Environmental Product Declaration

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

ThinkingWall Acoustic Freestander

from

Logovisual Ltd

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
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Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): EPD International Product Category Rules (PCR) for construction products (PCR 2019:14 v1.2.5). The product group classification for the assessed products is UN CPC 36990.
PCR review was conducted by: The Technical Committee of the International EPD System. See https://www.environdec.com/about-us/the-international-epd-system-about-the-system for a list of members. Review chair: Claudia Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat https://www.environdec.com/contact-us.
Life Cycle Assessment (LCA)
LCA accountability: Dr Matthew Fishwick, Fishwick Environmental Ltd
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by individual verifier Third-party verifier: Dr Hüdai Kara – Managing Director at Metsims 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 registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply

identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD: Logovisual Ltd.

Contact: Dan Varney, Manging Director, Unit 5B Airedale Business Centre, Millennium Road, Skipton, North Yorkshire, BD23 2TZ, United Kingdom. 01756 792300. info@logovisual.com.

Description of the organisation: Logovisual Ltd is a designer and manufacturer of unique bespoke whiteboards, whiteboard accessories, custom magnetics and learning or collaboration furniture.

Name and location of production site(s): The product assessed in this study is manufactured by Logovisual, located at Unit 5B, Enterprise Way Airedale Business Centre, Millennium Rd, Skipton BD23 2TZ, United Kingdom.

Product information

Product name: ThinkingWall Acoustic Freestander.

Product identification: 1500mm ThinkingWall Acoustic Freestander.

Product description: The Acoustic Freestander is a double sided drywipe and magnetic receptive mobile whiteboard with integrated acoustic panels to give sound deadening properties in busy, high traffic areas.

UN CPC code: The product group classification for the assessed product is UN CPC 3812.

Geographical scope: UK.

Further product information: https://www.logovisual.com/

LCA information

Functional unit / declared unit: One unit of 1500mm ThinkingWall Acoustic Freestander (96.3 kg).

Reference service life: n/a

Time representativeness: 2022.

