

ENVIRONMENTAL PRODUCT DECLARATION

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

Perform Panel
Nu-style Products Ltd



EPD HUB, HUB-1745

Published on 05.07.2024, last updated on 05.07.2024, valid until 05.07.2029

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Nu-style Products Ltd
Address	Donaldson House, Saltire Centre, Glenrothes
Contact details	markm@donaldson-timber.co.uk
Website	https://www.performpanel.co.uk/

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	HUB-1743
Scope of the EPD	Cradle to gate with options, A4-A5, B2-B3, and modules C1-C4, D
EPD author	Mark Murphy
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	Imane Uald lamkaddam, 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	Perform Panel
Additional labels	
Product reference	
Place of production	Aberdeen, United Kingdom
Period for data	October 2022 - September 2023
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	%

ENVIRONMENTAL DATA SUMMARY

Declared unit	1m2 of Nu lock panel
Declared unit mass	9.61 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	2.11E+01
GWP-total, A1-A3 (kgCO ₂ e)	-5.74E+00
Secondary material, inputs (%)	0.62
Secondary material, outputs (%)	99
Total energy use, A1-A3 (kWh)	134
Net fresh water use, A1-A3 (m3)	0.4

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Nu-style Products, located in Aberdeen in the North of Scotland, design, manufacture, and supply a wide range of high-quality laminate products for the building and construction industries.

Having operated now for over 70 years, we have developed our business to service many sectors, including education, healthcare, offshore, and the commercial market.

With a highly skilled and knowledgeable workforce, the benefits of working with us are clear. We can utilise our newly developed 35,000sqft production facility in Aberdeen to help customers meet tight demand schedules.

Our diverse nature and capability enable us to deal with a wide customer base including architects, contractors, builders' merchants, trade and retail. With vast experience in delivering products for multiple sectors, we are also able to guide you through the process to ensure you receive what is right for your specification and requirements.

Client relationships are extremely important to us, that's why we have a great team of managers and experts who are the driving force behind Nu-Style. They ensure that clients get the best value from working with us.

PRODUCT DESCRIPTION

With easy installation, no grouting and a unique high performance fitting system, Perform Panel gives you a seamless waterproof wall in a fraction of the time it would take to tile.

Perform Panel works beautifully for bathrooms - and many other applications - whatever the interior design style. From warm, gentle earth tones to bold urban design, our range includes a full spectrum of colour and texture. With Perform Panel you can get the look that's perfect for

your project, in a fraction of the time it takes to tile.

We have a separate EPD for each of the core ranges which comprise over 48 stylish designs in a wide choice of finishes, colours, designs and price-points.

This EPD relates to products that are manufactured using a Moisture resistant MDF core. The boards are bonded to HPL (High-Pressure Laminate) to the front face and a backing HPL to reverse. Suitable as shower panels or for wet rooms and other areas with extremely high humidity.

Paper forms the basis of High-Pressure Laminates. The paper is impregnated with phenolic and melamine resins, dried and compressed to form a hard-wearing, stable coating. The laminate can be bonded to various substances and is resistant to most chemicals.

These panels are supplied with the traditional straight joint profile.

Further information can be found at <https://www.performpanel.co.uk/>.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals		
Minerals		
Fossil materials	1	Asia
Bio-based materials	99	Europe, Asia

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	3.27
Biogenic carbon content in packaging, kg C	0

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1m2 of Nu lock panel
Mass per declared unit	9.61 kg
Functional unit	1m2 of Nu lock shower panel, used internally in bathroom setting, water resistant.
Reference service life	35 years

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	x	x	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.

As a company we maintain efficient relationships with our suppliers to ensure we have leading edge production technology and the right quality of raw materials which allows us to deliver consistent high quality, cost-effective products targeted to meet real construction needs.

We recognise that timber, as a building material, is a truly renewable resource when properly managed. All of our core products are legal and

sustainable in accordance with the FSC® & PEFC management systems. The plywood is supplied from Latvia and the HPL from India.

