materials is considered in this stage. The electricity use for the manufacturing process is certified by Latvenergo AS (Powered by Green Certificate) as 100% renewable from the national Latvian grid. The energy sources share of the mix is represented as in the following figure, and its associated emissions are 0.394 kg of CO_{2eq}/kWh.



Construction Stage

A4: This stage stands for the transport of materials from the production site to the construction site. In this stage, 5 different destination scenarios have been considered to obtain an average impact considering average distribution of sales during the last years.

	Destination 1	Destination 2	Destination 3	Destination 4	Destination 5
Final country or region	Denmark	Germany	Finland	Spain	Belgium
Normalization Share %	68%	10%	5%	12%	5%
Transport mode	Truck and ferry	Truck and ferry	Truck and ferry	Truck	Truck and ferry
Distance	910 km by Road and 700 km by Sea	830 km by Road and 700 km by Sea	700 km by Road and 85 km by Sea	3600 km by Road	1310 km by Road and 700 km by Sea

A5: This stage includes the activities related to installation of the panels. As the installation is performed handmade, no energy or additional materials are required. Activities related to the recycling and waste disposal of packaging materials are accounted for in this stage. End of life processes for such materials correspond to the typical waste treatment scenario for the specific materials under the European geography, to recycling, incineration and inert landfilling in the following quantities per declared unit:

Material	Recycling (%)	Incineration (%)	Landfilling (%)
Cardboard	91.09%	8.85%	0.06%
Mixed plastics	48.2%	51.4%	0.4%

Use Stage:

During the normal use scenario, it is assumed that no maintenance, repair, replacement and/or refurbishment is required, hence this optional stage is not considered (B1–B5). Energy or water consumption is not required (referred to the declared unit), and hence not declared for the building operation (B6-B7).

End of Life Stage:

C1: The consumption of fuel during the deconstruction and dismantling process is considered using as reference the background process available in Ecoinvent 3.11 for conducting this specific activity. Other air emissions are also accounted for during the deconstruction.
C2: The transport of the dismantled construction panels is considered in this stage. A distance of 30 km is assumed to the disposal facility.
C3: No reuse or recycling of the product is considered.
C4: The waste disposal scenario corresponds to the inert landfilling of 100% of the product.

The main assumptions during the end-of-life stage are presented as follow:

Parameter	Value/description
Collection process specified by type	Deconstruction of walls and dismantling of panels
Recovery system specified by type	No re-use, recycling, or energy recovery
Disposal specified by type	1 m^2 landfilled
Assumptions for scenario development (e.g. transportation)	Average waste collection truck with a 7.5-16t payload, 30 km of average distance to landfill site

Benefits and loads beyond the system boundaries:

D: Benefits of recycled packaging materials (Cardboard, and other plastics) are considered in the module D. The amount to recycle is considered avoided product to the technosphere.

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	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	EUR	EUR	LV	GLO	GLO	ND	ND	ND	ND	ND	ND	ND	GLO	GLO	GLO	GLO	GLO
Specific data used	2%-9%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	30%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Description of the system boundary (X = Included in LCA; ND = Not declared; NR = Not relevant)

Specific data used:

Panel thickness	Total GWP total A1-A3 modules (kg CO2 eq per declared unit)	Modelled specific electricity consumption (kg CO2 eq per declared unit)	Share of Specific data (%)
15 mm	4.70E+00	4.44E-01	9%
25 mm	6.59E+00	4.44E-01	7%
35 mm	8.90E+00	4.44E-01	5%
50 mm	1.18E+01	4.44E-01	4%
75 mm	1.68E+01	4.44E-01	3%
100 mm	2.14E+01	4.44E-01	2%

Content information

Product components	Weight, kg						Post-consumer material, weight-%	Renewable material, weight-%
	15 mm	25mm	35mm	50mm	75 mm	100 mm		
Wood	2.24	3.36	4.64	6.25	8.98	11.51	0.00%	30.0 – 33.0%
Cement	4.6	6.9	9.52	12.81	18.41	23.66	0.00%	0.00%
Water	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.00%	0.00%
TOTAL	7.5	10.5	14.5	19.5	27.39	35.17	0.00%	30.0 – 33.0%
Packaging materials	**Weight, kg**						**Weight-% (versus the product)**	
Cardboard	0.022	0.039	0.052	0.078	0.12	0.156	0.29% - 0.44%	
Plastic Clamps	0.0007	0.0012	0.0016	0.0025	0.0037	0.0049	0.01%	
TOTAL	0.0227	0.0402	0.0536	0.0805	0.1237	0.1609	0.34% - 0.43 %	

No dangerous substances from the candidate list of SVHC are contained in the product.

