Environmental Product Declaration

In accordance with ISO 14025:2006, ISO 21930:2017
and EN 15804:2012+A2:2019/AC:2021

Gyproc Joint Filler

Version: 1
Publication Date: 2024-12-18
Validity: 5 years
Valid Until: 2029-12-17

EPD Type: Single Product
Scope of the EPD®: Cradle-to-gate with options, modules C1-C4, module D and with optional modules A4, A5 and B1-B7

Manufacturer Head Office Address: East Leake, Loughborough, LE12 6HX, England

Programme: The International EPD® System, www.environdec.com
Programme Operator: EPD International AB
System Registration Number: EPD-IES-0016719

General information

Company information

Manufacturer: Saint-Gobain Construction Products UK Limited t/a British Gypsum
Site of manufacture: Newark, Nottinghamshire, NG24 3BZ, England
Management system-related certification: ISO 14001 [1], ISO 50001 [2], ISO 9001 [3]

Product name: Gyproc Joint Filler
EPD for multiple products: ☒ No ☐ Yes
UN CPC code: 374 – Cement, lime and plaster

Owner of the declaration: Saint-Gobain Construction Products UK Limited t/a British Gypsum
EPD® prepared by / LCA accountability: Dave Dowdell (dave.dowdell@saint-gobain.com), Charnett Chau (charnett.chau@saint-gobain.com) and Sila Danik Dirihan (sila.danik@saint-gobain.com)

Geographical scope of the EPD®: United Kingdom (Production), United Kingdom (Use and End-of-life)
EPD® registration number: EPD-IES-0016719
Declaration issued: 2024-12-18 valid until 2029-12-17
Demonstration of verification: An independent verification of the declaration was made, according to ISO 14025:2010 [4]. This verification was external and conducted by the following third party based on the PCR mentioned above.

Programme information

Programme:	The International EPD® System [5]
Address:	EPD International AB - Box 210 60 - SE-100 31 Stockholm - Sweden
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CEN standard EN 15804:2012 + A2:2019 [6] and ISO 21930:2017 [7] serve as the Core Product Category Rules (PCR)

Product category rules (PCR): PCR 2019:14 Construction Products, version 1.3.4 [8]

PCR review was conducted by: The Technical Committee of the International EPD® System
See www.environdec.com for a list of members.
Chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact - Contact via info@environdec.com

Independent third-party verification of the declaration and data, according to ISO 14025:2006:
☐ EPD process certification ☒ EPD verification

Third-party verifier: Matthew Fishwick, Fishwick Environmental Ltd.
Email: matt@fishwickenvironmental.com | Approved by: The International EPD® System
Signature:

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

The EPD owner has sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, 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. For further information about comparability, see EN 15804 and ISO 14025.

Product description

Product description and description of use

This Environmental Product Declaration (EPD®) describes the environmental impacts of 1 kg of Gyproc Joint Filler.

Gyproc Joint Filler is a gypsum based setting material for bedding tapes and filling plasterboard joints. This filling compound is applied simply, and with its setting properties, it allows you to move onto the finishing phase of jointing. When used as part of a system, jointing products help linings maintain their fire performance and noise reduction so that spaces are as safe and comfortable as possible.

It is used in stages one and two of the traditional three-stage hand jointing process.

Technical data/physical characteristics:

Reaction to fire	A1	EN13963:2005 [9]
Set time	80 minutes	

For further information on the product please visit the Gyproc Joint Filler web page [10].

Declaration of the main product components and/or materials

All raw materials contributing more than 5% to any environmental impact are listed in the following table.

Product components	Mass (%)	Post-consumer material content (%)*	Biogenic carbon content (%)**
Gypsum	> 75	0	0
Limestone	> 24	0	0
Additives	< 1	0	< 0.2
Total	100	0	See *Information on Biogenic Carbon Content* table
Packaging materials	**Mass (kg)*** **	**Mass (%) vs product**	**Biogenic carbon content (%)****
Bag (paper and PE)	< 0.007	< 0.7	36 (Per DU = 0.002 kg C)
Corrugated board	< 0.001	< 0.1	46 (Per DU = < 0.001 kg C)
Wooden pallet	0.0125	1.25	41 (Per DU = 0.005 kg C)
Total (all packaging)	0.02	2.0	See *Information on Biogenic Carbon Content* table

*The worst-case of 0% post-consumer material is declared as the amount of post-consumer content used by our suppliers is unknown. Within Sphera and ecoinvent datasets, recycled content was modelled.
**Biogenic carbon content in % is equivalent to carbon mass per overall mass of material (kg C / kg). Figure in brackets is the biogenic carbon content per the DU.
***Packaging quantity is for a pallet load of bagged product. To fulfil orders, some product may be delivered as separated bags (estimated as 12%).

