



# **ENVIRONMENTAL PRODUCT DECLARATION**

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

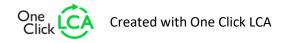
Scoutmoor Natural Stone Marshalls



### EPD HUB, HUB-2194

Published on 07.02.2025, last updated on 07.02.2025, valid until 06.02.2030











# **GENERAL INFORMATION**

### **MANUFACTURER**

Manufacturer	Marshalls
Address	Landscape House, Premier Way, Elland HX5 9HT, England, UK
Contact details	epd@marshalls.co.uk
Website	www.marshalls.co.uk

### **EPD STANDARDS, SCOPE AND VERIFICATION**

LFD STANDARDS, SCO	OF LAND VERII ICATION
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 options, A4-A5, and modules C1-C4, D
EPD author	Mike Edwards
EPD verification	Independent verification of this EPD and data, according to ISO 14025:
	☐ Internal verification ☐ External verification
EPD verifier	Haiha Nguyen, as an authorized verifier acting for EPD Hub Limited

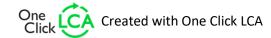
The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building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

#### **PRODUCT**

Product name	Scoutmoor Natural Stone
Additional labels	-
Product reference	-
Place of production	Halifax, UK
Period for data	Calendar year 2023
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	-

### **ENVIRONMENTAL DATA SUMMARY**

Declared unit	1 tonne
Declared unit mass	1000 kg
GWP-fossil, A1-A3 (kgCO <sub>2</sub> e)	47.4
GWP-total, A1-A3 (kgCO₂e)	-4.86
Secondary material, inputs (%)	0.01
Secondary material, outputs (%)	93
Total energy use, A1-A3 (kWh)	401
Net freshwater use, A1-A3 (m³)	0.17







# PRODUCT AND MANUFACTURER

#### **ABOUT THE MANUFACTURER**

Marshalls is the UKs largest manufacturer and supplier of building and hard landscaping products, including paving blocks and flags, kerbs, drainage channels, bricks, roof tiles, street furniture and natural stone paving. It provides products for both commercial and domestic markets.

#### PRODUCT DESCRIPTION

Scoutmoor Yorkstone is a blue-grey to brown-coloured stone popular in projects across the UK with high levels of technical performance. The strongest type of Yorkstone available in the UK, it is perfect for paved applications thanks to its strength, durability and class-leading slip resistance. Suitable for pedestrian and trafficked areas, it's a reliable and hardwearing addition to any commercial or public space. As well as paving, Scoutmoor Yorkstone is suitable for setts, kerbs, tactile, steps, water management, specially shaped paving and low-level masonry veneers for planters and seats.

The packaging mass totals 27.2 kg

Further information can be found at www.marshalls.co.uk.

### PRODUCT RAW MATERIAL MAIN COMPOSITION

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

#### **BIOGENIC CARBON CONTENT**

Product's biogenic carbon content at the factory gate.

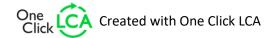
Biogenic carbon content in product, kg C	-
Biogenic carbon content in packaging, kg C	14.28

### **FUNCTIONAL UNIT AND SERVICE LIFE**

Declared unit VP-011	1 Tonne
Mass per declared unit VP-012	1000 kg
Functional unit	-
Reference service life	100 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.

Proc	duct s	tage		embl age		Use stage						Use stage End of life sta						the 1 ies
<b>A1</b>	A2	А3	A4	A5	B1	B2	В3	В4	В5	В6	В7	C1	C2	С3	C4			
×	×	×	×	×	MND	MND	MND	MND	MND	MND	MND	×	×	×	×			
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 production process includes roughly four stages. The first is the separation of the natural stone from the rock face at the quarry. This is

done either by explosives or by cutting and drilling. After this, the large stone block is cut into smaller blocks which are then transported to the manufacturing site. At the site the blocks are sawn and processed into the required shape and size. Harvested rainwater is used for dust control to minimise the use of tap water. The final product is not washed.

The manufacturing energy use consists of green REGO backed sustainable electricity used to power the equipment and lighting, as well as diesel for machinery.

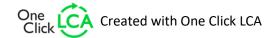
Manufacturing waste consists mainly of waste ancillary materials like drill bits and tools being recycled by a contracted waste manager located in 50 km proximity to the production site. Waste grease and oil are mostly collected and sent to the municipal incineration plant for energy recovery. The dust emissions are recorded on-site and the samples result in an average of 0.02 kg per 1 tonne of product.

This study includes the quarrying and crushing processes, internal transport, as well as equipment maintenance and infrastructure. Administration and the quarry's end of life are not taken into account. Removal of the topsoil layer (overburden) is not considered.