Biogenic carbon content	Product thickness					
	15 mm	25mm	35mm	50mm	75 mm	100 mm
Carbon content in product (kg)	1.36E+00	2.04E+00	2.82E+00	3.79E+00	5.45E+00	6.99E+00
Carbon content in accompanying packaging (kg)	1.14E-03	2.00E-03	2.13E-04	2.82E-04	6.15E-03	8.00E-03

Environmental Information

Data results is now presented for the Construction Panel in its declared unit of 1 m^2.

Construction Panel 15 mm

Potential environmental impact – mandatory indicators according to EN 15804:2012+A2 2019

Results per declared unit									
Indicator	**Unit**	**Tot. A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	4.70E+00	1.18E+00	8.90E-04	2.52E-02	4.89E-01	0.00E+00	4.38E-02	-4.14E-02
GWP-biogenic	kg CO_2 eq.	-7.49E+00	0.00E+00	7.33E-03	0.00E+00	0.00E+00	0.00E+00	7.48E+00	0.00E+00
GWP-luluc	kg CO_2 eq.	5.33E-03	4.50E-04	4.05E-08	2.19E-06	4.82E-05	0.00E+00	2.25E-05	-4.01E-04
GWP-total	kg CO_2 eq.	-2.78E+00	1.18E+00	8.22E-03	2.52E-02	4.89E-01	0.00E+00	7.52E+00	-4.18E-02
ODP	kg CFC 11 eq.	3.15E-08	2.27E-08	4.17E-12	3.85E-10	7.52E-09	0.00E+00	1.27E-09	-4.37E-10
AP	mol H^+ eq.	1.07E-02	1.05E-02	1.04E-06	2.27E-04	2.58E-03	0.00E+00	3.10E-04	-2.81E-04
EP-freshwater	kg P eq.	7.10E-04	7.10E-05	1.75E-08	7.35E-07	9.14E-06	0.00E+00	3.64E-06	-1.90E-05
EP-freshwater	kg PO_4 eq.	2.15E-03	2.15E-04	5.31E-08	2.23E-06	2.77E-05	0.00E+00	1.10E-05	-5.77E-05
EP-marine	kg N eq.	3.26E-03	2.68E-03	5.35E-07	1.05E-04	1.12E-03	0.00E+00	1.18E-04	-7.78E-05
EP-terrestrial	mol N eq.	3.72E-02	2.96E-02	4.97E-06	1.15E-03	1.23E-02	0.00E+00	1.29E-03	-7.08E-04
POCP	kg NMVOC eq.	1.34E-02	1.00E-02	1.31E-06	3.44E-04	4.88E-03	0.00E+00	4.62E-04	-1.67E-04
ADP-minerals&metals*	kg Sb eq.	7.10E-06	2.74E-06	3.24E-10	8.98E-09	3.17E-07	0.00E+00	6.84E-08	-1.60E-07
ADP-fossil*	MJ	2.81E+01	1.69E+01	6.49E-04	3.29E-01	6.34E+00	0.00E+00	1.07E+00	-5.41E-01
WDP*	m^3	3.44E-01	7.12E-02	2.07E-05	7.13E-04	1.01E-02	0.00E+00	4.69E-02	-2.76E-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.*

Global warming calculated as in previous standards (Global warming potential - GWP100a)

Results per functional or declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Global Warming Potential - GHG	kg CO_2 eq.	4.69E+00	1.17E+00	9.09E-04	2.50E-02	4.86E-01	0.00E+00	4.34E-02	-4.22E-02

Use of resources

Results per declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	4.31E+00	1.85E-01	4.48E-05	1.64E-03	2.11E-02	0.00E+00	7.31E-03	-4.63E-02
PERM	MJ	5.67E+01	4.31E-02	9.26E-06	3.27E-04	5.36E-03	0.00E+00	2.26E-03	-1.52E-01
PERT	MJ	6.10E+01	2.28E-01	5.41E-05	1.96E-03	2.65E-02	0.00E+00	9.57E-03	-1.98E-01
PENRE	MJ	2.81E+01	1.69E+01	6.49E-04	3.29E-01	6.34E+00	0.00E+00	1.07E+00	-5.41E-01
PENRM	MJ.	4.24E-03	7.30E-04	3.46E-08	2.30E-06	5.18E-05	0.00E+00	8.07E-05	-3.59E-04
PENRT	MJ	2.81E+01	1.69E+01	6.49E-04	3.29E-01	6.34E+00	0.00E+00	1.07E+00	-5.42E-01
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	1.93E-02	2.24E-03	1.52E-06	2.36E-05	3.40E-04	0.00E+00	1.12E-03	-9.77E-04
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water								

Waste production and output flows

Waste production

Results per declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	1.29E-04	1.06E-04	2.39E-08	2.28E-06	4.41E-05	0.00E+00	6.78E-06	-1.44E-06
Non-hazardous waste disposed	kg	4.68E-01	1.15E+00	3.38E-05	2.01E-04	2.99E-02	0.00E+00	7.00E+00	-2.45E-03
Radioactive waste disposed	kg	6.36E-05	4.37E-06	1.02E-09	3.62E-08	4.79E-07	0.00E+00	1.67E-07	-1.23E-06

