



# **Environmental Product Declaration**

In accordance with ISO 14025 and EN 15804:2012+A2:2019/AC:2021 for:

# Mineral Industrial Building Board R+ from izocam Tic. ve San. A.Ş

**Programme:** The International EPD® System **Programme Operator:** EPD International AB **EPD Registration Number:** EPD-IES-0016024

Publication Date: 2024-08-12

Validity Date: 2029-08-11

Geographical Scope: Global







An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

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### **How to Read This EPD?**

An Environmental Product Declaration (EPD) is an ISO Type III Environmental Declaration based on ISO 14025 standard. An EPD transparently reports the environmental performance of products or services from a lifecycle perspective. The preparation of an EPD includes different stages, from acquiring raw materials to the end of life of the final product/service. EPDs are based on international standards and consider the entire value chain. Additionally, EPD is a third-party verified document. This EPD includes several sections described below.

#### 1. General and Program Information

The first part of an EPD has information about the name of the manufacturer and product/service and other general information such as the validity and expiration dates of the document, the name of the program operator, geographical scope, etc. The second page states the standards followed and gives information about the program operator, third-party verifier, etc. The followed Product Category Rule (PCR) is indicated on the second page.

#### 2. Company and Product/Service Information

Information about the company and the investigated product is given in this section. It summarizes the characteristics of the product provided by the manufacturer. It also includes information about the product such as product composition and packaging.

#### 3. LCA Information

LCA information is one of the most important parts of the EPD as it describes the functional/declared unit, time representativeness of the study, database(s) and LCA software, along with system boundaries.

The table presented in this part has columns for each stage in the life cycle. The considered stages are marked 'X' whereas the ones that are not declared are labeled as 'ND'. Not all EPDs consider the full life cycle assessment for a product's entire life stages. The 'System Boundary' page is also the place where one can find detailed information about the stages and the assumptions made.

#### 4. LCA Results

The results of the Life Cycle Assessment analysis are presented in table format. The first column in each table indicates the name of the impact category and their measurement units are presented in the second column. These tables show an amount at each life cycle stage to see the impact of different indicators on different stages. Each impact can be understood as what is released through the production of the declared unit of the material—in this case, 1 m² glass wool board production. The benefits of reuse/recycling of the declared product is reflected in this section.

The first impact in the table is global warming potential (GWP), which shows how much CO<sub>2</sub> is released at each stage. Other impacts include eutrophication potential, acidification potential, ozone layer depletion, land use related impacts, etc. The second table provides results for resource use and the third table is about the waste produced during the production. The fourth and final table shows the results for the GWP-GHG indicator, which is almost equivalent to the GWP-Total indicator mentioned previously. The only difference is that this indicator excludes the biogenic carbon content by following a certain methodology.



### **Programme Information**

The International EPD® System: EPD International AB Box 210 60 SE-100 31 Stockholm, Sweden, info@environdec.com

PCR 2019:14 Construction products, version 1.3.3., Construction EN 15804:2012+A2:2019/AC:2021 Sustainability of Construction Works and c-PCR-005 Thermal Insulation products (EN 16783) Version: 2019-12-20

Technical Committee of the International EPD® System. Review chair: Claudia A. Peña, University of Concepción, Chile.

The review panel may be contacted via the Secretariat www.environdec.com/contact.

Independent third-party verification of the declaration and data. according to ISO 14025:2006:

EPD process certification

EPD verification X

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via EPD verification by individual verifier

Third party individual verifier: Stephen Forson, Vridis Pride

Approved by: The International EPD® System Technical Committee supported by the Secretariat

Procedure for follow-up of data during EPD validity involves third party verifier:

Yes

No X

#### Life Cycle Assessment (LCA)

LCA accountability: Metsims Sustainability Consulting

EPDs within the same product category but registered in different EPD programmes may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cutoff rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison.

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### **About the Company**

Owner of the EPD: Izocam Tic. ve San. A.S. Production Plant: Tarsus/Mersin, Türkiye

Izocam is the leading company in its sector that designs, produces and distributes insulation materials for the creation and installation of thermal insulation, noise control, acoustic comfort and fire safety systems in the fields of construction, industry and durable consumer goods. Izocam has more than half a century of experience in Turkey and the Region. Izocam is the first and only company in the world that produces 7 main different product ranges, i.e., glass wool, stone wool, foamboard-xps, izopor-eps, izocamflex-rubber, peflex-polyethylene, polyurethane, under one roof in order to provide energy saving and living comfort.

