CASTING A SUSTAINABLE FUTURE IN CONCRETE

ENVIRONMENTAL
PRODUCT DECLARATION

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

- Etched Concrete Sandwich Panel

CREAGH
INNOVATION IN CONCRETE

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GENERAL INFORMATION

MANUFACTURER	
Manufacturer	Creagh Concrete Products Ltd
Address	38 Blackpark Road, Toome, Co Antrim, N Ireland
Contact Details	info@creaghconcrete.com
Website	www. creaghconcrete.com

EPD STANDARDS, SCOPE

EPD STANDARDS, SCOPE	
Program Operator	OneClickLCA
Reference Standard	ISO 14025
PCR	PCR version 1.1, 5 Dec 2023
Sector	Construction product
Category of EPD	Self-Declared
Scope of EPD	Cradle to gate with modules C1-C4, D
EPD Author	J Kennedy

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	Etched Concrete Sandwich Panel
Additional labels	-
Product reference	-
Place(s) of raw material origin	United Kingdom
Place of production	United Kingdom
Place(s) of installation and use	United Kingdom & Ireland
Period for data	2025
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 (%)	3.68

ENVIRONMENTAL DATA SUMMARY	
Declared unit	M2
Declared unit mass	653.3 kg
GWP-fossil, A1-A3 (kgCO2e)	146.2
GWP-total, A1-A3 (kgCO2e)	146.2
Secondary material, inputs (%)	297
Secondary material, outputs (%)	0
Total energy use, A1-A3 (kWh)	448
Net fresh water use, A1-A3 (m3)	0.89

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Creagh Concrete is one of the leading producers of concrete products for the civil engineering, residential, education, commercial, custodial, and agricultural sectors. The company offers a diverse portfolio of products that showcase the limitless possibilities and potential of precast concrete. Its flooring range includes prestressed hollowcore flooring, Spantherm Insulated flooring system, prestressed t-beam flooring, plate flooring and Spantherm insulated flooring. Other products include ready mixed concrete, bricks and blocks, sand and gravel, agricultural precast products, general precast for home and garden, structural precast such as precast stairs, landings, terrace units and frames. Creagh design, manufactures and supplies an extensive range of concrete products. The company operates from its head office in Toomebridge, Northern Ireland with bases in Ardboe, Dunloy, Draperstown and Magheraglass and at Nottingham, England and Edinburgh, Scotland.

PRODUCT DESCRIPTION

Etched Concrete Sandwich Panel. This product is a precast slab consisting of aggregates, cement and reinforcing metal & rockwool insultation.

Further information can be found at creaghconcrete.com

PRODUCT RAW MATERIAL MAIN COMPOSITION		
Raw material category	Amount, mass-%	Material origin
Metals	5%	UK
Minerals	95%	UK
Fossil materials	NA	NA
Bio-based materials	NA	NA

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	NA	NA
Biogenic carbon content in packaging, kg C	NA	NA

FUNCTIONAL UNIT AND SERVICE LIFE	
Declared unit VP-011	M2
Mass per declared unit VP-012	653.3 kg
Functional unit	Structural Unit
Reference service life	100

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	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 Panel is structural by design and once arrived at customer location, the panel can quickly be elevated into its location for final fixing.

PRODUCT END OF LIFE (C1-C4, D)

The Product is fully recyclable.

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.

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

PRODUCT USE AND MAINTENANCE (B1-B7)

The product requires zero maintenance throughout the life cycle. given the product is a structural element its use is as its design and does not deviate over its life
Air, soil, and water impacts during the use phase have not been studied.

ETCHED SANDWICH
PANEL PROCESS FLOW

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.

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

PRODUCT & MANUFACTURING SITES GROUPING

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

This EPD is product and factory specific.

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, 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_2e	1,41E+02	1,91E-02	5,47E+00	1,46E+02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,26E+01
GWP – fossil	kg CO_2e	1,41E+02	1,91E-02	5,47E+00	1,46E+02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	**-2,27E+01**
Water use[5)]	m^3e depr.	7,06E+01	1,37E-03	1,28E-01	7,07E+01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,77E+01