ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Chailey Product Group 1

Ibstock Brick Ltd a trading entity within the Ibstock Plc Group

EPD HUB, EPD number 6085

Publishing 21.04.2026, last updated 21.04.2026, valid until 20.04.2031

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Ibstock Brick Ltd a trading entity within the Ibstock Plc Group
Address	Leicester Road, Ibstock, Leicestershire, LE67 6HS, UK
Contact details	epds@ibstock.co.uk
Website	https://www.ibstock.co.uk/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Construction product
Category of EPD	Sister EPD
Parent EPD number	1066
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Jack Topliss
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	D.V as authorized verifier acting for EPD HUB Limited

This EPD is intended for business-to-business and/or business-to-consumer communication. 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	Chailey Product Group 1
Additional labels	See www.ibstock.co.uk/EPD for all products covered by this EPD
Product reference	NA
Place(s) of raw material origin	UK
Place of production	East Sussex, UK
Place(s) of installation and use	UK
Period for data	2022
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	83.8

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of Clay Bricks
Declared unit mass	1 kg
Mass of packaging	0.00097 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	0.32
GWP-total, A1-A3 ($kgCO_2e$)	0.32
Secondary material, inputs (%)	0.07
Secondary material, outputs (%)	92.6
Total energy use, A1-A3 (kWh)	0.87
Net freshwater use, A1-A3 (m^3)	0

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Ibstock Plc is a leading UK manufacturer of a diverse range of building products and solutions. The Group concentrates on eight core product categories, each backed up by design and technical services capabilities:

Bricks and Masonry, Facade Systems, Roofing, Flooring and Lintels, Staircase and Lift Shafts, Fencing and Landscaping, Retaining Walls and Rail and Infrastructure.

Ibstock is headquartered in the village of Ibstock, Leicestershire, with 36 active manufacturing sites across the UK.

As a leading building products manufacturer, the Group is committed to the highest levels of corporate responsibility. The ESG 2030 Strategy sets out a clear path to address climate change, improve lives and manufacture materials for life, with an ambitious commitment to reduce carbon emissions by 40% by 2030 and become a net zero operation by 2040.

PRODUCT DESCRIPTION

The bricks within this range are a sandfaced stock brick in red, yellow or buff. The dimensions of the products in this range are declared at 215x102x65mm. The bricks have a single frog. All products conform to the standard in BS EN 771-1. These Products are made at Ibstock's Chailey Factory in Lewes, East Sussex

The Life Cycle Assessment for this product has been carried out to represent 1kg of this product. A scaling table will be included in order to convert the results to other formats.

Further information can be found at: https://www.ibstock.co.uk/

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	92	UK
Fossil materials	8	-
Bio-based materials	0	UK

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

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of Clay Bricks
Mass per declared unit	1 kg
Functional unit	-
Reference service life	150

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	ND	ND	ND	ND	ND	ND	ND	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

Not declared = ND.

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.

A market-based approach is used in modelling the electricity mix utilized in the factory.
This EPD covers a range of products that are manufactured at Ibstock's Chailey factory in East Sussex.

A1: The clay used in this factory is sourced at an onsite quarry.

A2: Once extracted from the quarry, the clay is stockpiled, then fed via box feeders into the factory.

A3: Inside the factory, most processes are powered by electricity or natural gas. The raw clay is milled to a finer consistency before being mixed with water and additives to produce a wet clay mix.
The clay mix is then thrown into moulds. The moulds are lined with a layer of sand to aid in demoulding. The moulds are shaped in order to produce an indentation on the top surface of a brick called a 'frog'.
After the wet bricks have been removed from the moulds, they are dried in order to remove any water and produce dry bricks. The dry bricks are stacked onto into a clamp style brick kiln to be fired
Following a cooling period, the bricks can be removed from the clamp and are stacked and packaged using plastic packaging. The bricks are ready to be distributed to customers. Any manufacturing waste material is assumed to travel 50km to be processed and is typically recycled into aggregate.
The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

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.