Izocam has products bearing the CE marking according to the Construction Materials Directive (89/106/EEC) and zocam Glass Wool and Stone Wool products certified by EUCEB (European Cetification Board for mineral wool products).

-Izocam, which serves as the industry leader with a product range of 7 different products in the world and in Turkey, develops solutions to the needs of the industry in cooperation with its group companies, Rigips and Weber.

The company have Quality Management System - ISO 9001, Occupational Health and Management System - ISO 45001, Energy Management System - ISO 500001 and Environmental Management System - ISO 14001.





### **About the Product**

It is used for thermal insulation purpose between two metals on roofs and sidewalls of metal buildings which are installed on-site. Natural characteristics of mineral wools contribute to sound insulation. It provides fire safety with its class A1 non combustible property. It has a silicon additive, so it does not include water to its structure

#### **Application Area**

- By spreading a coat of nylon cover on corrugated metal sheet of the roof as a vapor barrier, its joints are overlapped 10 cm and glued. Industrial Building Board is placed on vapor barrier layer.
- The application is completed with metal cladding.
- Industrial Building Boards are properly placed in the cassette systems at facade applications.
- The application is completed by facade cladding.
- It is recommended to apply either acoustic band or insulation board on joints where the metals touch each other for preventing sound and thermal bridges

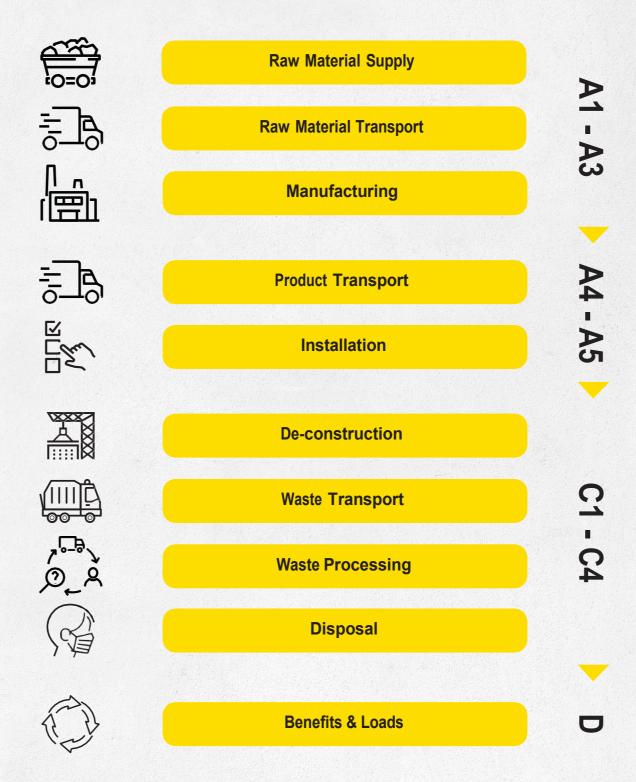
The product UN CPC code is 37990 according to Central Product Classification (CPC) Version 2.1.

Proporties	Symbol	Unit	Description						Tolerance	Standard	
Material	899	14	Mineral Wool						18	TS EN 13162	
Width	b	mm				600				+/-1,5%	TS EN 822
Lenght	(10)	mm				1200				+/-2%	TS EN 822
Tickness	đ	mm	40	50	60	80	-1	00	120	T3(**)	TS EN 823
Facing	725	82	Uncoated					12	227		
Reaction to fire	150	17				A1				(5	TS EN 13501-1
Squareness	S.	mm/m				max 5				a	TS EN 824
Flatness	See	mm				max 6				19	TS EN 825
Dimensional Stability	Δ <sub>ec</sub>	%	max 1						ia	TS EN 1604	
Thermal Conductivity (10 °C)	A <sub>O</sub>	Wm.K				0.035				14	TS EN 12667/1293
Thermal Resistance	Ro	m².K/W	1,10	a	1,40	1,70	2,25	2,85	3,40	12	TS EN 13162
Maximum Service Temperature	121	•c				250				12	326
Specific Heat (*)	C.	kJ/(kg.K)	0.84						12	EN 12524	
Short Term Water Absorption by Partial Immersion	₩ <sub>p</sub>	kg/m²	s1						15	EN 1609	
Long Term Water Absorption by Partial Immersion	We	kg/m²	=3						ın	EN 12087	
Water Vapor Diffusion Resistance (*)	g		i						17	TS EN 12086	
Dynamic Elasticity (*)	Edyn	kN/m²				0.8				18	DIN 52214

For more information about the product, please visit here.



