



ENVIRONMENTAL PRODUCT DECLARATION

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

TECH Slab 3.0 (32-150 mm)

Version 2

Version date: 2025/11/26

Validity: 5 years

Validity date: 2030/08/25

EPD of multiple products based on
representative product



INTERNATIONAL EPD SYSTEM

The International EPD® System,
www.environdec.com
Programme operator: EPD international AB
Registration number: EPD-IES-0024645-002



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www.environdec.com



Isover, Saint-Gobain

General information

Programme information

PROGRAMME:	The International EPD® System
ADDRESS:	EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden
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Information on Product Category Rules (PCR)

Product Category Rules (PCR)

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 2.0.1

Complementary PCR: c-PCR-005, version 1.0.0. Thermal insulation products (EN 16783:2024)

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

Chairs of the PCR review: Rob Rouwette (chair), Noa Meron (co-chair).

Verification

External and independent ('third-party') verification of the declaration and data, according to ISO 14025:2006, via EPD verification through:

- Individual EPD verification without a pre-verified LCA/EPD tool
- Individual EPD verification with a pre-verified LCA/EPD tool
- EPD process certification* without a pre-verified LCA/EPD tool
- EPD process certification* with a pre-verified LCA/EPD tool
- Fully pre-verified EPD tool

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

- EPD verification by individual verifier

Third party verifier: Anni Oviir, LCASupport - Rangi Maja OÜ

Approved by: The International EPD System

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

Ownership and limitation on use of EPD

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

EPDs within the same product category but published 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 first-digit 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 identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterization factors); and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Information about EPD owner

EPD owner: Saint-Gobain Finland Oy

Address: Strömberginkuja 2 (PO Box 70) 00380 Helsinki, Finland

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

Description of the organization: DS/EN ISO 9001, DS/EN ISO 14001

LCA Practitioner: Päivi Pesu (paivi.pesu@saint-gobain.com, Strömberginkuja 2 FI-00381 Helsinki

Communication: The intended use of this EPD is for B2B communication.

Product information

Product name: TECH Slab 3.0

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: 6416923097845, 6416923089901, 6416923096695

Manufacturing site: Isover Hyvinkää, Kerkkolankatu 37-39, FI-05800 Hyvinkää



Product description

TECH Slab 3.0 is an uncoated glass wool board. It is used for thermal insulation of building equipment and industrial installations such as tanks and ducts.

To calculate the impact of the range of commercial thicknesses between 32 mm and 150 mm, see the table "Conversion to specific thickness" in the additional information section.

The production site uses natural raw materials and fusion and fiberizing techniques to produce glass wool. The products are obtained in the form of a "glass wool mat" characterized by a soft and airy structure.

For more information: tekniset.isover.fi/Tuotteet/tech-slab-30

Technical data/physical characteristics:

TECHNICAL ASPECT	VALUE / DESCRIPTION
Thermal resistance	1,0 K.m ² .W ⁻¹ (UNE EN 12667)
Thermal conductivity	0,032 W/(m.K) (UNE EN 12667)
Reaction to fire	A1 (UNE EN 12667)
Density	31 kg/m ³

APPLICATION	VALUE / DESCRIPTION
Intended use and key functionalities	Thermal insulation of building equipment and industry
Expected influence on the operational aspects and impact of the building or other construction work	Reducing heat transmission between spaces
Restrictions to a type of construction or building	See Intended use
Lifespan	50 years

Note. Comma is used as decimal mark in this EPD.

Content declaration

This EPD uses the 32 mm (0,032 m) thickness as a reference. The content declaration is representative of this thickness and all thicknesses included: 80mm, 100mm and 150mm.

Description of the main components and/or materials:

Quantity for 1 functional unit		0,992 kg of finished product			
Product components	Mass (% of product)	Post-consumer recycled material (mass-% of product)	Pre-consumer recycled material (mass-% of product)	Biogenic material (mass-% of product)	Biogenic material (kg C/FU)
Mineral materials	20 - 30%	0%	0%	0%	0 kg
Recycled glass	71%	57%	14%	0%	0 kg
Additives	0- 2%	0%	0%	0%	0 kg
Binder	2 -10%	0%	0%	1%	0,003 kg
Sum	100%	57%	14%	1%	0,003 kg
Packaging materials	Mass (kg)	Mass-% (vs the product)	Post-consumer recycled material (mass-% of material)	Biogenic material, weight-kg C/FU	
LD Polyethylene	0,03 kg	3%	23%	0 kg	
Wooden pallet	0,06 kg	5,6%	0%	0,02 kg	
Other packaging	<0,001 kg	<0,01%	0%	0 kg	
Sum	0,09 kg	8,6%	--	0,02 kg	

The post-consumer recycled glass is the main input and is based on real data. It is considered to come without environmental burden. Post-consumer recycled glass' intensity is less than 10% of GWP-GHG in A1-A3.

