ENVIRONMENTAL PRODUCT DECLARATION

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

Rigips Glasroc F (Ridurit) 25

Version 1
Version date: 2026/07/31
Validity: 5 years
Validity date: 2031/07/30

EPD of a single product from a manufacturer

The International EPD® System
Programme operator: EPD international AB
Registration number: **EPD-IES-0032489**

An EPD may be updated or depublished if conditions change. To be find the lates version of the EPD and to confirm its validity, see www.environdec.com

EPD Owner: Saint-Gobain Rigips GmbH

General information

Programme information

PROGRAMME:	The International EPD® System
ADRESS:	EPD International AB - Box 210 60 - SE-100 31 Stockholm - Sweden
WEBSITE:	www.environdec.com
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PCR information

Product Category rules (PCR)

CEN standard EN 15804:2012+A2:2019/AC:2021 as the Core Product Category Rules (PCR)

Product category rules (PCR): PCR 2019:14 Construction Products, version 2.0.1
Complementary PCR: (c-PCR-031), 2024-08-06. c-PCR Gypsum-based construction products

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: Dr. Andrew Norton, a.norton@renuables.co.uk
Approved by: The International EPD© System

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

Ownership and limitations 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.

Information about EPD owner

Address and contact information of the EPD owner:
Saint-Gobain Rigips GmbH, Willstätterstraße 60, 40549 Düsseldorf
Description of the organization of the EPD owner: Saint-Gobain designs, manufactures and distributes materials and services for the construction and industrial markets.
Its integrated solutions for new constructions or the renovation of public and private buildings, light construction and the decarbonization of construction and industry are developed through a continuous innovation process and provide sustainability and performance.
Management system-related certification:
EN ISO 9001:2015; EN ISO 14001:2015; EN ISO 50001:2018
LCA practitioner: Heike Zehnter, heike.zehnter@saint-gobain.com
Communication: The intended use of this EPD is for B2B communication.

Product information

Product name: Rigips Glasroc F (Ridurit) 25
Visual representation of the product:

UN CPC CODE: 37530 Articles of plaster or of composition based on plaster
Manufacturing site(s):
Saint-Gobain Rigips GmbH, Feldhauser Straße 261, 45896 Gelsenkirchen-Scholven

Product description

Rigips Glasroc F (Ridurit) is a special fleece-reinforced gypsum board in accordance with DIN EN 15238-1, type GM-FH2, with reduced water absorption and improved structural core adhesion at high temperature.

The improved structural integrity of the board enables the creation of highly effective fire protection structures, as Rigips Glasroc F (Ridurit) remains dimensionally stable and crack-free even after prolonged exposure to fire. The H2 classification allows the board to be used in rooms with temporarily increased humidity due to their use.

Rigips Glasroc F (Ridurit) 25 is used as a fire protection board for the installation of high quality and efficient fire protection constructions, e.g: frameless structural steel encasement and cladding, cable duct systems as well as shaft walls and fire protection ceilings.

This Environmental Product Declaration (EPD®) describes the environmental impacts of 1m² of installed Rigips Glasroc F (Ridurit) 25 with a weight ca. 23,5 kg/m² with a useful life of 50 years.

For more information:
https://www.rigips.de/Dokumente/produktdatenblatter-pdb/produktdatenblatt-rigips-glasroc-f-ridurit-25.pdf

Technical data/physical characteristics:

Parameter	Value	Unit	Assement method
EN Classification	GM-FH2	-	DIN EN 15283-1
Fire behaviour	A1	-	DIN EN 13501-1
Surface-related mass	ca. 23,5	kg/m²	DIN EN 15283-1
Bulk density	ca. 930	kg/m³	DIN EN 15283-1
Water vapour resistance factor, $\mu_{wet/dry}$	4/10	-	EN ISO 10456
Thermal conductivity λ_R	0,25	W/(m·K)	EN ISO 10456

Application	Value / Description
Intended use and key functionalities	For the construction of wall and ceiling systems, generally without fire protection requirements. - Minimum content of 20% recycled gypsum - Recyclable and low-emission (Emicode EC1 plus, IBR) - Easy to cut and install
Expected influence on the operational aspects and impact of the building or other construction work	No influence in terms of usability of the building.
Restrictions to a type of construction or building	Typically used for wall and ceiling constructions. No restriction for use inside the building.
Lifespan	50 years

Content declaration

Description of the main components and/or materials:

Quantity for 1 functional unit: 1 m² of Rigips Glasroc F (Ridurit) 25

Product components	**Mass** [kg/DU]	**Post-consumer recycled material** [mass-%/DU]	**Biogenic material** [mass-%/DU]	**Biogenic material** [kg C/DU]
Core (Gypsum & Additives)	22,0 – 23,0	14,9%	0,6%	0,009
Liners & Facing	0,5 – 1,0	0,0%	0,0%	0,0
Sum	**100%**	**14,9%**	**0,6%**	**0,009 kg C/DU**
Packaging materials	**Mass** [kg/DU]	**Mass** [%] (versus the product)	**Biogenic material** [kg C/DU]	
Cardboard & Paper labels	0,01 kg	0,1%	0,004 kg	
Wooden Pallet (reusable)	0,7 kg	3,0%	0,29 kg	

