

ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

Konto Acoustic Panel

Konto Oy



EPD HUB, EPDHUB-0179

Publishing date 11 November 2022, last updated date 11 November 2022, valid until 11 November 2027

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Konto Oy
Address	Ylä-Satakunnantie 20, 39930 Karvia
Contact details	pasi.makynen@konto.fi
Website	https://www.konto.fi/fi/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4 and D
EPD author	Jori Jokela
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
EPD verifier	N.C, as an authorized verifier acting for EPD Hub Limited

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	Konto Acoustic Panel
Place of production	Karvia, Finland
Period for data	2021
Averaging in EPD	No averaging

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m ²
Declared unit mass	1.79 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	3.86
GWP-total, A1-A3 (kgCO ₂ e)	3.29
Secondary material, inputs (%)	0.99
Secondary material, outputs (%)	100.0
Total energy use, A1-A3 (kWh)	21.2
Total water use, A1-A3 (m ³ e)	0.0572

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Konto Ltd. is a Finnish owned company which is located in Karvia, Finland. The company was founded in 2009. It manufactures layered blanket, layered board and shape pressed products mostly of Finnish natural peat fibre. Products are used mainly for acoustic purposes.

The name of the company “Konto” is a local word for peat. In company’s hometown Karvia people have gone to the swamps to harvest “Konto” throughout centuries for insulation and heating. Thus the word Konto represents both the local roots and the natural main raw ingredient peat moss.

PRODUCT DESCRIPTION

Konto Acoustic Panel is designed to remove and absorb noise and echo. Konto acoustic panel fits greatly into spaces where low mounting height, excellent acoustics and speech clarity are needed. Konto acoustic sheet is ecological, mold resistant and fits greatly into spaces where echo can be a problem. All this is combined together with a beautiful decorative outlook.

Product standards:

- Thermal conductivity: 0,037 W/mK (standard EVS-EN 12667) Fire resistance class: B (EN 13501-1:2018)
- M1 / CE classified
- Sound absorption class: A (EN ISO 354 & EN ISO 11654)

Dimensions of an acoustic sheet:

- Height: 20 mm
- Width: 594 mm
- Length: 594 mm or 1194 mm
- Weight: 0,64 kg or 1,27 kg
- Density: 90 kg/m³

Physical properties of the product:

- Acoustic sheet comprises of peat (68%), polyester (25%) and FR viscose (7%). It is painted with M1/CE-classified paint.
- Thermal conductivity: 0,037 W/mK (standard EVS-EN 12667)
- Fire resistance class: B (EN 13501-1:2018)
- M1 Emission Classification of Building Materials: Protocol for Chemical and Sensory Testing of Building Materials”
- Sound absorption class: A (EN ISO 354 & EN ISO 11654)

Further information can be found at <https://www.konto.fi/>.



PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	-	-
Minerals	-	-
Fossil materials	32	Finland/UK
Bio-based materials	68	Finland

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0.674
Biogenic carbon content in packaging, kg C	0.21

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m ²
Mass per declared unit	1.79 kg

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).



PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR.

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The environmental impacts of raw material supply (A1) include emissions generated when raw materials are taken from nature, transported to industrial units for processing and processed, along with waste handling from the various production processes. All major upstream processes are taken into consideration, including infrastructure. This stage includes all the aforementioned for the raw materials which end up in the final product (i.e. peat, binding polymers, surface treatment and packaging) as well as the electricity and heat production which are consumed during the manufacturing at the plant.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

The transportation distance is defined according to standard EN 15804:2019 + A2. Manufacturing plant is taking place in Karvia region of Finland. The average transportation distance from manufacturing site to construction site is calculated as 219 km and the transportation method is assumed to be lorry. Empty returns are not taken into account as it is assumed that return trip is used by the transportation company to serve the needs of other clients. Transportation does not cause losses as product are packaged properly.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase. Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

Demolition is assumed to have negligible effects due to easy dismantling as elements. It is assumed that 100 % of the elements are collected (C1). Distance for transportation to treatment is assumed as 50 km and the transportation method is assumed to be lorry (C2). 100 % of elements are assumed to be incinerated with energy recovery (C3). Due to the recycling process the end-of-life product is converted into an energy (D).

MANUFACTURING PROCESS

Raw materials are transported into the manufacturing facility by truck transport.