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).

LCA Information

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 1,0 K.m ² .W ⁻¹ and a thickness of 32 mm for 50 years.
CONVERSION FACTOR TO MASS	1,01 (mass of FU 0,992 kg/m ²)
SYSTEM BOUNDARIES	Cradle to grave and module D
REFERENCE SERVICE LIFE (RSL)	The Reference Service Life (RSL) of the insulation product is 50 years, provided that the product is installed correctly into the building. This 50-year value is the amount of time that we recommend our products last without refurbishment and corresponds to standard building design life.
CUT-OFF RULES	<p>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 5% of the whole mass and energy used, as well as the emissions to the environment occurred.</p> <p>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.</p> <p>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.</p>
ALLOCATIONS	<p>Allocation of materials for recycling:</p> <ul style="list-style-type: none"> - Post-consumer: When a flow enters the manufacturing process (A1-A3), it is treated with waste allocation (as defined in EN15804+A2). All the steps after its “End of Waste” status are quantified. The incoming flow contributes to module D and Secondary Materials indicator. Post-consumer cullet end-of-waste state is considered to be reached after sorting at jobsite. All further transformation activities are included in the EPD. - Pre-consumer: When a flow enters the manufacturing process (A1-A3), it is considered as an incoming co-product that bears a fraction of the impact of the original manufacturing process where it was generated. The incoming flow does not contribute to module D nor Secondary Materials indicator. Pre-consumer cullet is considered a product with 0 impact following an economic allocation (the value of cullet is <1% of that of the glass).
DATA QUALITY ASSESSMENT	Data quality of primary and secondary data had been judged by its precision (measured, calculated, or estimated), completeness (e.g., unreported emissions), consistency (degree of uniformity of the methodology applied), and representativeness (geographical, technological, and temporal).
GEOGRAPHICAL COVERAGE AND TIME PERIOD	<p>Scope: Finland</p> <p>Data is collected from 1 production site Hyvinkää located in Finland</p> <p>Data collected for the year 2024</p>
BACKGROUND DATA SOURCE	Databases Sphera CUP2024.2 and ecoinvent v.3.10
SOFTWARE	GWP100, EN 15804. Version: EF 3.1, February, 2023
	Sphera LCA for experts (GaBi) 10

Data quality declaration

PROCESS	SOURCE TYPE	SOURCE	REFERENCE YEAR	DATA CATEGORY	SHARE OF PRIMARY DATA OF GWP-GHG RESULTS FOR A1-A3
Plant data					
Generation of electricity used	Database	Sphera 2024.2/ecoinvent 3.10	<5 years old	Primary data	1%
Emissions Specific	Collected data	EPD Owner	<5 years old	Primary data	0%
Thermal energy used	Database	Sphera 2024.2/ecoinvent 3.10	<5 years old	Primary data	42%
Raw materials					
Production of RM and packaging	Database	Sphera 2024.2	<5 years old	Secondary data	0%
Transport of RM and packaging	Database	Sphera 2024.2	<5 years old	Secondary data	0%
Other					
Other processes	Database	Sphera 2024.2/ecoinvent 3.10	<5 years old	Secondary data	0%
Total share of primary data					43%