Output flows

Results per functional or declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Material for recycling	kg	0.0E+00	0.0E+00	2.06E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Materials for energy recovery	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported energy, electricity	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported energy, thermal	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

Construction Panel 25 mm

Potential environmental impact – mandatory indicators according to EN 15804:2012+A2 2019

Results per declared unit									
Indicator	**Unit**	**Tot. A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	6.59E+00	1.76E+00	1.55E-03	3.78E-02	7.33E-01	0.00E+00	6.57E-02	-7.38E-02
GWP-biogenic	kg CO_2 eq.	-7.49E+00	0.00E+00	7.33E-03	0.00E+00	0.00E+00	0.00E+00	7.48E+00	0.00E+00
GWP-luluc	kg CO_2 eq.	7.26E-03	6.76E-04	6.91E-08	3.28E-06	7.24E-05	0.00E+00	3.38E-05	-7.02E-04
GWP-total	kg CO_2 eq.	-8.93E-01	1.76E+00	8.88E-03	3.78E-02	7.33E-01	0.00E+00	7.55E+00	-7.45E-02
ODP	kg CFC 11 eq.	3.62E-08	3.40E-08	7.12E-12	5.78E-10	1.13E-08	0.00E+00	1.90E-09	-7.71E-10
AP	mol H^+ eq.	1.47E-02	1.58E-02	1.77E-06	3.41E-04	3.86E-03	0.00E+00	4.65E-04	-5.00E-04
EP-freshwater	kg P eq.	1.01E-03	1.06E-04	2.99E-08	1.10E-06	1.37E-05	0.00E+00	5.45E-06	-3.38E-05
EP-freshwater	kg PO_4 eq.	3.06E-03	3.23E-04	9.07E-08	3.34E-06	4.16E-05	0.00E+00	1.65E-05	-1.02E-04
EP-marine	kg N eq.	4.58E-03	4.02E-03	9.11E-07	1.58E-04	1.68E-03	0.00E+00	1.77E-04	-1.37E-04
EP-terrestrial	mol N eq.	5.25E-02	4.44E-02	8.46E-06	1.73E-03	1.84E-02	0.00E+00	1.94E-03	-1.25E-03
POCP	kg NMVOC eq.	1.80E-02	1.50E-02	2.22E-06	5.16E-04	7.32E-03	0.00E+00	6.93E-04	-2.97E-04
ADP-minerals&metals*	kg Sb eq.	9.16E-06	4.11E-06	5.53E-10	1.35E-08	4.75E-07	0.00E+00	1.03E-07	-2.83E-07
ADP-fossil*	MJ	3.42E+01	2.53E+01	1.11E-03	4.94E-01	9.51E+00	0.00E+00	1.61E+00	-9.64E-01
WDP*	m^3	5.19E-01	1.07E-01	3.53E-05	1.07E-03	1.51E-02	0.00E+00	7.04E-02	-4.85E-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.*

Global warming calculated as in previous standards (Global warming potential - GWP100a)

Results per functional or declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Global Warming Potential - GHG	kg CO_2 eq.	1.19E+01	1.75E+00	1.58E-03	3.76E-02	7.29E-01	0.00E+00	6.51E-02	-7.53E-02

Use of resources

Results per declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	5.41E+00	2.77E-01	7.65E-05	2.45E-03	3.17E-02	0.00E+00	1.10E-02	-8.23E-02
PERM	MJ	8.46E+01	6.47E-02	1.58E-05	4.91E-04	8.05E-03	0.00E+00	3.39E-03	-2.66E-01
PERT	MJ	9.00E+01	3.42E-01	9.23E-05	2.95E-03	3.97E-02	0.00E+00	1.44E-02	-3.49E-01
PENRE	MJ	3.42E+01	2.53E+01	1.11E-03	4.94E-01	9.51E+00	0.00E+00	1.61E+00	-9.64E-01
PENRM	MJ.	6.29E-03	1.10E-03	5.90E-08	3.45E-06	7.77E-05	0.00E+00	1.21E-04	-6.29E-04
PENRT	MJ	3.42E+01	2.53E+01	1.11E-03	4.94E-01	9.51E+00	0.00E+00	1.61E+00	-9.64E-01
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	2.79E-02	3.36E-03	2.59E-06	3.53E-05	5.11E-04	0.00E+00	1.68E-03	-1.72E-03
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**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	1.49E-04	1.59E-04	4.08E-08	3.42E-06	6.61E-05	0.00E+00	1.02E-05	-2.55E-06
Non-hazardous waste disposed	kg	5.31E-01	1.72E+00	5.75E-05	3.02E-04	4.49E-02	0.00E+00	1.05E+01	-4.33E-03
Radioactive waste disposed	kg	8.31E-05	6.55E-06	1.75E-09	5.43E-08	7.18E-07	0.00E+00	2.50E-07	-2.18E-06

