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Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Fibo 5 PROOF, Leca Lithuania

Leca SAINT-GOBAIN

EPD-Global

Owner of the declaration:
Leca International

Product:
Fibo 5 PROOF, Leca Lithuania

Declared unit:
1 m^3

This declaration is based on Product Category Rules:
CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR Part A: Construction products and services. Ver. 1.0. April 2017

Program operator:
EPD-Global

Declaration number:
NEPD-15673-19582

Issue date:
19.05.2026

Valid to:
19.05.2031

EPD software:
LCAno EPD generator ID: 1574588

General information

Product

Fibo 5 PROOF, Leca Lithuania

Owner of the declaration:

Leca International
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Program operator:

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Manufacturer:

Leca International
Årnesvegen 1
2009 Nordby, Norway

Declaration number:

NEPD-15673-19582

Place of production:

Leca Lithuania
Dvaro str. 162F,
LT-76197 Šiauliai, Lithuania

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR Part A: Construction products and services. Ver. 1.0. April 2017

Management system:

ISO 14001ISO 9001

Statement of liability:

The owner of the declaration shall be liable for the underlying information and evidence. EPD-Global shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Organisation no:

918 799 141

Declared unit:

1 m^3 Fibo 5 PROOF, Leca Lithuania

Issue date:

19.05.2026

Declared unit with option:

A1, A2, A3, A4, C1, C2, C3, C4, D

Valid to:

19.05.2031

Year of study:

2025

Functional unit:

Comparability:

EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.

General information on verification of EPD from EPD tools:

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4. Verification of each EPD is made according to EPD-Global's guidelines for verification and approval requiring that tools are i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPD-Global, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Global's General Programme Instructions for further information on EPD tools

Development and verification of EPD:

The declaration is created using EPD tool lca.tools ver EPD2022.03, developed by LCA.no. The EPD tool is integrated in the company's management system, and has been approved by EPD-Global.

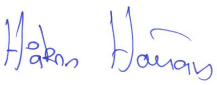
Developer of EPD: Geir Norden

Reviewer of company-specific input data and EPD: Ana Raquel Fernandes

Verification of EPD tool:

Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPD-Global's procedures and guidelines for verification and approval of EPD tools. Approval number: NEPDT08

Approved:



Håkon Hauan, CEO EPD-Global

Third party verifier:

Anne Rønning, Norsus AS

(no signature required)

Product

Product description:

The Fibo 5 PROOF is a fast and efficient solution for loadbearing and non-bearing walls specifically designed for air tightness. The Fibo 5 PROOF is produced of - Leca® lightweight aggregate, cement and water. It is a 5 MPa block with 2 different widths 200 mm and 250 mm. The block concrete density is 880 kg/m^3.

Product specification

The composition of the product is described in the following table:

Materials	Value	Unit
Leca® LWA, volume by volume	111	%
Binder, weight by weight	14	%
Sand, weight by weight	33	%
Wooden pallet	0,7	Pcs
Wrap film	0,4	kg

Technical data:

Block concrete density: 880 kg/m^3
Block: L=498mm, H=185 mm, W=200mm or 250mm
Fibo 5 PROOF 200 mm and 250 mm – 1.45 m^3/pal.
Compressive strength EN 772-1:2011+A1:2015 : Block: Average value 5,0 N/mm^2.
Normalized compressive strength: Fibo 5 PROOF 200: 5,5 N/mm^2, Fibo 5 PROOF 250 mm 5,3 N/mm^2.

Market:

Finland

Reference service life, product

> 50 years

Reference service life, building or construction works

Not relevant

LCA: Calculation rules

Declared unit:

1 m^3 Fibo 5 PROOF, Leca Lithuania

Cut-off criteria:

All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included. These cut-off criteria do not apply for hazardous materials and substances.

Allocation:

The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

Data quality:

Specific data for the product composition are provided by the manufacturer. The data represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on EPDs according to EN 15804 and different LCA databases. The data quality of the raw materials in A1 is presented in the table below.

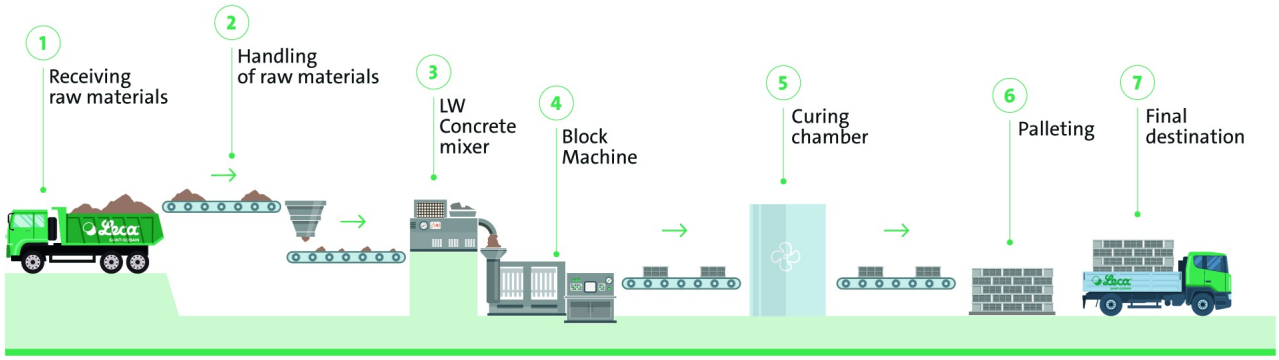
Materials	Source	Data quality	Year
Aggregate	ecoinvent 3.6	Database	2019
Cement	NEPD-11495-11389 (Net calculations)	EPD	2024
Packaging	ecoinvent 3.6	Database	2019
Packaging	Modified ecoinvent 3.6	Database	2019
Water	ecoinvent 3.6	Database	2019