A4: The bricks are transported from the factories to customers by lorries; assumed to be EURO 5 classification. A weighted average of the journey undertaken by these products to customers and construction sites was calculated to be 68km.

A5: The bricks are generally laid by hand. Any packaging is removed on the construction site. Sorting and treatment of packaging waste has been included in this section. It is assumed that 44.2% of plastic packaging waste will be recycled. According to UK Government Data. https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste.

It is assumed that 55.8% of plastic packaging waste will be landfilled. According to UK Government Data. https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste

Material wasted during construction was assumed to be 5% based on industry standard data. The relevant modules were uplifted to accommodate this.

PRODUCT USE AND MAINTENANCE (B1-B7)

B1-7: The Use phase has not been included as the modules are not relevant to this product.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

The end of life of this product accounts for the energy consumed to demolish a building and the treatment of the waste products afterwards.

C1: Energy consumption in the demolition process comes in the form of diesel used by machinery. This is taken as 0.01kWh per 1kg of material, according to (O. Bozdag and M. Secer, “Energy Consumption of RC Buildings during Their Life Cycle, Sustainable Construction, Materials and Practices: Challenge of the Industry for the New Millennium, Minho, 12-14 September 2007, pp. 480-487.)

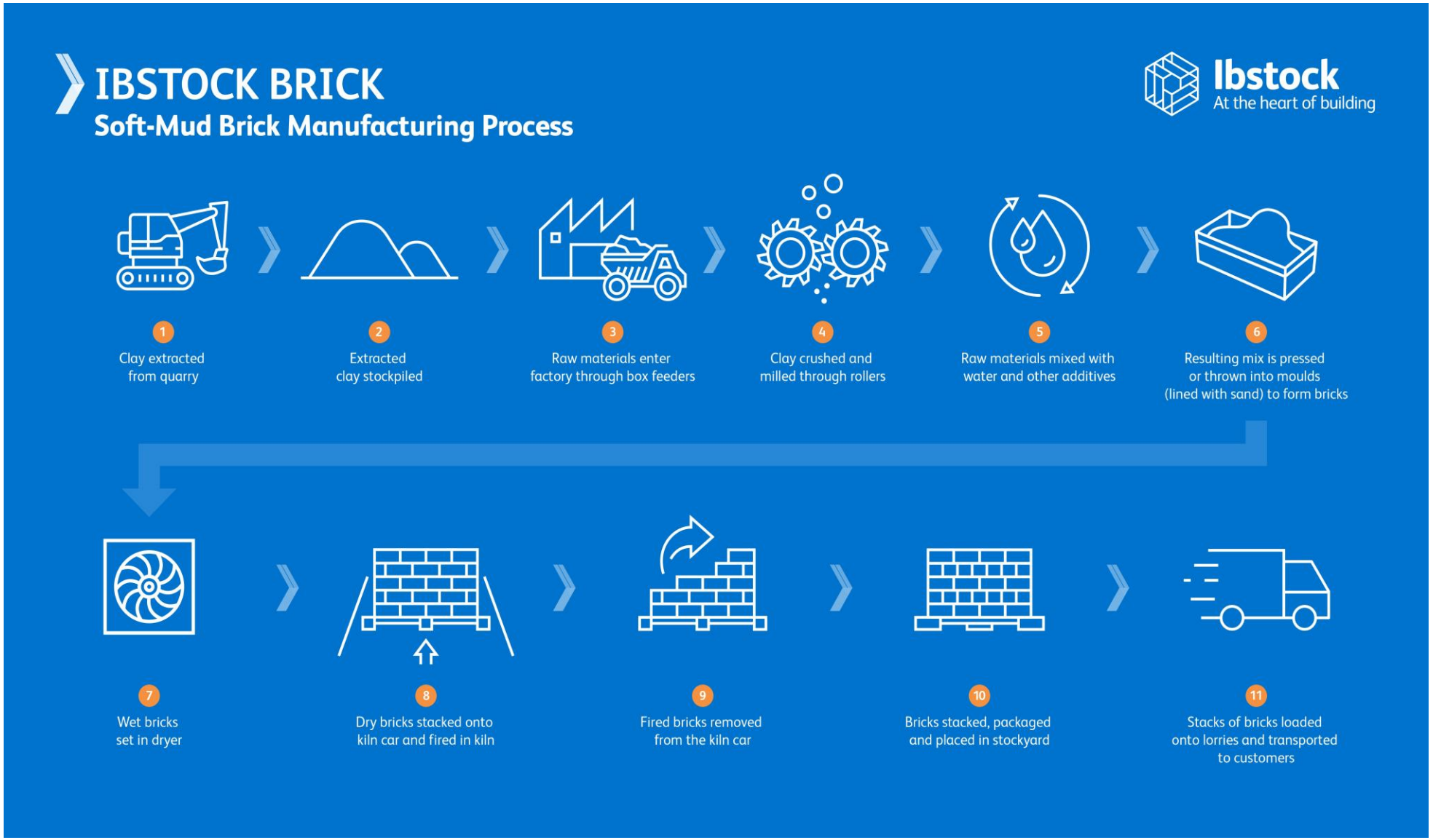
C2: It is assumed that waste material travels 50km to be processed, as a standard UK industry assumption.