A2, Transport to the manufacturer

Our raw materials are transported to the manufacturing sites across the UK. The manufacturing site is located in Aberdeen.

A3, Manufacturing

The attached pictorial representation of our process is shown below. Raw materials are delivered in, then picked, the HPL is bonded to the core plywood, allowed to cure for 24 hours before being cut to shape, before being packed and delivered to the customer specification. We achieved ISO 50001(Energy Management) certification in 2019 as saw us invest in energy saving initiatives. These initiatives reduce the energy being wasted whilst having little impact on production.

Our Continuous Improvement campaign has seen us develop our colleagues so that everyone is involved and as a result we have generated over 340 continuous improvement ideas groupwide. We constantly challenge ourselves to improve through 5S, Gemba and waste walks. The transit packaging is either shrink wrapping or cardboard packaging to meet customer requirements.

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.

In order to meet customer demand, we have established a dedicated delivery service where we deliver into certain areas on the same day every week. This gives our customers confidence that they know when their materials will arrive, while at the same time reducing vehicle emissions from unwanted journeys or delivering under capacity frequently in the same area.

We have maximised the haulage load through the implementation of distribution centres at Birmingham, Barnsley and Bridgwater.

PRODUCT USE AND MAINTENANCE (B1-B7)

While This EPD does not cover the use phase and air, soil, and water impacts during the use phase have not been studied, we can comment on the building fabric includes:

B1, Use (or application of the installed product)

Emissions to the environment are not attributable to the perform panel.

B2, Maintenance; B3, Repair; B4, Replacement; B5, Refurbishment

As with most bathroom products, we expect that the sealant should be checked on an annual basis. This is expected to require repair during the service life of the product. If the sealant requires replacing, it is assumed a consumption of 50 ml per square metre of perform panel. We have assumed that in the EPD calculations this takes place every 3 years. To prevent any fungal growth on the perform panel we have assumed the sealant is cleared every other month to remove skin and soap residue.

With good maintenance of the seals Perform panel are assumed to have a working life of at least 35 years.

B6, Operational energy use; B7, Operational water use

Perform Panel once in situ do not require any energy or water use during the operation of the building. Therefore, no impact derives from these modules. Air, soil, and water impacts during the use phase have not been studied.

Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

C1-C4: End of Life Stage

We have taken into account the life cycle of the product is a minimum 35 years, so our end of life scenario is based on information from government UK statistics on waste and the Royal Institute of Chartered Surveyors Whole life carbon assessment for the built environment.

C1, Deconstruction and demolition

We have assumed that perform panel will be deconstructed/dismantled at the same time as the rest of the building.

C2, Transport

We have assumed that waste materials will be transported 50km.

C3, Waste processing

We have used the Royal Institute of Chartered Surveyors Whole life carbon assessment for the built environment to estimate that 30% of timber will be recycled. 69% of timber will be incinerated with fuel efficiency of the power plant currently estimated at 80% which will improve over the next 60 years. All of the timber incinerated means that we are avoiding the extra energy and heat production from the average grid-mix of Europe, and recycled timber avoids the extraction and beneficiation of virgin wood.

C4, Disposal

1% of timber will be landfilled. which will improve over the next 35 years.

MANUFACTURING PROCESS



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 revenue

AVERAGES AND VARIABILITY

Type of average	No averaging
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3	%

