ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

ISOVER OL-LAM 30

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EPD® owner: Saint-Gobain Finland Oy

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

Programme and product information

Manufacturer: Saint-Gobain Finland Oy, Strömberginkuja 2 (PO Box 70), FI-00380 Helsinki

Production plant(s): Isover Hyvinkää and Forssa, Finland

Management system-related certification: DS/EN ISO 9001, DS/EN ISO 14001

Owner of the declaration: Saint-Gobain Finland Oy

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Geographical scope of the EPD®: Finland and Baltic countries

Programme information

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CEN standard EN 15804:2012 + A2:2019 serves as the Core Product Category Rules (PCR)

Product category rules (PCR): PCR 2019:14 Construction Products, version 1.2.5

Complementary PCR: c-PCR-005 Thermal Insulation Products (EN 16783:2017), ver. 2019-12-20

PCR review was conducted by: The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. 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 verification by individual verifier

Third-party verifier**:** Martin Erlandsson, IVL Swedish Environmental Research Institute

Approved by: The International EPD© System

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

☒ Yes ☐ No

The EPD owner has the sole ownership, liability, and responsibility of the EPD.

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 cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison.

Product description and description of use

This Environmental Product Declaration (EPD®) describes the environmental impacts of 1 m² of mineral wool with a thermal resistance of 1 $K.m^2.W^{-1}$ of ISOVER OL-LAM 30. ISOVER OL-LAM 30 is mineral wool cut into lamella wool which can be used to complete the insulation layers of sloping roofs in one go. It is designed for areas where good thermal insulation and high load resistance are required. ISOVER OL-LAM 30 is suitable for sloping roofs supported by concrete slabs, lightweight concrete slabs and steel corrugated sheets.

This EPD applies for one specific product coming from two separate plants of Saint-Gobain Finland Oy and is based on weighted arithmetic mean according to yearly production volumes of each plant.

The production sites of Saint-Gobain Isover in Hyvinkää and Forssa use natural raw materials (sand), recycled glass cullet, and fusion and fiberizing techniques to produce glass wool. The products obtained come in the form of a "mineral wool mat" consisting of a soft and airy structure.

On Earth, naturally, the best insulator is dry immobile air at 10°C: its thermal conductivity factor, expressed in λ, is 0.025 W/(m.K) (watts per meter Kelvin degree). The thermal conductivity of mineral wool is close to immobile air as its lambda varies from 0,030 W/(m.K) for the most efficient to 0,045 W/(m.K) to the least.

With its entangled structure, mineral wool is a porous material that traps the air, making it one of the best insulating materials. The porous and elastic structure of the wool also absorbs noise in the air, knocks and offers acoustic correction inside premises. Mineral wool containing incombustible materials does not fuel fire or propagate flames. Mineral wool insulation is used in buildings as well as industrial facilities. It ensures a high level of comfort, lowers energy costs, minimizes carbon dioxide (CO_2) emissions, prevents heat loss through pitched roofs, walls, floors, pipes and boilers, reduces noise pollution and protects homes and industrial facilities from the risk of fire. Mineral wool products last for the average building's lifetime, or as long as the insulated building component is part of the building.

Technical data/physical characteristics (for a thickness of 39 mm):
Thermal resistance of the Product: 1,0 $K.m^2.W^{-1}$
The thermal conductivity of the mineral wool is: 0,039 W/(m·K)
Reaction to fire: A2-s1, d0
Density: 45 kg/m^3

UN CPC CODE**:** 37990
GTIN: 6416923058051, 6416923088485, 6416923088478

More information in: www.isover.fi/tuotteet/isover-ol-lam

Declaration of the main product components and/or materials

Description of the main components and/or materials for 1 m^2 of mineral wool with a thermal resistance of 1,0 $K.m^2.W^{-1}$ for the calculation of the EPD®:

PARAMETER	VALUE
Quantity for 1 m^2 of product	1755 g of finished product
Thickness	39 mm
Facing	none
Product used for the Installation	none

Content declaration:

Product components	Weight range (%)	Post-consumer material weight (%) of product	Pre-consumer material weight (%) of product	Renewable material weight (%) of product
ISOVER OL-LAM 30	**100**			
Mineral materials	10 – 30	0	0	0
Recycled glass	68 – 78*	52 – 78*	0 – 16*	0
Binder	2 - 10	0	0	unknown
Additives	0 - 1	0	0	unknown
Packaging materials	**Weight (kg) per m² of product**	**Weight (%) vs the product**	**Post-consumer material weight (%) of component**	**Renewable material weight (%) of component**
Wooden pallet	0,087	5,0	0	98,5
Paper	<0,001	0,0	unknown	unknown
Polyethylene	0,035	0,2	30	0
Shrink film, PE	0,051	0,3	0	0

*) Percentages of individual plants

During the life cycle of the product any hazardous substance listed in the “Candidate List of Substances of Very High Concern (SVHC) for authorization” has not been used in a percentage higher than 0,1% of the weight of the product.

The verifier and the program operator do not make any claim nor have any responsibility of the legality of the product.

LCA calculation information

TYPE OF EPD	Cradle to grave and module D
FUNCTIONAL UNIT	Providing a thermal insulation on 1 m² of product with a thermal resistance of 1 $K.m^2.W^{-1}$ during 60 years
SYSTEM BOUNDARIES	Cradle to grave + Module D = A + B + C +D
REFERENCE SERVICE LIFE (RSL)	60 years
CUT-OFF RULES	Life Cycle Inventory data for a minimum of 99% of total inflows to the upstream and core module shall be included. Flows related to human activities such as employee transport are excluded. Transportation in-site is excluded The construction of plants, production of machines and transportation systems are excluded
ALLOCATIONS	Allocation criteria are based on mass. The polluter pays and modularity principles have been followed.
GEOGRAPHICAL COVERAGE AND TIME PERIOD	Scope: Finland Data is collected from 2 production sites, Hyvinkää and Forssa located in Finland Data collected for the year 2022 Cradle to grave study
BACKGROUND DATA SOURCE	The databases GaBi 2022 and ecoinvent v.3.6
SOFTWARE	GaBi 10

LCA scope

System boundaries (X=included. MND=module not declared)

	PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Geography	FI	FI	FI	Nordics	Nordics	-	-	-	-	-	-	-	RER	RER	RER	RER	RER
Specific data used	> 43% GWP-GHG																
Variation products	0%																
Variation sites	-17% − 1% GWP-GHG																

Life cycle stages

A1-A3, Product stage

Description of the stage: the product stage of the mineral wool products is subdivided into 3 modules A1, A2 and A3 respectively “raw material supply”, “transport” and “manufacturing”.

The aggregation of the modules A1, A2 and A3 is a possibility considered by the EN 15804 standard. This rule is applied in this EPD.

A1, Raw materials supply
This module takes into account the extraction and processing of all raw materials and energy which occur upstream to the studied manufacturing process.

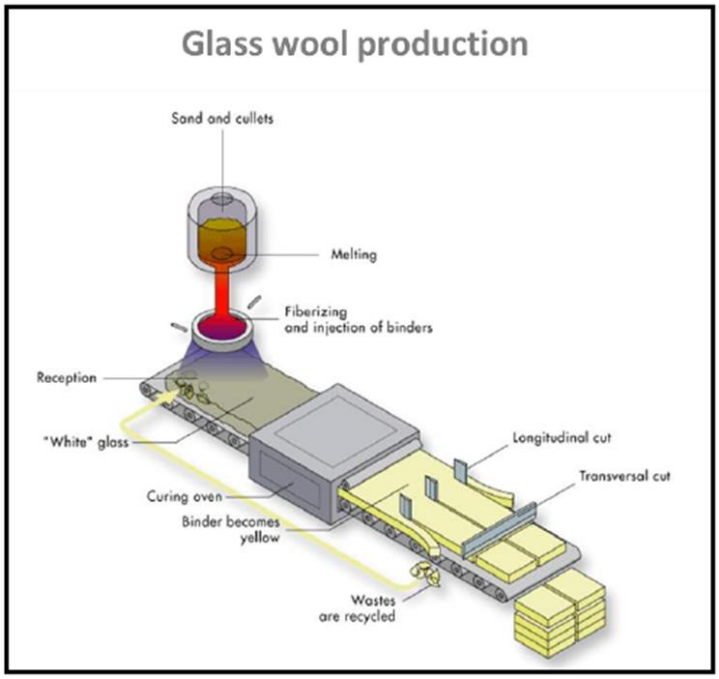
Specifically, the raw material supply covers production of binder components and sourcing (quarry) of raw materials for fiber production, e.g. sand and borax for glass wool. Besides these raw materials, recycled materials are also used as input.