Output flows

Results per functional or declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Material for recycling	kg	0.0E+00	0.0E+00	3.61E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Materials for energy recovery	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported energy, electricity	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported energy, thermal	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

Construciton Panel 35 mm

Potential environmental impact – mandatory indicators according to EN 15804:2012+A2 2019

Results per declared unit									
Indicator	**Unit**	**Tot. A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	8.90E+00	2.43E+00	2.07E-03	5.22E-02	1.01E+00	0.00E+00	9.07E-02	-9.83E-02
GWP-biogenic	kg CO_2 eq.	-1.03E+01	0.00E+00	7.82E-04	0.00E+00	0.00E+00	0.00E+00	1.03E+01	0.00E+00
GWP-luluc	kg CO_2 eq.	9.46E-03	9.33E-04	9.22E-08	4.53E-06	9.99E-05	0.00E+00	4.67E-05	-9.36E-04
GWP-total	kg CO_2 eq.	-1.39E+00	2.43E+00	2.85E-03	5.22E-02	1.01E+00	0.00E+00	1.04E+01	-9.92E-02
ODP	kg CFC 11 eq.	4.46E-08	4.70E-08	9.50E-12	7.98E-10	1.56E-08	0.00E+00	2.62E-09	-1.03E-09
AP	mol H^+ eq.	1.95E-02	2.18E-02	2.36E-06	4.71E-04	5.33E-03	0.00E+00	6.42E-04	-6.66E-04
EP-freshwater	kg P eq.	1.36E-03	1.47E-04	3.99E-08	1.52E-06	1.89E-05	0.00E+00	7.53E-06	-4.51E-05
EP-freshwater	kg PO_4 eq.	4.11E-03	4.45E-04	1.21E-07	4.62E-06	5.74E-05	0.00E+00	2.28E-05	-1.37E-04
EP-marine	kg N eq.	6.15E-03	5.55E-03	1.21E-06	2.18E-04	2.32E-03	0.00E+00	2.45E-04	-1.83E-04
EP-terrestrial	mol N eq.	7.06E-02	6.13E-02	1.13E-05	2.39E-03	2.54E-02	0.00E+00	2.67E-03	-1.67E-03
POCP	kg NMVOC eq.	2.36E-02	2.08E-02	2.96E-06	7.13E-04	1.01E-02	0.00E+00	9.58E-04	-3.96E-04
ADP-minerals&metals*	kg Sb eq.	1.20E-05	5.68E-06	7.37E-10	1.86E-08	6.56E-07	0.00E+00	1.42E-07	-3.78E-07
ADP-fossil*	MJ	4.33E+01	3.49E+01	1.48E-03	6.82E-01	1.31E+01	0.00E+00	2.22E+00	-1.28E+00
WDP*	m^3	5.77E-01	1.47E-01	4.71E-05	1.48E-03	2.09E-02	0.00E+00	9.72E-02	-6.46E-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.*

Global warming calculated as in previous standards (Global warming potential - GWP100a)

Results per functional or declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Global Warming Potential - GHG	kg CO_2 eq.	1.62E+01	2.42E+00	2.11E-03	5.19E-02	1.01E+00	0.00E+00	8.99E-02	-1.00E-01

Use of resources

Results per declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	6.67E+00	3.83E-01	1.02E-04	3.39E-03	4.38E-02	0.00E+00	1.51E-02	-1.10E-01
PERM	MJ	1.16E+02	8.93E-02	2.11E-05	6.78E-04	1.11E-02	0.00E+00	4.68E-03	-3.55E-01
PERT	MJ	1.23E+02	4.72E-01	1.23E-04	4.07E-03	5.49E-02	0.00E+00	1.98E-02	-4.65E-01
PENRE	MJ	4.33E+01	3.49E+01	1.48E-03	6.82E-01	1.31E+01	0.00E+00	2.22E+00	-1.28E+00
PENRM	MJ.	8.52E-03	1.51E-03	7.87E-08	4.77E-06	1.07E-04	0.00E+00	1.67E-04	-8.38E-04
PENRT	MJ	4.33E+01	3.49E+01	1.48E-03	6.82E-01	1.31E+01	0.00E+00	2.22E+00	-1.29E+00
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	3.44E-02	4.64E-03	3.45E-06	4.88E-05	7.05E-04	0.00E+00	2.31E-03	-2.29E-03
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**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	1.86E-04	2.19E-04	5.44E-08	4.72E-06	9.13E-05	0.00E+00	1.41E-05	-3.40E-06
Non-hazardous waste disposed	kg	7.17E-01	2.38E+00	7.67E-05	4.17E-04	6.19E-02	0.00E+00	1.45E+01	-5.77E-03
Radioactive waste disposed	kg	1.06E-04	9.04E-06	2.33E-09	7.50E-08	9.91E-07	0.00E+00	3.46E-07	-2.90E-06