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	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	-7.79E+00	8.24E-01	1.22E+00	-5.74E+00	1.36E-02	7.23E-02	MND	2.56E-01	3.46E-01	MND	MND	MND	MND	0.00E+00	8.17E-02	2.66E+01	2.69E-01	-1.76E+01
GWP – fossil	kg CO ₂ e	1.99E+01	8.24E-01	3.96E-01	2.11E+01	1.35E-02	1.30E-02	MND	1.32E-01	3.46E-01	MND	MND	MND	MND	0.00E+00	8.17E-02	8.48E-02	7.81E-04	-1.76E+01
GWP – biogenic	kg CO ₂ e	-2.77E+01	4.59E-05	8.25E-01	-2.68E+01	0.00E+00	5.93E-02	MND	0.00E+00	0.00E+00	MND	MND	MND	MND	0.00E+00	0.00E+00	2.65E+01	2.68E-01	0.00E+00
GWP – LULUC	kg CO ₂ e	2.61E-02	4.59E-04	5.29E-04	2.71E-02	4.47E-06	7.66E-06	MND	1.23E-01	2.71E-04	MND	MND	MND	MND	0.00E+00	3.42E-05	7.52E-05	2.03E-07	-8.14E-03
Ozone depletion pot.	kg CFC ₁₁ e	1.80E-06	1.76E-07	4.26E-08	2.02E-06	2.31E-08	5.83E-10	MND	6.20E-09	1.74E-07	MND	MND	MND	MND	0.00E+00	1.76E-08	8.27E-09	2.98E-10	-4.61E-07
Acidification potential	mol H ⁺ e	1.22E-01	1.49E-02	1.24E-03	1.39E-01	1.68E-04	2.99E-05	MND	8.04E-04	1.73E-03	MND	MND	MND	MND	0.00E+00	2.41E-04	2.18E-03	7.01E-06	-8.63E-02
EP-freshwater ²⁾	kg Pe	7.51E-04	4.74E-06	8.87E-06	7.65E-04	1.25E-07	2.06E-07	MND	1.40E-05	1.10E-05	MND	MND	MND	MND	0.00E+00	6.93E-07	3.52E-06	1.01E-08	-1.20E-03
EP-marine	kg Ne	3.02E-02	3.72E-03	3.09E-04	3.42E-02	2.11E-05	8.55E-06	MND	8.58E-04	3.32E-04	MND	MND	MND	MND	0.00E+00	4.80E-05	9.81E-04	5.43E-06	-1.66E-02
EP-terrestrial	mol Ne	3.35E-01	4.13E-02	2.98E-03	3.79E-01	2.32E-04	8.56E-05	MND	2.25E-03	3.31E-03	MND	MND	MND	MND	0.00E+00	5.34E-04	1.12E-02	2.89E-05	-1.88E-01
POCP (“smog”) ³⁾	kg NMVOCe	8.81E-02	1.10E-02	9.29E-04	1.00E-01	9.44E-05	2.60E-05	MND	5.23E-04	1.08E-03	MND	MND	MND	MND	0.00E+00	2.00E-04	2.94E-03	1.05E-05	-4.97E-02
ADP-minerals & metals ⁴⁾	kg Sbe	1.51E-04	1.73E-06	1.44E-06	1.54E-04	1.82E-08	9.61E-08	MND	1.92E-06	3.75E-06	MND	MND	MND	MND	0.00E+00	2.89E-07	3.36E-07	2.82E-09	-1.81E-05
ADP-fossil resources	MJ	3.14E+02	1.13E+01	9.78E+00	3.35E+02	1.37E+00	6.55E-02	MND	2.07E+00	5.99E+00	MND	MND	MND	MND	0.00E+00	1.18E+00	1.11E+00	2.11E-02	-2.32E+02
Water use ⁵⁾	m ³ e depr.	1.74E+01	4.35E-02	1.13E-01	1.76E+01	1.85E-03	1.83E-03	MND	1.05E-01	6.00E-01	MND	MND	MND	MND	0.00E+00	5.23E-03	1.47E-01	1.96E-04	-2.63E+00