A2, Transport to the manufacturer
The raw materials are transported to the manufacturing site. In our case, the modeling include: road, sea and rail (average values) of each raw material.

A3, Manufacturing
This module includes the manufacturing of the product and packaging. Specifically, it covers the manufacturing of glass, binder, mineral wool (including the processes of fusion and fiberizing showed in the flow diagram), and the packaging. This module also includes the emissions and wastes generated during manufacturing.

Manufacturing process flow diagram

System diagra**m:**



A4-A5, Construction process stage

Description of the stage: the construction process is divided into 2 modules: A4, transport to the building site and A5, installation in the building. Since there is product loss during installation, the quantification of raw material compensation (A5) and its transport to the building site (A4) are considered.

A4, Transport to the building site: This module includes transport from the production gate to the building site. Transport is calculated based on a scenario with the parameters described in the following table.

PARAMETER	VALUE
Fuel type and consumption of vehicle or vehicle type used for transport e.g. long distance truck, boat, etc.	Freight truck, maximum load weight of 27 t and consumption of 0,38 liters per km
Distance	202 km
Capacity utilisation (including empty returns)	100% of the capacity in volume 28% of the capacity in weight 30% of empty returns
Bulk density of transported products*	68 kg/m^3

* Bulk mass / most common truck of 110 m^3 volume

A5, Installation in the building: this module includes:

No additional accessory was taken into account for the implementation phase insulation product.

No energy is needed to install the product (manual installation without tool)

The following parameters has been used to model the waste handling of product and packaging generated on the building site.

PARAMETER	VALUE/DESCRIPTION
Wastage of materials on the building site before waste processing, generated by the product's installation (specified by type)	2 %
Distance	25 km to landfill by truck
Output materials (specified by type) as results of waste processing at the building site e.g. of collection for recycling, for energy recovering, disposal (specified by route)	Pallet: 0,087 kg recycled PE & others: 0,086 kg landfilled Product loss: landfilled

B1-B7, Use stage (excluding potential savings)

Description of the stage: the use stage is divided into the following modules:

- B1: Use
- B2: Maintenance
- B3: Repair
- B4: Replacement
- B5: Refurbishment
- B6: Operational energy use
- B7: Operational water use

The product has a reference service life of 60 years. This assumes that the product will last in situ with no requirements for maintenance, repair, replacement, or refurbishment throughout this period. Therefore, it has no impact at this stage.

C1-C4, End of Life Stage

Description of the stage: this stage includes the next modules:

C1, Deconstruction, demolition
The de-construction and/or dismantling of insulation products take part of the demolition of the entire building. In our case, the environmental impact is assumed to be lesser than 1% of the total environmental impacts and can be neglected.

C2, Transport to waste processing
The model use for the transportation (see A4, transportation to the building site) is applied.

C3, Waste processing for reuse, recovery and/or recycling
The product is considered to be landfilled without reuse, recovery or recycling.

C4, Disposal
The mineral wool is assumed to be 100% landfilled.

Description of the scenarios and additional technical information:

PARAMETER	VALUE/DESCRIPTION
Collection process specified by type	The entire product, including any surfacing is collected alongside any mixed construction waste. 1,755 kg of mineral wool (collected with mixed construction waste)
Recovery system specified by type	There is no recovery, recycling or reuse of the product once it has reached its end of life phase.
Disposal specified by type	The product alongside the mixed construction waste from demolishing is landfilled. 1,755 kg of mineral wool are landfilled
Assumptions for scenario development (e.g. transportation)	The product alongside the mixed construction waste from demolishing is landfilled. The waste going to landfill is transported 25 km by truck from deconstruction/demolition sites to landfill

D, Reuse/recovery/recycling potential

100% of wastes are landfilled. There is no reuse, nor recovery, nor recycling of this product. Packaging materials are not considered. Hence, no recycling benefits are reported on stage D.