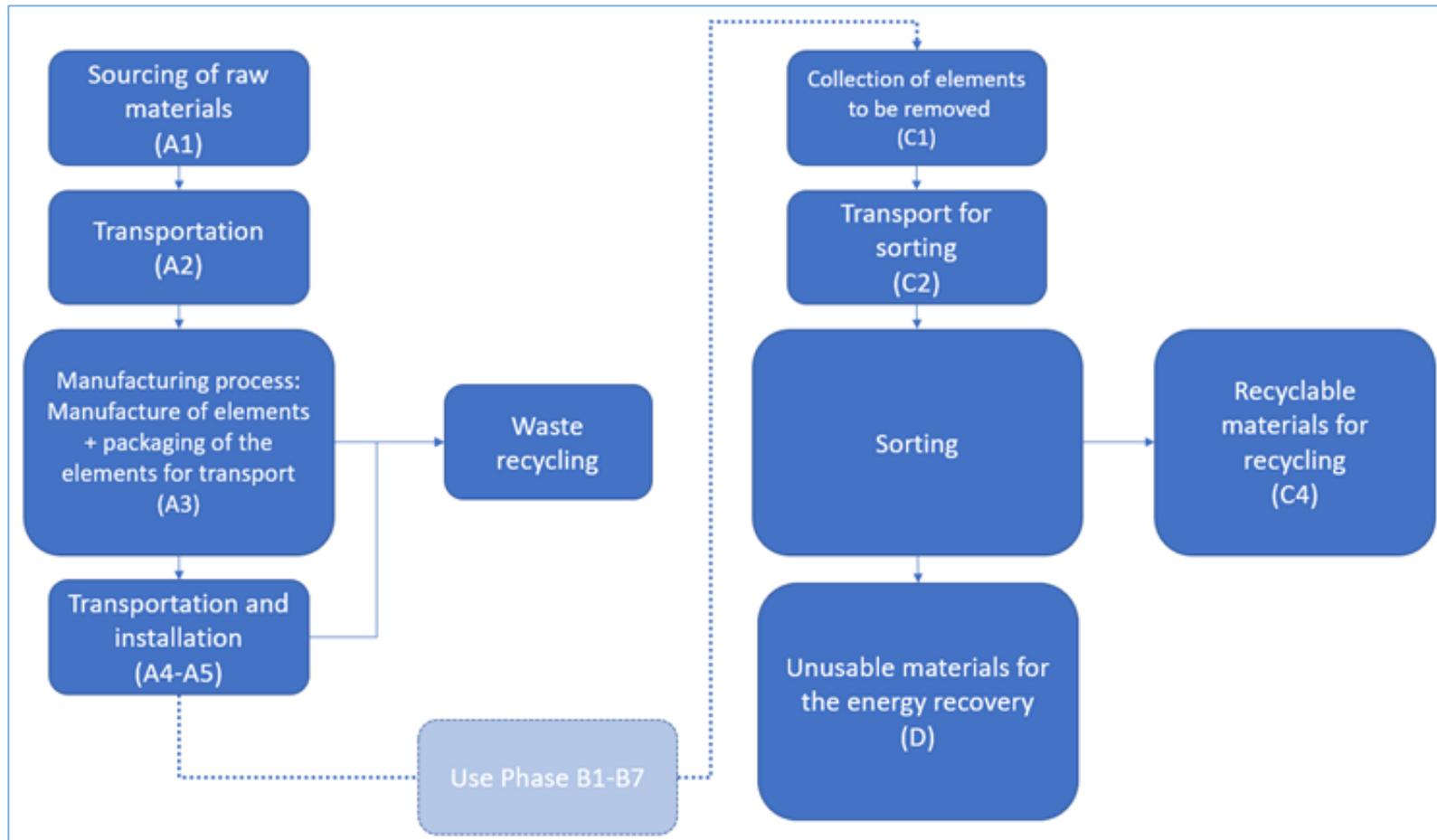
In the manufacturing process raw materials are first blended in a mixer. Next pressured air flow will move the desired material mix to a carding machine. Then the carding machine cards the material mix into a mat shape.

The material mat is then transferred into an oven using a conveyer belt conveyor. Thermal bonding takes place there in our non-woven process. It creates a durable fiber matrix.

Warm fiber mat continues from the oven to guillotine which does the raw cutting. Fine adjustments to a desired density and shape are then done separately in presses and with a water cutting machine.

After the cutting phase readymade products are packed for transport to customers.

Product transports to our customers are carried out by a truck transportation.



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging materials	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Primary data represents the manufacturing site in Karvia, Finland. Different product thicknesses with similar material composition but different weights are covered by scaling. The kg-based results for products and packaging can be scaled to the weight of each thickness. The different thicknesses are listed in Annex I. The data of 200 mm panel (1 m²) was used to calculate the impacts for the product. The primary data has calculated of the 200 mm product's consumption of raw materials and energy, and production of waste.