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	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	2.27E-06	5.55E-08	1.13E-08	2.34E-06	8.79E-10	6.52E-10	MND	1.01E-08	1.76E-08	MND	MND	MND	MND	0.00E+00	6.51E-09	1.70E-08	1.55E-10	-1.00E-06
Ionizing radiation ⁶⁾	kBq U235e	1.58E+00	5.40E-02	1.52E-01	1.79E+00	6.25E-03	6.64E-04	MND	8.29E-03	3.72E-02	MND	MND	MND	MND	0.00E+00	5.54E-03	1.55E-02	1.31E-04	-3.35E+00
Ecotoxicity (freshwater)	CTUe	6.78E+02	8.72E+00	3.86E+00	6.90E+02	7.39E-01	1.95E-01	MND	6.94E+00	6.81E+00	MND	MND	MND	MND	0.00E+00	1.09E+00	1.74E+00	1.77E-02	-3.82E+02
Human toxicity, cancer	CTUh	8.04E-08	3.92E-10	1.16E-10	8.09E-08	6.01E-12	1.82E-11	MND	3.06E-10	2.92E-10	MND	MND	MND	MND	0.00E+00	3.06E-11	1.98E-09	6.21E-13	-5.27E-09
Human tox. non-cancer	CTUh	3.10E-07	7.45E-09	2.72E-09	3.20E-07	1.65E-10	1.76E-10	MND	2.94E-09	5.14E-09	MND	MND	MND	MND	0.00E+00	9.85E-10	6.06E-09	2.00E-11	-1.59E-07
SQP ⁷⁾	-	2.09E+03	6.91E+00	3.31E+00	2.10E+03	1.72E-01	7.79E-02	MND	6.65E+00	1.52E+00	MND	MND	MND	MND	0.00E+00	8.30E-01	2.64E-01	5.60E-02	-6.67E+01

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	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	1.72E+02	1.12E-01	1.17E+00	1.73E+02	3.84E-03	5.81E-03	MND	2.39E+00	5.85E-01	MND	MND	MND	MND	0.00E+00	1.41E-02	1.13E-01	9.58E-04	-1.05E+01
Renew. PER as material	MJ	1.45E+02	0.00E+00	-4.13E+00	1.41E+02	0.00E+00	-5.12E-01	MND	0.00E+00	0.00E+00	MND	MND	MND	MND	0.00E+00	0.00E+00	-1.39E+02	-1.41E+00	0.00E+00
Total use of renew. PER	MJ	3.18E+02	1.12E-01	-2.97E+00	3.15E+02	3.84E-03	-5.06E-01	MND	2.39E+00	5.85E-01	MND	MND	MND	MND	0.00E+00	1.41E-02	-1.39E+02	-1.41E+00	-1.05E+01
Non-re. PER as energy	MJ	2.91E+02	1.13E+01	7.54E+00	3.10E+02	1.82E-01	6.55E-02	MND	2.07E+00	4.84E+00	MND	MND	MND	MND	0.00E+00	1.18E+00	1.11E+00	2.11E-02	-2.32E+02
Non-re. PER as material	MJ	2.65E+01	0.00E+00	1.38E+00	2.79E+01	0.00E+00	-2.23E+00	MND	0.00E+00	0.00E+00	MND	MND	MND	MND	0.00E+00	0.00E+00	-2.54E+01	-2.56E-01	0.00E+00
Total use of non-re. PER	MJ	3.18E+02	1.13E+01	8.92E+00	3.38E+02	1.82E-01	-2.16E+00	MND	2.07E+00	4.84E+00	MND	MND	MND	MND	0.00E+00	1.18E+00	-2.43E+01	-2.35E-01	-2.32E+02
Secondary materials	kg	5.97E-02	4.22E-03	4.01E-02	1.04E-01	6.19E-05	2.38E-04	MND	4.86E-04	4.75E-04	MND	MND	MND	MND	0.00E+00	3.96E-04	2.25E-03	8.05E-06	-1.28E-02
Renew. secondary fuels	MJ	7.62E-03	2.59E-05	2.87E-03	1.05E-02	7.05E-07	1.74E-06	MND	9.38E-06	2.88E-05	MND	MND	MND	MND	0.00E+00	5.13E-06	2.94E-06	3.68E-07	-4.22E-03
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	MND	MND	MND	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m ³	3.92E-01	1.13E-03	2.83E-03	3.96E-01	3.88E-05	4.70E-05	MND	2.65E-03	1.44E-02	MND	MND	MND	MND	0.00E+00	1.41E-04	3.64E-03	2.75E-05	-6.50E-02

