ENVIRONMENTAL PRODUCT DECLARATION

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

ISOVER FACADE & FACADE EJ

Version 1
Date of publication: 2024/07/31
Validity: 5 years
Valid until: 2029/07/30
Scope of the EPD®: Finland & Baltics
EPD of multiple products, based on a representative product

The International EPD® System

Program operator: EPD international AB

Registration number: EPD-IES-0015173

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 information

Programme:	The International EPD® System
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CEN standard EN 15804:2012 + A2:2019/AC:2021 serves as the Core Product Category Rules (PCR)

Product category rules (PCR): PCR 2019:14 Construction Products, version 1.3.2

Complementary PCR: (c-PCR-005), 2024-04-30. Thermal insulation products (EN 16783:2017)

PCR review was conducted by: The Technical Committee of the International EPD System. See www.environdec.com for a list of members.

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, martin.erlandsson@ivl.se

Approved by : The International EPD® System

Procedure for follow-up of data during EPD validity involves third part verifier: ☐ Yes ☒ No

EPDs within the same product category but registered in different EPD programmes may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same version number up to the first two digits) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical DU/FU); 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 characterization factors); have equivalent content declarations; and be valid at the time of Comparison. For further information about comparability, see EN 15804:2012+A2:2019/AC:2021 and ISO 14025:2006.

Product information

Product name: ISOVER Facade and ISOVER Facade EJ

Functional unit: 1 m^2 of product with a thermal resistance of 0,95 $K.m^2.W^{-1}$ and a thickness of 30 mm

UN CPC CODE: 37990 Non-metallic mineral products n.e.c. (including mineral wool, expanded mineral materials, worked mica, articles of mica, non-electrical articles of graphite or other carbon and articles of peat)

Main GTIN Number(s): see Additional information section

Company information

Manufacturer: Saint-Gobain Finland Oy, Strömberginkuja 2 (PL 70) FI-00381 Helsinki, Finland

Website: www.saint-gobain.fi

Production plant: Isover Forssa, Finland

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

LCA & EPD Information

Owner of the declaration: Saint-Gobain Finland Oy

Contact person: Anne Kaiser (anne.kaiser@saint-gobain.com)

EPD® prepared by: Päivi Pesu (paivi.pesu@saint-gobain.com)

Type of EPD: Cradle-to-grave and module D

Geographical scope of the EPD®: Finland and Baltic countries

Year of data collection: 2023

Product description

Product description and description of use

This Environmental Product Declaration (EPD®) describes the environmental impacts of 1 m² of glass wool with a thermal resistance of 0,95 K.m^2.W^{-1} of ISOVER Facade and ISOVER Facade EJ. To calculate the impact of the range of commercial thicknesses between 25 mm and 100 mm, see the table “Conversion to mass and to specific thicknesses" in Additional information section.

ISOVER Facade and ISOVER Facade EJ are thermal insulation boards coated with wind protection facing. The product is used as thermal insulation and wind protection on building facades, in attics and ventilated subfloors. When using ISOVER Facade EJ, the baseboards can be attached directly to the frame without spacers.

For more information: www.isover.fi/tuotteet/isover-facade, www.isover.fi/tuotteet/isover-facade-ej

This EPD applies for two specific products produced in one plant of Saint-Gobain Finland Oy. It is based on representative product determined by highest yearly production volume. The production site of Forssa use mineral raw materials, recycled glass cullet, and fusion and fiberizing techniques to produce glass wool. The products are obtained in the form of a "glass wool mat" characterized with a soft and airy structure.