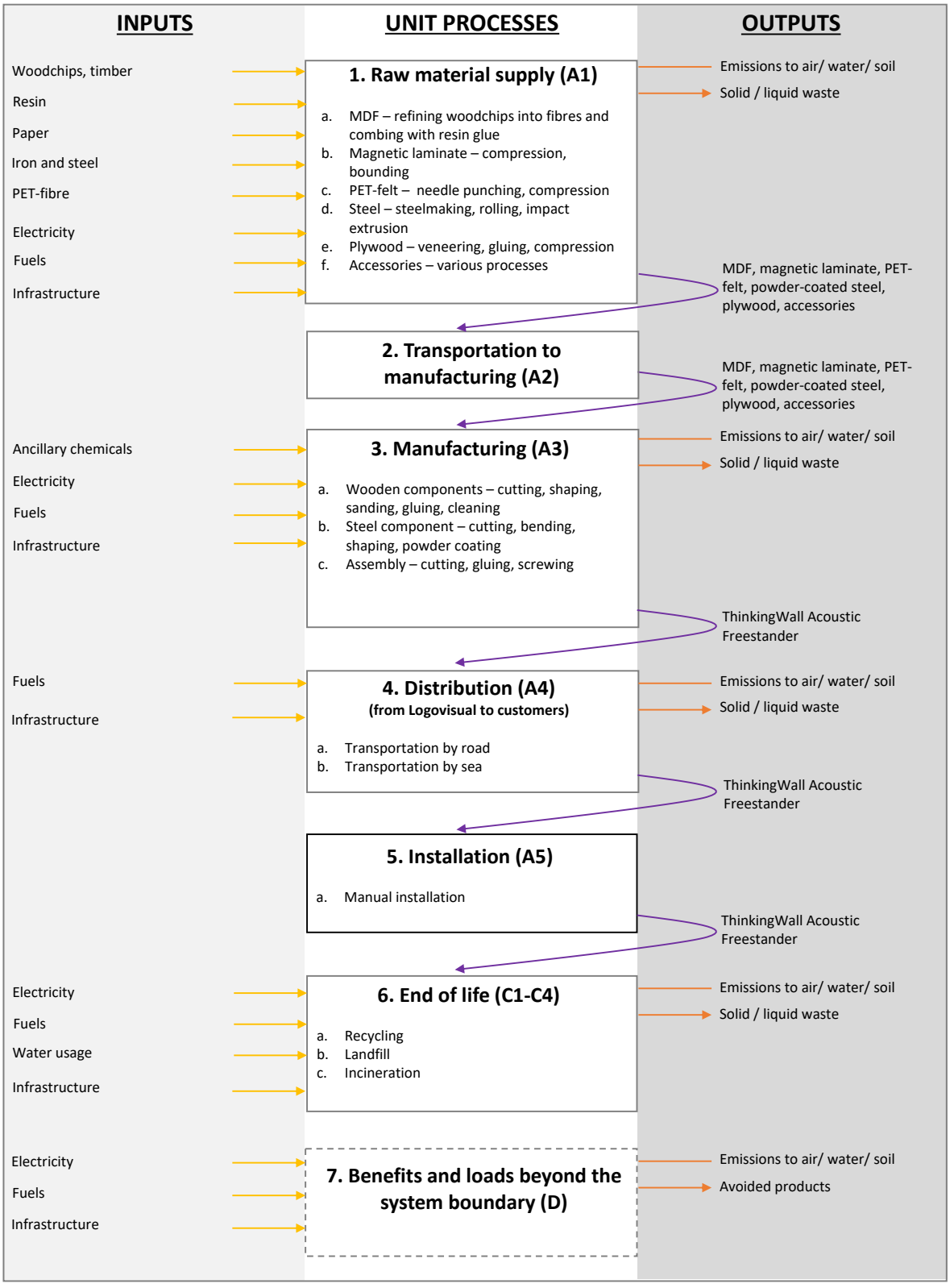
Database(s) and LCA software used: All secondary data were from Eugeos' 15804+A2_IA v4.1 extended version of ecoinvent v3.6 (cut-off) and the LCA software openLCA (version 1.10.3) and Microsoft Excel.

Description of system boundaries: The system boundary of a product system determines the unit processes to be included in the LCA study and which data as inputs and/or outputs to/from the system can be omitted. In this LCA study and resulting EPD, the system boundary includes extraction/cultivation of raw materials, processing of raw materials, production of the finished product, construction, and all transportation and waste stages until the grave stage. This boundary comprises the following modules given in EN 15804:2012+A2:2019: the product, construction, and end-of-life stages (modules A1-A5, C1-C4, D).

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

	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	UK	UK	UK	UK	UK	-	-	-	-	-	-	-	UK	UK	UK	UK	UK
Specific data used	>90%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	Not relevant			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	Not relevant			-	-	-	-	-	-	-	-	-	-	-	-	-	-

System diagram:



Yellow line = input of material/energy, orange line = output of waste/direct emission, purple line = output of product/co-product, arrowhead on line = transportation stage considered.

Module A1 – raw material supply, comprising:

- Extraction and production of all raw materials for the production of all Logovisual products, including:
  - MDF – refining woodchips into fibres and combing with resin glue.
  - Magnetic laminate – compression, bounding.
  - PET-felt – needle punching, compression.
  - Steel – steelmaking, rolling, impact extrusion.
  - Plywood – veneering, gluing, compression.
  - Accessories – various processes.

Module A2 – transport, comprising:

- Transportation of materials to contract manufacturing sites and transportation of components from these sites to Logovisual's manufacturing site.

Module A3 – manufacturing:

- Manufacturing of Logovisual products and precursor components ready for transportation to customer, including:
  - Wooden components – cutting, shaping, sanding, gluing, cleaning.
  - Steel component – cutting, bending, shaping, powder coating.
  - Assembly – cutting, gluing, screwing.

Module A4 – transport:

- Transportation of Logovisual products from manufacturing site to the customer site.

Module A5 – construction-installation process:

- Logovisual products are cut and installed manually.