C3: It is assumed that 92.6% of brick waste will be recycled. According to UK Government Data. https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste

C4: It is assumed that 7.4% of brick waste will be landfilled. According to UK Government Data. https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste

D: The waste packaging recycled will be re-used to make new packaging products, avoiding the use of virgin raw materials for these products. The waste brick recycled will be re-used to make gravel aggregate on building sites, avoiding the use of virgin raw materials.

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.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

A1: Inputs for clay represent weights when the clay is wet, so include the moisture content. Production losses do not represent any evaporation of water. Water Vapour and CO2 emissions are included separately.

A1: Lignosulponate. Products excluded as they represent less than 1% each of the total mass.

A3: All ancillary products excluded as they represent less than 1% each of the total mass.

A5: All bricks are assumed to be laid by hand. Cement and energy use at construction site are not included in the scope of the EPD and so have not been included here.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1.

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	Allocated by mass or volume
Packaging material	Allocated by mass or volume
Ancillary materials	Not applicable
Manufacturing energy and waste	Allocated by mass or volume

A3 : Electricity inputs have been uplifted by 10% to reflect transformation losses.

A data point was created for Natural Gas Consumption using UKETS combustion and Well to Trough data, stating CO2 emitted to generate GWP emissions factors. For all other environmental impact indicators the figures from the ecoinvent European Average were used.

The split in mains electricity generation based on REGO documentation was based on a 2021-2022 split and 2022-2023 of electricity provided by the supplier. The certificate guarantees electricity supplied to the company came from 100% renewable sources; and based on this was assumed to be 100% wind.

In the A4 section, a transportation distance is calculated using a weighted average of the transportation distances of every brick that leaves the factory.

The data from the factory reports a 15% production loss. Any inputs have been uplifted accordingly to reach this.

There was no data point available for Polyester Production using recycled content so this was substituted with a data point for Polyethylene Production using recycled content.

The A1-A3 GWP Fossil of a Chailey Product Group 1 brick is 0.315kgCO2 per kg of production. The A1-A3 GWP Fossil of a Lodge Lane Product Group 1&3 brick (Parent EPD) is 0.254kgCO2 per kg of production. Therefore sister EPDs to this parent EPD can be +/-50% or between 0.127-0.381kgCO2 per kg of production. As the Chailey Product Group 1 EPD falls within this range, it can be a sister EPD to the parent EPD.

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	-

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification v3.2.4. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11/3.12 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11/3.12 environmental data sources follow the methodology ‘allocation, Cut-off, EN 15804+A2‘.

ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

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_2e	4.76E-02	1.51E-02	2.52E-01	3.15E-01	7.29E-03	1.71E-02	ND	ND	ND	ND	ND	ND	ND	3.12E-04	5.36E-03	1.08E-02	4.62E-04	-1.50E-02
GWP – fossil	kg CO_2e	4.75E-02	1.51E-02	2.52E-01	3.15E-01	7.29E-03	1.71E-02	ND	ND	ND	ND	ND	ND	ND	3.12E-04	5.36E-03	1.08E-02	4.62E-04	-1.50E-02
GWP – biogenic	kg CO_2e	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
GWP – LULUC	kg CO_2e	4.26E-05	6.06E-06	9.09E-06	5.77E-05	2.74E-06	3.55E-06	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.01E-06	5.89E-06	2.64E-07	-7.55E-06
Ozone depletion pot.	kg CFC_{-11}e	2.42E-09	2.75E-10	2.59E-08	2.86E-08	1.47E-10	1.46E-09	ND	ND	ND	ND	ND	ND	ND	7.45E-14	1.08E-10	2.17E-10	1.34E-11	-4.45E-09
Acidification potential	mol H^+e	4.05E-04	4.97E-05	1.55E-04	6.09E-04	2.35E-05	3.71E-05	ND	ND	ND	ND	ND	ND	ND	3.71E-06	1.73E-05	7.75E-05	3.27E-06	-1.35E-04
EP-freshwater[2)]	kg Pe	1.11E-04	1.07E-06	1.66E-06	1.14E-04	4.92E-07	5.81E-06	ND	ND	ND	ND	ND	ND	ND	2.68E-14	3.61E-07	4.17E-06	3.80E-08	-2.18E-07
EP-marine	kg Ne	1.40E-04	1.67E-05	4.33E-05	2.00E-04	8.00E-06	1.24E-05	ND	ND	ND	ND	ND	ND	ND	2.86E-07	5.87E-06	2.86E-05	1.25E-06	-4.84E-05
EP-terrestrial	mol Ne	1.43E-03	1.82E-04	5.98E-04	2.21E-03	8.70E-05	1.37E-04	ND	ND	ND	ND	ND	ND	ND	3.13E-06	6.39E-05	3.10E-04	1.36E-05	-5.38E-04
POCP ("smog")[3)]	kg NMVOCe	3.72E-04	7.82E-05	1.64E-04	6.15E-04	3.84E-05	4.10E-05	ND	ND	ND	ND	ND	ND	ND	1.40E-06	2.82E-05	1.01E-04	4.88E-06	-1.51E-04
ADP-minerals & metals[4)]	kg Sbe	6.69E-07	4.19E-08	8.78E-08	7.99E-07	2.01E-08	4.34E-08	ND	ND	ND	ND	ND	ND	ND	7.51E-14	1.48E-08	3.41E-08	7.34E-10	-3.65E-07
ADP-fossil resources	MJ	2.63E+00	2.19E-01	2.44E+00	5.28E+00	1.06E-01	2.90E-01	ND	ND	ND	ND	ND	ND	ND	7.45E+01	7.76E-02	1.75E-01	1.13E-02	-2.13E-01
Water use[5)]	m^3e depr.	1.07E-01	1.11E-03	1.67E-02	1.25E-01	5.41E-04	6.35E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.98E-04	1.39E-03	3.27E-05	-3.25E-01