Type of average	No averaging
Averaging method	Not applicable

This EPD is product and factory specific and does not contain average calculations.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent and One Click LCA databases were used as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP – total	kg CO ₂ e	2,58E0	5,05E-2	6,54E-1	3,29E0	5,98E-2	7,5E-1	MND	0E0	1,46E-2	6,06E0	4,25E-4	2,27E-1
GWP – fossil	kg CO ₂ e	2,57E0	5,05E-2	1,23E0	3,86E0	6,03E-2	8,19E-3	MND	0E0	1,46E-2	9,32E-1	4,22E-4	-3,79E-1
GWP – biogenic	kg CO ₂ e	-1,08E-1	1,89E-5	-6,64E-1	-7,72E-1	4,38E-5	7,41E-1	MND	0E0	7,86E-6	5,13E0	3,41E-6	6,07E-1
GWP – LULUC	kg CO ₂ e	1,19E-1	2,18E-5	8,36E-2	2,03E-1	1,82E-5	9,45E-6	MND	0E0	5,28E-6	1,49E-5	2,02E-7	-8,68E-4
Ozone depletion pot.	kg CFC-11e	1,74E-7	1,14E-8	2,28E-7	4,13E-7	1,42E-8	1,09E-9	MND	0E0	3,33E-9	7,5E-9	1,31E-10	-2,65E-8
Acidification potential	mol H ⁺ e	1,53E-2	5,89E-4	5,46E-3	2,13E-2	2,53E-4	4,2E-5	MND	0E0	4,2E-5	5,5E-4	3,59E-6	-2,88E-3
EP-freshwater	kg Pe	1,35E-4	3,7E-7	3,96E-5	1,75E-4	4,91E-7	4,35E-7	MND	0E0	1,24E-7	1,01E-6	7,38E-9	-1,76E-5
EP-marine	kg Ne	2,83E-3	1,48E-4	1,62E-3	4,59E-3	7,64E-5	1,03E-5	MND	0E0	8,34E-6	2,38E-4	1,22E-6	-3,13E-4
EP-terrestrial	mol Ne	2,35E-2	1,64E-3	1,84E-2	4,35E-2	8,43E-4	1,13E-4	MND	0E0	9,3E-5	2,45E-3	1,34E-5	-3,74E-3
POCP (“smog”)	kg NMVOCe	1,13E-2	4,56E-4	5,15E-3	1,69E-2	2,71E-4	3,56E-5	MND	0E0	3,56E-5	6,09E-4	3,88E-6	-1,03E-3
ADP-minerals & metals	kg Sbe	4,72E-5	9,4E-7	6,72E-6	5,49E-5	1,03E-6	1,35E-7	MND	0E0	4,03E-7	5,75E-7	4,53E-9	-3,14E-7
ADP-fossil resources	MJ	4,9E1	7,47E-1	1,64E1	6,62E1	9,38E-1	1,29E-1	MND	0E0	2,21E-1	5,82E-1	9,91E-3	-5,12E0
Water use	m ³ e depr.	1,66E0	2,34E-3	1,68E-1	1,83E0	3,49E-3	1,25E-3	MND	0E0	7,23E-4	1,25E-1	4,44E-4	-4,44E-2

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1,15E-7	3,28E-9	8,62E-8	2,04E-7	5,46E-9	4,95E-10	MND	0E0	9,31E-10	4,63E-9	6,89E-11	-2,42E-8
Ionizing radiation	kBq U235e	8,09E-2	3,25E-3	6,63E-2	1,5E-1	4,1E-3	8,78E-4	MND	0E0	9,66E-4	1,51E-3	3,88E-5	-6E-2
Ecotoxicity (freshwater)	CTUe	4,93E1	5,48E-1	2,7E1	7,68E1	7,17E-1	1,18E-1	MND	0E0	1,72E-1	4,61E0	7,11E-3	-8,6E0
Human toxicity, cancer	CTUh	1,3E-9	1,98E-11	7,17E-10	2,03E-9	1,83E-11	4,61E-12	MND	0E0	4,94E-12	2,56E-10	2,59E-13	-9,41E-11
Human tox. non-cancer	CTUh	3,37E-8	5,89E-10	1,32E-8	4,75E-8	8,5E-10	1,03E-10	MND	0E0	1,88E-10	9,85E-9	5,42E-12	-2,66E-9
SQP	-	6,97E0	6,58E-1	1,55E0	9,18E0	1,42E0	4,36E-2	MND	0E0	1,87E-1	4,02E-1	3,54E-2	-3,17E-1

