ENVIRONMENTAL PRODUCT DECLARATION

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

ISOVER ACOUSTIC Roll Carbon Low

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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 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

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 1.3.3

Complementary PCR: c-PCR-005 Thermal Insulation Products (EN 16783:2017), ver. 2021-11-08

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 ACOUSTIC Roll Carbon Low. ISOVER ACOUSTIC Roll Carbon Low is an uncoated glass wool insulation product made of inorganic and chemically neutral material that does not contain corrosion-causing ingredients. In the manufacturing of ISOVER ACOUSTIC Roll Carbon Low very low amount of fossil fuels are used: locally produced biogas, and certified renewable electricity (with Guarantee of Origin) cover 99% of energy used (MJ/kg). ISOVER ACOUSTIC Roll Carbon Low is mainly used as sound insulation in partition walls and suspended ceiling structures as well as indoor thermal insulation.

The production site of Saint-Gobain Isover in Forssa uses natural raw materials, 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 construction.

Technical data/physical characteristics (for a thickness of 36 mm):
Thermal resistance of the Product: 1,0 $K.m^2.W^{-1}$
The thermal conductivity of the mineral wool is: 0,036 W/(m·K)
Acoustic absorption index: 0,85 (50 mm) - 1,00 (66-100 mm)
Reaction to fire: A1
Density: 15 kg/m^3

UN CPC CODE**:** 37990 (Non-metallic mineral products n.e.c.)
Main GTIN: 6438127039704

More information in: www.isover.fi

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	540 g of finished product
Thickness	36 mm
Facing	none
Product used for the Installation	none

Content declaration:

Product components	Weight range (%)	Post-consumer recycled material (% of FU)	Pre-consumer recycled material (% of FU)	Biogenic material (% and kg C / FU)
Acoustic Roll CL	**100**			
Mineral materials	10 – 20	0	0	0 / 0
Recycled glass	76	76	0	0 / 0
Binder	2 - 10	0	0	0,07 / 0,0004
Additives	0 - 1	0	0	0 / 0
Packaging materials	**Weight (kg) (per FU)**	**Weight (%) (versus FU)**	**Post-consumer recycled material (% of component)**	**Biogenic material (kg C / FU)**
Wooden pallet	0,035	6,5	0	0,014
Stretch film	0,002	0,3	0	0
Polyethylene	0,007	1,3	30	0
Others	<0,0001	<0,01	0	0

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 m^2 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 (same as the construction part it is installed in)
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 Forssa plant located in Finland Data is collected for the full year of 2023, except average gas use in manufacturing process, which are collected from several carbon low production runs conducted during 2023.
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**				**RESOURCE RECOVERY STAGE**
	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	FI	Nordics	-	-	-	-	-	-	-	RER	RER	RER	RER	RER
Share of specific data	> 19% GWP-GHG																
Variation - products	0%																
Variation - sites	0%																

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.

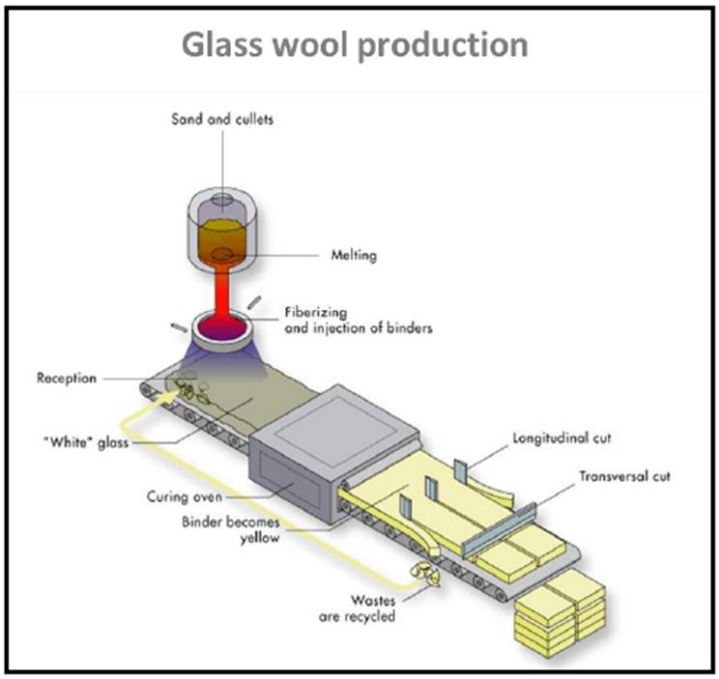
Specifically, the raw material supply covers production of binder components and sourcing (quarry) of raw materials for fiber production, e.g. borax for glass wool. Besides these raw materials, recycled materials are also used as input.

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 diagram**:**



A4-A5, Construction process stage

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

A4, Transport to the construction site: This module includes transport from the production gate to the construction 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	157 km
Capacity utilisation (including empty returns)	100% of the capacity in volume 33% of the capacity in weight 30% of empty returns
Bulk density of transported products*	62 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 construction site.