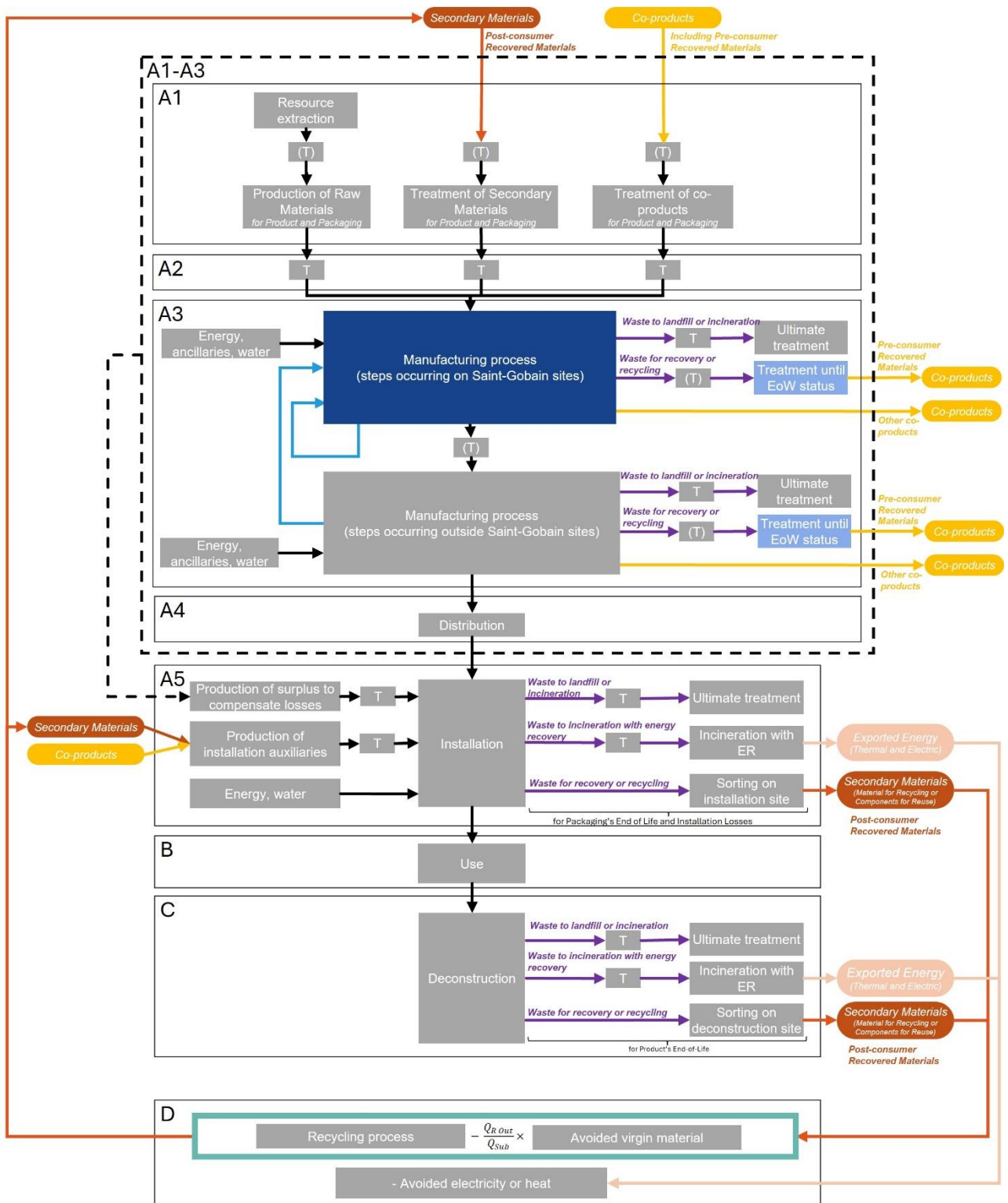
The share of primary data is calculated based on the GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data, to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories.

Description of system boundaries

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

	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	X
Geography	GLO	GLO	FI	FI	FI	-	-	-	-	-	-	-	FI	FI	FI	FI	FI	

System flow diagram



caption

Type of flows		Location of life Cycle Step	
	Internal recycling (not leaving the system)		Saint-Gobain site
	Recovered Material (recycled or reused). Treated with waste allocation(*)		Saint-Gobain site or External
	Exported Energy		External/Other
	Co-product. Treated with co-product allocation(*)		T Transport
	Waste (*)		
	Other		

(*)As defined by EN15804+A2

Life cycle stages

A1-A3. Product 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”.

A1. Raw materials supply

This module includes the extraction and transformation of raw materials.