Technical data/physical characteristics

Parameter	Value / Description
Thermal resistance	0,95 K.m^2.W^{-1} (UNE EN 12667)
Thermal conductivity	0,031 W/(m·K) (UNE EN 12667)
Reaction to fire	A2-s1,d0 (UNE EN 13501-1)
Density	63 kg/m^3

Declaration of the main product components and/or materials

Parameter	Value
Quantity for 1 m² of product	2,272 kg of finished product
Thickness	30 mm
Facing	0,382 kg glass fiber tissue
Product used for the Installation	none

Description of the main components and/or materials:

Product components	Weight (%)	Post-consumer recycled material weight (%)	Pre-consumer recycled material weight (%)	Biogenic material weight- % and kg C/ FU
Mineral materials	10 – 20 %	0 %	0 %	0% / 0 kg
Recycled glass (external cullet)	62 %	62 %	0 %	0% / 0 kg
Additives	0 – 1 %	0 %	0 %	0% / 0 kg
Binder	2 – 10 %	0 %	0 %	0% / 0 kg
Facing	17 %	0 %	0 %	0% / 0 kg
Sum	**100%**	**100%**	**100%**	**100%**

Packaging materials	Weight (kg)	Weight-% (vs the product)	Post-consumer recycled material weight (%)	Biogenic material, weight- kg C / product
Packaging film (LDPE)	0,017 kg	0,8 %	0 %	0 kg
Wooden pallet	0,114 kg	5,0 %	0 %	0,054 kg
Paper label	0,0008 kg	0,004 %	0 %	< 0,001 kg

Content declaration describes the representative product.

Hazardous substances

At the date of issue of this declaration, there is no “Substance of Very High Concern” (SVHC) in concentration above 0.1% by weight, and neither do their packaging, following the European REACH regulation (Registration, Evaluation, Authorization and Restriction of Chemicals).

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

LCA calculation information

Parameter	Value / Description
Type of EPD	Cradle to grave and module D
Functional unit	Providing a thermal insulation on 1 m^2 of product with a thermal resistance of 0,95 $K.m^2.W-1$ and a thickness of 30 mm during 60 years
System boundaries	Cradle to grave (A1 - A3, A4, A5, B1–B7, C1–C4) and module D
Reference service life (RSL)	The Reference Service Life (RSL) of the insulation product is 60 years, provided that the product is installed correct into the building. This 60-year value is the amount of time that we recommend our products last for without refurbishment and corresponds to standard building design life.
Cut-off rules	All data is available, no cut-off rules has been applied. In the case that there is not enough information, the process energy and materials representing less than 1% of the whole energy and mass used can be excluded (if they do not cause significant impacts). The addition of all the inputs and outputs excluded cannot be bigger than the 5% of the whole mass and energy used, as well of the emissions to environment occurred. Flows related to human activities such as employee transport are excluded. The construction of plants, production of machines and transportation systems are excluded since the related flows are supposed to be negligible compared to the production of the building product when compared at these systems lifetime level.
Allocations	Allocation has been avoided when possible and when not possible a mass allocation has been applied. The polluter pays and the modularity principles as well have been followed.
Geographical coverage And time period	Scope: Finland and Baltics Data is collected from 1 production site located in Finland Data collected for the year 2023
Background data source	The databases Sphera 2023.2 and ecoinvent v.3.9.1
Software	Sphera LCA for experts (GaBi) 10

LCA scope

	Product stage			Construction stage		Use stage							End of life stage				Benefits and loads beyond the system boundary
	Raw material supply	Transport	Manufacturing	Transport	Construction-Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-recovery
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	GLO	GLO	FIN	FIN & Baltics	EU-27	-	-	-	-	-	-	-	GLO	FIN & Baltics	FIN & Baltics	FIN & Baltics	EU-27
Specific data used[1]	>29% GWP- GHG																
Variation products	<10%																
Variation sites	0%																

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

Life cycle stages

[1] For this study, specific data is considered as energy and water consumptions, wastes and emissions related to the manufacturing process. It is based on the representative product.

A1-A3, Product stage

The product stage of the glass wool products is subdivided into 3 modules:

A1, Raw materials supply
This module includes the extraction and transformation of raw materials.

