



ENVIRONMENTAL PRODUCT DECLARATION

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

Ewona Laminated

EWONA Finland Oy



EPD HUB, HUB-2256

Published on 22.11.2024, last updated on 22.11.2024, valid until 22.11.2029

GENERAL INFORMATION

MANUFACTURER

Manufacturer	EWONA Oy
Address	Annalankankaantie 18, 90830 Haukipudas
Contact details	info@ewona.fi
Website	https://ewona.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 1.1, 5 Dec 2023
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Jori Jokela, Macon Oy
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Imane Uald Iamkaddam, 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	Ewona Laminated Material
Additional labels	Acustica Basic, Acustica Premium+, Acustica Excellence, Ewona Compact Laminated
Product reference	-
Place of production	Oulu, Finland
Period for data	2023
Averaging in EPD	No averaging

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	2,85
GWP-total, A1-A3 (kgCO ₂ e)	2,27
Secondary material, inputs (%)	56,9
Secondary material, outputs (%)	82,3
Total energy use, A1-A3 (kWh)	15
Net freshwater use, A1-A3 (m ³)	0,04

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Recognized as a pioneer in sustainable development, Ewona Oy produces high-quality, recycled, and allergy-free acoustic and insulation solutions in its new Haukipudas factory in Finland. Ewona Oy makes the creation of advanced spaces pleasant, easy, and fast. Our commitment to sustainable development, product safety, and ease of use guides all of our operations.

PRODUCT DESCRIPTION

Ewona Laminated is a safe and lightweight soundproofing material whose fiber raw material is pure, up to 50% recycled polyester. The fiber does not release harmful substances into the environment even over an extended period. Acoustic panels are allergy-safe and are often used in demanding environments such as schools, daycares, hospitals, sports halls, and other public buildings.

For the manufacturing of our products, we use environmentally friendly, additive-free, and recycled materials. All our products meet allergy certification as well as the requirements for M1 emission and cleanliness classification.

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

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	-	-
Minerals	-	-
Fossil materials	100	EU
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0,05

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
Mass per declared unit	1 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	MND	MND	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	Deconstruction/ demolition	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. polyester fibers, recycled polyester fibers, polyester fabric and packaging) as well as the electricity and heat production which are consumed during the manufacturing at the plant.

TRANSPORT AND INSTALLATION (A4-A5)

This EPD does not cover the transportation impacts occurred from final products delivery to construction site (A4). Installation (A5) contains only packaging waste impacts and have been declared in C-phase. Wooden packing materials will be recycled as materials for energy recovery and plastics will be recycled as materials for plastics recycling (C3).

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 only small effects due to easy dismantling by hand. It is assumed that 100 % of the Ewona products are collected (C1). Distance for transportation to treatment is assumed as 50 km and the transportation method is assumed to be lorry (C2). Ewona products are assumed to reused or recycled as rawmaterial for new products or to be utilized in energy production (C3). Due to the recycling process the end-of-life product is converted into recyclable raw material or reused as it is (D).