## **System Boundaries & Description**





#### A1 - Raw Material Supply

Production starts with raw materials mainly locally sourced, but some transported from other parts of the world. 'Raw material supply' includes raw material extraction and pre-treatment processes before production. The stage covers the supply (quarrying) and production of all components and additives. The use of electricity, fuel and auxiliary materials in production is also taken into account.

#### A2 - Raw Material Transport

Raw material transport from supplier to manufacturer is considered in raw material supply stage. The distances and routes are calculated accordingly. Depending the manufacturer, locally supplied raw materials are transported via trucks and other supplies come through seaway.

Transport Mode	Туре
Road	Vehicle: Lorry Size Class: >32 metric ton Emission Standard: EURO5 Fuel Type: Diesel
Sea	Vehicle: Container Ship DWT (Load Capacity): 43000 tonnes Fuel Type: Heavy Fuel Oil

#### A3 - Manufacturing

The production process of glass wool board involves melting raw materials, predominantly silica sand, along with other recycled glass and minerals, at high temperatures to form molten glass. This molten glass is then fiberized by being spun or blown through a high-speed spinner, which disperses the liquid glass into fine fibers. These fibers are coated with a binder, which helps in binding them together when they are collected and formed into a board. The coated fibers are then cured in an oven at a controlled temperature to harden the binder, resulting in a flexible, resilient glass wool board. After curing, the boards are cut to size, packaged, and prepared for distribution. Electric and natural gas are consumed during the manufacturing.

Information	Description
Electricity Data	Türkiye electricity grid mix from Ecoinvent, Medium Voltage
Type of dataset	Cradle to gate
GWP of Electricity Data	0,578 kg CO₂ eq./kWh



#### A4 - Product Transport

Product transport from manufacturer to customer is considered in product material supply stage. The distances and routes are calculated accordingly. Depending the customer location, product is transported via trucks and other supplies come through seaway.

Transport Mode	Туре
Road	Vehicle: Lorry Size Class: >32 metric ton Emission Standard: EURO5 Fuel Type: Diesel
Sea	Vehicle: Container Ship DWT (Load Capacity): 43000 tonnes Fuel Type: Heavy Fuel Oil

#### A5 - Installation

No material or energy use was taken into account for the installation. Mounting equipment is included in the product. Installation can be done by manpower. Additionally, disposal of packaging is taken into account at this stage. The end-of-life scenario of the package was modelled according to EU statistics. It is assumed that 27.5% of the plastics are recycled. Materials other than not recycled, assumed to be incinerated or landfilled.

#### C1 - Deconstruction / Demolition

There is no energy use during uninstallation, manpower and some tools are sufficient.

#### **C2 - Waste Transport**

Waste transport includes the transport of materials after they reach their end-of-life. The average distance was assumed 50 km by truck from demolition site to a waste or recycling area.

Parameter	Value
Vehicle Type	Vehicle: Lorry Size Class: 16-32 metric ton Emission Standard: EURO4 Fuel Type: Diesel
Distance	50 km

#### C3 - Waste Processing

The product is considered to be landfilled without reuse, recovery or recycling. It is classified as 'nonhazardous waste' in the European list of waste products. The impacts of any treatment process to the demolished waste is included in this stage. It is assumed that no treatment is needed as 100 % of the material goes to a landfill.

#### C4 - Disposal

All plasters end up at construction and demolition waste landfills as their final fate and modelled as such in the LCA.

#### D - Benefits

No potential benefits of recycling and re-use were taken into account. Only the benefit due to the recycling of the packaging has been calculated.



### **LCA Information**

**Declared Unit:** The declared unit is 1m<sup>2</sup> of glass wool building board with a R value of 1,4 m<sup>2</sup>K/W (for a thickness of 50 mm and a declared lambda of 0.035 W/mK).