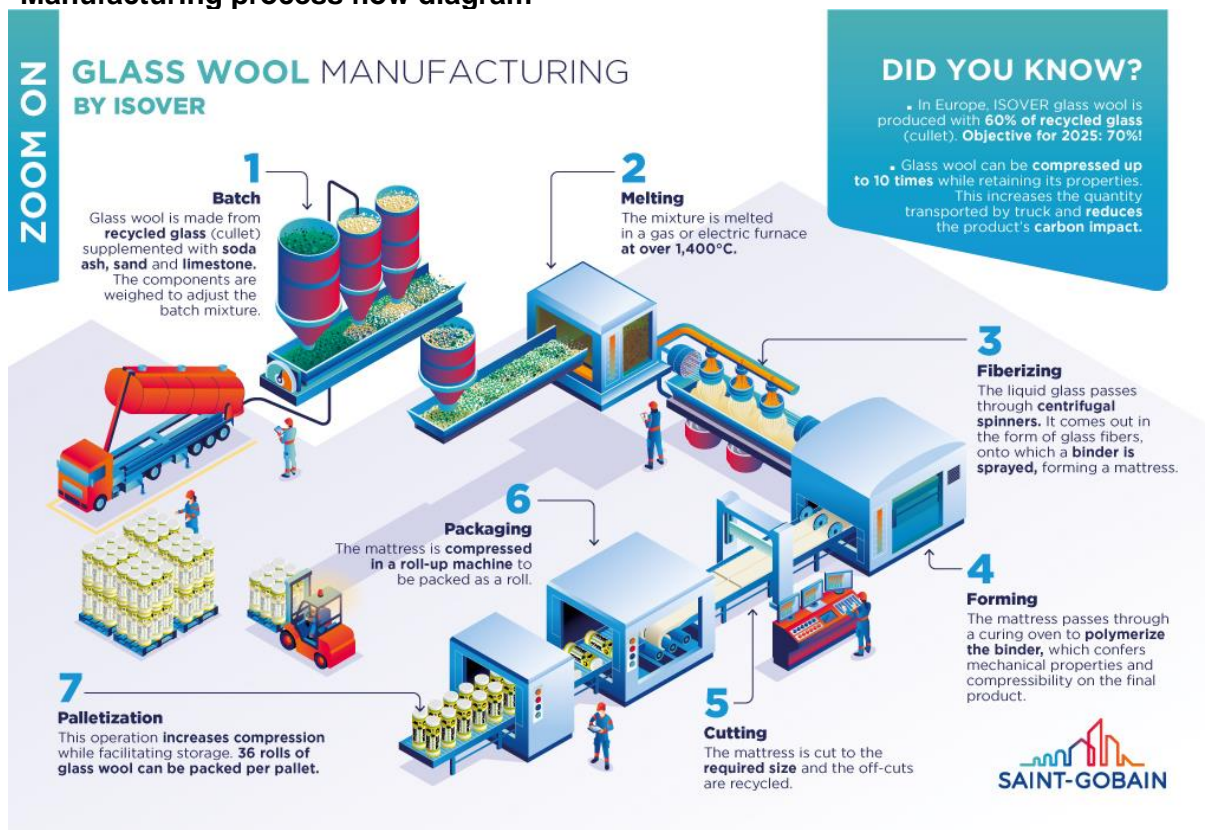
A2. Transport to the manufacturer

This module includes the transportation of raw materials and packaging to the manufacturing site. The modelling includes road, boat, and/or train transportation.

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.

Manufacturing process flow diagram



Mineral 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, and A5, Installation in the building.

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, real load 8 t, and consumption of 0,38 liters per km
Distance	209 km by truck
Capacity utilization (including empty returns)	100% of the capacity in volume 23% of the capacity in weight 30% of empty returns

A5. Installation in the building

This module includes: the installation of the product, the surplus of raw materials and packaging (cradle to gate) to compensate for the loss of product during the installation, the transport and management of packaging and product waste.

Assumption:

- A loss of 2% of the product is considered during the installation
- The wooden pallet is reused 1 time before end-of-life
- The transport of product waste is modelled as in C2-C4.
- No additional accessory, water, or energy was considered for the installation of the insulation product.

PARAMETER	VALUE / DESCRIPTION
Waste of materials on the building site before waste processing, generated by the product's installation (specified by type)	Product: 0,02 kg/FU Pallet: 0,06 kg/FU LDPE film: 0,03 kg/FU Other packaging: <0,001 kg/FU
Transport of packaging waste	Landfill: 50 km Recovery: 50 km
Output materials (specified by type) as results of waste processing at the building site, e.g., of collection for recycling, for energy recovery, disposal (specified by route)	Product losses: 0,02 kg/FU to landfill (100%) Pallet: 0,06 kg/FU to recycling (53%) and incineration with energy recovery (47%) LDPE film: 0,03 kg/FU to recycling (53%), to energy recovery (6%) and to landfill (41%)
Direct emissions to ambient air, soil, and water	None