During the life cycle of the product, any hazardous substance listed in the “Candidate List of Substances of Very High Concern (SVHC) for authorization” [11] 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 for the legality of the product.

Raw material category	Product (mass %)	Packaging (mass %)
Metals	0	0
Minerals	> 99	0
Fossil materials	0	7
Bio-based materials	< 0.2	93
Other organic materials	0	0
Other inorganic materials	0	0

LCA calculation information

Type of EPD	Cradle-to-gate with options, modules C1-C4, module D and with optional modules A4, A5 and B1-B7.
Declared unit	1 kg of Gyproc Joint Filler, as installed. Mixing ratio: 1 kg powder / 0.54 litres of water. Layer thickness of 2.5 mm and an applied quantity of 0.21 kg/linear m.
System boundaries	A1-A5, B1-B7, C1-C4 and D.
Reference service life (RSL)	60 years [12]. British Gypsum provides a SpecSure® system warranty [13] for the service life of a building. SpecSure® is valid when British Gypsum systems are specified, installed and finished in line with British Gypsum recommendations.
Cut-off rules	Where there is not enough information, 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). Addition of all inputs and outputs excluded cannot be bigger than 5% of the mass and energy used, as well as emissions to the environment, per module. Construction of plants, production of machines and transportation systems, (i.e. any infrastructure) are excluded since the related flows are negligible compared to the production of the product and its lifetime. However, we note that some generic datasets used in the LCA model may include capital goods and infrastructure within their system boundaries. Flows related to human activities such as employee transport are also excluded.
Allocations	The allocation criteria are based on the mass flow of products and co-products – i.e. mass allocation between different products produced at the manufacturing site. Where raw materials and energy usage cannot be directly attributed to individual products the total quantity used in the factory was divided by the total mass of products produced to achieve materials and energy per kilogram of product. The polluter pays and modularity principles have been followed. The impact arising from the treatment of waste generated within the system boundaries is allocated to the product until waste reaches the end-of-waste state.
Geographical coverage and time period	Scope: UK (production), UK (use and disposal). Data is collected for manufacturing in Newark, England and warehouse sites located in East Leake, Kirkby Thore, Robertsbridge and Sherburn (all located in England). Manufacture data is for the 2022 calendar year. Warehouse data is for the 2023 calendar year.
Background data source	Sphera Managed LCA Content (MLC) v2024.1 [14] and ecoinvent v.3.9.1 (cut-off version) [15].
Software	Sphera LCA for Experts v10 [16].
LCA methodology	In addition to EN 15804:2019+A2 and PCR 2019:14 v1.3.4, the study was carried out in accordance with ISO 14040:2006 [17], ISO 14044:2006 [18], and GPI for the International EPD® System v4.0 [19]. Note: EN 15804 reference package based on EF 3.1 has been used [20].
Multiple product approach	Not applicable.

According to EN 15804:2012+A2:2019, EPDs of construction products may not be comparable if they do not comply with this standard. According to ISO 21930:2017 EPDs might not be comparable if they are from different programmes.

LCA scope

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

Specific data used and variations are based on the GWP-GHG indicator.

	PRODUCT STAGE			CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS / 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	EU/GLO		GB	GB/GLO													

Specific data used*	48.12%
Variation products	0%
Variation sites**	< 10%

*Share of specific data that is specified according to PCR 2019:14. We gathered site-specific data on the generation of electricity provided by contracted suppliers (using Guarantee of Origin), transportation data on distances, means of transportation, load factor, fuel/other energy consumption at the site. The value in the table is calculated on the share of impact deriving from LCI data from databases on transportation and energy that are combined with actual transportation and energy parameters.
**This is the maximum GWP-GHG difference between the different products and/or the same products produced at various manufacturing sites. Where there is only one site the default value of 0% is presented. In this case, the product is manufactured at one site (Newark, England) but distributed to different warehouse sites.