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, in product or 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	1 m² of installed board of Rigips Glasroc F (Ridurit) 25
CONVERSION FACTOR TO MASS	ca. 23,5 kg/m² density 25 mm thickness
SYSTEM BOUNDARIES	Cradle to grave and module D
REFERENCE SERVICE LIFE (RSL)	The Reference Service Life (RSL) of the Gypsum product is 50 years. This 50-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. **Allocation of materials for recycling:** - 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. - Pre-consumer: When a flow enters the manufacturing process (A1-A3), it is considered as an incoming coproduct that bears a fraction of the impact of the original manufacturing process where it was generated (which might be 0, e.g. in case of an economic allocation with a negligible (<1%) economic value). The incoming flow does not contribute to module D nor Secondary Materials indicator.
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	Scope: Europe Data is collected from one production site Gelsenkirchen-Scholven located in Germany Data collected for the year May 2025 to April 2026
BACKGROUND DATA SOURCE	Databases from Sphera CUP2024.2 and ecoinvent v.3.10 EF Package 3.1
SOFTWARE	Sphera LCA for experts 10

Data quality declaration

Data quality information according to EN 15941	
Data collection	Data collection period 01-05-2025 to 30-04-2026
Sites used	Gelsenkirchen-Scholven
Geography	Production in Germany Sold in Europe Use and disposal in Europe
Technology	Special fleece mat-reinforced gypsum board are manufactured from stucco gypsum and additives for the gypsum core between two layers of glass veil on large conveyor belt systems in continuous operation.
Averaging	100% of production
LCI/LCA database	Sphera CUP2024.2 and ecoinvent v.3.10
EPD used	Yes
Data Quality Scheme	EN 15804 :2012+A2:2019, Annex E, Table E.2
Use of fair data with more than 30% of a core impact	None
Use of Poor relevant data	None
Use of very poor relevant data	No very poor data used

Process	Source type	Source	Reference year	Data category	A1-A3 GWP-GHG [kg CO_2 eq.]
Manufacturing process					
Thermal energy	Database	Sphera 2024.2	<5 years old	Primary data	45,7%
Electricity	Database	Sphera 2024.2 /ecoinvent 3.10	<5 years old	Primary data	0,2%
RMs from EPD					
Polynaphthalene sulfonate (PNS) powder	EPD	EPD-EFC-20210194-IBG1-EN	2021-12-16	Primary data, secondary data	2,8%
Glass veil (KG 22 Ext)	EPD	EPD-IES-0024954	2023-09-28	Primary data, secondary data	9,9%
				Total share of primary data	**58,6%**