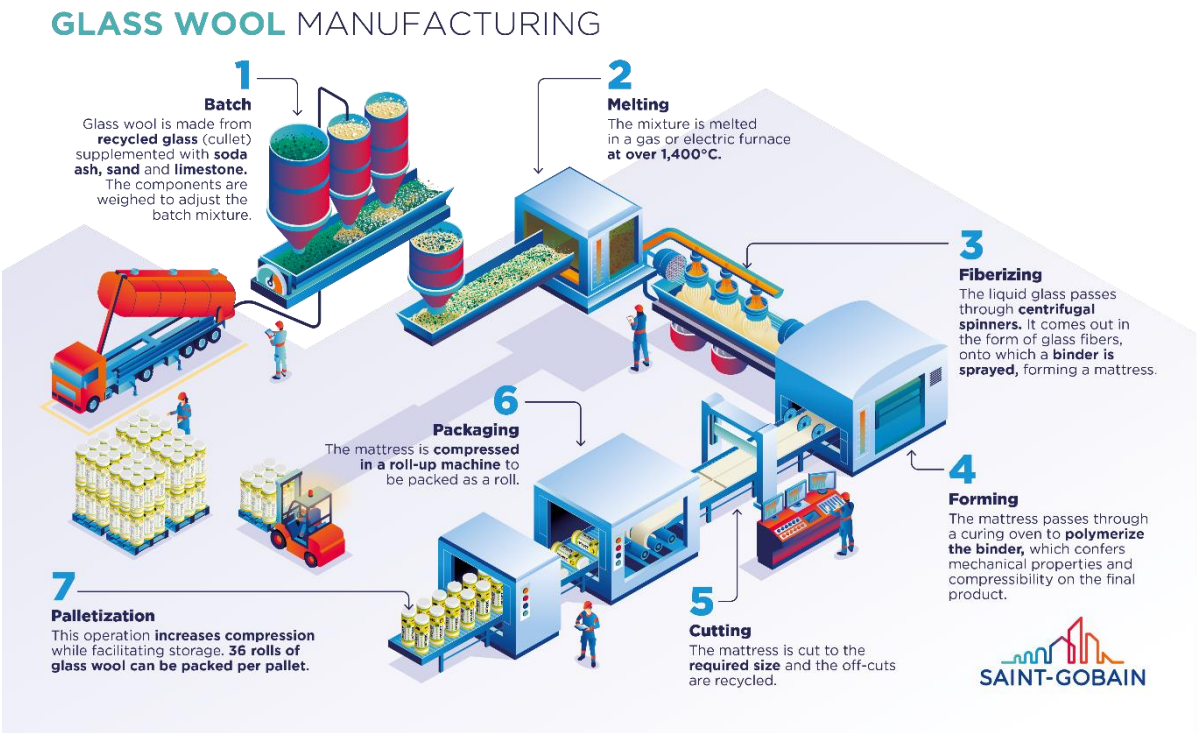
A2, Transport to the manufacturer
This module includes the transportation of raw materials and packaging to the manufacturing site. The modelling includes road, ship and/or train transportations.

A3, Manufacturing
This module includes the manufacture of products such as (fusion, fiberizing, etc) and the manufacture of packaging. The production of packaging material is considered at this stage. The processing of any waste arising from this stage is also included.

During the manufacturing process, electricity based on 100% renewable electricity bought with Guarantee of Origin (GO) has been used. The amount of electricity purchases with GO's correspond to 100% of the electricity consumed at the manufacturing site, leaving 0% to be covered by national grid mix.

Manufacturing process flow diagram

System diagram:



Manufacturing in detail:

Glass wool is made from high-temperature molten glass that is blown away using centrifugal force to form fine cotton-like fibers. Then, a binder is sprayed on the material to form it, and the product is heated in an oven. Hereafter, the product is cut to size and packed.

A4-A5, Construction process stage

The construction process is divided into 2 modules:

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 / Description
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 diesel per km. Real 10 t payload
Distance	157 km by truck
Capacity utilization (including empty returns)	100% of the capacity in volume 28% of the capacity in weight 30% of empty returns
Bulk density of transported products	63 kg/m^3

A5, Installation in the building: This module includes the installation of the product manually, no additional accessories nor energy are considered.