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	1.37E+00	1.50E-02	1.53E-02	1.40E+00	3.51E-04	8.69E-04	MND	1.57E-02	2.03E-02	MND	MND	MND	MND	0.00E+00	1.71E-03	2.03E-03	0.00E+00	-1.68E+00
Non-hazardous waste	kg	2.90E+01	1.90E-01	3.12E-01	2.95E+01	4.85E-03	1.53E-02	MND	1.50E-01	5.78E-01	MND	MND	MND	MND	0.00E+00	2.74E-02	6.74E+00	9.61E-02	-4.84E+01
Radioactive waste	kg	6.48E-04	7.81E-05	4.01E-05	7.66E-04	9.90E-06	3.49E-07	MND	3.15E-06	1.26E-05	MND	MND	MND	MND	0.00E+00	7.88E-06	3.55E-06	0.00E+00	-9.43E-04

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	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	MND	0.00E+00	0.00E+00	MND	MND	MND	MND	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	3.16E-01	3.16E-01	0.00E+00	1.65E-01	MND	0.00E+00	0.00E+00	MND	MND	MND	MND	0.00E+00	0.00E+00	2.88E+00	0.00E+00	0.00E+00
Materials for energy rec	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	MND	MND	MND	MND	0.00E+00	0.00E+00	6.63E+00	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	MND	0.00E+00	0.00E+00	MND	MND	MND	MND	0.00E+00	0.00E+00	1.10E+02	0.00E+00	0.00E+00

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

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	2.00E+01	8.17E-01	3.88E-01	2.12E+01	1.32E-02	1.38E-02	MND	2.50E-01	3.38E-01	MND	MND	MND	MND	0.00E+00	8.09E-02	8.34E-02	6.99E-03	-1.73E+01
Ozone depletion Pot.	kg CFC ₁₁ e	1.55E-06	1.40E-07	3.48E-08	1.72E-06	1.83E-08	4.82E-10	MND	5.27E-09	2.27E-07	MND	MND	MND	MND	0.00E+00	1.40E-08	7.41E-09	2.36E-10	-3.75E-07
Acidification	kg SO ₂ e	9.60E-02	1.19E-02	9.84E-04	1.09E-01	1.44E-04	2.35E-05	MND	5.98E-04	1.44E-03	MND	MND	MND	MND	0.00E+00	1.97E-04	1.49E-03	5.20E-06	-7.08E-02
Eutrophication	kg PO ₄ ³ e	5.29E-02	1.47E-03	4.09E-04	5.48E-02	1.80E-05	4.24E-05	MND	1.12E-03	4.83E-04	MND	MND	MND	MND	0.00E+00	4.35E-05	2.04E-03	2.76E-04	-3.84E-02
POCP ("smog")	kg C ₂ H ₄ e	6.63E-03	3.27E-04	6.80E-05	7.02E-03	5.78E-06	2.15E-06	MND	1.10E-04	8.34E-05	MND	MND	MND	MND	0.00E+00	9.79E-06	6.07E-05	1.52E-06	-2.91E-03
ADP-elements	kg Sbe	1.53E-04	1.69E-06	1.40E-06	1.56E-04	1.77E-08	9.53E-08	MND	1.91E-06	3.12E-06	MND	MND	MND	MND	0.00E+00	2.83E-07	2.79E-07	2.71E-09	-1.81E-05
ADP-fossil	MJ	3.18E+02	1.13E+01	9.77E+00	3.39E+02	1.37E+00	6.55E-02	MND	2.07E+00	5.99E+00	MND	MND	MND	MND	0.00E+00	1.18E+00	1.11E+00	2.11E-02	-2.32E+02

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 compliance 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
05.07.2024