**Conversion Factor:** Weight of 1 m<sup>2</sup> product is 0,9 kg. A mass conversion factor of 1,11 should be used.

Time Representativeness: 2023 (12 months)

Database(s) and LCA Software: Ecoinvent 3.9.1 and SimaPro 9.5

System Boundaries: Cradle to gate with options, module C1- C4, module D and optional modules

	Pro	duct St	tage		ruction s Stage	Use Stage						End of Life Stage				Benefits and Loads	
	Raw Material Supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational Water Use	De-construction	Transport	Waste Processing	Disposal	Reuse-Recycling- Recovery Potential
Module	A1	A2	АЗ	A4	A5	B1	B2	В3	B4	B5	В6	В7	C1	C2	С3	C4	D
Modules Declared	X	Х	Х	Х	X	ND	ND	ND	ND	ND	ND	ND	Х	Х	Х	Х	X
Geography	GI	_O	TR							GL	_O						
Specific Data Used			56%	1								-					
Variation - Products			0%			-											
Variation - Sites			0%									-					

(X:Included in LCA, ND: Not Declared)

#### **Geographical Scope**

The geographical scope of this EPD is global.

#### **Allocation**

Source of raw material, water consumption, energy consumption and raw material transportation were weighted according to 2023 production figures. In addition, hazardous and non-hazardous waste amounts were also allocated from the 2023 total waste generation.



#### **Cut-Off Criteria**

1% cut-off is applied in LCA. Data for elementary flows to and from the product system contributing to a minimum of 99% of the declared environmental impacts have been included.

#### **Reach Regulation**

No substances included in the Candidate List of Substances of Very High Concern for authorization under the REACH regulations are present in this product either above the threshold for registration with the European Chemicals Agency or above 0.1% (wt/wt).

#### **Product Composition**

<b>Product Component</b>	Weight, %	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
External Cullet	70-80	70-80	0
Minerals	10-20	0	0
Additivies	0-5	0	0

#### **Packaging Composition**

Glass wool roof blankets are packaged and send to customer. PE films are generally used in packaging.

Product Component	Weight, kg	Weight-% (versus the product)	Biogenic material, weight-% and kg C/kg
PE Film	0,16	17,7%	0

#### Lca Modelling, Calculation And Data Quality

The results of the LCA with the indicators as per EPD requirement are given in the LCA result tables. All energy calculations were obtained using Cumulative Energy Demand (LHV) methodology, while fresh water use is calculated with selected inventory flows in SimaPro according to the PCR. There are no co-product allocations within the LCA study underlying this EPD. The regional energy datasets were used for all energy calculations. For LCA modelling and calculation, ecoinvent database (v3.9.1) and SimaPro (v9.5) LCA software were used. Characterization factors of EN 15804 reference package based on EF 3.1 are utilized. Impact of infrastructure and capital goods are excluded from the analysis

Stage	Data Type
Raw Material Supply	Generic database, plant spesific data
Raw Material Transport	Generic database, plant spesific data
Manufacturing	Generic database, plant spesific data
Product Transport	Generic database, generic data
Installation	Generic database, generic data
End of Life	Generic database, generic data
Benefits and Loads	Generic database, generic data



### **LCA Results**

It is discouraging the use of the results of modules A1-A3 without considering the results of module C. The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