Output flows

Results per functional or declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Material for recycling	kg	0.0E+00	0.0E+00	4.83E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Materials for energy recovery	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported energy, electricity	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported energy, thermal	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

Construction Panel 50 mm

Potential environmental impact – mandatory indicators according to EN 15804:2012+A2 2019

Results per declared unit									
Indicator	**Unit**	**Tot. A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	1.18E+01	3.27E+00	3.11E-03	7.01E-02	1.36E+00	0.00E+00	1.22E-01	-1.48E-01
GWP-biogenic	kg CO_2 eq.	-1.39E+01	0.00E+00	1.03E-03	0.00E+00	0.00E+00	0.00E+00	1.39E+01	0.00E+00
GWP-luluc	kg CO_2 eq.	1.23E-02	1.25E-03	1.38E-07	6.09E-06	1.34E-04	0.00E+00	6.28E-05	-1.40E-03
GWP-total	kg CO_2 eq.	-2.09E+00	3.27E+00	4.14E-03	7.01E-02	1.36E+00	0.00E+00	1.40E+01	-1.49E-01
ODP	kg CFC 11 eq.	5.55E-08	6.32E-08	1.42E-11	1.07E-09	2.10E-08	0.00E+00	3.53E-09	-1.54E-09
AP	mol H^+ eq.	2.58E-02	2.93E-02	3.53E-06	6.33E-04	7.17E-03	0.00E+00	8.64E-04	-9.99E-04
EP-freshwater	kg P eq.	1.80E-03	1.98E-04	5.99E-08	2.05E-06	2.55E-05	0.00E+00	1.01E-05	-6.76E-05
EP-freshwater	kg PO_4 eq.	5.46E-03	5.99E-04	1.81E-07	6.21E-06	7.72E-05	0.00E+00	3.07E-05	-2.05E-04
EP-marine	kg N eq.	8.16E-03	7.47E-03	1.82E-06	2.94E-04	3.11E-03	0.00E+00	3.29E-04	-2.75E-04
EP-terrestrial	mol N eq.	9.37E-02	8.25E-02	1.69E-05	3.21E-03	3.41E-02	0.00E+00	3.60E-03	-2.51E-03
POCP	kg NMVOC eq.	3.08E-02	2.79E-02	4.45E-06	9.59E-04	1.36E-02	0.00E+00	1.29E-03	-5.94E-04
ADP-minerals&metals*	kg Sb eq.	1.56E-05	7.63E-06	1.11E-09	2.50E-08	8.83E-07	0.00E+00	1.91E-07	-5.67E-07
ADP-fossil*	MJ	5.51E+01	4.70E+01	2.21E-03	9.18E-01	1.77E+01	0.00E+00	2.99E+00	-1.93E+00
WDP*	m^3	8.46E-01	1.98E-01	7.06E-05	1.99E-03	2.81E-02	0.00E+00	1.31E-01	-9.69E-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.*

Global warming calculated as in previous standards (Global warming potential - GWP100a)

Results per functional or declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Global Warming Potential - GHG	kg CO_2 eq.	2.16E+01	3.25E+00	3.17E-03	6.98E-02	1.35E+00	0.00E+00	1.21E-01	-1.51E-01

Use of resources

Results per declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	8.28E+00	5.15E-01	1.53E-04	4.56E-03	5.88E-02	0.00E+00	2.04E-02	-1.65E-01
PERM	MJ	1.57E+02	1.20E-01	3.16E-05	9.12E-04	1.49E-02	0.00E+00	6.29E-03	-5.33E-01
PERT	MJ	1.65E+02	6.35E-01	1.85E-04	5.47E-03	7.38E-02	0.00E+00	2.67E-02	-6.97E-01
PENRE	MJ	5.51E+01	4.70E+01	2.21E-03	9.18E-01	1.77E+01	0.00E+00	2.99E+00	-1.93E+00
PENRM	MJ.	1.16E-02	2.03E-03	1.18E-07	6.41E-06	1.44E-04	0.00E+00	2.25E-04	-1.26E-03
PENRT	MJ	5.51E+01	4.70E+01	2.21E-03	9.18E-01	1.77E+01	0.00E+00	2.99E+00	-1.93E+00
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	4.73E-02	6.24E-03	5.17E-06	6.56E-05	9.48E-04	0.00E+00	3.11E-03	-3.43E-03
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**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	2.33E-04	2.95E-04	8.16E-08	6.35E-06	1.23E-04	0.00E+00	1.89E-05	-5.11E-06
Non-hazardous waste disposed	kg	9.53E-01	3.20E+00	1.15E-04	5.61E-04	8.33E-02	0.00E+00	1.95E+01	-8.65E-03
Radioactive waste disposed	kg	1.35E-04	1.22E-05	3.49E-09	1.01E-07	1.33E-06	0.00E+00	4.65E-07	-4.35E-06