A1-A3 GWP-GHG	8,35E+00

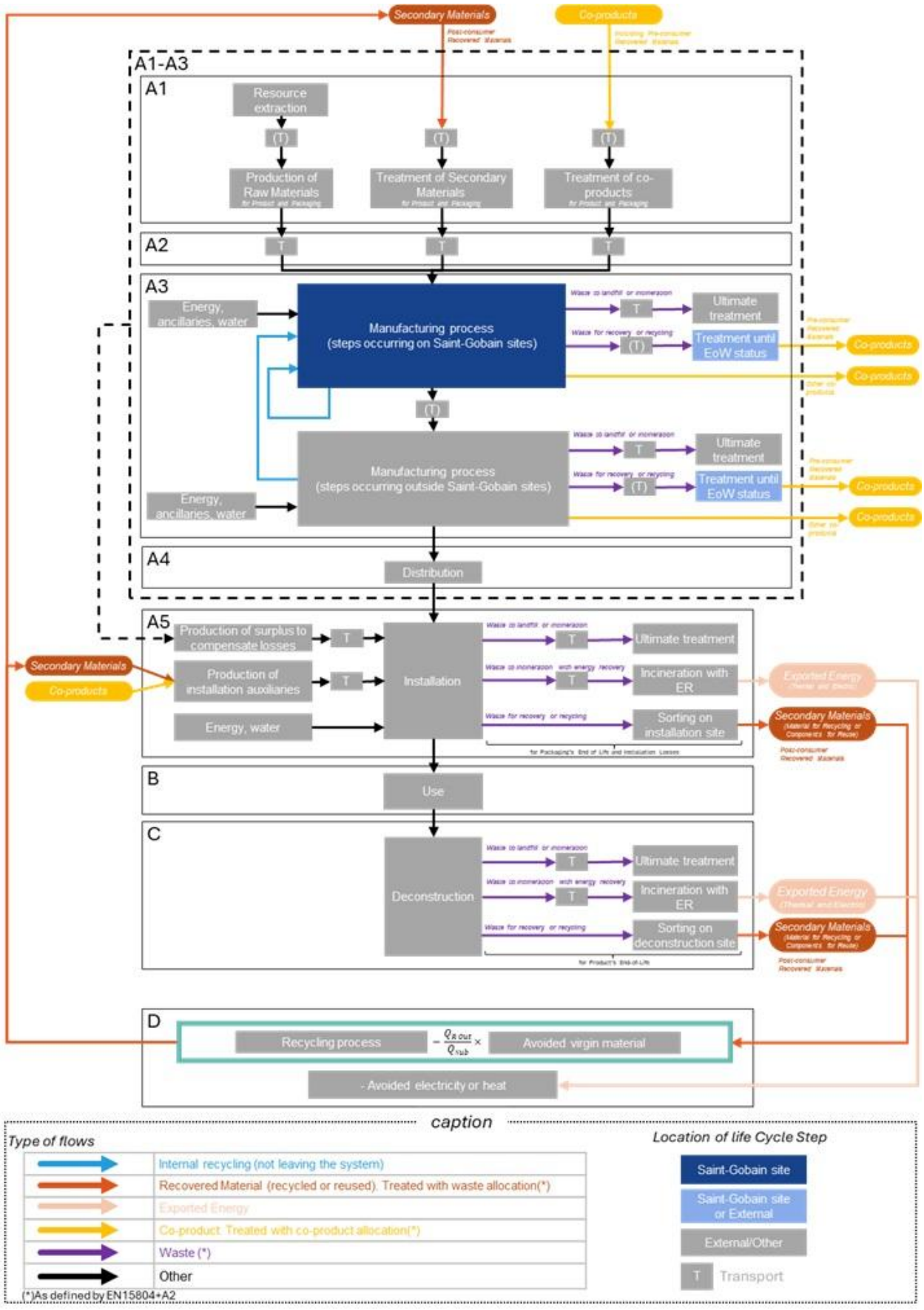
Description of system boundaries

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
Geography	GLO	GLO	DE	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU	EU

Specific data used	58,6% GWP- GHG
Variation products	0%
Variation sites	0%

System boundaries when the end-of-waste state is reached:



Life cycle stages

A1-A3. Product stage

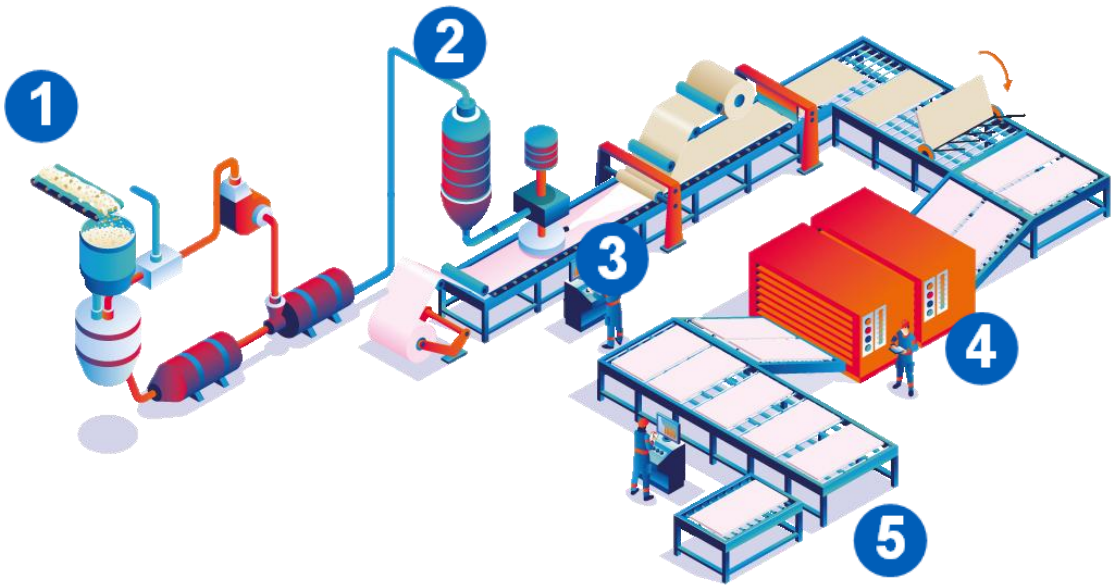
The product stage of plaster products is subdivided into 3 modules A1, A2 and A3 respectively “raw material supply”, “transport to manufacturer” and “manufacturing”.

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 transportations.

A3. Manufacturing
This module includes the manufacture of products 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



1. **Calcination.** Gypsum is ground then **heated to 160°C to be dehydrated**. The powder obtained (stucco), stored in silos, feeds the production of plasterboard.
2. **Mixing.** The stucco powder is mixed with **water and additives** to **obtain a slurry**. The dosages are adjusted according to the desired properties of the finished product, such as fire resist.
3. **Forming.** The slurry is **spread on a paper liner** as a support, then a second paper liner is placed on the top. After a quick setting, the boards are **precut**.
4. **Drying.** The boards pass through a dryer where the temperature can reach up to 300°C. The evaporation of excess water **strengthens the cohesion of the gypsum** to the paper liner.
5. **Finishing and packaging.** The plasterboards are **resized, inspected then packed** before being stored by AGVs.

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 is 24 t and consumption of 0.38 liters per km
Distance	100 km
Capacity utilisation (including empty returns)	68% (30% empty returns)
Bulk density of transported products	ca. 930 kg/m^3
Volume capacity utilisation factor	1 (by default)

To adjust the effects of transport for further distances, you will find the corresponding multiplication factors in the table “Influence of transportation to other countries” in appendix.

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.