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, EF 3.1

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	4.10E-09	1.51E-09	7.25E-10	6.33E-09	7.26E-10	5.01E-10	ND	ND	ND	ND	ND	ND	ND	2.05E-11	5.33E-10	8.55E-09	7.45E-11	-2.45E-09
Ionizing radiation[6]	kBq U235e	2.94E-03	2.38E-04	1.78E-03	4.96E-03	1.27E-04	2.73E-04	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.36E-05	8.77E-04	7.13E-06	-7.17E-04
Ecotoxicity (freshwater)	CTUe	9.32E-01	2.77E-02	1.71E-01	1.13E+00	1.25E-02	5.97E-02	ND	ND	ND	ND	ND	ND	ND	2.73E-05	9.15E-03	4.00E-02	9.51E-04	-2.16E-01
Human toxicity, cancer	CTUh	5.70E-11	2.49E-12	1.30E-11	7.25E-11	1.20E-12	3.99E-12	ND	ND	ND	ND	ND	ND	ND	1.13E-15	8.82E-13	2.64E-12	8.52E-14	-8.71E-12
Human tox. non-cancer	CTUh	1.91E-09	1.42E-10	1.94E-10	2.25E-09	6.86E-11	1.23E-10	ND	ND	ND	ND	ND	ND	ND	4.93E-13	5.04E-11	1.15E-10	1.96E-12	-2.00E-10
SQP[7]	-	7.56E-01	2.20E-01	9.35E-02	1.07E+00	1.06E-01	9.25E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.82E-02	1.62E-01	2.23E-02	-1.00E+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	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy[8]	MJ	3.99E-02	3.37E-03	1.77E-01	2.20E-01	1.72E-03	1.14E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.26E-03	9.39E-03	1.09E-04	-4.32E-03
Renew. PER as material	MJ	0.00E+00	0.00E+00	1.99E-09	1.99E-09	0.00E+00	-1.99E-09	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renew. PER	MJ	3.99E-02	3.37E-03	1.77E-01	2.20E-01	1.72E-03	1.14E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.26E-03	9.39E-03	1.09E-04	-4.32E-03
Non-re. PER as energy	MJ	2.83E-01	2.19E-01	2.42E+00	2.92E+00	1.06E-01	1.62E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.76E-02	1.75E-01	1.13E-02	-2.11E-01
Non-re. PER as material	MJ	0.00E+00	0.00E+00	2.65E-02	2.65E-02	0.00E+00	-2.65E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-re. PER	MJ	2.83E-01	2.19E-01	2.44E+00	2.95E+00	1.06E-01	1.35E-01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.76E-02	1.75E-01	1.13E-02	-2.11E-01
Secondary materials	kg	7.33E-04	9.42E-05	7.89E-04	1.62E-03	4.57E-05	9.08E-05	ND	ND	ND	ND	ND	ND	ND	1.36E-05	3.36E-05	6.91E-05	2.85E-06	2.67E-04
Renew. secondary fuels	MJ	3.26E-06	1.19E-06	6.65E-07	5.12E-06	5.77E-07	4.03E-07	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.24E-07	6.62E-07	5.90E-08	-1.22E-08
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m^3	1.16E-03	3.23E-05	6.49E-04	1.84E-03	1.56E-05	1.08E-04	ND	ND	ND	ND	ND	ND	ND	1.65E-07	1.15E-05	-4.19E-04	1.18E-05	-3.02E-03

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	3.19E-02	3.36E-04	8.95E-04	3.32E-02	1.53E-04	1.69E-03	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.12E-04	2.84E-04	1.25E-05	-5.90E-04
Non-hazardous waste	kg	5.82E-01	6.53E-03	2.21E-02	6.11E-01	3.06E-03	3.13E-02	ND	ND	ND	ND	ND	ND	ND	2.02E-04	2.25E-03	5.84E-01	2.86E-04	-1.95E-02
Radioactive waste	kg	1.51E-06	5.87E-08	1.43E-06	3.00E-06	3.15E-08	1.56E-07	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.31E-08	2.24E-07	1.74E-09	-1.14E-06

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	ND	ND	ND	ND	ND	ND	ND	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	3.01E-13	3.01E-13	0.00E+00	4.31E-04	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	9.26E-01	0.00E+00	-1.33E-13
Materials for energy rec	kg	0.00E+00	0.00E+00	1.58E-21	1.58E-21	0.00E+00	7.90E-23	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-6.97E-22
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy – Electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy – Heat	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