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 50 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: Deconstruction, demolition.** The deconstruction and/or dismantling of the product takes part of the demolition of the entire building. In our case, the energy considered for demolition is 0,045 MJ/kg.
- **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 diesel
Collection process specified by type	The entire product is collected with mixed construction waste. 0,992 kg of product for landfilling
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	0,992 kg of product are landfilled
Assumptions for scenario development (e.g., transportation)	The waste going to landfill is transported 50 km by truck from deconstruction/demolition sites to landfill

The scenarios assumed reflect a possible and realistic end-of-life treatment in the market.

D. Reuse/recovery/recycling potential

In module D, it's declared the environmental benefits and loads from reusable products, recyclable materials, or energy recovery. Module D considers:

- Inputs of secondary raw materials: recycled raw materials for product and packaging (pre- and post-consumer)
- Outputs of secondary materials: product and/or packaging sent to recycling,
- Exported energy (electric or thermal): product and/or packaging sent to incineration with energy recovery.

Environmental performance

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 based on EF 3.1. Raw materials and energy consumption, as well as transport distances have been taken directly from the manufacturing plant.

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins and/or risks.

The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

Disclaimer 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 following indicators:

- Resource use, mineral and metals [kg Sb eq.]
- Resource use, energy carriers [MJ]
- Water deprivation potential [m³ world equiv.]








Disclaimer 2: The assumptions for the modules are in accordance with the project report (LCA study).

The following non-mandatory additional environmental indicators are not declared:

- Ecotoxicity freshwater [CTUe]
- Particulate Matter emissions [Disease incidence]
- Cancer human health effects [CTUh]
- Ionizing radiation - human health [kBq U235 eq.]
- Non-cancer human health effects [CTUh]
- Land Use [Pt].











Results refer to a functional unit of 1 m² of mineral wool with thermal resistance of 1,0 m².K.W⁻¹ for a thickness of 32 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 [kg CO2 eq.]	8,05E-01	3,82E-02	1,15E-01	0	0	0	0	0	0	0	4,47E-03	7,94E-03	0	2,74E-02	3,41E-01
	Climate Change (fossil) [kg CO2 eq.]	8,86E-01	3,75E-02	3,17E-02	0	0	0	0	0	0	0	4,47E-03	7,79E-03	0	1,48E-02	3,43E-01
	Climate Change (biogenic) [kg CO2 eq.]	-8,39E-02	1,03E-04	8,32E-02	0	0	0	0	0	0	0	3,61E-07	2,19E-05	0	1,25E-02	-2,55E-03
	Climate Change (land use change) [kg CO2 eq.]	1,84E-03	6,18E-04	5,76E-05	0	0	0	0	0	0	0	3,88E-07	1,27E-04	0	8,91E-05	1,17E-03
	Ozone depletion [kg CFC-11 eq.]	7,85E-07	3,71E-15	1,58E-08	0	0	0	0	0	0	0	6,84E-11	1,12E-15	0	4,00E-14	3,99E-09
	Acidification terrestrial and freshwater [Mole of H+ eq.]	2,76E-03	4,69E-05	8,75E-05	0	0	0	0	0	0	0	4,04E-05	1,02E-05	0	1,05E-04	2,18E-03
	Eutrophication freshwater [kg P eq.]	1,50E-05	1,57E-07	4,45E-07	0	0	0	0	0	0	0	1,57E-08	3,24E-08	0	3,37E-08	8,47E-06
	Eutrophication marine [kg N eq.]	7,85E-04	1,64E-05	2,53E-05	0	0	0	0	0	0	0	1,87E-05	3,67E-06	0	2,71E-05	5,65E-04
	Eutrophication terrestrial [Mole of N eq.]	6,90E-03	1,98E-04	2,49E-04	0	0	0	0	0	0	0	2,05E-04	4,37E-05	0	2,99E-04	6,19E-03
	Photochemical ozone formation - human health [kg NMVOC eq.]	2,54E-03	4,38E-05	8,61E-05	0	0	0	0	0	0	0	6,11E-05	1,01E-05	0	8,31E-05	1,35E-03
	Resource use, mineral and metals [kg Sb eq.] ¹	4,44E-05	3,13E-09	9,16E-07	0	0	0	0	0	0	0	1,60E-09	6,61E-10	0	9,62E-10	9,22E-05
	Resource use, energy carriers [MJ] ¹	3,76E+01	4,80E-01	8,58E-01	0	0	0	0	0	0	0	5,80E-02	9,99E-02	0	1,96E-01	4,21E+00
	Water deprivation potential [m³ world equiv.] ¹	4,84E-01	5,48E-04	1,64E-02	0	0	0	0	0	0	0	1,80E-04	1,17E-04	0	1,70E-03	7,41E-02