Parameter	Value / Descriptionu
Ancillary materials for installation (specified by materials)	none
Water for on-site mixing of jointing compound	none
Other resource use	none
Electricity for on-site mixing of jointing compound	none
Scrap rate at installation	5% for plasterboard 100% for packaging
Wastage of materials on the building site before waste processing, generated by the product’s installation (specified by type)	Plasterboard: 1,17 kg/m² Packaging: Wooden Pallet: 0,7 kg/m² after 8-times using Paper: 0,01 kg/m²
Transport of packaging waste	Landfill: 50 km Recycling: 50 km Incineration with energy 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 recovering, disposal (specified by route)	Plasterboard: 1,17 kg/m² to landfill Wooden pallet: 0,7 kg/m² to incineration with energy recovery (after 8 times using) Paper: 0,01 kg/m² to recycling
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 next modules:

- **C1: Deconstruction, demolition.** The de-construction and/or dismantling of the product take part of the demolition of entire building. The demolition is done manually.
- **C2: Transport to waste processing:** 23,5 kg of drywall is generated during demolition. In the best-case scenario, 100% of it is collected separately through our Rigips EasyEco program. As a conservative estimate, 20% is sent for recycling and 80% is landfilled.
- **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
Collection process specified by type	23,5 kg of plasterboard is 80% landfill 20% recycling Other deconstruction waste, such as ancillaries used for installation, is 100% collected with mixed deconstruction and demolition waste for landfill
Recovery system specified by type	4,7 kg recycled
Disposal specified by type	18,8 kg to landfill
Assumptions for scenario development (e.g. transportation)	The waste will be transported by truck with 24 t payload, using diesel as a fuel consuming 38 liters per 100 km Transport distance to landfill: 50 km Transport distance to recycling: 50 km

D. Reuse/recovery/recycling potential

Module D declares the environmental benefits and loads from reusable products, recyclable materials, or energy recovery. Module D considers:

- Inputs of secondary 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 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.]
- Land use [Pt]
- Human toxicity (cancer) [CTUh]
- Human toxicity(noncancer) [CTUh]
- Ecotoxicity (freshwater [CTUe]

Disclaimer 2: The impact category Ionizing radiation, human health [kBq U235 eq.] deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction material is also not measured by this indicator.

Disclaimer 3: 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 1m^2 of installed Rigips Glasroc F (Ridurit) 25 mm with a weight of ca. 23,5 kg/m². The following results refer to a single product manufactured in a single plant.

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 CO_2 eq.]	7,28E+00	1,97E-01	1,39E+00	0	0	0	0	0	0	0	0,00E+00	9,12E-02	1,01E-02	1,60E-01	5,35E-01
Climate Change (fossil) [kg CO_2 eq.]	8,34E+00	1,93E-01	3,38E-01	0	0	0	0	0	0	0	0,00E+00	8,95E-02	4,55E-03	1,38E-01	5,64E-01
Climate Change (biogenic) [kg CO_2 eq.]	-1,04E+00	5,33E-04	1,05E+00	0	0	0	0	0	0	0	0,00E+00	2,47E-04	5,36E-03	2,13E-02	-2,25E-02
Climate Change (land use change) [kg CO_2 eq.]	8,65E-03	3,20E-03	4,62E-04	0	0	0	0	0	0	0	0,00E+00	1,48E-03	1,73E-04	2,79E-04	-6,90E-03
Ozone depletion [kg CFC-11 eq.]	6,98E-05	1,92E-14	3,49E-06	0	0	0	0	0	0	0	0,00E+00	8,88E-15	-1,64E-10	2,90E-09	-4,52E-08
Acidification terrestrial and freshwater [Mole of H+ eq.]	3,32E-02	2,11E-04	1,39E-03	0	0	0	0	0	0	0	0,00E+00	9,78E-05	1,12E-05	9,79E-04	-6,04E-03
Eutrophication freshwater [kg P eq.]	1,67E-04	8,13E-07	5,57E-06	0	0	0	0	0	0	0	0,00E+00	3,76E-07	-7,43E-08	1,07E-06	-1,44E-04
Eutrophication marine [kg N eq.]	8,34E-03	7,21E-05	3,84E-04	0	0	0	0	0	0	0	0,00E+00	3,33E-05	1,15E-05	3,39E-04	-1,28E-03
Eutrophication terrestrial [Mole of N eq.]	8,89E-02	8,53E-04	4,12E-03	0	0	0	0	0	0	0	0,00E+00	3,95E-04	1,30E-04	3,72E-03	-1,16E-02
Photochemical ozone formation - human health [kg NMVOC eq.]	2,44E-02	2,03E-04	1,07E-03	0	0	0	0	0	0	0	0,00E+00	9,39E-05	1,48E-05	1,27E-03	-7,61E-03
Resource use, mineral and metals [kg Sb eq.][1]	1,57E-05	1,62E-08	7,36E-07	0	0	0	0	0	0	0	0,00E+00	7,50E-09	-1,44E-08	1,59E-07	-8,29E-06
Resource use, energy carriers [MJ][1]	1,29E+02	2,49E+00	5,28E+00	0	0	0	0	0	0	0	0,00E+00	1,15E+00	8,72E-02	2,96E+00	2,35E+00
Water deprivation potential [m^3 world equiv.][1]	1,95E+00	2,84E-03	1,08E-01	0	0	0	0	0	0	0	0,00E+00	1,31E-03	2,30E-02	1,14E-01	-1,30E+00