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_2e	4.63E-02	1.50E-02	2.52E-01	3.13E-01	7.24E-03	1.71E-02	ND	ND	ND	ND	ND	ND	ND	3.12E-04	5.32E-03	1.08E-02	4.58E-04	-1.49E-02
Ozone depletion Pot.	kg $CFC_{-11}e$	1.98E-09	2.19E-10	2.18E-08	2.40E-08	1.17E-10	1.23E-09	ND	ND	ND	ND	ND	ND	ND	7.45E-14	8.57E-11	1.73E-10	1.06E-11	-3.31E-09
Acidification	kg SO_2e	2.88E-04	3.78E-05	1.22E-04	4.47E-04	1.79E-05	2.74E-05	ND	ND	ND	ND	ND	ND	ND	3.27E-06	1.31E-05	5.79E-05	2.42E-06	-5.32E-05
Eutrophication	kg PO_4^3e	1.19E-04	9.43E-06	2.90E-05	1.57E-04	4.51E-06	9.34E-06	ND	ND	ND	ND	ND	ND	ND	1.01E-07	3.31E-06	1.37E-05	7.70E-07	-1.60E-05
POCP (“smog”)	kg C_2H_4e	1.82E-05	3.49E-06	1.03E-05	3.20E-05	1.68E-06	2.09E-06	ND	ND	ND	ND	ND	ND	ND	1.48E-07	1.23E-06	4.25E-06	2.29E-07	-3.49E-06
ADP-elements	kg Sbe	6.66E-07	4.09E-08	8.69E-08	7.94E-07	1.97E-08	4.31E-08	ND	ND	ND	ND	ND	ND	ND	7.51E-14	1.44E-08	3.36E-08	7.19E-10	-3.65E-07
ADP-fossil	MJ	2.61E+00	2.15E-01	2.43E+00	5.25E+00	1.04E-01	2.88E-01	ND	ND	ND	ND	ND	ND	ND	7.45E+01	7.61E-02	1.59E-01	1.12E-02	-2.15E-01

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	4.76E-02	1.51E-02	2.52E-01	3.15E-01	7.29E-03	1.71E-02	ND	ND	ND	ND	ND	ND	ND	3.12E-04	5.36E-03	1.08E-02	4.62E-04	-1.50E-02

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. Light fuel oil, World, One Click LCA, 3.10 kgCO2e/l
2. Electricity production, wind, 1-3MW turbine, offshore, United Kingdom, Ecoinvent, 0.0168 kgCO2e/kWh
3. DEFRA (Combustion & Well to Trough) Natural Gas - UK - Used in Kilns , United Kingdom, Ecoinvent, 0.21 kgCO2e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Transport, freight, lorry >32 metric ton, EURO5, 68 km

Installation at the building site (A5) - Scenario documentation

Scenario parameter	Value
Energy: type and consumption (MJ or kWh)	NA
Water use (m^3)	NA
Ancillary materials: type and mass (kg)	NA
Waste materials: type and mass (kg)	Brick Waste (5%), Packaging (Plastic & Paper)
Waste materials: output routes	Brick Waste: 93% recycled, 7% landfilled Plastic Packaging: 44% recycled, 56% landfilled
Direct emissions (kg)	NA

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	0
Collection process: Mixed waste (kg)	1
Recovery: re-use (kg)	0
Recovery: recycling (kg)	0.93
Recovery: energy recovery (kg)	0
Disposal (kg)	0.07
Scenario assumptions e.g. transportation (mode, km) & other	Transport, freight, lorry >32 metric ton, EURO5, 50 km

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez
Tool verification validity: 27 March 2025 - 26 March 2028

D.V as an authorized verifier for EPD Hub Limited 21.04.2026

APPENDIX 1

CONVERSION TABLE (215X102X65MM BRICK)

The figures in the Environmental Impact Data are given per kg of brick produced. A conversion table has been provided below to scale any Environmental Impact Data figures into different metrics. Multiplication factors are based on a brick weight of 2.17kg; and 1m² of bricks in a half brick thickness wall using stretcher bonds containing 60 bricks.

Metric	Multiplication Factor
Per tonne	*1000
Per 1000 bricks	*2170
Per m²	*130.2

The A1-A3 Global Warming Potential – Fossil has been scaled accordingly in the table below.

Metric	GWP Fossil – A1-A3
kgCO2/tonne	315
kgCO2/1000 bricks	683.6
kgCO2/m²	41.0

The Total Global Warming Potential – Fossil has been scaled accordingly in the table below.

Metric	GWP Fossil - Total
kgCO2/tonne	356
kgCO2/1000 bricks	772.5
kgCO2/m²	46.4