Parameter	Value / Description
Wastage of materials on the building site before waste processing, generated by the product's installation (specified by type)	2% for product 100% for packaging
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)	Product waste: 100 % to landfill Pallet & LDPE: 53% to recycling, 41% to landfill, 6% recovery to energy Other packaging: 100% to landfill
Use of pallet	Re-used 7 times before End-of-life
Distance to waste treatment facilities	50 km to landfill by truck 50 km to recycling by truck
Direct emissions to ambient air, soil, and water	None

The transport of waste is modelled as in C2.

B1-B7, Use stage (excluding potential savings)

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

This stage includes the following modules:

- **C1**: The de-construction and/or dismantling of the product takes part of the demolition of the entire building.
- **C2:** Transport to waste processing
- **C3:** Waste processing for reuse, recovery and/or recycling
- **C4:** Waste disposal, including physical pre-treatment and site management.

Description of the scenarios and additional technical information for the end of life:

Parameter	Value / Description
Energy for demolition	0,045 MJ/kg product of diesel
Collection process specified by type	The entire product 2,272 kg of glass wool including facing is 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	2,272 kg of product is landfilled
Assumptions for scenario development (e.g. transportation)	The waste going to landfill will be transported by truck with 24 t payload, consuming 0,38 liters diesel per km. Transport distance to landfill: 50 km

D, Reuse/recovery/recycling potential

100% of product waste is considered landfilled. Reuse, recycling, and/or incineration with energy recovery is considered for the packaging. Therefore, benefits or loads reported on stage D are due to the packaging.

LCA results

As specified in EN 15804:2012+A2:2019/AC:2021 and the Product Category Rules, the environmental impacts are declared and reported using the baseline characterization factors from the ILCD. Raw materials and energy consumption, as well as transport distances have been taken directly from the manufacturing plant. Characterization factors of EN15804 are based on EF 3.1.

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.

All emissions to air, water, and soil, and all materials and energy used have been included.

The results of the impact categories abiotic depletion of minerals and metals, land use, human toxicity (cancer), human toxicity, noncancer and ecotoxicity (freshwater) may be highly uncertain in LCAs that include capital goods/infrastructure in generic datasets, in case infrastructure/capital goods contribute greatly to the total results. This is because the LCI data of infrastructure/capital goods used to quantify these indicators in currently available generic datasets sometimes lack temporal, technological and geographical representativeness. Caution should be taken when using the results of these indicators for decision-making purposes.

Since this EPD includes module C, we strongly advise not to use the results of modules A1-A3 without considering the results of module C.

All results refer to a functional unit of 1 m^2 of glass wool with thermal resistance of 0,95 $K.m^2.W^{-1}$ for a thickness of 30 mm. To obtain results with different commercial thicknesses see Additional information section.