Output flows

Results per functional or declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Material for recycling	kg	0.0E+00	0.0E+00	7.23E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Materials for energy recovery	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported energy, electricity	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported energy, thermal	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

Construction Panel 75 mm

Potential environmental impact – mandatory indicators according to EN 15804:2012+A2 2019

Results per declared unit									
Indicator	**Unit**	**Tot. A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	1.68E+01	4.70E+00	4.75E-03	1.01E-01	1.95E+00	0.00E+00	1.75E-01	-2.12E-01
GWP-biogenic	kg CO_2 eq.	-2.00E+01	0.00E+00	2.26E-02	0.00E+00	0.00E+00	0.00E+00	2.00E+01	0.00E+00
GWP-luluc	kg CO_2 eq.	1.72E-02	1.80E-03	2.12E-07	8.75E-06	1.93E-04	0.00E+00	9.02E-05	-2.02E-03
GWP-total	kg CO_2 eq.	-3.18E+00	4.70E+00	2.74E-02	1.01E-01	1.95E+00	0.00E+00	2.02E+01	-2.14E-01
ODP	kg CFC 11 eq.	7.39E-08	9.07E-08	2.19E-11	1.54E-09	3.01E-08	0.00E+00	5.06E-09	-2.21E-09
AP	mol H^+ eq.	3.63E-02	4.21E-02	5.43E-06	9.09E-04	1.03E-02	0.00E+00	1.24E-03	-1.43E-03
EP-freshwater	kg P eq.	2.56E-03	2.84E-04	9.19E-08	2.94E-06	3.66E-05	0.00E+00	1.45E-05	-9.70E-05
EP-freshwater	kg PO_4 eq.	7.76E-03	8.60E-04	2.78E-07	8.91E-06	1.11E-04	0.00E+00	4.41E-05	-2.94E-04
EP-marine	kg N eq.	1.16E-02	1.07E-02	2.80E-06	4.22E-04	4.47E-03	0.00E+00	4.73E-04	-3.95E-04
EP-terrestrial	mol N eq.	1.33E-01	1.18E-01	2.60E-05	4.62E-03	4.90E-02	0.00E+00	5.16E-03	-3.60E-03
POCP	kg NMVOC eq.	4.30E-02	4.01E-02	6.83E-06	1.38E-03	1.95E-02	0.00E+00	1.85E-03	-8.52E-04
ADP-minerals&metals*	kg Sb eq.	2.17E-05	1.10E-05	1.70E-09	3.59E-08	1.27E-06	0.00E+00	2.74E-07	-8.14E-07
ADP-fossil*	MJ	7.50E+01	6.74E+01	3.40E-03	1.32E+00	2.53E+01	0.00E+00	4.29E+00	-2.77E+00
WDP*	m^3	9.98E-01	2.85E-01	1.08E-04	2.85E-03	4.04E-02	0.00E+00	1.88E-01	-1.39E-01
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

** 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.*

Global warming calculated as in previous standards (Global warming potential - GWP100a)

Results per functional or declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Global Warming Potential - GHG	kg CO_2 eq.	1.68E+01	4.67E+00	4.84E-03	1.00E-01	1.94E+00	0.00E+00	1.74E-01	-2.16E-01

Use of resources

Results per declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	1.10E+01	7.40E-01	2.35E-04	6.55E-03	8.45E-02	0.00E+00	2.92E-02	-2.36E-01
PERM	MJ	2.25E+02	1.73E-01	4.85E-05	1.31E-03	2.15E-02	0.00E+00	9.03E-03	-7.65E-01
PERT	MJ	2.36E+02	9.12E-01	2.83E-04	7.85E-03	1.06E-01	0.00E+00	3.83E-02	-1.00E+00
PENRE	MJ	7.50E+01	6.74E+01	3.40E-03	1.32E+00	2.53E+01	0.00E+00	4.29E+00	-2.77E+00
PENRM	MJ.	1.68E-02	2.92E-03	1.81E-07	9.21E-06	2.07E-04	0.00E+00	3.23E-04	-1.81E-03
PENRT	MJ	7.50E+01	6.74E+01	3.40E-03	1.32E+00	2.53E+01	0.00E+00	4.29E+00	-2.77E+00
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	6.20E-02	8.96E-03	7.94E-06	9.42E-05	1.36E-03	0.00E+00	4.47E-03	-4.93E-03
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**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	3.81E-04	4.23E-04	1.25E-07	9.12E-06	1.76E-04	0.00E+00	2.71E-05	-7.33E-06
Non-hazardous waste disposed	kg	1.05E+00	4.59E+00	1.77E-04	8.06E-04	1.20E-01	0.00E+00	2.80E+01	-1.24E-02
Radioactive waste disposed	kg	3.35E-04	1.75E-05	5.36E-09	1.45E-07	1.91E-06	0.00E+00	6.68E-07	-6.25E-06