[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

Resource 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]	1,57E+01	2,10E-01	1,04E+01	0	0	0	0	0	0	0	0,00E+00	9,72E-02	2,10E-02	1,10E-01	-2,11E+01
Primary energy resources used as raw materials (PERM) [MJ] [2]	1,07E+01	0,00E+00	-9,79E+00	0	0	0	0	0	0	0	0,00E+00	0,00E+00	-9,89E-03	0,00E+00	0,00E+00
Total use of renewable primary energy resources (PERT) [MJ] [2]	2,64E+01	2,10E-01	6,05E-01	0	0	0	0	0	0	0	0,00E+00	9,72E-02	1,11E-02	1,10E-01	-2,11E+01
Use of non-renewable primary energy (PENRE) [MJ] [2]	1,27E+02	2,49E+00	5,17E+00	0	0	0	0	0	0	0	0,00E+00	1,15E+00	8,72E-02	2,96E+00	2,35E+00
Non-renewable primary energy resources used as raw materials (PENRM) [MJ] [2]	4,80E+00	0,00E+00	2,83E-02	0	0	0	0	0	0	0	0,00E+00	0,00E+00	-4,24E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy resources (PENRT) [MJ] [2]	1,31E+02	2,49E+00	5,19E+00	0	0	0	0	0	0	0	0,00E+00	1,15E+00	-4,15E+00	2,96E+00	2,35E+00
Use of secondary material (SM) [kg]	4,10E+00	0,00E+00	2,05E-01	0	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels (RSF) [MJ]	3,16E-24	0,00E+00	1,58E-25	0	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels (NRSF) [MJ]	3,71E-23	0,00E+00	1,86E-24	0	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water (FW) [m3]	4,69E-02	2,36E-04	2,60E-03	0	0	0	0	0	0	0	0,00E+00	1,09E-04	5,51E-04	2,69E-03	-1,07E-02

[2] From EPD International Construction Product PCR 2.0.1 (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]	1,34E+00	8,04E-11	6,46E-02	0	0	0	0	0	0	0	0,00E+00	3,72E-11	-1,36E-04	1,83E-03	-1,17E-01
Non-hazardous waste disposed (NHWD) [kg]	3,46E+00	3,87E-04	1,05E+00	0	0	0	0	0	0	0	0,00E+00	1,79E-04	-2,15E-01	1,86E+01	-1,22E+00
Radioactive waste disposed (RWD) [kg]	1,09E-03	3,21E-06	5,54E-05	0	0	0	0	0	0	0	0,00E+00	1,49E-06	1,53E-06	5,57E-06	7,84E-04
Components for re-use (CRU) [kg]	0,00E+00	0,00E+00	6,43E-01	0	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for Recycling (MFR) [kg]	0,00E+00	0,00E+00	2,37E-01	0	0	0	0	0	0	0	0,00E+00	0,00E+00	4,64E+00	0,00E+00	0,00E+00
Material for Energy Recovery (MER) [kg]	0,00E+00	0,00E+00	0,00E+00	0	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported electrical energy (EEE) [MJ]	0,00E+00	0,00E+00	2,31E-01	0	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported thermal energy (EET) [MJ]	0,00E+00	0,00E+00	4,16E-01	0	0	0	0	0	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional voluntary indicators from EN 15804

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
GWP-GHG [kg CO_2 eq.][3]	8,35E+00	1,97E-01	3,40E-01	0	0	0	0	0	0	0	0,00E+00	9,12E-02	4,80E-03	1,39E-01	5,35E-01

Information on biogenic carbon content

Biogenic Carbon Content	PRODUCT STAGE A1 / A2 / A3
Biogenic carbon content in product [kg]	8,56E-03
Biogenic carbon content in packaging [kg]	2,83E-01

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO_2. The product contains biogenic carbon due to the additives used. Regarding packaging, biogenic carbon is quantified due to wooden pallets production.

[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.