LCA results

As specified in EN 15804:2012+A2:2019 and the Product Category Rules, the environmental impacts are declared and reported using the baseline characterization factors are from the ILCD. Characterisation factors of EF 3.0 has been used in the calculation. Specific data has been supplied by the plant, and generic data come from GABI and ecoinvent databases.

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.

All the results refer to a functional unit of 1 m^2 of mineral wool with thermal resistance of 1 $m^2.K.W^{-1}$ for a thickness of 39 mm which is not a commercial thickness. To obtain results of commercial thicknesses see “Additional information”.

Environmental Impacts

Environmental indicators	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				REUSE, RECOVERY RECYCLING
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Climate Change [kg CO2 eq.]	1,44E+00	2,21E-02	1,65E-01	0	0	0	0	0	0	0	0	2,80E-03	0	5,34E-02	0
Climate Change (fossil) [kg CO2 eq.]	1,54E+00	2,16E-02	3,32E-02	0	0	0	0	0	0	0	0	2,73E-03	0	2,87E-02	0
Climate Change (biogenic) [kg CO2 eq.]	-9,61E-02	5,42E-04	1,31E-01	0	0	0	0	0	0	0	0	6,87E-05	0	2,46E-02	0
Climate Change (land use change) [kg CO2 eq.]	4,90E-04	1,26E-06	1,15E-05	0	0	0	0	0	0	0	0	1,60E-07	0	8,27E-05	0
Ozone depletion [kg CFC-11 eq.]	2,12E-06	3,19E-18	4,24E-08	0	0	0	0	0	0	0	0	4,04E-19	0	1,07E-16	0
Acidification terrestrial and freshwater [Mole of H+ eq.]	7,21E-03	1,27E-04	1,52E-04	0	0	0	0	0	0	0	0	1,62E-05	0	2,06E-04	0
Eutrophication freshwater [kg P eq.]	1,76E-04	4,15E-09	3,54E-06	0	0	0	0	0	0	0	0	5,26E-10	0	4,94E-08	0
Eutrophication marine [kg N eq.]	2,25E-03	6,31E-05	5,20E-05	0	0	0	0	0	0	0	0	8,00E-06	0	5,31E-05	0
Eutrophication terrestrial [Mole of N eq.]	2,34E-02	6,92E-04	5,01E-04	0	0	0	0	0	0	0	0	8,78E-05	0	5,83E-04	0
Photochemical ozone formation - human health [kg NMVOC eq.]	6,59E-03	1,19E-04	1,40E-04	0	0	0	0	0	0	0	0	1,50E-05	0	1,61E-04	0
Resource use, mineral and metals [kg Sb eq.][1]	9,34E-06	2,59E-10	1,87E-07	0	0	0	0	0	0	0	0	3,28E-11	0	2,58E-09	0
Resource use, energy carriers [MJ][1]	2,58E+01	2,98E-01	5,33E-01	0	0	0	0	0	0	0	0	3,77E-02	0	3,77E-01	0
Water deprivation potential [m³ world equiv.][1]	4,28E-01	2,10E-05	8,70E-03	0	0	0	0	0	0	0	0	2,67E-06	0	3,01E-03	0

[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 experience with the indicator.