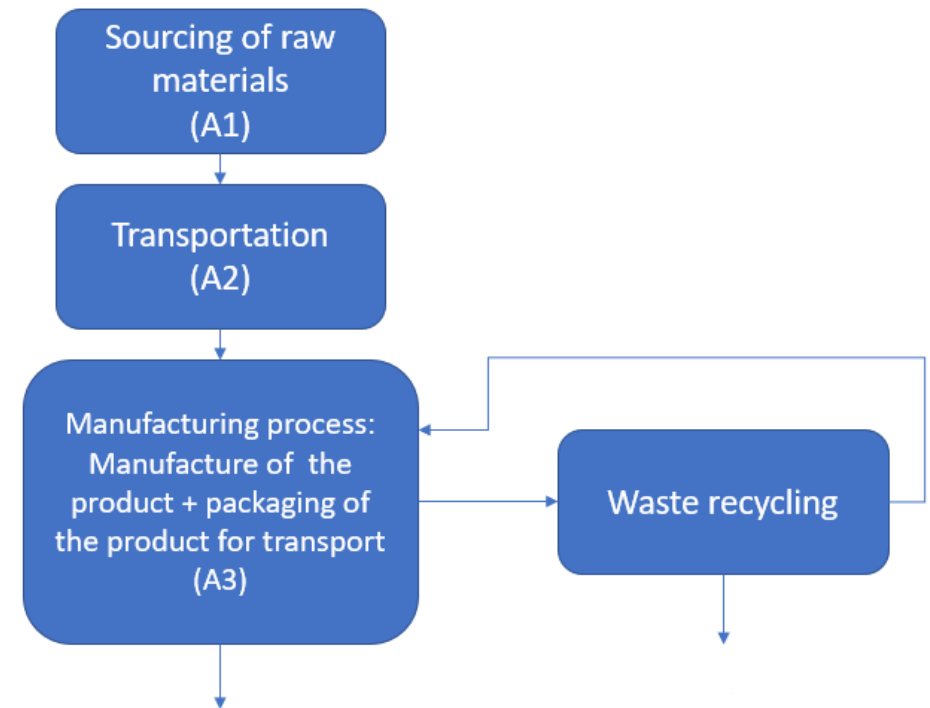
MANUFACTURING PROCESS

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

In the manufacturing process raw materials are first sent to the fibre opening, fine opening and carding. Next materials go to oven curing. After that are ironing and coating processes.

Next step is the cutting phase where product is sawn and cross-cut to the desired size. Edge waste is recycled back to the fibre opening via ripper.

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



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 material	No allocation
Ancillary materials	No allocation
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

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. The EPD Generator uses Ecoinvent v3.8, Plastics Europe, Federal LCA Commons and One Click LCA databases as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	2,49E+00	1,24E-01	-3,39E-01	2,27E+00	0,00E+00	6,17E-03	1,41E+00	2,44E-01	-5,80E-01
GWP – fossil	kg CO ₂ e	2,49E+00	1,24E-01	2,34E-01	2,85E+00	0,00E+00	6,17E-03	1,06E+00	2,54E-02	-5,98E-01
GWP – biogenic	kg CO ₂ e	0,00E+00	6,12E-06	-5,74E-01	-5,74E-01	0,00E+00	0,00E+00	3,56E-01	2,18E-01	1,94E-02
GWP – LULUC	kg CO ₂ e	2,85E-03	6,21E-05	5,41E-04	3,46E-03	0,00E+00	2,36E-06	3,30E-05	3,53E-06	-9,41E-04
Ozone depletion pot.	kg CFC-11e	8,10E-06	2,84E-08	1,83E-08	8,14E-06	0,00E+00	1,49E-09	2,07E-09	9,58E-10	-3,29E-08
Acidification potential	mol H ⁺ e	1,11E-02	1,69E-03	1,99E-03	1,48E-02	0,00E+00	2,17E-05	2,83E-04	2,78E-05	-4,60E-03
EP-freshwater ²⁾	kg Pe	1,07E-04	7,40E-07	4,05E-05	1,48E-04	0,00E+00	4,45E-08	9,08E-07	5,92E-08	-2,44E-05
EP-marine	kg Ne	2,38E-03	4,15E-04	3,12E-04	3,11E-03	0,00E+00	5,49E-06	1,38E-04	4,12E-05	-5,52E-04
EP-terrestrial	mol Ne	2,27E-02	4,61E-03	5,48E-03	3,28E-02	0,00E+00	6,06E-05	1,31E-03	1,03E-04	-6,46E-03
POCP (“smog”) ³⁾	kg NMVOCe	1,07E-02	1,27E-03	1,15E-03	1,31E-02	0,00E+00	2,12E-05	3,32E-04	3,61E-05	-1,80E-03
ADP-minerals & metals ⁴⁾	kg Sbe	2,39E-05	2,74E-07	1,50E-06	2,57E-05	0,00E+00	1,76E-08	3,08E-07	1,13E-08	-5,76E-07
ADP-fossil resources	MJ	5,09E+01	1,81E+00	6,77E+00	5,95E+01	0,00E+00	9,59E-02	2,85E-01	7,45E-02	-7,82E+00
Water use ⁵⁾	m ³ e depr.	1,34E+00	7,46E-03	6,16E-01	1,97E+00	0,00E+00	4,42E-04	4,25E-02	4,66E-04	-9,77E-02

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO₄e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

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

Impact category	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Particulate matter	Incidence	1,18E-07	1,03E-08	1,58E-08	1,44E-07	0,00E+00	6,49E-10	2,65E-09	5,45E-10	-4,45E-08
Ionizing radiation ⁶⁾	kBq 11235e	2,06E-01	9,02E-03	1,87E-01	4,02E-01	0,00E+00	4,94E-04	1,95E-03	3,68E-04	-1,51E-01
Ecotoxicity (freshwater)	CTUe	4,33E+01	1,41E+00	4,56E+00	4,93E+01	0,00E+00	8,02E-02	2,15E+00	1,14E-01	-1,40E+01
Human toxicity, cancer	CTUh	1,48E-09	5,43E-11	7,33E-10	2,27E-09	0,00E+00	2,21E-12	1,07E-10	2,41E-12	-1,91E-10
Human tox. non-cancer	CTUh	2,95E-08	1,30E-09	3,81E-09	3,46E-08	0,00E+00	8,11E-11	3,54E-09	5,03E-11	-5,88E-09
SQP ⁷⁾	-	7,16E+00	1,45E+00	4,63E+01	5,49E+01	0,00E+00	9,62E-02	2,97E-01	1,77E-01	-5,32E+00