Life cycle stages

A1-A3, Product stage

Modules A1-A3 sit within the product stage of a building's life cycle, where raw and secondary materials are extracted and processed (A1) before being transported (A2) to manufacturing facilities for the production of building products (A3). Here we detail modules A1-A3 for Gyproc Joint Filler produced at a Newark manufacturing site (in England), before being transported and warehoused in East Leake, Kirkby Thore, Robertsbridge and Sherburn (all located in England). Information on the supply of materials and manufacturing of the product were based on primary data. Secondary data from Sphera MLC (2024.1) and ecoinvent (3.9.1) databases were used to obtain LCIs for input materials and the processing of waste materials. Electricity used during manufacture and warehousing was modelled based on the power mix purchased with a Guarantee of Origin (GO) from the UK market.

Aggregation of modules A1, A2, and A3 is an option in the EN 15804 standard, which is applied in this EPD.

A1: Raw materials supply
Raw materials that are required to manufacture Gyproc Joint Filler are supplied from UK and various countries in Europe.

The use of electricity, fuels, and auxiliary materials required to produce these raw materials is taken into account. The environmental profile of these energy carriers is modelled for local conditions.

A2: Transport to the manufacturer
The raw materials are transported to the manufacturing site. The modelling includes road, sea and/or train transportation of each raw material.

A3: Manufacturing
See Process Flow Diagram for a complete breakdown of the manufacturing process.

In module A3, other processes modelled include:

- Manufacture of beta hemihydrate from natural gypsum.
- Use of electrically-powered mixers to combine materials according to a recipe, to produce the formulated product.
- The processing of any waste arising from the manufacturing process. Manufacturing waste processing was based on reports from waste contractors, however, where processes are unavailable from Sphera and ecoinvent databases, the worst-case process was used (landfill).
- The combustion of refinery products, such as natural gas, is related to the production process.
- Packaging-related flows (e.g. wooden pallets and polypropylene packaging) in the production process and all upstream packaging are included. In addition, supply and transport of packaging material is also included. They are reported and allocated to the module where the packaging is applied. Data on packaging waste created during this step are then generated.
- Road transport of packaged product to warehouses in East Leake, Kirkby Thore, Robertsbridge and Sherburn (all located in England).
- Warehouse operations including operation of forklifts and lighting, production of waste.

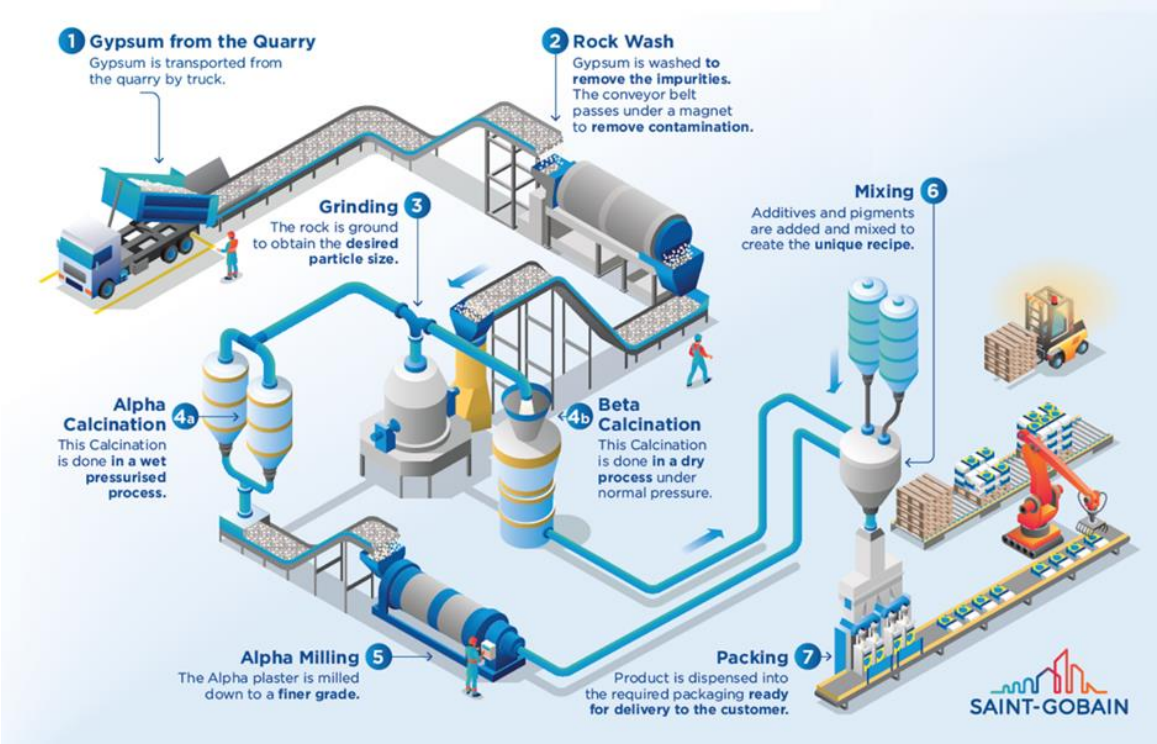
Manufacturing in detail
Formulated products such as Gyproc Joint Filler are made at the Newark, England plant by dry mixing gypsum-based material with specific additives using recipes to achieve the desired properties. On completion of the mixing process, the resulting product is packaged in branded bags, then stacked and wrapped on pallets.