It also includes the land use (mineral extraction site and lake, no distinction of internal roads) considering an 80-year lifespan for the quarry.

### 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 product is delivered to the manufacturing facility in bulk by lorry after which the finished product is transported by road to customer site. Weighted averages based on actual mileage data into different regions of the UK have been used to calculate A4.

Installation of the stone paving products is by hand.

### PRODUCT USE AND MAINTENANCE (B1-B7)

The Use phase is out of scope of this EPD. Air, soil, and water impacts during the use phase have not been studied.

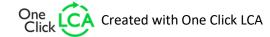
### PRODUCT END OF LIFE (C1-C4, D)

At the end-of-life, in the demolition phase 100% of the waste is assumed to be collected as separate construction waste. The demolition process consumes energy in the form of diesel fuel used by building machines. Energy consumption of a demolition process is on the average 10 kWh/m2 (Bozdağ, Ö & Seçer, M. 2007). Basing on a Level(s) project, an average mass of a reinforced concrete building is about 1000 kg/m2. Therefore, energy consumption demolition is assumed to be 10 kWh/1000 kg = 0,01 kWh/kg. The source of energy is diesel fuel used by work machines (C1).

The dismantled natural stone is delivered to the nearest construction waste treatment plant. It is estimated that there is no mass loss during the use of the product, therefore the end-of-life product is assumed that it has the same weight with the declared product. Transportation distance to the closest disposal area is estimated as 100 km and the transportation method is lorry which is the most common. This is a reasonable assumption for an average distance to waste handling facilities in the UK (C2).

Natural stone waste can generally be reused on-site. According to the UK Government Statistics for non-hazardous C&D waste, this is assumed to be re-use of 93% (C3) and landfill of 7% (C4).

Due to the recycling potential of stone, it can be used as secondary raw material, which avoids the production of virgin raw materials. The 93% is converted into secondary raw materials in the form of aggregates. Benefits and loads for wood and plastic packaging were also considered (D).

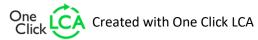






# **MANUFACTURING PROCESS**









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

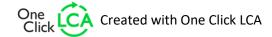
#### **AVERAGES AND VARIABILITY**

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

No averaging for this EPD.

#### 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.





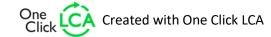


# **ENVIRONMENTAL IMPACT DATA**

### CORE ENVIRONMENTAL IMPACT INDICATORS - EN 15804+A2, PEF

Impact category	Unit	A1	A2	А3	A1-A3	A4	A5	B1	B2	В3	B4	В5	В6	В7	C1	C2	С3	C4	D
GWP – total <sup>1)</sup>	kg CO₂e	2,41E+01	5,66E+00	-3,46E+01	-4,86E+00	2,80E+01	5,37E+01	MND	3,31E+00	6,30E-01	0,00E+00	3,69E-01	-5,54E+00						
GWP – fossil	kg CO₂e	2,41E+01	5,66E+00	1,77E+01	4,74E+01	2,80E+01	1,40E+00	MND	3,31E+00	6,30E-01	0,00E+00	3,69E-01	-8,58E+00						
GWP – biogenic	kg CO₂e	0,00E+00	0,00E+00	-5,24E+01	-5,24E+01	0,00E+00	5,23E+01	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,05E+00						
GWP – LULUC	kg CO₂e	3,27E-03	2,30E-03	1,05E-01	1,11E-01	1,09E-02	3,83E-04	MND	3,30E-04	2,45E-04	0,00E+00	3,48E-04	-9,80E-03						
Ozone depletion pot.	kg CFC-11e	5,13E-06	1,33E-06	3,11E-06	9,57E-06	6,59E-06	7,55E-08	MND	7,07E-07	1,48E-07	0,00E+00	1,49E-07	-1,21E-06						
Acidification potential	mol H⁺e	2,50E-01	3,21E-02	1,14E-01	3,96E-01	9,12E-02	3,26E-03	MND	3,44E-02	2,05E-03	0,00E+00	3,47E-03	-6,08E-02						
EP-freshwater <sup>2)</sup>	kg Pe	8,27E-05	4,17E-05	1,03E-03	1,15E-03	2,37E-04	1,24E-05	MND	1,10E-05	5,34E-06	0,00E+00	3,86E-06	-3,26E-04						
EP-marine	kg Ne	1,10E-01	1,15E-02	4,48E-02	1,67E-01	2,01E-02	1,49E-03	MND	1,52E-02	4,51E-04	0,00E+00	1,20E-03	-1,71E-02						
EP-terrestrial	mol Ne	1,21E+00	1,27E-01	4,41E-01	1,78E+00	2,23E-01	1,28E-02	MND	1,67E-01	5,00E-03	0,00E+00	1,32E-02	-2,10E-01						
POCP ("smog") <sup>3</sup> )	kg NMVOCe	3,33E-01	3,63E-02	1,36E-01	5,06E-01	8,62E-02	3,71E-03	MND	4,59E-02	1,94E-03	0,00E+00	3,84E-03	-5,44E-02						
ADP-minerals & metals <sup>4</sup> )	kg Sbe	1,45E-05	1,94E-05	1,31E-04	1,65E-04	6,82E-05	1,46E-06	MND	1,68E-06	1,53E-06	0,00E+00	8,47E-07	-8,50E-05						
ADP-fossil resources	MJ	3,24E+02	8,55E+01	2,65E+02	6,74E+02	4,39E+02	7,12E+00	MND	4,45E+01	9,86E+00	0,00E+00	1,01E+01	-1,49E+02						
Water use <sup>5)</sup>	m³e depr.	8,97E-01	4,11E-01	5,78E+00	7,09E+00	1,96E+00	6,42E-01	MND	1,20E-01	4,40E-02	0,00E+00	3,21E-02	-1,64E+01						