		CC	ORE ENVIRON	MENTAL IM	PACTS PER I	DECLARED L	JNIT			
Mandatory ind	icators	Unit	A1-A3	A4	<b>A</b> 5	C1	C2	С3	C4	D
	Fossil	kg CO <sub>2</sub> eq.	1,19E-02	6,77E-05	1,58E-05	0,00E+00	3,59E-06	0,00E+00	3,59E-06	-1,27E-0
Global Warming Potential	Biogenic	kg CO <sub>2</sub> eq.	7,48E-03	2,85E-05	1,26E-06	0,00E+00	1,51E-06	0,00E+00	1,51E-06	0,00E+0
	Luluc	kg CO <sub>2</sub> eq.	2,57E+00	8,85E-02	1,64E-01	0,00E+00	4,68E-03	0,00E+00	4,68E-03	-1,17E-0
	Total	kg CO <sub>2</sub> eq.	2,59E+00	8,86E-02	1,64E-01	0,00E+00	4,68E-03	0,00E+00	4,68E-03	-1,27E-0
ODP	1	kg CFC-11 eq.	6,01E-08	1,93E-09	9,13E-11	0,00E+00	1,02E-10	0,00E+00	1,02E-10	-8,60E-1
AP		mol H+ eq.	1,04E-02	3,05E-04	2,15E-05	0,00E+00	1,57E-05	0,00E+00	1,57E-05	-5,48E-0
EP - Freshwat	er	kg P eq.	1,01E-03	6,28E-06	1,97E-07	0,00E+00	3,33E-07	0,00E+00	3,33E-07	-3,44E-0
EP - Marine		kg N eq.	2,16E-03	1,05E-04	3,89E-05	0,00E+00	5,44E-06	0,00E+00	5,44E-06	-1,10E-0
EP - Terrestria	l	mol N eq.	2,16E-02	1,11E-03	1,10E-04	0,00E+00	5,75E-05	0,00E+00	5,75E-05	-1,13E-0
POCP		kg NMVOC	8,26E-03	4,68E-04	3,37E-05	0,00E+00	2,45E-05	0,00E+00	2,45E-05	-5,45E-0
**ADPE		kg Sb eq.	1,11E-04	2,38E-07	3,39E-09	0,00E+00	1,26E-08	0,00E+00	1,26E-08	-4,58E-0
**ADPF MJ		MJ	4,28E+01	1,29E+00	2,17E-02	0,00E+00	6,83E-02	0,00E+00	6,83E-02	-3,71E+(
**WDP	m <sup>3</sup> depriv.	2,98E+00	6,17E-03	2,90E-04	0,00E+00	3,27E-04	0,00E+00	3,27E-04	-5,19E-0	
		Addition	nal environme	ntal impact in	dicators per d	leclared unit (	Optional)	1		
PM		disease inc.	7,69E-08	8,92E-09	2,42E-10	0,00E+00	4,72E-10	0,00E+00	4,72E-10	-5,17E-0
*IR		kBq U-235 eq.	1,39E-01	1,63E-03	6,57E-05	0,00E+00	8,63E-05	0,00E+00	8,63E-05	-1,20E-0
**HTP - C		CTUh	1,53E-09	3,83E-11	1,89E-11	0,00E+00	2,02E-12	0,00E+00	2,02E-12	-3,78E-1
***HTP - NC		CTUh	2,28E-08	9,27E-10	1,42E-10	0,00E+00	4,91E-11	0,00E+00	4,91E-11	-8,75E-1
**SQP		Pt	5,52E+00	1,31E+00	3,88E-02	0,00E+00	6,94E-02	0,00E+00	6,94E-02	-4,52E-0
Legend		A1: Raw Material De-Construction. Boundary.								
GWP-total: Climate change. GWP-fossil: Climate change- fossil. GWP-biogenic: Climate change - biogenic. GWP-lulu Climate change - land use and transformation. ODP: Ozone layer depletion. AP: Acidification terrestrial and freshwate EP-freshwater: Eutrophication freshwater. EPmarine: Eutrophication marine. EP-terrestrial: Eutrophication terrestrial. POC Photochemical oxidation. ADPE: Abiotic depletion - elements. ADPF: Abiotic depletion - fossil resources. WDP: Wat scarcity. PM: Respiratory inorganics - particulate matter. IR: Ionising radiation. HTP-c: Cancer human health effects. HT nc: Non-cancer human health effects. SQP: Land use related impacts. soil quality										
*Disclaimer 1		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.								
The results of this environmental impact indicator shall be used with care as the uncertainties on these results are  **Disclaimer 2 as there is limited experienced with the indicator.										



	ADDITIONAL MANDATORY IMPACT CATEGORY INDICATORS PER DECLARED UNIT										
Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D		
GWP - GHG	kg CO <sub>2</sub> eq.	2,57E+00	8,87E-02	1,64E-01	0,00E+00	4,69E-03	0,00E+00	4,69E-03	-1,28E-01		

GWP-GHG = Global Warming Potential total excl. biogenic carbon following IPCC AR5 methodology. The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. The GWP-GHG indicator is identical to GWP-total except that the characterisation factor (CF) for biogenic CO<sub>2</sub> is set to zero.

	RESOURCE USE INDICATORS PER DECLARED UNIT											
Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D			
PERE	MJ	3,76E+00	0,00E+00	1,06E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00			
PERM	MJ	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	3,76E+00	0,00E+00	1,06E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00			
PENRE	MJ	3,61E+01	0,00E+00	6,81E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00			
PENRM	MJ	6,78E+00	0,00E+00	-6,78E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00			
PENRT	MJ	4,28E+01	0,00E+00	2,17E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00			
SM	kg	8,66E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00			
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00			
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00			
FW	m3	1,44E-02	2,57E-04	7,41E-05	0,00E+00	1,36E-05	0,00E+00	1,36E-05	-4,59E-04			