Environmental Impacts

Environmental indicators		100% recycling					100% landfill				
		END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING	END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING
		C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
	Climate Change (total) [kg CO_2 eq.][(a)]	0,00E+00	9,12E-02	1,42E-01	0,00E+00	2,77E+00	0,00E+00	9,12E-02	0,00E+00	2,91E-01	-2,54E-02
	Climate Change (fossil) [kg CO_2 eq.]	0,00E+00	8,95E-02	1,12E-01	0,00E+00	2,91E+00	0,00E+00	8,95E-02	0,00E+00	2,62E-01	-2,51E-02
	Climate Change (biogenic) [kg CO_2 eq.]	0,00E+00	2,47E-04	2,70E-02	0,00E+00	-1,11E-01	0,00E+00	2,47E-04	0,00E+00	2,68E-02	-2,69E-04
	Climate Change (land use change) [kg CO_2 eq.]	0,00E+00	1,48E-03	2,34E-03	0,00E+00	-3,46E-02	0,00E+00	1,48E-03	0,00E+00	1,83E-03	1,93E-05
	Ozone depletion [kg CFC-11 eq.]	0,00E+00	8,88E-15	-8,22E-10	0,00E+00	-2,25E-07	0,00E+00	8,88E-15	0,00E+00	3,62E-09	-2,27E-10
	Acidification terrestrial and freshwater [Mole of H+ eq.]	0,00E+00	9,78E-05	1,54E-04	0,00E+00	-2,97E-02	0,00E+00	9,78E-05	0,00E+00	1,32E-03	-1,07E-04
	Eutrophication freshwater [kg P eq.]	0,00E+00	3,76E-07	4,60E-09	0,00E+00	-7,14E-04	0,00E+00	3,76E-07	0,00E+00	1,72E-06	-6,41E-07
	Eutrophication marine [kg N eq.]	0,00E+00	3,33E-05	9,07E-05	0,00E+00	-6,27E-03	0,00E+00	3,33E-05	0,00E+00	4,58E-04	-3,23E-05
	Eutrophication terrestrial [Mole of N eq.]	0,00E+00	3,95E-04	1,04E-03	0,00E+00	-5,69E-02	0,00E+00	3,95E-04	0,00E+00	5,04E-03	-2,81E-04
	Photochemical ozone formation - human health [kg NMVOC eq.]	0,00E+00	9,39E-05	1,68E-04	0,00E+00	-3,77E-02	0,00E+00	9,39E-05	0,00E+00	1,68E-03	-9,19E-05
	Resource use, mineral and metals [kg Sb eq.][4]	0,00E+00	7,50E-09	-6,45E-08	0,00E+00	-4,13E-05	0,00E+00	7,50E-09	0,00E+00	2,06E-07	-3,75E-08
	Resource use, energy carriers [MJ][1]	0,00E+00	1,15E+00	1,59E+00	0,00E+00	1,36E+01	0,00E+00	1,15E+00	0,00E+00	4,85E+00	-4,37E-01
	Water deprivation potential [m^3 world equiv.][1]	0,00E+00	1,31E-03	1,16E-01	0,00E+00	-6,45E+00	0,00E+00	1,31E-03	0,00E+00	1,44E-01	-1,07E-02

[4] Disclaimer 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
[(a)] The total global warming potential (GWP-total) is the sum of GWP fossil. GWP biogenic and GWP land use change

Resources Use

Resources Use indicators	100% recycling					100% landfill				
	END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING	END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING
	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Use of renewable primary energy (PERE) [MJ]	0,00E+00	9,72E-02	2,02E-01	0,00E+00	-1,05E+02	0,00E+00	9,72E-02	0,00E+00	2,35E-01	4,13E-02
Primary energy resources used as raw materials (PERM) [MJ] *	0,00E+00	0,00E+00	-4,95E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renewable primary energy resources (PERT) [MJ]	0,00E+00	9,72E-02	1,53E-01	0,00E+00	-1,05E+02	0,00E+00	9,72E-02	0,00E+00	2,35E-01	4,13E-02
Use of non-renewable primary energy (PENRE) [MJ]	0,00E+00	1,15E+00	1,59E+00	0,00E+00	1,36E+01	0,00E+00	1,15E+00	0,00E+00	4,85E+00	-4,37E-01
Non-renewable primary energy resources used as raw materials (PENRM) [MJ] *	0,00E+00	0,00E+00	-2,12E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-renewable primary energy resources (PENRT) [MJ]	0,00E+00	1,15E+00	-1,96E+01	0,00E+00	1,36E+01	0,00E+00	1,15E+00	0,00E+00	4,85E+00	-4,37E-01
Input of secondary material (SM) [kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels (RSF) [MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels (NRSF) [MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water (FW) [m^3]	0,00E+00	1,09E-04	2,86E-03	0,00E+00	-5,26E-02	0,00E+00	1,09E-04	0,00E+00	3,47E-03	-2,41E-04

* For this study, both the product and its packaging are reported in the indicators "Use of renewable primary energy resources used as raw materials" ("PERM") and "Use of non-renewable primary energy resources used as raw materials" ("PENRM"). PERM and PENRM are reported as negative values when materials are recycled or recovered, but not when landfilled.

Waste Category & Output flows

Waste Category & Output Flows	100% recycling					100% landfill				
	END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING	END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING
	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Hazardous waste disposed (HWD) [kg]	0,00E+00	3,72E-11	-6,79E-04	0,00E+00	-5,85E-01	0,00E+00	3,72E-11	0,00E+00	2,29E-03	-4,24E-04
Non-hazardous waste disposed (NHWD) [kg]	0,00E+00	1,79E-04	0,00E+00	0,00E+00	-6,12E+00	0,00E+00	1,79E-04	0,00E+00	2,32E+01	-4,20E-03
Radioactive waste disposed (RWD) [kg]	0,00E+00	1,49E-06	9,16E-06	0,00E+00	4,11E-03	0,00E+00	1,49E-06	0,00E+00	8,44E-06	-4,93E-05
Components for re-use (CRU) [kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for Recycling (MFR) [kg]	0,00E+00	0,00E+00	2,32E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for Energy Recovery (MER) [kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported electrical energy (EEE) [MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported thermal energy (EET) [MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Environmental Impacts