Environmental Impacts

Environmental indicators	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE LIFE CYCLE
	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 (total) [kg CO_2 eq.]	1,98E+00	4,77E-02	1,81E-01	0	0	0	0	0	0	0	1,02E-02	8,34E-03	0	3,23E-01	-1,51E-02
Climate Change (fossil) [kg CO_2 eq.]	2,09E+00	4,71E-02	7,33E-03	0	0	0	0	0	0	0	1,02E-02	8,24E-03	0	6,15E-02	-1,52E-02
Climate Change (biogenic) [kg CO_2 eq.]	-1,16E-01	1,24E-04	1,73E-01	0	0	0	0	0	0	0	1,28E-06	2,20E-05	0	2,62E-01	1,92E-04
Climate Change (land use change) [kg CO_2 eq.]	1,67E-03	4,42E-04	4,19E-06	0	0	0	0	0	0	0	1,14E-06	7,59E-05	0	1,07E-04	-6,18E-06
Ozone depletion [kg CFC-11 eq.]	3,98E-06	4,18E-15	8,49E-10	0	0	0	0	0	0	0	1,61E-10	1,07E-15	0	-8,63E-14	-9,01E-11
Acidification terrestrial and freshwater [Mole of H+ eq.]	1,17E-02	6,04E-05	1,48E-05	0	0	0	0	0	0	0	9,41E-05	1,04E-05	0	2,87E-04	-5,91E-05
Eutrophication freshwater [kg P eq.]	1,88E-04	1,74E-07	5,29E-07	0	0	0	0	0	0	0	3,11E-07	3,00E-08	0	8,40E-06	-2,49E-06
Eutrophication marine [kg N eq.]	2,59E-03	2,18E-05	1,26E-05	0	0	0	0	0	0	0	4,36E-05	3,65E-06	0	1,41E-04	-8,72E-06
Eutrophication terrestrial [Mole of N eq.]	2,61E-02	2,55E-04	4,65E-05	0	0	0	0	0	0	0	4,75E-04	4,28E-05	0	9,11E-04	-1,04E-04
Photochemical ozone formation - human health [kg NMVOC eq.]	7,29E-03	5,32E-05	1,61E-05	0	0	0	0	0	0	0	1,40E-04	9,15E-06	0	3,67E-04	-7,26E-05
Resource use, mineral and metals [kg Sb eq.][2]	8,45E-05	3,10E-09	2,94E-08	0	0	0	0	0	0	0	3,54E-09	5,43E-10	0	2,54E-10	-4,50E-08
Resource use, energy carriers [MJ][2]	3,73E+01	6,49E-01	5,06E-02	0	0	0	0	0	0	0	1,32E-01	1,12E-01	0	4,61E-01	-6,35E-01
Water deprivation potential [m^3 world equiv.][2]	8,10E-01	5,50E-04	1,26E-03	0	0	0	0	0	0	0	4,48E-04	9,90E-05	0	2,16E-03	-9,86E-03

[2] 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.

Resources Use

Resources Use indicators	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE LIFE CYCLE
	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] [3]	3,06E+01	4,59E-02	8,10E-03	0	0	0	0	0	0	0	7,57E-04	8,12E-03	0	-4,20E-02	-1,07E-02
Renewable primary energy resources used as raw materials (PERM) [MJ] [3]	1,87E+00	0	-1,60E+00	0	0	0	0	0	0	0	0	0	0	0	0
Total use of renewable primary energy resources (PERT) [MJ] [3]	3,25E+01	4,59E-02	-1,60E+00	0	0	0	0	0	0	0	7,57E-04	8,12E-03	0	-4,20E-02	-1,07E-02
Use of non-renewable primary energy (PENRE) [MJ] [3]	3,17E+01	6,50E-01	4,95E-02	0	0	0	0	0	0	0	1,32E-01	1,12E-01	0	4,61E-01	-6,35E-01
Non-renewable primary energy resources used as raw materials (PENRM) [MJ] [3]	5,57E+00	0	-4,11E-01	0	0	0	0	0	0	0	0	0	0	0	0
Total use of non-renewable primary energy resources (PENRT) [MJ] [3]	3,73E+01	6,50E-01	-3,61E-01	0	0	0	0	0	0	0	1,32E-01	1,12E-01	0	4,61E-01	-6,35E-01
Input of secondary material (SM) [kg]	1,54E+00	0	3,08E-04	0	0	0	0	0	0	0	0	0	0	0	0
Use of renewable secondary fuels (RSF) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Use of non-renewable secondary fuels (NRSF) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Use of net fresh water (FW) [m^3]	2,30E-02	5,06E-05	3,03E-05	0	0	0	0	0	0	0	1,04E-05	8,90E-06	0	3,13E-05	-2,30E-04

[3] From EPD International Construction Product PCR 1.3.2 (Annex 3). The option B was retained to calculate the primary energy use indicators.