To produce a calcined gypsum input to the mixing process, gypsum rocks are quarried locally in the UK. The materials are ground and homogenised before being sent to the calcination process, to produce an alpha or beta hemihydrate base, either of which may subsequently be an input to the mixing process, depending on the formulated product being produced. Alternatively, ground gypsum (calcium sulphate dihydrate) deriving from the homogenisation process can be used as a dry mineral input directly to mixing.

The wrapped pallets of Gyproc Joint Filler bags are transported 108 km (average distance) by diesel truck (maximum load weight of 22 tonnes and an average utilisation of 85%) to four British Gypsum warehouses located in East Leake, Kirkby Thore, Robertsbridge and Sherburn (all located in England), where they are stored until dispatch. To fulfil partial orders, secondary packaging may be removed from some pallet loads, so that smaller quantities of composed bags of product can be transported. This is estimated at an average of 12% of pallet loads across the four sites. Removed secondary packaging is collected for recycling.

There may be some variation to the recipe on occasion, to ensure desired properties are attained.

Manufacturing process flow diagram



Note: Following finishing and packaging, Gyproc Joint Filler is transported by truck to four warehouses where it is stored until dispatched to customers.

A4-A5, Construction process stage

The construction process is divided into two modules: A4, transport to the building site and A5, installation in the building.

A4: Transport to the building site

Distribution distances of products were obtained by mapping the transport distances from each warehouse to the client. The average distance was then taken along with the typical mode and load of transport to form the transport scenario. All clients were included in the calculation from the year 2022, no assumptions or cut-offs were made to find the average distribution distance. Additionally, it is assumed that no product is lost, broken or wasted during transportation due to the efficiency of our courier.

National parameters (100% of sales)	Value
Fuel type and vehicle type e.g. long-distance truck, boat, etc.	Long-distance truck: 22t payload capacity Euro 0 – 6 mix Fuel type: Diesel
Distance	154 km
Average load weight	18.7 tonnes
Average utilisation	85%

A5: Installation in the building

The scenario for installation of 1 kg of Gyproc Joint Filler includes addition of cold water and hand mixing. Due to the product's mineral binder content, 1 kg of Gyproc Joint Filler powder is modelled to produce 1.14 kg of set product, with remaining added water evaporating. 5% powdered product loss is assumed based on the DU, and the resupply of the losses was modelled. Primary and secondary packaging is assumed to be landfilled. A 100 km distance is assumed for transport of waste product and packaging.

Parameter	Value/description (per kg)
Ancillary materials for installation	None (modelled)
Water use	0.54 L
Wastage output from installation	Product: 0.05 kg (100% landfilled) Bags (paper and PE): 0.0065 kg (100% landfilled) Based on warehouse estimates, 12% of product is delivered without secondary packaging: HDPE wrap: 0.0002 kg (100% landfilled) PP straps: 0.0002 kg (100% landfilled) Corrugated board: 0.0005 kg (100% landfilled) Wooden pallet: 0.011 kg (100% landfilled)
Direct emissions*	Water vapour: 0.0004 m^3

*Calculated.