Environmental indicators		100% incineration with energy recovery					100% incineration without energy recovery				
		END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING	END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING
		C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
	Climate Change (total) [kg CO_2 eq.][(a)]	0,00E+00	9,12E-02	0,00E+00	1,35E+00	2,12E+00	0,00E+00	9,12E-02	0,00E+00	1,35E+00	-2,54E-02
	Climate Change (fossil) [kg CO_2 eq.]	0,00E+00	8,95E-02	0,00E+00	1,32E+00	2,12E+00	0,00E+00	8,95E-02	0,00E+00	1,32E+00	-2,51E-02
	Climate Change (biogenic) [kg CO_2 eq.]	0,00E+00	2,47E-04	0,00E+00	2,36E-02	3,30E-04	0,00E+00	2,47E-04	0,00E+00	2,36E-02	-2,69E-04
	Climate Change (land use change) [kg CO_2 eq.]	0,00E+00	1,48E-03	0,00E+00	1,48E-03	1,17E-03	0,00E+00	1,48E-03	0,00E+00	1,48E-03	1,93E-05
	Ozone depletion [kg CFC-11 eq.]	0,00E+00	8,88E-15	0,00E+00	5,00E-08	4,76E-08	0,00E+00	8,88E-15	0,00E+00	5,00E-08	-2,27E-10
	Acidification terrestrial and freshwater [Mole of H+ eq.]	0,00E+00	9,78E-05	0,00E+00	4,74E-03	7,11E-03	0,00E+00	9,78E-05	0,00E+00	4,74E-03	-1,07E-04
	Eutrophication freshwater [kg P eq.]	0,00E+00	3,76E-07	0,00E+00	5,75E-07	5,11E-05	0,00E+00	3,76E-07	0,00E+00	5,75E-07	-6,41E-07
	Eutrophication marine [kg N eq.]	0,00E+00	3,33E-05	0,00E+00	2,34E-03	1,19E-03	0,00E+00	3,33E-05	0,00E+00	2,34E-03	-3,23E-05
	Eutrophication terrestrial [Mole of N eq.]	0,00E+00	3,95E-04	0,00E+00	2,54E-02	1,31E-02	0,00E+00	3,95E-04	0,00E+00	2,54E-02	-2,81E-04
	Photochemical ozone formation - human health [kg NMVOC eq.]	0,00E+00	9,39E-05	0,00E+00	6,18E-03	5,33E-03	0,00E+00	9,39E-05	0,00E+00	6,18E-03	-9,19E-05
	Resource use, mineral and metals [kg Sb eq.][5]	0,00E+00	7,50E-09	0,00E+00	-1,11E-08	1,05E-06	0,00E+00	7,50E-09	0,00E+00	-1,11E-08	-3,75E-08
	Resource use, energy carriers [MJ][1]	0,00E+00	1,15E+00	0,00E+00	3,50E+00	3,18E+01	0,00E+00	1,15E+00	0,00E+00	3,50E+00	-4,37E-01
	Water deprivation potential [m³ world equiv.][1]	0,00E+00	1,31E-03	0,00E+00	2,75E+00	2,44E-01	0,00E+00	1,31E-03	0,00E+00	2,75E+00	-1,07E-02

[5] Disclaimer 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

[(a)] The total global warming potential (GWP-total) is the sum of GWP fossil. GWP biogenic and GWP land use change

Resources Use

Resources Use indicators	100% incineration with energy recovery					100% incineration without energy recovery				
	END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING	END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING
	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Use of renewable primary energy (PERE) [MJ]	0,00E+00	9,72E-02	0,00E+00	-4,74E-01	1,66E+00	0,00E+00	9,72E-02	0,00E+00	-4,74E-01	4,13E-02
Primary energy resources used as raw materials (PERM) [MJ] *	0,00E+00	0,00E+00	0,00E+00	-4,95E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-4,95E-02	0,00E+00
Total use of renewable primary energy resources (PERT) [MJ]	0,00E+00	9,72E-02	0,00E+00	-5,23E-01	1,66E+00	0,00E+00	9,72E-02	0,00E+00	-5,23E-01	4,13E-02
Use of non-renewable primary energy (PENRE) [MJ]	0,00E+00	1,15E+00	0,00E+00	3,50E+00	3,18E+01	0,00E+00	1,15E+00	0,00E+00	3,50E+00	-4,37E-01
Non-renewable primary energy resources used as raw materials (PENRM) [MJ] *	0,00E+00	0,00E+00	0,00E+00	-2,12E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-2,12E+01	0,00E+00
Total use of non-renewable primary energy resources (PENRT) [MJ]	0,00E+00	1,15E+00	0,00E+00	-1,77E+01	3,18E+01	0,00E+00	1,15E+00	0,00E+00	-1,77E+01	-4,37E-01
Input of secondary material (SM) [kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of renewable secondary fuels (RSF) [MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels (NRSF) [MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water (FW) [m^3]	0,00E+00	1,09E-04	0,00E+00	6,42E-02	5,70E-03	0,00E+00	1,09E-04	0,00E+00	6,42E-02	-2,41E-04

* For this study, both the product and its packaging are reported in the indicators "Use of renewable primary energy resources used as raw materials" ("PERM") and "Use of non-renewable primary energy resources used as raw materials" ("PENRM"). PERM and PENRM are reported as negative values when materials are recycled or recovered, but not when landfilled.