Resources Use

Resources Use indicators	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				D REUSE, RECOVERY, RECYCLING
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Use of renewable primary energy (PERE) [MJ]	1,54E+01	7,22E-03	3,10E-01	0	0	0	0	0	0	0	0	9,15E-04	0	4,94E-02	0
Primary energy resources used as raw materials (PERM) [MJ]	1,57E+00	0	-1,57E+00	0	0	0	0	0	0	0	0	0	0	0	0
Total use of renewable primary energy resources (PERT) [MJ]	1,69E+01	7,22E-03	-1,26E+00	0	0	0	0	0	0	0	0	9,15E-04	0	4,94E-02	0
Use of non-renewable primary energy (PENRE) [MJ]	2,33E+01	2,99E-01	4,85E-01	0	0	0	0	0	0	0	0	3,79E-02	0	3,77E-01	0
Non-renewable primary energy resources used as raw materials (PENRM) [MJ][2]	2,43E+00	0	4,84E-02	0	0	0	0	0	0	0	0	0	0	0	0
Total use of non-renewable primary energy resources (PENRT) [MJ]	2,58E+01	2,99E-01	5,33E-01	0	0	0	0	0	0	0	0	3,79E-02	0	3,77E-01	0
Input of secondary material (SM) [kg]	1,19E+00	0	2,38E-02	0	0	0	0	0	0	0	0	0	0	0	0
Use of renewable secondary fuels (RSF) [MJ]	3,02E-25	0	6,041E-27	0	0	0	0	0	0	0	0	0	0	0	0
Use of non-renewable secondary fuels (NRSF) [MJ]	3,55E-24	0	7,104E-26	0	0	0	0	0	0	0	0	0	0	0	0
Use of net fresh water (FW) [m3]	1,01E-02	1,31E-06	2,06E-04	0	0	0	0	0	0	0	0	1,66E-07	0	9,51E-05	0

[2] Energy stored in the product is not balanced when the product is landfileld in the end-of-life.

Waste Category & Output flows

	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				D REUSE, RECOVERY, RECYCLING
Waste Category & Output Flows	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Hazardous waste disposed (HWD) [kg]	8,02E-10	1,92E-11	1,29E-10	0	0	0	0	0	0	0	0	2,44E-12	0	5,75E-09	0
Non-hazardous waste disposed (NHWD) [kg]	3,16E-02	6,06E-06	3,77E-02	0	0	0	0	0	0	0	0	7,67E-07	0	1,90E+00	0
Radioactive waste disposed (RWD) [kg]	7,00E-05	3,39E-07	1,49E-06	0	0	0	0	0	0	0	0	4,29E-08	0	4,29E-06	0
Components for re-use (CRU) [kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Materials for Recycling (MFR) [kg]	2,75E-02	0	8,80E-02	0	0	0	0	0	0	0	0	0	0	0	0
Material for Energy Recovery (MER) [kg]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported electrical energy (EEE) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported thermal energy (EET) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Additional voluntary indicators from EN 15804 (according to ISO 21930:2017)

	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				REUSE, RECOVERY RECYCLING
Environmental indicators	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
GWP-GHG / GWP-IOBC [kg CO2 eq.][3]	1,54E+00	2,16E-02	3,32E-02	0	0	0	0	0	0	0	0	2,73E-03	0	2,87E-02	0

[3] 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. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Information on biogenic carbon content

Biogenic Carbon Content		PRODUCT STAGE A1 / A2 / A3
	Biogenic carbon content in product [kg]	6,71E-03
	Biogenic carbon content in packaging [kg]	3,63E-02

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

The biogenic carbon content in the product mainly comes from the binder and additives.
The biogenic carbon content in the packaging mainly comes from the wooden pallet.

Additional information

Electricity information

TYPE OF INFORMATION	DESCRIPTION
Location	Representative of electricity purchased by Saint-Gobain Finland Oy
Geographical representativeness description	Split of energy sources in Finland: - Hydro: 100 %
Reference year	2022 - 2023
Type of dataset	Cradle to gate
Source	Gabi 2022 and ecoinvent 3.6 databases Guarantee of Origin certificates (GOs) 2021-2023
CO_2 emission kg CO_2 eq. / kWh	0,0045

Influence of particular thicknesses

This EPD® includes the range of thicknesses between 300 mm and 380 mm by applying a multiplication factor. All the results of this EPD refer to the reference thickness of 39 mm (value of R=1 m^2*K/W).

In the table below the main products with specific thicknesses are listed. To obtain the environmental performance associated with every specific thickness, the indicators GWP-GHG and GWP-fossil expressed in this EPD® must be multiplied by its corresponding multiplication factor. Multiplication factors of thicknesses of product not listed below can be calculated as product thickness (mm) / 39 (mm). Also, a conversion to kg product of GWP-GHG (A1-A3) is given.