B1-B7, Use stage

The use stage, related to the building fabric is separated into seven modules. The following describes the use of Gyproc Joint Filler over its reference service life.

B1: Use (or application of the installed product)
This module represents emissions to the environment from the installed product. Emissions to the environment are not attributable to Gyproc Joint Filler.

B2: Maintenance; B3: Repair; B4: Replacement; B5: Refurbishment
No maintenance, repair, replacement or refurbishment is required after the installation of Gyproc Joint Filler. Therefore, no impact has been accounted in these modules.

B6: Operational energy use; B7: Operational water use
Gyproc Joint Filler does not require any electricity or water use during operation of a building. Therefore, no impact has been accounted in these modules.

C1-C4, End-of-life stage

It is assumed that all Gyproc Joint Filler waste is landfilled at the end-of-life stage.

C1: Deconstruction, demolition
Demolition requires energy for mechanical operations, which is assumed to be 0.0437 MJ/kg.

C2: Transport to waste processing
As there is no data for the transport of waste after its use, a default distance of 100 km for an average truck used at 85% capacity was assumed.

C3: Waste processing for reuse, recovery and/or recycling
No Gyproc Joint Filler is assumed to be reused or recycled at the end-of-life stage.

C4: Disposal
100% landfill was assumed for Gyproc Joint Filler.

Parameter	Value/description
Collection process specified by type	100% collected with mixed demolition waste
Recovery system specified by type	0% recycled
Disposal specified by type	100% to landfill
Assumptions for scenario development (e.g. transportation)	Waste is transported 100 km by truck from demolition site to landfill

D, Reuse/Recovery/Recycling potential

As no Gyproc Joint Filler is recycled or reused, module D impact results are zero.

LCA results

As specified in EN 15804:2012+A2:2019 and the PCR 2019:14 v1.3.4, the environmental impacts are declared and reported using the baseline characterisation factors from the EC-JRC. Specific data have been supplied by the plant and warehouses, and generic data come from Sphera and ecoinvent databases.

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

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

It is discouraged to use the results of Modules A1-A3 without considering the results of other modules, particularly, Modules C1-C4.

All figures refer to a declared unit of 1 kg Gyproc Joint Filler, as installed.

The following results correspond to a product manufactured in Newark, England and distributed from East Leake, Kirkby Thore, Robertsbridge and Sherburn (all located in England).

Environmental impacts

DU: 1 kg of Gyproc Joint Filler, as installed	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
Climate change total [kg CO_2 eq.]	1.24E-01	1.08E-02	4.69E-02	0	0	0	0	0	0	0	5.47E-03	7.84E-03	0	1.87E-02	0
Climate change (fossil) [kg CO_2 eq.]	1.48E-01	1.07E-02	9.14E-03	0	0	0	0	0	0	0	5.46E-03	7.80E-03	0	1.34E-02	0
Climate change (biogenic) [kg CO_2 eq.]	-2.44E-02	4.34E-05	3.78E-02	0	0	0	0	0	0	0	1.73E-06	3.16E-05	0	5.38E-03	0
Climate change (land use change) [kg CO_2 eq.]	8.01E-05	4.55E-07	4.82E-06	0	0	0	0	0	0	0	4.54E-07	3.31E-07	0	9.72E-06	0
Ozone depletion [kg CFC-11 eq.]	2.10E-08	1.70E-15	1.13E-09	0	0	0	0	0	0	0	9.60E-11	1.24E-15	0	3.15E-10	0
Acidification terrestrial and freshwater [Mole of H+ eq.]	4.27E-04	2.14E-05	2.97E-05	0	0	0	0	0	0	0	3.08E-05	1.56E-05	0	9.50E-05	0
Eutrophication freshwater [kg P eq.]	1.02E-05	2.27E-09	7.34E-07	0	0	0	0	0	0	0	1.57E-07	1.65E-09	0	3.50E-06	0
Eutrophication marine [kg N eq.]	1.51E-04	9.55E-06	2.66E-05	0	0	0	0	0	0	0	1.45E-05	6.96E-06	0	3.56E-05	0
Eutrophication terrestrial [Mole of N eq.]	1.59E-03	1.06E-04	1.11E-04	0	0	0	0	0	0	0	1.57E-04	7.72E-05	0	3.80E-04	0
Photochemical ozone formation - human health [kg NMVOC eq.]	4.72E-04	2.20E-05	3.75E-05	0	0	0	0	0	0	0	4.89E-05	1.60E-05	0	1.29E-04	0
Resource use, mineral and metals [kg Sb eq.][1]	2.40E-07	3.51E-10	1.41E-08	0	0	0	0	0	0	0	1.40E-09	2.55E-10	0	2.71E-08	0
Resource use, energy carriers [MJ][1]	2.32E+00	1.43E-01	1.45E-01	0	0	0	0	0	0	0	5.91E-02	1.04E-01	0	2.96E-01	0
Water deprivation potential [m^3 world equiv.][1]	2.55E-02	1.47E-05	2.53E-02	0	0	0	0	0	0	0	1.82E-04	1.07E-05	0	1.28E-02	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