Module C1-C4 – end-of-life:

- Logovisual products are removed using a manual process.
- Transportation of deconstructed Logovisual products from the installation site to the waste processing site.
- Waste processing and disposal via incineration with energy recovery, recycled and landfill.

Module D – reuse, recovery, recycling potential:

- Net benefits and loads arising from the recycling of materials and/or recovery of energy from the product.

<u>Cut-off criteria and exclusions:</u>

In the process of building an LCI it is typical to exclude items considered to have a negligible contribution to results. In order to do this in a consistent and robust manner there must be confidence that the exclusion is fair and reasonable. To this end, cut-off criteria were defined in this study, which allow items to be neglected if they meet the criteria. In accordance with EPD International's PCR for construction products (PCR 2019:14), exclusions could be made if they were expected to be within the below criteria:

- A process can be excluded if it contributes to <1% of the total mass or energy input of a unit process;
- A maximum of 5% of the total mass or energy of the lifecycle can be excluded; and
- The excluded process doesn't meet the following exceptions:
  - Significant effects on energy use in extraction, use or disposal;

- Significant environmental relevance (i.e. likely to contribute to an increase/decrease in impacts of more than 1%); and
- Are classed as hazardous waste.

The follow exclusions from the scope of the study were made:

- Human and animal energy inputs to processes;
- Transport of employees to and from their normal place of work and business travel;
- Environmental impacts associated with support functions (e.g. R&D, marketing, finance, management etc.);
- Packaging of incoming raw materials and ancillary materials (immaterial [calculated to be <1% of lifecycle impact for carbon footprint, which is a good proxy for many other impact categories]);
- Storage of products (assumed to be immaterial);
- Installation and removal of product (assumed to be immaterial as these products can be installed and removed with basic hand tools); and
- Pallets excluded as capital goods as they are usually reused.

Allocation procedures:

For cases where there is more than one product in the system being studied, EPD International's PCR for construction products (PCR 2019:14) prescribes the following procedure for the allocation of material and energy flows and environmental emissions.

- In the first instance, allocation should be avoided, by process sub-division.
- Where these methods are not applicable, the ISO 14040/44 requires that allocation reflects the physical relationships of the different products or functions. Allocation based on physical relationships such as mass or energy is a practical interpretation of this and is an approach often used in LCA.
- For some processes, allocation based on mass is not considered appropriate and, in these cases, economic allocation is used.

In this study, allocation procedures for multi-product processes followed the approach above. In terms of co-product allocation of generic data, the main database used, ecoinvent v3.6 (cut-off), defaults to an economic allocation for most processes. However, in some cases a mass-based allocation is used, where there is a direct physical relationship. The allocation approach of specific ecoinvent modules is documented on their website and method reports (see www.ecoinvent.org).

In this study a "cut-off" method (aka recycled content or 100:0 approach) was applied to all cases of end-of-life allocation, including in the case of generic data, where the ecoinvent v3.6 with a cut-off by classification end-of-life allocation method was used. In this approach, environmental burdens and benefits of recycled / reused materials and recovered energy are given to the product system consuming them, rather than the system providing them and are quantified based on recycling content of the material under investigation. The cut-off point is where an end-of-waste state is reached, including any sorting, cleaning, and processing of waste prior to recycling, reuse, or energy recovery, following the "polluter pays principle". This is a common approach in LCA for materials where there is a loss in inherent properties during recycling, the supply of recycled material exceeds demand and recycled content of the product is independent of whether it is recycled downstream. It is in conformance with the ISO standards on LCA, EN 15804, EN 15978 and is prescribed in EPD International's PCR for construction products (PCR 2019:14). The exception to the use of this end-of-life allocation method was for module D, where loads and benefits beyond the system boundary, following a closed-loop approximation end-of-life allocation method, are presented separately.

Data sources:

Quantitative and qualitative data were collected for all processes within the system boundary and these data were used to compile the LCI. These comprised specific data (primary data) and generic data (secondary data). To explain the distinction between these categories, specific data directly refer to the product under investigation, for example the amount of electricity consumed at Logovisual's site. Generic data do not directly refer to the product under investigation but refer to a similar process and fulfil the data quality criteria defined for this study.