PRODUCT		MULTIPLICATION FACTOR	CONVERSION TO KG
GTIN	THICKNESS (mm)	GWP-GHG	GWP-GHG, kgCO_2eq/kg product (A1-A3)
Declared unit	39	1	0,876
6416923058051	300	7,69	0,876
6416923088485	350	8,97	0,876
6416923088478	380	9,74	0,876

Influence of transport to other countries

The results of stage A4 (transportation of product) of this EPD refer to transportation in Finland. This product may also be delivered to the countries in the table below. In order to adapt the impact of transportation to other countries, the A4 results from this EPD shall be multiplied by the multiplication factors below.

COUNTRY	AVERAGE DISTANCE (KM)	MULTIPLICATION FACTOR
Finland	202 (Road)	1
Estonia	118 (Road), 90 (Sea)	0,68
Latvia	428 (Road), 90 (Sea)	2,22
Lithuania	721 (Road), 90 (Sea)	3,66

Distances include average transportation from the plant to the capital of each country and further to a building site with average 50 km distance.

Variation above 10%

In the table below the indicators that vary more than 10% in GWP-GHG results for module A1-A3 are reported. The variation shown is the variation between the declared results and the results of each production site.

ENVIRONMENTAL INDICATOR	VARIATION (%)
Climate Change	-16% − 1%
Climate Change (fossil)	-17% − 1%
Climate Change (biogenic)	-25% − 1%
Climate Change (land use change)	-1% − 22%
Ozone depletion	-3% − 67%
Acidification terrestrial and freshwater	-2% − 41%
Eutrophication freshwater	-1% − 14%
Eutrophication marine	-2% − 56%
Eutrophication terrestrial	-3% − 69%
Photochemical ozone formation - human health	-2% − 53%
Resource use, mineral and metals	-1% − 19%
Resource use, energy carriers	-17% − 1%

Environmental impacts according to EN 15804:2012 + A1

The following tables presents results of ISOVER OL-LAM 30 according to EN 15804+A1.

Environmental impacts	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Global Warming Potential (GWP) [kg CO2eq.][4]	1,52E+00	2,13E-02	3,25E-02	0	0	0	0	0	0	0	0	2,70E-03	0	2,82E-02	0
Ozone depletion (ODP) [kg CFC 11eq.]	2,76E-06	4,25E-18	5,52E-08	0	0	0	0	0	0	0	0	5,39E-19	0	1,42E-16	0
Acidification potential (AP) [kg SO2eq.]	5,65E-03	8,74E-05	1,20E-04	0	0	0	0	0	0	0	0	1,11E-05	0	1,66E-04	0
Eutrophication potential (EP) [kg (PO4)3-eq.]	3,28E-03	2,16E-05	6,69E-05	0	0	0	0	0	0	0	0	2,74E-06	0	1,87E-05	0
Photochemical ozone creation (POCP) - [kg Ethylene eq.]	4,25E-04	2,64E-06	9,03E-06	0	0	0	0	0	0	0	0	3,35E-07	0	1,33E-05	0
Abiotic depletion potential for non-fossil resources (ADP-elements) [kg Sb eq.]	9,29E-05	2,70E-10	1,86E-06	0	0	0	0	0	0	0	0	3,42E-11	0	9,96E-09	0
Abiotic depletion potential for fossil resources (ADP-fossil fuels) [MJ]	2,43E+01	2,98E-01	5,04E-01	0	0	0	0	0	0	0	0	3,78E-02	0	3,67E-01	0

[4] The indicator excludes biogenic carbon and is almost equal to the indicator GWP-GHG.

Differences versus previous versions

This is the first version of the EPD.

References

1. ISO 14040:2006: Environmental Management-Life Cycle Assessment-Principles and framework.
2. ISO 14044:2006: Environmental Management-Life Cycle Assessment-Requirements and guidelines.
3. ISO 14025:2006: Environmental labels and Declarations-Type III Environmental Declarations-Principles and procedures.
4. General programme instructions for the International EPD® System, version 4.0 (2021-03-29).
5. Construction Products PCR 2019:14, version 1.2.5, The International EPD® System
6. EN 15804:2012+A2:2019/AC:2021 - Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
7. Thermal insulation products (EN 16783:2017) – Complementary Product category rules (c-PCR) to PCR 2019:14, version 2019:20.
8. European Chemical Agency, Candidate List of substances of very high concern for Authorization. http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp
9. The underlying LCA study, LCA report for Saint-Gobain Finland Oy, October 2023, version 2.