System boundaries (X=included, MND=module not declared, MNR=module not relevant)

Product stage			Construction installation stage		Use stage							End of life stage				Beyond the system boundaries
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

System boundary:

All processes from raw material extraction to product from the factory gate are included in the analysis (A1-A3). In addition, transportation to a central storage.



Additional technical information:

LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 5 (km)	36.7 %	50.00	0.044	l/tkm	2.20

De-construction demolition (C1)	Unit	Value			
Demolition of building per kg of LWA block (kg)	kg	690.00			

Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 5 (km)	36.7 %	50.00	0.044	l/tkm	2.20

Waste processing (C3)	Unit	Value			
Waste treatment, recycling, per kg of LWA block after demolition (kg)	kg	621.00			

Disposal (C4)	Unit	Value			
Disposal, landfilling of waste LWA (kg)	kg	69.00			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of primary aggregates (kg)	kg	621.00			

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

Environmental impact											
	Indicator	**Unit**	A1	A2	A3	A4	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	4.82E+01	4.55E+00	4.68E+00	7.34E+00	2.76E+00	7.34E+00	4.47E-01	5.67E-01	-1.45E+00
	GWP-fossil	kg CO_2 -eq	6.64E+01	4.54E+00	4.66E+00	7.33E+00	2.76E+00	7.33E+00	4.41E-01	5.66E-01	-1.42E+00
	GWP-biogenic	kg CO_2 -eq	-1.82E+01	1.87E-03	1.87E-02	2.99E-03	5.18E-04	2.99E-03	3.81E-03	6.61E-04	-2.84E-02
	GWP-luluc	kg CO_2 -eq	1.10E-02	1.61E-03	1.67E-03	2.56E-03	2.18E-04	2.56E-03	6.10E-04	1.39E-04	-9.61E-04
	ODP	kg CFC11 -eq	3.97E-07	1.03E-06	8.04E-07	1.67E-06	5.96E-07	1.67E-06	8.69E-08	2.14E-07	-2.59E-07
	AP	mol H+ -eq	1.14E-01	1.48E-02	3.44E-02	3.00E-02	2.89E-02	3.00E-02	3.57E-03	5.03E-03	-1.28E-02
	EP-FreshWater	kg P -eq	2.91E-03	3.61E-05	3.48E-04	5.76E-05	1.01E-05	5.76E-05	2.79E-05	6.42E-06	-3.78E-05
	EP-Marine	kg N -eq	4.04E-02	3.49E-03	1.37E-02	8.89E-03	1.27E-02	8.89E-03	1.05E-03	1.87E-03	-4.44E-03
	EP-Terrestial	mol N -eq	4.66E-01	3.88E-02	1.51E-01	9.83E-02	1.38E-01	9.83E-02	1.20E-02	2.06E-02	-5.22E-02
	POCP	kg NMVOC -eq	1.27E-01	1.34E-02	4.15E-02	3.01E-02	3.85E-02	3.01E-02	3.23E-03	5.91E-03	-1.38E-02
	ADP-minerals&metals[1]	kg Sb-eq	1.50E-02	1.25E-04	4.88E-05	1.99E-04	4.24E-06	1.99E-04	5.60E-06	5.10E-06	-1.26E-04
	ADP-fossil[1]	MJ	3.73E+02	6.87E+01	6.65E+01	1.11E+02	3.80E+01	1.11E+02	1.37E+01	1.56E+01	-2.40E+01
	WDP[1]	m^3	6.31E+02	6.61E+01	2.04E+01	1.05E+02	8.07E+00	1.05E+02	1.51E+03	9.61E+01	-1.13E+03

GWP-total = Global Warming Potential total; GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment: EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator

Remarks to environmental impacts

Additional environmental impact indicators

Indicator		Unit	A1	A2	A3	A4	C1	C2	C3	C4	D
	PM	Disease incidence	8.99E-07	2.94E-07	8.90E-07	5.28E-07	3.50E-06	5.28E-07	5.71E-08	1.07E-07	-2.73E-07
	IRP[2]	kgBq U235 -eq	1.05E+01	3.00E-01	1.79E-01	4.83E-01	1.66E-01	4.83E-01	2.30E-01	7.11E-02	-2.21E-01
	ETP-fw[1]	CTUe	2.03E+02	5.08E+01	2.56E+01	8.15E+01	2.08E+01	8.15E+01	9.71E+00	8.50E+00	-2.48E+01
	HTP-c[1]	CTUh	1.53E-08	0.00E+00	1.83E-09	0.00E+00	6.90E-10	0.00E+00	6.21E-10	3.45E-10	-1.24E-09
	HTP-nc[1]	CTUh	1.71E-07	5.53E-08	6.60E-08	8.80E-08	1.93E-08	8.80E-08	8.69E-09	6.14E-09	-3.04E-08
	SQP[1]	dimensionless	5.10E+02	4.79E+01	7.95E+01	7.62E+01	4.62E+00	7.62E+01	7.74E+00	6.00E+01	5.46E+01

PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Potential Soil Quality Index (dimensionless)

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator
2. 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.