Waste Category & Output flows

Waste Category & Output Flows	100% incineration with energy recovery					100% incineration without energy recovery				
	END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING	END OF LIFE STAGE				REUSE, RECOVERY, RECYCLING
	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
Hazardous waste disposed (HWD) [kg]	0,00E+00	3,72E-11	0,00E+00	3,72E-11	3,99E-02	0,00E+00	3,72E-11	0,00E+00	3,72E-11	-4,24E-04
Non-hazardous waste disposed (NHWD) [kg]	0,00E+00	1,79E-04	0,00E+00	1,79E-04	8,01E-01	0,00E+00	1,79E-04	0,00E+00	1,79E-04	-4,20E-03
Radioactive waste disposed (RWD) [kg]	0,00E+00	1,49E-06	0,00E+00	8,11E-04	-1,82E-05	0,00E+00	1,49E-06	0,00E+00	8,11E-04	-4,93E-05
Components for re-use (CRU) [kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for Recycling (MFR) [kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for Energy Recovery (MER) [kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported electrical energy (EEE) [MJ]	0,00E+00	0,00E+00	0,00E+00	-3,37E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported thermal energy (EET) [MJ]	0,00E+00	0,00E+00	0,00E+00	-1,31E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Additional environmental information:

Electricity information

The factory based in SAINT-GOBAIN factory base in Gelsenkirchen-Scholven 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's 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 Guarantee of Origin	100% of the energy consumption is covered by the GO
Dataset version	Sphera CUP2024.2 ecoinvent 3.10 (medium voltage) 2% transmission losses
Type of dataset	Cradle to gate from Sphera and ecoinvent databases
Source of electricity mix	Guarantee of Origin certificate: Ökostrom Zertifikat Pfalzwerke
GHG-GWP CO_2 eq.	0,006 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.

Influence of transportation to other countries

The result of stage A4 (transportation of product) in the table of this EPD refers to transportation of 100 km. This product might also be delivered to the countries in the table below. To adapt the impact of transportation in the A4 column, the results expressed in this EPD must be multiplied by a corresponding multiplication factor below.

Location	Average Distance [km]	Multiplication Factor
Europe (EPD reference value)	100	1
Germany	350	3,5
Austria	816	8,2
Belgium	450	4,5
Czech Republic	484	4,8
Denmark	631	6,3
England	1013	10,1
Finland	1973	19,7
France	726	7,3
Hungary	1148	11,5
Ireland	1495	14,9
Italy	1654	16,6
Netherlands	360	3,6
Norway	1039	10,4
Poland	948	9,5
Romania	1484	14,8
Slovakia	854	8,5
Slovenia	1000	10,0
Spain	2031	20,3
Switzerland	688	6,9
Turkey	2803	28,0

Version history

Original version of the EPD, 2026-07-31

Abbreviations

AIB	Association of issuing bodies
DU	Declared unit
EF	Environmental footprint
EPD	Environmental Product Declaration
eq.	equivalents
FU	Functional unit
g	gram
GHG	Greenhouse gas
GJ	Giga Joules (as Net Calorific Value)
GO	Guaranty of origin
GHG	Greenhouse gas
GWP	Global warming potential
GWP-GHG	Global warming potential – Greenhouse gas
IOBC	Instantaneous Oxidation of Biogenic Carbon
kg	kilogram
kWh	kilowatt-hour
l	liter
LCA	Life Cycle Assessment
LCI	Life Cycle Inventory Analysis
LCIA	Life Cycle Impact Assessment
m²·K/W	kilowatt per square meter
MJ	Mega Joules (as Net Calorific Value)
PCR	Product Category Rules
RSL	Reference Service Life (in years)
t	metric ton
W/(m.K)	Watts per meter-Kelvin

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. EN 15804:2012+A1:2013 - Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products

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. EPD International. General Program Instructions (GPI) for the International EPD® System (version 5.0.1) www.environdec.com.

6. The International EPD System PCR 2019:14 Construction products. Version 2.0.1

7. EN 15941 Sustainability of construction works - Data quality for environmental assessment of products and construction work - Selection and use of data

8. c-PCR Gypsum-based construction products (EN 17328) (c-PCR-031 version: 2024-08-06)

9. European Chemical Agency, Candidate List of substances of very high concern for Authorization. https://echa.europa.eu/candidate-list-table

10. EasyEco Program - object-related manufacturer's declaration https://www.easy-eco.org/wp-content/uploads/SG_Folder_EASY-ECO_Herstellererklaerung_210x297mm_WEB_2024-08-20.pdf

11. Rigips Glasroc F (Ridurit) 25 – Product information https://www.rigips.de/produkte/rigips-glasroc-f-ridurit-25

12. Rigips Glasroc F (Ridurit) 25 – Product data sheet https://www.rigips.de/Dokumente/produktdatenblatt/productdatasheet-rigips-glasroc-f-ridurit-25.pdf

13. Rigips Glasroc F (Ridurit) 25 – Safety data sheet https://www.rigips.de/Dokumente/sicherheitsdatenblatt/safetydatasheet-rigips-glasroc-f-ridurit-en.pdf