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	2,76E+00	2,03E-02	4,33E+00	7,12E+00	0,00E+00	1,27E-03	2,05E-02	1,52E-03	-1,73E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	5,03E+00	5,03E+00	0,00E+00	0,00E+00	-3,12E+00	-1,91E+00	1,20E-01
Total use of renew. PER	MJ	2,76E+00	2,03E-02	9,36E+00	1,21E+01	0,00E+00	1,27E-03	-3,10E+00	-1,91E+00	-1,61E+00
Non-re. PER as energy	MJ	3,88E+01	1,81E+00	6,02E+00	4,67E+01	0,00E+00	9,59E-02	2,85E-01	7,45E-02	-7,68E+00
Non-re. PER as material	MJ	2,26E+01	0,00E+00	-1,12E-01	2,25E+01	0,00E+00	0,00E+00	-1,72E+01	-5,33E+00	4,10E-02
Total use of non-re. PER	MJ	6,14E+01	1,81E+00	5,91E+00	6,91E+01	0,00E+00	9,59E-02	-1,69E+01	-5,26E+00	-7,63E+00
Secondary materials	kg	5,69E-01	6,17E-04	1,88E-02	5,88E-01	0,00E+00	2,88E-05	1,12E-03	2,63E-05	2,91E-03
Renew. secondary fuels	MJ	1,13E-03	4,13E-06	1,70E-01	1,71E-01	0,00E+00	2,81E-07	7,96E-06	1,01E-06	-3,82E-06
Non-ren. secondary fuels	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	0,00E+00
Use of net fresh water	m ³	3,40E-02	2,01E-04	6,90E-03	4,11E-02	0,00E+00	1,25E-05	1,25E-04	7,91E-05	-6,08E-03

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Hazardous waste	kg	1,34E-01	2,14E-03	1,35E-02	1,50E-01	0,00E+00	1,07E-04	3,05E-03	0,00E+00	-4,63E-02
Non-hazardous waste	kg	4,79E+00	3,04E-02	3,99E-01	5,21E+00	0,00E+00	1,86E-03	5,95E-01	2,97E-01	-1,89E+00
Radioactive waste	kg	7,90E-05	1,26E-05	7,34E-05	1,65E-04	0,00E+00	6,60E-07	6,88E-07	0,00E+00	-4,31E-05

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	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	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,22E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	4,00E-02	4,00E-02	0,00E+00	0,00E+00	5,00E-01	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,64E+00	0,00E+00	0,00E+00

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

Impact category	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	2,40E+00	1,23E-01	2,39E-01	2,77E+00	0,00E+00	6,11E-03	1,06E+00	2,48E-02	-5,87E-01
Ozone depletion Pot.	kg CFC ₁₁ e	5,42E-06	2,25E-08	1,53E-08	5,46E-06	0,00E+00	1,18E-09	1,79E-09	7,60E-10	-2,69E-08
Acidification	kg SO ₂ e	9,10E-03	1,35E-03	1,49E-03	1,19E-02	0,00E+00	1,73E-05	2,04E-04	2,11E-05	-3,92E-03
Eutrophication	kg PO ₄ ³ e	3,56E-03	1,74E-04	5,08E-04	4,24E-03	0,00E+00	3,77E-06	2,13E-04	1,62E-03	-8,81E-04
POCP (“smog”)	kg C ₂ H ₄ e	5,28E-04	3,89E-05	1,11E-04	6,78E-04	0,00E+00	7,63E-07	8,92E-06	4,75E-06	-1,72E-04
ADP-elements	kg Sbe	2,37E-05	2,67E-07	1,48E-06	2,54E-05	0,00E+00	1,71E-08	3,01E-07	1,09E-08	-5,78E-07
ADP-fossil	MJ	5,09E+01	1,81E+00	6,77E+00	5,95E+01	0,00E+00	9,59E-02	2,85E-01	7,45E-02	-7,67E+00

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.

Imane Uald lamkaddam, as an authorized verifier acting for EPD Hub Limited
22.11.2024