Waste Category & Output flows

	Product stage	Construction stage		Use stage							End of life stage				Benefits and loads beyond the life cycle
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]	7,86E-04	2,41E-12	2,91E-07	0	0	0	0	0	0	0	8,95E-07	3,47E-13	0	4,96E-11	-8,69E-08
Non-hazardous waste disposed (NHWD) [kg]	7,58E-01	9,37E-05	1,95E-02	0	0	0	0	0	0	0	8,18E-04	1,71E-05	0	2,21E+00	-9,56E-04
Radioactive waste disposed (RWD) [kg]	4,34E-04	8,41E-07	1,60E-07	0	0	0	0	0	0	0	1,46E-08	2,10E-07	0	-2,71E-05	-3,15E-07
Components for re-use (CRU) [kg]	0	0	1,06E-01	0	0	0	0	0	0	0	0	0	0	0	0
Materials for Recycling (MFR) [kg]	1,55E-01	0	1,77E-02	0	0	0	0	0	0	0	0	0	0	0	0
Material for Energy Recovery (MER) [kg]	0	0	2,00E-03	0	0	0	0	0	0	0	0	0	0	0	0
Exported electrical energy (EEE) [MJ]	0	0	9,07E-03	0	0	0	0	0	0	0	0	0	0	0	0
Exported thermal energy (EET) [MJ]	0	0	1,62E-02	0	0	0	0	0	0	0	0	0	0	0	0

Supplementary indicator for climate impact (according to PCR)

Environmental indicators	Product stage	Construction stage		Use stage							End of life stage				Benefits and loads beyond the life cycle
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
GWP-GHG / GWP-IOBC [kg CO_2 eq.][4]	2,17E+00	4,77E-02	8,21E-03	0	0	0	0	0	0	0	1,02E-02	8,34E-03	0	3,39E-01	-1,50E-02

Information on biogenic carbon content

Biogenic Carbon Content	At factory gate A1 / A2 / A3
Biogenic carbon content in product [kg]	0
Biogenic carbon content in packaging [kg]	5,09E-02

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO_2.

The packaging contains biogenic carbon due to wooden pallet.

[4] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

Additional information

Conversion to mass and to specific thicknesses

This EPD® includes a range of thicknesses between 25 mm and 100 mm by applying a conversion factor. All the results of this EPD® refer to the reference thickness of 30 mm with a value of R = 0,95 $K.m^2.W^{-1}$.

In the table below the main thicknesses of the product are listed. To convert the results of indicators GWP-GHG, GWP-fossil and GWP-total of all modules to other thicknesses, the results expressed in this EPD must be multiplied by its corresponding conversion factor in the table below. Conversion factors of thicknesses not listed below can be calculated by interpolating using values of the table below.

Also, a conversion to mass (kg) is given to convert the results per 1 kg of product.

Product		Conversion factor GWP-GHG, GWP-fossil and GWP-total	Conversion to mass
GTIN	Thickness (mm)		
6416923071166 6416923071173	30	--	0,440
6416923071180 6416923071197	50	1,29	--
6416923071401	75	1,62	--
6416923071418	100	1,83	--
6416923071449 6416923049325	25 (EJ)	1,17	--
R=1*	31	1,03	--

*) For comparison purposes only, not a commercial thickness.

Electricity information

The electricity used during the manufacturing (A3) is based on the following:

Parameter	Value / Description
Location	Electricity purchased by Saint-Gobain Finland Oy
Share of electricity covered by Guarantee of Origin	100% of the electricity consumption is covered by the GO 0% of electricity consumption is covered by residual mix
Geographical representativeness description	Split of electricity bought with Guarantee of Origin: Hydro 100 %
Reference year	For GO: 2023 *The GO will be prolonged to be valid at least to the validity of this EPD.*
Type of dataset	Cradle to gate from Sphera and ecoinvent databases
Source	Guarantee of Origin: Sphera dataset (2023) and Entelios
CO_2 emission (kg CO_2 eq. / kWh) (Based on Climate Change Fossil Indicator)	Guarantee of Origin: 0,00617 kg of CO_2 eq /kWh

Transport to other countries

The transport to building site (module A4) in the main result is based on Finland. For transport to other countries per functional unit, additional sets of results are provided below, based on the following data:

Country	Truck (km)	Ship (km)
Estonia	168	90
Latvia	482	90
Lithuania	768	90

	ESTONIA	LATVIA	LITHUANIA
	A4 Transport	A4 Transport	A4 Transport
Environmental indicators			
Climate Change [kg CO2 eq.]	5,37E-02	1,49E-01	2,36E-01
Climate Change (fossil) [kg CO2 eq.]	5,31E-02	1,47E-01	2,33E-01
Climate Change (biogenic) [kg CO2 eq.]	1,35E-04	3,84E-04	6,11E-04
Climate Change (land use change) [kg CO2 eq.]	4,73E-04	1,36E-03	2,16E-03
Ozone depletion [kg CFC-11 eq.]	4,65E-15	1,30E-14	2,06E-14
Acidification terrestrial and freshwater [Mole of H+ eq.]	1,60E-04	2,81E-04	3,91E-04
Eutrophication freshwater [kg P eq.]	1,87E-07	5,35E-07	8,51E-07
Eutrophication marine [kg N eq.]	4,57E-05	8,93E-05	1,29E-04
Eutrophication terrestrial [Mole of N eq.]	5,18E-04	1,03E-03	1,49E-03
Photochemical ozone formation - human health [kg NMVOC eq.]	1,21E-04	2,27E-04	3,24E-04
Resource use, mineral and metals [kg Sb eq.]	3,34E-09	9,54E-09	1,52E-08
Resource use, energy carriers [MJ]	7,27E-01	2,02E+00	3,21E+00
Water deprivation potential [m³ world equiv.]	5,93E-04	1,69E-03	2,69E-03
Resource Use Indicators			
Use of renewable primary energy (PERE) [MJ]	4,93E-02	1,41E-01	2,25E-01
Primary energy resources used as raw materials (PERM) [MJ]	0	0	0
Total use of renewable primary energy resources (PERT) [MJ]	4,93E-02	1,41E-01	2,25E-01
Use of non-renewable primary energy (PENRE) [MJ]	7,29E-01	2,03E+00	3,21E+00
Non-renewable primary energy resources used as raw materials (PENRM) [MJ]	0	0	0
Total use of non-renewable primary energy resources (PENRT) [MJ]	7,29E-01	2,03E+00	3,21E+00
Input of secondary material (SM) [kg]	0	0	0
Use of renewable secondary fuels (RSF) [MJ]	0	0	0
Use of non-renewable secondary fuels (NRSF) [MJ]	0	0	0
Use of net fresh water (FW) [m3]	5,43E-05	1,55E-04	2,48E-04
Waste category & Output flows			
Hazardous waste disposed (HWD) [kg]	2,68E-12	7,49E-12	1,19E-11
Non-hazardous waste disposed (NHWD) [kg]	1,03E-04	2,91E-04	4,62E-04
Radioactive waste disposed (RWD) [kg]	9,39E-07	2,62E-06	4,15E-06
Components for re-use (CRU) [kg]	0	0	0
Materials for Recycling (MFR) [kg]	0	0	0
Material for Energy Recovery (MER) [kg]	0	0	0
Exported electrical energy (EEE) [MJ]	0	0	0
Exported thermal energy (EET) [MJ]	0	0	0
Supplementary climate indicator			
GWP-GHG / GWP-IOBC [kg CO2 eq.]	5,38E-02	1,49E-01	2,36E-01

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. EN 15804:2012+A2:2019/AC:2021 - Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
5. EN 16783:2017 Thermal insulation products - Product category rules (PCR) for factory made and in-situ formed products for preparing environmental product declarations, version 2024-04-30.
6. EPD International. General Program Instructions (GPI) for the International EPD® System (version 4.0) www.environdec.com.
7. The International EPD System PCR 2019:14 Construction products and Construction services. Version 1.3.2
8. European Chemical Agency, Candidate List of substances of very high concern for Authorization. https://echa.europa.eu/candidate-list-table
9. Project report for the verification of the Environmental Product Declaration of insulation products, Saint-Gobain Finland Oy, 2024. LCA report-Insulation_2024-06_v2_SGFinland.docx.