Output flows

Results per functional or declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Material for recycling	kg	0.0E+00	0.0E+00	1.11E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Materials for energy recovery	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported energy, electricity	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported energy, thermal	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

Construction Panel 100 mm

Potential environmental impact – mandatory indicators according to EN 15804:2012+A2 2019

Results per declared unit									
Indicator	**Unit**	**Tot. A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	2.14E+01	6.04E+00	6.21E-03	1.30E-01	2.51E+00	0.00E+00	2.25E-01	-2.72E-01
GWP-biogenic	kg CO_2 eq.	-2.57E+01	0.00E+00	2.93E-02	0.00E+00	0.00E+00	0.00E+00	2.56E+01	0.00E+00
GWP-luluc	kg CO_2 eq.	2.16E-02	2.32E-03	2.77E-07	1.12E-05	2.48E-04	0.00E+00	1.16E-04	-2.59E-03
GWP-total	kg CO_2 eq.	-4.28E+00	6.04E+00	3.55E-02	1.30E-01	2.51E+00	0.00E+00	2.58E+01	-2.75E-01
ODP	kg CFC 11 eq.	9.10E-08	1.17E-07	2.85E-11	1.98E-09	3.87E-08	0.00E+00	6.51E-09	-2.84E-09
AP	mol H^+ eq.	4.61E-02	5.42E-02	7.07E-06	1.17E-03	1.32E-02	0.00E+00	1.60E-03	-1.84E-03
EP-freshwater	kg P eq.	3.26E-03	3.65E-04	1.20E-07	3.78E-06	4.70E-05	0.00E+00	1.87E-05	-1.25E-04
EP-freshwater	kg PO_4 eq.	9.89E-03	1.11E-03	3.63E-07	1.15E-05	1.42E-04	0.00E+00	5.66E-05	-3.78E-04
EP-marine	kg N eq.	1.47E-02	1.38E-02	3.64E-06	5.42E-04	5.75E-03	0.00E+00	6.08E-04	-5.07E-04
EP-terrestrial	mol N eq.	1.69E-01	1.52E-01	3.38E-05	5.93E-03	6.30E-02	0.00E+00	6.64E-03	-4.63E-03
POCP	kg NMVOC eq.	5.44E-02	5.16E-02	8.89E-06	1.77E-03	2.51E-02	0.00E+00	2.38E-03	-1.10E-03
ADP-minerals&metals*	kg Sb eq.	2.75E-05	1.41E-05	2.21E-09	4.62E-08	1.63E-06	0.00E+00	3.52E-07	-1.05E-06
ADP-fossil*	MJ	9.35E+01	8.67E+01	4.43E-03	1.69E+00	3.26E+01	0.00E+00	5.52E+00	-3.56E+00
WDP*	m^3	1.21E+00	3.66E-01	1.41E-04	3.67E-03	5.19E-02	0.00E+00	2.41E-01	-1.79E-01
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption								

** 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.*

Global warming calculated as in previous standards (Global warming potential - GWP100a)

Results per functional or declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Global Warming Potential - GHG	kg CO_2 eq.	2.14E+01	6.01E+00	6.34E-03	1.29E-01	2.50E+00	0.00E+00	2.23E-01	-2.78E-01

Use of resources

Results per declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	1.35E+01	9.51E-01	3.06E-04	8.42E-03	1.09E-01	0.00E+00	3.76E-02	-3.04E-01
PERM	MJ	2.88E+02	2.22E-01	6.32E-05	1.68E-03	2.76E-02	0.00E+00	1.16E-02	-9.84E-01
PERT	MJ	3.01E+02	1.17E+00	3.69E-04	1.01E-02	1.36E-01	0.00E+00	4.92E-02	-1.29E+00
PENRE	MJ	9.35E+01	8.67E+01	4.43E-03	1.69E+00	3.26E+01	0.00E+00	5.52E+00	-3.56E+00
PENRM	MJ.	2.16E-02	3.76E-03	2.36E-07	1.18E-05	2.66E-04	0.00E+00	4.15E-04	-2.32E-03
PENRT	MJ	9.35E+01	8.67E+01	4.43E-03	1.69E+00	3.26E+01	0.00E+00	5.52E+00	-3.56E+00
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	7.74E-02	1.15E-02	1.03E-05	1.21E-04	1.75E-03	0.00E+00	5.75E-03	-6.34E-03
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**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	3.88E-04	5.44E-04	1.63E-07	1.17E-05	2.27E-04	0.00E+00	3.49E-05	-9.43E-06
Non-hazardous waste disposed	kg	1.73E+00	5.90E+00	2.30E-04	1.04E-03	1.54E-01	0.00E+00	3.60E+01	-1.60E-02
Radioactive waste disposed	kg	2.29E-04	2.25E-05	6.99E-09	1.86E-07	2.46E-06	0.00E+00	8.58E-07	-8.03E-06