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

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] ²	9,45E-01	4,06E-02	2,80E-02	0	0	0	0	0	0	0	3,60E-04	8,60E-03	0	3,42E-02	3,46E-01
 Primary energy resources used as raw materials (PERM) [MJ] ²	9,91E-01	0	-5,95E-01	0	0	0	0	0	0	0	0	0	0	0	0
 Total use of renewable primary energy resources (PERT) [MJ] ²	1,93E+00	4,06E-02	-5,67E-01	0	0	0	0	0	0	0	3,60E-04	8,60E-03	0	3,42E-02	3,46E-01
 Use of non-renewable primary energy (PENRE) [MJ] ²	3,55E+01	4,80E-01	8,17E-01	0	0	0	0	0	0	0	5,80E-02	9,99E-02	0	1,96E-01	4,38E+00
 Non-renewable primary energy resources used as raw materials (PENRM) [MJ] ²	2,43E+00	0	-6,88E-01	0	0	0	0	0	0	0	0	0	0	0	0
 Total use of non-renewable primary energy resources (PENRT) [MJ] ²	3,80E+01	4,80E-01	1,29E-01	0	0	0	0	0	0	0	5,80E-02	9,99E-02	0	1,96E-01	4,38E+00
 Use of secondary material (SM) [kg]	7,00E-01	0	1,40E-02	0	0	0	0	0	0	0	0	0	0	0	0
 Use of renewable secondary fuels (RSF) [MJ]	2,11E-29	0	4,22E-31	0	0	0	0	0	0	0	0	0	0	0	4,70E-29
 Use of non-renewable secondary fuels (NRSF) [MJ]	2,48E-28	0	4,95E-30	0	0	0	0	0	0	0	0	0	0	0	5,52E-28
 Use of net fresh water (FW) [m3]	1,15E-02	4,56E-05	3,88E-04	0	0	0	0	0	0	0	4,18E-06	9,59E-06	0	5,19E-05	1,98E-03

² From EPD International Construction Product PCR 2.0 (Annex 3). Option B was retained to calculate the primary energy use indicators.



Waste Category & Output flows

Waste Category & Output Flows	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
 Hazardous waste disposed (HWD) [kg]	1,62E-02	1,55E-11	6,48E-04	0	0	0	0	0	0	0	5,07E-05	3,83E-12	0	4,87E-11	3,04E-03
 Non-hazardous waste disposed (NHWD) [kg]	4,29E-01	7,47E-05	5,20E-02	0	0	0	0	0	0	0	3,91E-04	1,63E-05	0	9,93E-01	2,23E-01
 Radioactive waste disposed (RWD) [kg]	7,63E-03	6,20E-07	1,53E-04	0	0	0	0	0	0	0	6,43E-09	1,82E-07	0	2,05E-06	1,46E-05
 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]	0	0	4,60E-02	0	0	0	0	0	0	0	0	0	0	0	0
 Material for Energy Recovery (MER) [kg]	0	0	2,82E-02	0	0	0	0	0	0	0	0	0	0	0	0
 Exported electrical energy (EEE) [MJ]	0	0	7,19E-02	0	0	0	0	0	0	0	0	0	0	0	0
 Exported thermal energy (EET) [MJ]	0	0	1,29E-01	0	0	0	0	0	0	0	0	0	0	0	0

Additional voluntary indicators from EN 15804

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 [kg CO2 eq.] ³	8,85E-01	3,79E-02	3,18E-02	0	0	0	0	0	0	0	4,44E-03	7,88E-03	0	1,49E-02	3,39E-01

Information on biogenic carbon content

Biogenic Carbon Content		PRODUCT STAGE
		A1 / A2 / A3
	Biogenic carbon content in product [kg]	3,35E-03
	Biogenic carbon content in packaging [kg]	2,26E-02

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

The product contains biogenic carbon due to the raw materials used. Regarding packaging, biogenic carbon is quantified due to wooden pallets production.