Specific data were sought as a preference and were collected from Logovisual's contract manufacturers and from Logovisual. These specific data were collected using data collection sheets via an iterative process and represent a time period from 2022.01.01 to 2022.12.31.

Generic data were collected for all other lifecycle stages from Eugeos' 15804+A2_IA v4.1 extended version of ecoinvent v3.6 (cut-off). Secondary/generic data were chosen to be to be as geographically specific as possible, however, this was not always possible. In these cases, a geography was selected to match the technology, feedstock source etc., as closely as possible.

Note that no energy values were calculated from volumes or masses of fuels by the LCA practitioners as they were provided in units of energy, however, volume and mass to energy unit conversions have been carried out in the ecoinvent v3.6 (cut-off) database and for this the lower heating value was used throughout.

Scenario parameters:

Transportation to customer (A4) scenario parameters modelled in this EPD comprise:

- Transportation of products to customer is carried out by Logovisual vehicles.
- Primary data on diesel use were collected and allocated to each product based on the proportion of revenue each product represents.
- Total diesel per product was normalised to kg of diesel use per kg of product.

Construction-installation (A5) scenario parameters modelled in this EPD comprise:

- Installation of products is carried out by Logovisual.
- Logovisual products can be stored under ambient conditions, and all Logovisual products are installed manually.
- There is minimal use of battery-operated hand tools (i.e. impact drivers), however, these are typically charged at Logovisual's site and therefore electricity use has already been included in A3.
- Therefore, zero impact is assumed for installation of Logovisual products.

End-of-life (C1-C4) scenario parameters modelled in this EPD comprise:

- Collection process specific by type: 96.3 kg collected separately and 0 kg collected with mixed construction waste.
- Recovery system specified by type: 0 kg for re-use, 21 kg for recycling, and 75.3 kg for energy recovery.
- Disposal specific by type: 0 kg product for final disposal (landfill).
- Transportation assumptions: 50 km by municipal waste 21 metric ton lorry.

Benefits and loads beyond the system boundary (D) scenario parameters modelled in this EPD comprise:

- Waste treatment scenario: 100% recycling of metal and plastic, and 100% energy recovery of wood, from Defra 2022[1] for average construction in UK.
- For recycling, the avoided product to calculate benefits of module D was estimated using the impact of convertor steel from Eugeos' 15804+A2_IA v4.1 extended version of ecoinvent v3.6 (cut-off).
- For energy recovery, benefits were calculated assuming UK residual mix electricity and the following assumptions:
    - Conventional incineration with steam cycle electricity generation assumed;
    - Grid electricity the only avoided product; and waste heat not used, to adopt a conservative assumption;
    - The CV of wood and plastic in Logovisual products was estimated to be 15 and 35 MJ per kg, respectively; and
    - Overall electrical efficiency of energy from waste plant = 20% (minimum for electricity only, ERM, 2006).
- For energy recovery, loads were calculated assuming waste incineration.

Data quality: To ensure the quality of data were sufficient, data quality checks were completed in relation to time-related coverage, geographical coverage, technology coverage, completeness, and representativeness. Data quality indicators were applied using a data quality matrix whereby key data were assigned scores between 1 (best) and 5 (worst). All data scored between 1-2.

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
MDF	45.8	0%	86% and 0.43 kg C / kg
Powder coated steel	21.0	13%	0% and 0 kg C / kg
Plywood	17.3	0%	100% and 0.50 kg C / kg
Magnetic laminate	7.0	0%	64% and 0.32 kg C / kg
PET-felt	4.5	63%	0% and 0 kg C / kg
Other materials	0.8	0%	0% and 0 kg C / kg
TOTAL	96.3	5.5%	63% and 0.32 kg C / kg

No substances that are listed in the “Candidate List of Substances of very high concern for authorisation” are contained in Logovisual products or the materials used to produce them. Logovisual products do not contain any substances hazardous to health or the environment (in particular carcinogenic, mutagenic, toxic to reproduction, allergic, PBT5 or vPvB6 substances). Logovisual’s 1500mm ThinkingWall Acoustic Freestander contains 63% bio-based material.