Output flows

Results per functional or declared unit									
Indicator	**Unit**	**Tot.A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Material for recycling	kg	0.0E+00	0.0E+00	1.44E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Materials for energy recovery	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported energy, electricity	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported energy, thermal	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

LCA Interpretation

The impact on the environment of the life cycle of 1m^2 of CEWOOD's 25mm Construction Panel version on Global Warming Potential is 9.2 kgCO_2eq. The overall impact of the Acoustic Panel life cycle is dominated by the Product stage (A1-A3) and the Transportation stage (A4) as can be observed in the following figure. The use of wood causes a potential positive impact in the Climate Change impact category, observing the negative value for Biogenic CO_2 emissions (understood as a benefit to the environment), due to the carbon fixation within the product. The transport of the final product to the destination for installation is the dominant module in the construction stage and it is an important driver in several impact categories. It can also be seen in the following, how transport activities (Modules A2 and A4), play an important role in the overall impact of the Acoustic Panels in several impact categories such as acidification, those accounting for marine and terrestrial eutrophication, ozone depletion, photochemical ozone formation, and the ones related to use of resources. The Use phase has not been considered as it is assumed there is no impact from this stage.
Module D, which accounts for benefits or loads beyond the system boundaries, delivers in overall a benefit from the recycling of packaging materials according to the modeled waste treatment scenario within the time boundaries. Such benefits come from simulating as avoiding products the packaging materials in the recycled quantities.

Information related to the EPD Sector

This EPD® is individual.

Differences with previous versions

This EPD is an update of a previously published version. The main change in this version is the inclusion of additional product thickness variants. The updated EPD covers CEWOOD Acoustic Panels of different thicknesses, reflecting a broader product portfolio and allowing for more accurate and representative environmental information across the range of available panel types. Accordingly, the life cycle inventory (LCI) data and impact assessment results have been revised to account for differences in material input, weight, and related processes. No changes have been made to the underlying production technology or data sources.
In addition to the inclusion of different product thicknesses, this EPD version reflects updates in the life cycle assessment software and background data sources. The study was carried out using SimaPro version 10.2, and the ecoinvent database version 3.11 was used for background processes. These updates may result in minor differences in impact results due to refinements in background datasets, updated emission factors, and methodological improvements in the database. All changes have been implemented to ensure that the EPD remains in line with the latest LCA standards and best practices.

Additional information

CEWOOD is a responsible, future-oriented company which has set as its basic objective the natural quality of the panels that it produces, which is why focus is on the source of the raw materials, sustainability and renewable energy. The company pays a lot of attention to ensure that the panels contain only 100% natural, high-quality components that are sourced in an environmentally friendly way. Panels are made of FSC or PEFC certified timber using green energy. Our panels have received quality and sustainability certification, such as M1, Powered by Green, PEFC, FSC. The quality of CEWOOD Acoustic panels and their compliance with stringent environmental and health safety requirements are attested by the international NaturePlus certificate. CEWOOD is member of Europe's largest network for sustainable building – DGNB and our panels are recommended as safe for health by Latvian Asthma and Allergy Society.

Upon delivery, check the panels for accordance with the order and for any visible defects.
The panels maintain their properties at the temperature +23 (+/- 2) °C and the relative humidity of 50% (+/- 5%). To ensure the best properties, the panels should be allowed to adopt the ambient conditions. The optimal period for acclimatization is one to two weeks.

Please follow CEWOOD guidelines in webpage for indoor or outdoor storage conditions of panels!
For more detailed information before and after installation, please visit: www.cewood.com section "Downloads".

References

- General Programme Instructions of the International EPD® System. Version 3.01.
- PCR 2019:14. Construction Products. Version 1.11
- SUB-PCR TO PCR 2012:01, 2020. Acoustical System Solutions (Construction Product)
- EN 15804:2012+A2:2019 Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products;
- ISO 14040:2006 Environmental Management-Life Cycle Assessment-Principles and framework.
- ISO 14044:2006 Environmental management. Life Cycle Assessment. Requirements and guidelines
- ISO 14025:2006 Environmental labels and declarations. Type III environmental declarations. Principles and procedures.
- Ecoinvent v3.11 Database.
- Baitz M. and Bos U. (2020).
- Impact Methods, Data Collection and Data Requirements. Webinar: Environmental Footprint (EF) Transition Phase (2020)

EPD®

www.environdec.com