PARAMETER	VALUE/DESCRIPTION
Wastage of materials on the construction 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 construction site e.g. of collection for recycling, for energy recovering, disposal (specified by route)	Pallet: 0,035 kg recycled LDPE: 0,009 kg landfilled Others: <0,001 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 construction. In our case, the environmental impact is assumed to be less 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 construction 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. 0,540 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. 0,540 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. Characterization 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 36 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.]	2,32E-01	5,02E-03	5,99E-02	0	0	0	0	0	0	0	0	8,35E-04	0	1,00E-02	0
Climate Change (fossil) [kg CO2 eq.]	2,48E-01	4,90E-03	6,55E-03	0	0	0	0	0	0	0	0	8,14E-04	0	8,56E-03	0
Climate Change (biogenic) [kg CO2 eq.]	-1,57E-02	1,23E-04	5,34E-02	0	0	0	0	0	0	0	0	2,05E-05	0	1,46E-03	0
Climate Change (land use change) [kg CO2 eq.]	1,87E-04	2,87E-07	4,29E-06	0	0	0	0	0	0	0	0	4,76E-08	0	2,46E-05	0
Ozone depletion [kg CFC-11 eq.]	3,48E-07	7,24E-19	6,99E-09	0	0	0	0	0	0	0	0	1,20E-19	0	3,17E-17	0
Acidification terrestrial and freshwater [Mole of H+ eq.]	2,61E-03	2,87E-05	5,52E-05	0	0	0	0	0	0	0	0	4,81E-06	0	6,14E-05	0
Eutrophication freshwater [kg P eq.]	4,33E-05	9,43E-10	8,82E-07	0	0	0	0	0	0	0	0	1,57E-10	0	1,47E-08	0
Eutrophication marine [kg N eq.]	8,17E-04	1,42E-05	2,12E-05	0	0	0	0	0	0	0	0	2,38E-06	0	1,58E-05	0
Eutrophication terrestrial [Mole of N eq.]	1,03E-02	1,56E-04	2,17E-04	0	0	0	0	0	0	0	0	2,61E-05	0	1,74E-04	0
Photochemical ozone formation - human health [kg NMVOC eq.]	2,24E-03	2,66E-05	4,78E-05	0	0	0	0	0	0	0	0	4,46E-06	0	4,79E-05	0
Resource use, mineral and metals [kg Sb eq.][1]	2,77E-06	5,88E-11	5,63E-08	0	0	0	0	0	0	0	0	9,76E-12	0	7,69E-10	0
Resource use, energy carriers [MJ][1]	4,14E+00	6,76E-02	8,97E-02	0	0	0	0	0	0	0	0	1,12E-02	0	1,12E-01	0
Water deprivation potential [m³ world equiv.][1]	1,48E-01	4,78E-06	3,06E-03	0	0	0	0	0	0	0	0	7,94E-07	0	8,97E-04	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]	3,08E+00	1,64E-03	6,20E-02	0	0	0	0	0	0	0	0	2,73E-04	0	1,47E-02	0
Primary energy resources used as raw materials (PERM) [MJ]	6,34E-01	0	-6,34E-01	0	0	0	0	0	0	0	0	0	0	0	0
Total use of renewable primary energy resources (PERT) [MJ]	3,72E+00	1,64E-03	-5,72E-01	0	0	0	0	0	0	0	0	2,73E-04	0	1,47E-02	0
Use of non-renewable primary energy (PENRE) [MJ]	3,42E+00	6,78E-02	7,53E-02	0	0	0	0	0	0	0	0	1,13E-02	0	1,12E-01	0
Non-renewable primary energy resources used as raw materials (PENRM) [MJ][2]	7,17E-01	0	1,43E-02	0	0	0	0	0	0	0	0	0	0	0	0
Total use of non-renewable primary energy resources (PENRT) [MJ]	4,14E+00	6,78E-02	8,97E-02	0	0	0	0	0	0	0	0	1,13E-02	0	1,12E-01	0
Input of secondary material (SM) [kg]	4,59E-01	0	9,19E-03	0	0	0	0	0	0	0	0	0	0	0	0
Use of renewable secondary fuels (RSF) [MJ]	2,91E-25	0	5,82E-27	0	0	0	0	0	0	0	0	0	0	0	0
Use of non-renewable secondary fuels (NRSF) [MJ]	3,42E-24	0	6,84E-26	0	0	0	0	0	0	0	0	0	0	0	0
Use of net fresh water (FW) [m3]	3,51E-03	2,98E-07	7,30E-05	0	0	0	0	0	0	0	0	4,95E-08	0	2,83E-05	0