Legend

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 re-sources; SM: Use of secondary material; RSF: Use of renewable secondary fuels; NRSF: Use of non-renewable secondary fuels; FW: Use of net fresh water

WASTE & OUTPUT INDICATORS												
Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D			
HWD	kg	8,48E-04	3,60E-05	1,00E-03	0,00E+00	1,90E-06	0,00E+00	1,90E-06	-5,42E-05			
NHWD	kg	8,83E-02	1,13E-01	1,16E-01	0,00E+00	5,99E-03	0,00E+00	9,00E-01	-1,00E-02			
RWD	kg	3,48E-05	3,93E-07	1,55E-08	0,00E+00	2,08E-08	0,00E+00	2,08E-08	-3,03E-06v			
CRU	kg	0,00E+00										
MFR	kg	0,00E+00	0,00E+00	4,39E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00			
MER	kg	0,00E+00										
EE (Electrical)	MJ	0,00E+00										
EE (Thermal)	MJ	0,00E+00										

Legend

HWD: Hazardous waste disposed, NHWD: Non-hazardous waste disposed, RWD: Radioactive waste disposed, CRU: Components for reuse, MFR: Material for recycling, MER: Materials for energy recovery, EE (Electrical): Exported energy electrical, EE (Thermal): Exported energy, Thermal.



### Interpretation

#### **Interpretation Of All LCA Stages**

When the environmental impact categories of the product are evaluated, the production stages (A1-A3) seem more dominant than other life cycle stages. The most dominant phase is the production stage for all categories. The use of exturnel cullet, etibor and feldspar during the production stage is the reason for the prominent impacts here. The table below lists the share of life cycle stages in each impact category. Impact category of GWP-biogenic and D module are not included in the percentage display because they contain negative values

Parameter		A1-A3	<b>A4</b>	<b>A</b> 5	C1	C2	C3	C4
Global Warming Potential	Fossil	99%	1%	0%	0%	0%	0%	0%
	Biogenic	,						
	Luluc	91%	3%	6%	0%	0%	0%	0%
	Total	91%	3%	6%	0%	0%	0%	0%
ODP		96%	3%	0%	0%	0%	0%	0%
AP		97%	3%	0%	0%	0%	0%	0%
EP - Freshwater		99%	1%	0%	0%	0%	0%	0%
EP - Marine		93%	5%	2%	0%	0%	0%	0%
EP - Terrestrial		94%	5%	0%	0%	0%	0%	0%
POCP		94%	5%	0%	0%	0%	0%	0%
ADPE		100%	0%	0%	0%	0%	0%	0%
ADPF		97%	3%	0%	0%	0%	0%	0%
WDP		100%	0%	0%	0%	0%	0%	0%

**Environmental Impact Distribution by LCA Stages** 



### References

**GPI /** General Programme Instructions of the International EPD® System. Version 4.0. EN ISO 9001/ Quality Management Systems - Requirements EN ISO 14001/ Environmental Management Systems - Requirements

**EN 15804:2012+A2:2019** / Sustainability of construction works - Environmental Product Declarations - Core rules for the product category of construction products

**ISO 14025 / DIN EN ISO 14025:2009-11:** Environmental labels and declarations - Type III environmental declarations - Principles and procedures

**PCR for Construction Products and Construction Services** / Prepared by IVL Swedish Environmental Research Institute, Swedish environmental Protection Agency, SP Trä, Swedish Wood Preservation Institute, Swedisol, SCDA, Svenskt Limträ AB, SSAB, The International EPD System, 2019:14 Version 1.3.3

C-PCR / c-PCR-005 Thermal Insulation products (EN 16783)

**ISO 14040/44 / DIN EN ISO 14040: 2006-10** / Environmental management - Life cycle assessment - Principles and framework (ISO14040:2006) and Requirements and guidelines (ISO 14044:2006)

ISO 9001 / Quality Management System

ISO 45001 / Occupational Health and Management System

ISO 14001 / Environmental Management System

ISO 50001 / Energy Management System

**The International EPD® System /** The International EPD® System is a programme for type III environmental declarations, maintaining a system to verify and register EPD®s as well as keeping a library of EPD®s and PCRs in accordance with ISO 14025. www.environdec.com

**Ecoinvent /** Ecoinvent Centre, www.ecoinvent.org

SimaPro / SimaPro LCA Software, Pré Consultants, the Netherlands, www.pre-sustainability.com

Metsims / www.metsims.com

**Izocam /** www.izocam.com.tr



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