Resource use											
Indicator		Unit	A1	A2	A3	A4	C1	C2	C3	C4	D
	PERE	MJ	9.18E+01	9.78E-01	4.92E+01	1.56E+00	2.07E-01	1.56E+00	7.05E+00	5.58E-01	-5.63E+00
	PERM	MJ	1.67E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	PERT	MJ	2.58E+02	9.78E-01	4.92E+01	1.56E+00	2.07E-01	1.56E+00	7.05E+00	5.58E-01	-5.63E+00
	PENRE	MJ	3.57E+02	6.87E+01	6.65E+01	1.11E+02	3.80E+01	1.11E+02	1.37E+01	1.56E+01	-2.54E+01
	PENRM	MJ	1.74E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	PENRT	MJ	3.74E+02	6.87E+01	6.65E+01	1.11E+02	3.80E+01	1.11E+02	1.37E+01	1.56E+01	-2.54E+01
	SM	kg	3.56E+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
	RSF	MJ	8.12E+01	3.50E-02	1.98E-02	5.59E-02	0.00E+00	5.59E-02	0.00E+00	1.16E-02	-1.15E-01
	NRSF	MJ	1.10E+02	1.25E-01	7.65E-02	1.99E-01	0.00E+00	1.99E-01	0.00E+00	2.50E-02	-1.18E-01
	FW	m^3	6.02E-01	7.31E-03	8.39E-02	1.16E-02	1.96E-03	1.16E-02	2.35E-02	1.92E-02	-8.84E-01

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

End of life - Waste

Indicator		Unit	A1	A2	A3	A4	C1	C2	C3	C4	D
	HWD	kg	2.76E+00	3.53E-03	7.19E-02	5.64E-03	1.12E-03	5.64E-03	1.37E-03	0.00E+00	-5.80E-03
	NHWD	kg	1.47E+01	3.33E+00	5.88E-01	5.29E+00	4.50E-02	5.29E+00	4.32E-02	6.90E+01	-1.76E-01
	RWD	kg	2.41E-03	4.68E-04	2.51E-04	7.54E-04	2.64E-04	7.54E-04	1.45E-04	0.00E+00	-1.91E-04

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

End of life - Output flow

Indicator		Unit	A1	A2	A3	A4	C1	C2	C3	C4	D
	CRU	kg	0.00E+00	0.00E+00	3.00E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	MFR	kg	0.00E+00	0.00E+00	1.38E-02	0.00E+00	0.00E+00	0.00E+00	6.21E+02	0.00E+00	0.00E+00
	MER	kg	0.00E+00	0.00E+00	9.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	EEE	MJ	0.00E+00	0.00E+00	5.28E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	EET	MJ	0.00E+00	0.00E+00	7.99E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

Biogenic Carbon Content

Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	0.00E+00
Biogenic carbon content in accompanying packaging	kg C	4.96E+00

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2

Additional requirements

Greenhouse gas emissions from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

Electricity mix	Source	Amount	Unit
Electricity, low voltage mix, guarantee of origin (01.2026-12.2026) Lithuania (kWh)- LT	modified ecoinvent 3.11	42.49	g CO2-eq/kWh

Dangerous substances

The product contains no substances given by the REACH Candidate list.

Indoor environment

The product meets the requirements for low pollutant (M1) by EN15251:2007 Appendix E.
The product has no impact on the indoor environment.

Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products										
Indicator	**Unit**	A1	A2	A3	A4	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	6.65E+01	4.55E+00	4.63E+00	7.34E+00	2.76E+00	7.34E+00	4.42E-01	5.66E-01	-1.52E+00

GWP-IOBC: Global warming potential calculated according to the principle of instantaneous oxidation. In order to increase the transparency of biogenic carbon contribution to climate impact, the indicator GWP-IOBC is required as it declares climate impacts calculated according to the principle of instantaneous oxidation. GWP-IOBC is also referred to as GWP-GHG in context to Swedish public procurement legislation.

Bibliography

ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures.
ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines.
EN 15804:2012+A2:2019 Environmental product declaration - Core rules for the product category of construction products.
ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.
ecoinvent v3, Allocation, cut-off by classification, Swiss Centre of Life Cycle Inventories.
Iversen et al., (2021) eEPD v2021.09 Background information for EPD generator tool system verification, LCA.no Report number: 07.21
Iversen et al., (2018) EPD generator for Leca - Background information for customer application, LCA.no report number 06.18
NPCR Part A: Construction products and services. Ver. 2.0. April 2021, EPD-Norge.

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