<sup>1)</sup> 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

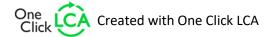
Impact category	Unit	A1	A2	А3	A1-A3	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	СЗ	C4	D
Particulate matter	Incidence	6,68E-06	6,27E-07	3,47E-06	1,08E-05	3,19E-06	5,08E-08	MND	9,22E-07	7,16E-08	0,00E+00	6,98E-08	-1,23E-06						
Ionizing radiation <sup>6)</sup>	kBq U235e	1,50E+00	4,49E-01	2,23E+00	4,18E+00	2,10E+00	6,25E-02	MND	2,05E-01	4,72E-02	0,00E+00	4,57E-02	-2,32E+00						
Ecotoxicity (freshwater)	CTUe	2,03E+02	7,20E+01	3,88E+02	6,63E+02	3,90E+02	7,68E+00	MND	2,68E+01	8,77E+00	0,00E+00	6,59E+00	-1,75E+02						
Human toxicity, cancer	CTUh	7,60E-09	2,75E-09	1,26E-08	2,30E-08	9,55E-09	6,07E-10	MND	1,03E-09	2,15E-10	0,00E+00	1,65E-10	-9,07E-09						
Human tox. non- cancer	CTUh	1,43E-07	8,02E-08	2,84E-07	5,06E-07	3,76E-07	2,40E-08	MND	1,94E-08	8,44E-09	0,00E+00	4,31E-09	-1,55E-07						
SQP <sup>7)</sup>	-	4,33E+01	7,44E+01	6,00E+03	6,12E+03	5,05E+02	9,10E+00	MND	5,79E+00	1,13E+01	0,00E+00	2,16E+01	-1,81E+02						

<sup>6)</sup> 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	А3	A1-A3	A4	A5	B1	B2	В3	B4	В5	В6	В7	C1	C2	СЗ	C4	D
Renew. PER as energy <sup>8)</sup>	MJ	6,05E+00	1,25E+00	7,49E+02	7,56E+02	4,94E+00	3,54E-01	MND	2,54E-01	1,11E-01	0,00E+00	8,78E-02	-4,56E+01						
Renew. PER as material	MJ	0,00E+00	0,00E+00	4,26E+02	4,26E+02	0,00E+00	-4,26E+02	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,12E+01						
Total use of renew. PER	MJ	6,05E+00	1,25E+00	1,18E+03	1,18E+03	4,94E+00	-4,26E+02	MND	2,54E-01	1,11E-01	0,00E+00	8,78E-02	-2,44E+01						
Non-re. PER as energy	MJ	3,24E+02	8,55E+01	2,42E+02	6,52E+02	4,39E+02	7,12E+00	MND	4,45E+01	9,86E+00	0,00E+00	1,01E+01	-1,39E+02						
Non-re. PER as material	MJ	0,00E+00	0,00E+00	2,58E+01	2,58E+01	0,00E+00	-2,58E+01	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,66E+01						
Total use of non-re. PER	MJ	3,24E+02	8,55E+01	2,68E+02	6,77E+02	4,39E+02	-1,87E+01	MND	4,45E+01	9,86E+00	0,00E+00	1,01E+01	-1,23E+02						
Secondary materials	kg	1,29E-01	2,87E-02	3,14E-01	4,72E-01	1,22E-01	5,44E-03	MND	1,74E-02	2,73E-03	0,00E+00	2,12E-03	1,06E-01						
Renew. secondary fuels	MJ	7,90E+00	2,99E-04	2,68E+01	3,47E+01	1,23E-03	5,37E-05	MND	5,70E-05	2,76E-05	0,00E+00	5,55E-05	-1,04E-03						
Non-ren. secondary fuels	МЈ	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	0,00E+00	0,00E+00	0,00E+00						
Use of net fresh water	m³	3,12E-02	1,14E-02	1,31E-01	1,73E-01	5,66E-02	2,60E-03	MND	2,70E-03	1,27E-03	0,00E+00	1,11E-02	-3,91E-01						

<sup>8)</sup> PER = Primary energy resources.