³ This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product and in the packaging. As such, the indicator is identical to GWP-total except that the CF for biogenic CO2 is set to zero.

Declaration of variation

Variation between products

According to PCR 2.0.1, since this EPD covers multiple sizes of the product, the variation of impact between products shall be declared for GWP-GHG and other indicators when the variation exceeds 10%.

The following table provides this variation of impact between

- reference and the maximum (as the reference is also the minimum).

INDICATOR	MODULES A1-A3	MODULES A-C
GWP-GHG	1%	1%
Materials for Recycling (MFR) [kg]	--	12%
Material for Energy Recovery (MER) [kg]	--	11%
Exported electrical energy (EEE) [MJ]	--	11%
Exported thermal energy (EET) [MJ]	--	11%

The variation is due to packaging.

Additional environmental information

Conversion to specific thicknesses

This EPD[®] includes the range of products with different thicknesses between 32 mm and 150 mm. A multiplication factor can be applied to obtain the environmental performance of every thickness. All the results of this EPD[®] refer to the reference thickness of 32 mm with a value of $R = 1,0 \text{ m}^2 \cdot \text{K/W}$.

To obtain the environmental performance associated with every specific thickness, the results of all indicators and all modules expressed in this EPD[®] must be multiplied by its corresponding multiplication factor. The calculation of the conversion factor is based on the ratio between thicknesses as they scale linearly.

GTIN	THICKNESS (MM)	CONVERSION FACTOR
R = 1	32	--
6416923097845	80	2,50
6416923089901	100	3,13
6416923096695	150	4,69

Electricity information

The Hyvinkää factory based in Finland uses electricity with Guarantee of Origin certificate (GO). Hence, the electricity mix considered for the manufacturing of the studied product is modelled according to the electricity mix described in the Guarantee of Origin certificate. The amount of electricity purchased with GO covers 100% of the electricity consumption on the manufacturing site.

TYPE OF INFORMATION	DESCRIPTION
Location	Representative of the Guarantee of Origin purchased by Saint-Gobain
Share of electricity covered by the Guarantee of Origin	100% of the energy consumption is covered by the GO
Energy sources for electricity	Share of energy sources: Nuclear 100%
	2% transmission losses
Dataset version	Sphera CUP2024.2
Source	Guarantee of Origin certificate: Entelios
GWP-GHG CO ₂ eq.	0,0046 kg of CO ₂ eq./kWh

An EPD is valid for 5 years. Therefore, the GO will be prolonged continuously to be valid for the whole validity of the EPD. If not prolonged, the EPD will be updated.

Other additional environmental information

The product has indoor air classification M1 (doc 3831 valid until 13.01.2028).

Additional social and economic information

No additional information displayed.

Version history

Version 1, 2025/08/25. Original version of the EPD.

Version 2, 2025/11/26. Editorial change: Correction of conversion factors in table under Conversion to specific thicknesses.

Abbreviation

DU	Declared unit
EPD	Environmental Product Declaration
eq.	equivalents
FU	Functional unit
g	gram
GJ	Giga Joules (as Net Calorific Value)
kg	kilogram
kWh	kilowatt-hour
L	liter
LCA	Life Cycle Assessment
LCI	Life Cycle Inventory Analysis
LCIA	Life Cycle Impact Assessment
MJ	Mega Joules (as Net Calorific Value)
m ² .K/W	kilowatt per square meter
PCR	Product Category Rules
RSL	Reference Service Life (in years)
ton	metric ton
W/(m.K)	Watts per meter-Kelvin
GWP	Global warming potential
GHG	Greenhouse gas
GO	Guaranty of origin
AIB	Association of issuing bodies
IOBC	Instantaneous Oxidation of Biogenic Carbon
EF	Environmental footprint

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.
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4. EN 15804:2012+A2:2019/AC:2021 - Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.
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6. EPD International. General Program Instructions (GPI) for the International EPD® System (version 5.0.1) <http://www.environdec.com/>.
7. European Chemical Agency, Candidate List of substances of very high concern for Authorization. <https://echa.europa.eu/candidate-list-table>.
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9. The International EPD System PCR 2019:14 Construction products and Construction services. Version 2.0.1.
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11. LCA Report: Project report for the verification of the Environmental Product Declaration of insulation products, Saint-Gobain Finland Oy, 2025, version 2. 2025.1 insulation_LCA report Hyvinkää 2024.docx