[2] Energy stored in the product is not balanced out when the product is landfilled 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]	1,99E-09	4,37E-12	7,55E-11	0	0	0	0	0	0	0	0	7,26E-13	0	1,71E-09	0
Non-hazardous waste disposed (NHWD) [kg]	2,92E-03	1,37E-06	1,17E-02	0	0	0	0	0	0	0	0	2,28E-07	0	6,00E-01	0
Radioactive waste disposed (RWD) [kg]	2,08E-05	7,69E-08	4,47E-07	0	0	0	0	0	0	0	0	1,28E-08	0	1,28E-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]	8,88E-02	0	3,70E-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

Information on biogenic carbon content

Biogenic Carbon Content	AT FACTORY GATE A1 - A3
Biogenic carbon content in product [kg]	3,98E-04
Biogenic carbon content in packaging [kg]	1,47E-02

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

The biogenic carbon content in the results of the product is based on generic datasets used in the LCA, and it mainly comes from the binder and additives. The biogenic carbon content in the packaging mainly comes from the wooden pallet.

Supplementary indicator for climate impact (according to PCR)

	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]	2,48E-01	4,90E-03	6,50E-03	0	0	0	0	0	0	0	0	8,15E-04	0	8,58E-03	0

[3] The indicator is based on EF 3.0 and includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake, 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.

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	2023 Guarantee of Origin certificates (GOs) 2023-2024
Type of dataset	Cradle to gate
Source	ecoinvent 3.6
CO_2 emission kg CO_2 eq. / kWh	0,0045

Conversion to mass and to specific thicknesses

This EPD® includes the range of thicknesses between 36 mm and 100 mm by applying a conversion factor. All the results of this EPD refer to the reference thickness of 36 mm (value of R=1,0 m^2*K/W).

In the table below the main thicknesses of the product are listed. To convert the results of all indicators of all modules to other thicknesses, the results expressed in this EPD® must be multiplied by its corresponding conversion factor in below table. Conversion factors of thicknesses not listed below can be calculated as product thickness (mm) / 36 (mm) as they scale linearly.

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

PRODUCT			CONVERSION FACTOR	CONVERSION TO MASS
Thickness (mm)	Acoustic absorption index	Thermal insulation (m^2K/W)	all indicators	
36	--	1,00	--	1,85
50	0,85	1,39	1,39	--
66	1,00	1,83	1,83	--
75	1,00	2,08	2,08	--
95	1,00	2,64	2,64	--
100	1,00	2,78	2,78	--

Influence of transportation to other counties

The results of stage A4 (transportation of product) in the table of this EPD refer to transportation in Finland. This product might also be delivered to the countries in the table below. In order to adapt the impact of transportation in the A4 module, the indicator GWP-GHG and GWP-fossil in A4 expressed in this EPD® must be multiplied by a corresponding multiplication factor below.

DESTINATION	AVERAGE DISTANCE (KM)	MULTIPLICATION FACTOR – GWP-GHG
Finland	157 (Road)	--
Estonia	180 (Road), 90 (Sea)	1,29
Latvia	428 (Road), 90 (Sea)	2,88
Lithuania	772 (Road), 90 (Sea)	5,06

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

Environmental impacts according to EN 15804:2012 + A1

The following tables presents results of ISOVER Acoustic Roll Carbon Low according to EN 15804+A1.

	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING
Environmental impacts	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]	2,49E-01	4,84E-03	6,29E-03	0	0	0	0	0	0	0	0	8,05E-04	0	8,40E-03	0
Ozone depletion (ODP) [kg CFC 11eq.]	4,58E-07	9,65E-19	9,17E-09	0	0	0	0	0	0	0	0	1,60E-19	0	4,23E-17	0
Acidification potential (AP) [kg SO2eq.]	1,88E-03	1,96E-05	3,99E-05	0	0	0	0	0	0	0	0	3,29E-06	0	4,93E-05	0
Eutrophication potential (EP) [kg (PO4)3-eq.]	7,62E-04	4,85E-06	1,59E-05	0	0	0	0	0	0	0	0	8,15E-07	0	5,55E-06	0
Photochemical ozone creation (POCP) - [kg Ethylene eq.]	1,28E-04	5,94E-07	2,88E-06	0	0	0	0	0	0	0	0	9,97E-08	0	3,97E-06	0
Abiotic depletion potential for non-fossil resources (ADP-elements) [kg Sb eq.]	3,24E-05	6,13E-11	6,50E-07	0	0	0	0	0	0	0	0	1,02E-11	0	2,96E-09	0
Abiotic depletion potential for fossil resources (ADP-fossil fuels) [MJ]	3,83E+00	6,77E-02	8,34E-02	0	0	0	0	0	0	0	0	1,12E-02	0	1,09E-01	0

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

Differences versus previous versions

Version 2: Update of thermal conductivity, thickness and weight of the product of which results are declared. Results, content declaration and conversion factors updated accordingly.

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 1.3.3, 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 2021-11-08.
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, “20240319_LCA REPORT_EN15804+A2 SGF Insulation PCR 1.3.3 v4”, May 2024.