### **END OF LIFE - WASTE**

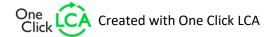
Impact category	Unit	A1	A2	А3	A1-A3	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	С3	C4	D
Hazardous waste	kg	4,43E-01	9,89E-02	6,90E-01	1,23E+00	5,78E-01	1,08E-02	MND	5,96E-02	1,30E-02	0,00E+00	0,00E+00	-5,75E-01						
Non-hazardous waste	kg	3,17E+00	1,75E+00	1,69E+01	2,18E+01	9,49E+00	1,92E+01	MND	4,19E-01	2,13E-01	0,00E+00	7,00E+01	-1,41E+01						
Radioactive waste	kg	2,28E-03	5,88E-04	1,20E-03	4,06E-03	2,96E-03	2,35E-05	MND	3,13E-04	6,64E-05	0,00E+00	0,00E+00	-9,60E-04						

## **END OF LIFE - OUTPUT FLOWS**

Impact category	Unit	A1	A2	А3	A1-A3	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	СЗ	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	9,30E+02	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	8,45E+00	MND	0,00E+00	0,00E+00	0,00E+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	3,00E-01	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						
Exported energy	МЈ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,83E+01	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00						

## ENVIRONMENTAL IMPACTS - EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	А3	A1-A3	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	СЗ	C4	D
Global Warming Pot.	kg CO₂e	2,38E+01	5,61E+00	1,75E+01	4,69E+01	2,77E+01	2,04E+00	MND	3,27E+00	6,23E-01	0,00E+00	3,61E-01	-8,45E+00						
Ozone depletion Pot.	kg CFC-11e	4,06E-06	1,05E-06	2,39E-06	7,51E-06	5,22E-06	6,09E-08	MND	5,60E-07	1,17E-07	0,00E+00	1,18E-07	-9,82E-07						
Acidification	kg SO₂e	1,78E-01	2,41E-02	8,52E-02	2,87E-01	7,40E-02	2,44E-03	MND	2,45E-02	1,66E-03	0,00E+00	2,62E-03	-4,57E-02						
Eutrophication	kg PO <sub>4</sub> ³e	4,14E-02	5,63E-03	3,26E-02	7,96E-02	1,62E-02	3,16E-02	MND	5,69E-03	3,64E-04	0,00E+00	5,65E-04	-1,78E-02						
POCP ("smog")	kg C₂H₄e	3,91E-03	7,83E-04	6,44E-03	1,11E-02	3,41E-03	2,37E-04	MND	5,36E-04	7,66E-05	0,00E+00	1,10E-04	-2,13E-03						
ADP-elements	kg Sbe	1,43E-05	1,89E-05	1,30E-04	1,63E-04	6,63E-05	1,39E-06	MND	1,65E-06	1,49E-06	0,00E+00	8,35E-07	-8,39E-05						
ADP-fossil	MJ	3,24E+02	8,55E+01	2,65E+02	6,74E+02	4,39E+02	7,12E+00	MND	4,45E+01	9,86E+00	0,00E+00	1,01E+01	-1,49E+02						







# **CONVERSION TO PRODUCT SIZES**

This EPD is calculated per tonne of Scoutmoor due to the infinite sizes and formats of final products that are possible with a naturally occurring material.

However, the correlation between the material and energy inputs to calculate A1-A4 data is linear, therefore, to calculate A1-A4 values for a particular size/volume of product, please use an average density of 2389kg/m³ of Scoutmoor stone in your conversion calculations.

For example, if the product you are using is 900x600x63 paving slab and the stated GWP A1-A4 number is 23.14kg CO<sub>2</sub>e/tonne:

### Step 1:

0.9\*0.6\*0.063 = 0.03402m<sup>3</sup>

0.03402\*2389 = 81.274 kg

(81.274/1000) \* 23.14 = 1.88kg CO<sub>2</sub>e for that size unit of paving

### Step 2:

To convert that to a value per square metre:

0.9\*0.6 = 0.54

1/0.54 = 1.85

1.88\*1.85 = 3.48 kg CO<sub>2</sub>e per sqm of 63mm thick Scoutmoor paving





# **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.

HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited 03.02.2025