[1] https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste

Results of the environmental performance indicators

The environmental performance of one unit of a 1500mm ThinkingWall Acoustic Freestander is declared and reported using the parameters and units as specified in PCR 2019:14. These life cycle impact assessment results and other environmental results are presented in the tables below per declared unit (one unit of 1500mm ThinkingWall Acoustic Freestander, equal to 93.3 kg), broken down by module.

Mandatory impact category indicators according to EN 15804

Results per one unit of a 1500mm ThinkingWall Acoustic Freestander

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	1.79E+02	5.05E+01	0.00E+00	0.00E+00	5.95E+00	1.47E+00	0.00E+00	-5.27E+01
GWP-biogenic	kg CO_2 eq.	-1.35E+02	7.05E-03	0.00E+00	0.00E+00	9.63E-04	1.39E+02	0.00E+00	2.33E-01
GWP-luluc	kg CO_2 eq.	1.97E-01	3.09E-02	0.00E+00	0.00E+00	5.30E-04	3.48E-05	0.00E+00	-2.98E-02
GWP-total	kg CO_2 eq.	4.42E+01	5.05E+01	0.00E+00	0.00E+00	5.95E+00	1.41E+02	0.00E+00	-5.25E+01
ODP	kg CFC 11 eq.	1.62E-05	1.05E-05	0.00E+00	0.00E+00	1.26E-06	1.34E-08	0.00E+00	-5.08E-06
AP	mol H^+ eq.	7.93E-01	2.75E-01	0.00E+00	0.00E+00	3.58E-02	1.34E-03	0.00E+00	-3.02E-01
EP-freshwater	kg P eq.	9.33E-02	9.21E-03	0.00E+00	0.00E+00	3.28E-04	2.89E-05	0.00E+00	-4.27E-02
EP-marine	kg N eq.	2.00E-01	8.13E-02	0.00E+00	0.00E+00	1.53E-02	6.57E-04	0.00E+00	-5.24E-02
EP-terrestrial	mol N eq.	2.19E+00	8.91E-01	0.00E+00	0.00E+00	1.68E-01	6.84E-03	0.00E+00	-5.33E-01
POCP	kg NMVOC eq.	5.36E-01	2.79E-01	0.00E+00	0.00E+00	5.86E-02	1.77E-03	0.00E+00	-2.05E-01
ADP-minerals&metals*	kg Sb eq.	1.52E-03	1.15E-03	0.00E+00	0.00E+00	3.56E-05	7.34E-07	0.00E+00	-8.94E-04
ADP-fossil*	MJ	2.96E+03	7.31E+02	0.00E+00	0.00E+00	7.69E+01	6.30E-01	0.00E+00	-1.19E+03
WDP*	m^3	1.17E+04	1.17E+03	0.00E+00	0.00E+00	4.67E+01	2.35E+00	0.00E+00	-1.86E+03
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.*

***Disclaimer: This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.*

Additional mandatory and voluntary impact category indicators

Results per one unit of a 1500mm ThinkingWall Acoustic Freestander

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG[2]	kg CO_2 eq.	1.79E+02	5.05E+01	0.00E+00	0.00E+00	5.95E+00	1.47E+00	0.00E+00	-5.27E+01
PM	Disease incidence	1.60E-05	5.04E-06	0.00E+00	0.00E+00	8.09E-07	1.04E-08	0.00E+00	-3.87E-06
IRP**	kBq U235 eq.	3.37E+01	4.84E+00	0.00E+00	0.00E+00	3.62E-01	3.61E-03	0.00E+00	-2.94E+01
ETP-fw*	CTUe	1.68E+03	1.37E+01	0.00E+00	0.00E+00	4.00E-01	1.45E-02	0.00E+00	-1.38E+01
HTP-c*	CTUh	1.24E+01	7.81E-08	0.00E+00	0.00E+00	6.07E-10	1.15E-09	0.00E+00	-3.67E-07
HTP-nc*	CTUh	6.65E-06	1.61E-06	0.00E+00	0.00E+00	2.35E-08	3.30E-08	0.00E+00	-2.68E-06
SQP*	dimensionless	1.32E+03	3.58E+02	0.00E+00	0.00E+00	7.60E-01	2.81E-02	0.00E+00	-2.81E+01

Note that the LCIA results are relative expressions and do not predict impacts on category end-points, the exceeding of thresholds, safety margins or risks.