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Renew. PER as energy	MJ	4,9E0	8,83E-3	2,24E1	2,73E1	1,18E-2	1,37E-2	MND	0E0	3,16E-3	1,92E-2	1,63E-4	-1,62E0
Renew. PER as material	MJ	0E0	0E0	7,28E0	7,28E0	0E0	-7,3E0	MND	0E0	0E0	0E0	0E0	0E0
Total use of renew. PER	MJ	4,9E0	8,83E-3	2,97E1	3,46E1	1,18E-2	-7,29E0	MND	0E0	3,16E-3	1,92E-2	1,63E-4	-1,62E0
Non-re. PER as energy	MJ	3,2E1	7,47E-1	1,62E1	4,9E1	9,38E-1	1,29E-1	MND	0E0	2,21E-1	5,82E-1	9,91E-3	-5,12E0
Non-re. PER as material	MJ	1,7E1	0E0	2,06E-1	1,72E1	0E0	-2,1E-1	MND	0E0	0E0	-1,7E1	0E0	0E0
Total use of non-re. PER	MJ	4,9E1	7,47E-1	1,64E1	6,62E1	9,38E-1	-8,12E-2	MND	0E0	2,21E-1	-1,64E1	9,91E-3	-5,12E0
Secondary materials	kg	1,73E-2	0E0	4,28E-4	1,77E-2	0E0	0E0	MND	0E0	0E0	0E0	0E0	0E0
Renew. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	0E0	0E0	0E0	0E0	0E0
Non-ren. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m ³	4,9E-2	1,24E-4	8,09E-3	5,72E-2	1,95E-4	3,53E-5	MND	0E0	3,82E-5	2,89E-3	1,12E-5	-9,38E-4

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Hazardous waste	kg	1,8E-1	7,73E-4	2,65E-2	2,07E-1	9,12E-4	4,16E-4	MND	0E0	2,27E-4	0E0	1,74E-5	-2,78E-2
Non-hazardous waste	kg	3,69E0	5,23E-2	6,67E-1	4,41E0	1,01E-1	2,3E-2	MND	0E0	1,57E-2	0E0	4E-2	-2,07E-1
Radioactive waste	kg	7,32E-5	5,15E-6	1,02E-4	1,8E-4	6,44E-6	8,4E-7	MND	0E0	1,51E-6	0E0	5,96E-8	-3,1E-5

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	0E0	0E0	0E0	0E0	0E0
Materials for energy rec	kg	0E0	0E0	8E-2	8E-2	0E0	6,8E-1	MND	0E0	0E0	1,79E0	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	0E0	0E0	4,3E1	0E0	0E0

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	3,47E0	5,01E-2	1,32E0	4,84E0	5,98E-2	8,4E-3	MND	0E0	1,45E-2	9,31E-1	4,14E-4	-3,69E-1
Ozone depletion Pot.	kg CFC ₁₁ e	1,76E-7	9,04E-9	1,83E-7	3,68E-7	1,13E-8	9,86E-10	MND	0E0	2,65E-9	7,33E-9	1,04E-10	-2,69E-8
Acidification	kg SO ₂ e	1,39E-2	4,36E-4	3,21E-3	1,76E-2	1,23E-4	3,19E-5	MND	0E0	2,95E-5	3,97E-4	2,86E-5	-2,54E-3
Eutrophication	kg PO ₄ ³ e	3,75E-3	5,55E-5	9,2E-4	4,73E-3	2,48E-5	1,91E-5	MND	0E0	6,1E-6	5,15E-4	5,83E-7	-4,79E-4
POCP ("smog")	kg C ₂ H ₄ e	7,29E-4	1,41E-5	2,07E-4	9,5E-4	7,78E-6	1,66E-6	MND	0E0	1,76E-6	1,06E-5	1,08E-7	-1,05E-4
ADP-elements	kg Sbe	4,72E-5	9,4E-7	6,72E-6	5,49E-5	1,03E-6	1,35E-7	MND	0E0	4,03E-7	5,75E-7	4,53E-9	-3,14E-7
ADP-fossil	MJ	4,9E1	7,47E-1	1,64E1	6,62E1	9,38E-1	1,29E-1	MND	0E0	2,21E-1	5,82E-1	9,91E-3	-5,12E0

VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? Read more online

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Neena Chandramathy, as an authorized verifier acting for EPD Hub Limited
11.11.2022



ANNEX 1. ARTICLES COVERED BY THIS EPD.

Article	Thickness	Net weight kg	GWP-fossil, A1-A3 (kg CO2e/item)
1 m2 Konto Acoustic Panel	200 mm	1,79	3.86
-"	300 mm	2,19	4,61
-"	400 mm	2,46	5,13
-"	500 mm	3,98	7,99