Resource use indicators

Results per one unit of a 1500mm ThinkingWall Acoustic Freestander

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	1.60E+03	2.00E+01	0.00E+00	0.00E+00	4.02E-01	3.79E-02	0.00E+00	-8.08E+01
PERM	MJ	6.57E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	2.26E+03	2.00E+01	0.00E+00	0.00E+00	4.02E-01	3.79E-02	0.00E+00	-8.08E+01
PENRE	MJ	2.99E+03	7.68E+02	0.00E+00	0.00E+00	7.73E+01	6.78E-01	0.00E+00	-1.57E+03
PENRM	MJ	4.06E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	3.37E+03	7.68E+02	0.00E+00	0.00E+00	7.73E+01	6.78E-01	0.00E+00	-1.57E+03

[2] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

SM	kg	9.44E+00	5.83E-01	0.00E+00	0.00E+00	9.87E-03	1.43E-03	0.00E+00	-4.98E+00
RSF	MJ	2.78E+00	1.04E+00	0.00E+00	0.00E+00	7.66E-03	9.14E-04	0.00E+00	-8.67E-01
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	1.89E+00	9.62E-02	0.00E+00	0.00E+00	8.33E-03	2.05E-03	0.00E+00	-3.04E-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 indicators

Results per one unit of a 1500mm ThinkingWall Acoustic Freestander									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	2.31E+01	1.36E+00	0.00E+00	0.00E+00	2.70E-02	2.64E-02	0.00E+00	-2.00E+01
Non-hazardous waste disposed	kg	2.61E+02	6.42E+01	0.00E+00	0.00E+00	8.40E-01	3.86E+00	0.00E+00	-9.31E+01
Radioactive waste disposed	kg	1.21E-02	5.15E-03	0.00E+00	0.00E+00	5.78E-04	1.80E-06	0.00E+00	-7.64E-03

Output flow indicators

Results per one unit of a 1500mm ThinkingWall Acoustic Freestander									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	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
Material for recycling	kg	3.23E+00	5.00E-01	0.00E+00	0.00E+00	8.67E-03	1.43E-03	0.00E+00	-4.53E-01
Materials for energy recovery	kg	3.09E-02	1.11E-02	0.00E+00	0.00E+00	8.64E-05	9.60E-06	0.00E+00	-1.11E-02
Exported energy, electricity	MJ	1.22E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	1.22E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Interpretation

The following conclusions can be drawn from this study:

- The cradle-to-grave carbon footprint of one unit of 1500mm ThinkingWall Acoustic Freestander was calculated to be 242 kg CO_2e;
- Raw material supply (A1) is a major hotspot for almost all impact categories;
- It should be noted that as this product contains a large proportion of bio-material, there is a large removal of CO_2 from the atmosphere at the beginning of the lifecycle (A1), which is balanced out by a large emission of CO_2 at end-of-life (C3);
- MDF and steel frame are a major hotspots in A1;
- Transport of the product to customers (A4) makes a notable contribution for most impacts categories;
- Manufacturing (A3) makes a notable contribution for the majority of impact categories; and
- Modules A2, A5, and C1-C4 have a minor to immaterial contribution for all impact categories, with the exception of the re-release of stored biogenic carbon shown in C3 for GWP-biogenic.

Additional environmental information

This EPD provides results for one unit of 1500mm ThinkingWall Acoustic Freestander, which represents the ThinkingWall Acoustic Freestander range of products. Results for other variants within the range are available to customers via an in-house Excel calculator upon request.

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