DU: 1 kg of Gyproc Joint Filler, as installed	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				D REUSE, RECOVERY, RECYCLING
Resources use 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
Use of renewable primary energy (PERE) [MJ]	1.84E+00	8.16E-03	9.31E-02	0	0	0	0	0	0	0	4.07E-04	5.95E-03	0	4.99E-03	0
Primary energy resources used as raw materials (PERM)[2] [MJ]	4.81E-01	0	-4.35E-01	0	0	0	0	0	0	0	0	0	0	-4.62E-02	0
Total use of renewable primary energy resources (PERT) [MJ]	2.32E+00	8.16E-03	-3.42E-01	0	0	0	0	0	0	0	4.07E-04	5.95E-03	0	-4.12E-02	0
Use of non-renewable primary energy (PENRE) [MJ]	2.35E+00	1.43E-01	1.46E-01	0	0	0	0	0	0	0	5.91E-02	1.04E-01	0	2.96E-01	0
Non-renewable primary energy resources used as raw materials (PENRM)[2] [MJ]	7.09E-02	0	-5.73E-02	0	0	0	0	0	0	0	0	0	0	-1.36E-02	0
Total use of non-renewable primary energy resources (PENRT) [MJ]	2.42E+00	1.43E-01	8.86E-02	0	0	0	0	0	0	0	5.91E-02	1.04E-01	0	2.82E-01	0
Input of secondary material (SM) [kg]	2.23E-04	0	1.11E-05	0	0	0	0	0	0	0	0	0	0	0	0
Use of renewable secondary fuels (RSF) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Use of non-renewable secondary fuels (NRSF) [MJ]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Use of net fresh water (FW) [m^3]	1.53E-03	8.29E-07	6.36E-04	0	0	0	0	0	0	0	4.23E-06	6.04E-07	0	2.99E-04	0

[2] Based on Option A per Annex 3 of PCR 2019:14 v1.3.4.

Waste category and output flows

DU: 1 kg of Gyproc Joint Filler, as installed	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				D REUSE, RECOVERY, RECYCLING
Waste category and 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]	2.79E-06	6.91E-12	2.12E-07	0	0	0	0	0	0	0	3.91E-07	5.03E-12	0	1.44E-06	0
Non-hazardous waste disposed (NHWD) [kg]	1.20E-02	1.15E-05	7.92E-02	0	0	0	0	0	0	0	3.73E-04	8.41E-06	0	1.29E+00	0
Radioactive waste disposed (RWD) [kg]	2.19E-05	2.05E-07	1.16E-06	0	0	0	0	0	0	0	9.29E-09	1.49E-07	0	9.19E-08	0
Components for re-use (CRU) [kg]	1.50E-03	0	7.48E-05	0	0	0	0	0	0	0	0	0	0	0	0
Materials for Recycling (MFR) [kg]	2.21E-03	0	1.11E-04	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]	5.03E-04	0	2.52E-05	0	0	0	0	0	0	0	0	0	0	0	0
Exported thermal energy (EET) [MJ]	9.43E-04	0	4.72E-05	0	0	0	0	0	0	0	0	0	0	0	0

Optional indicators

DU: 1 kg of Gyproc Joint Filler, as installed	PRODUCT STAGE	CONSTRUCTION STAGE		USE STAGE							END OF LIFE STAGE				D REUSE, RECOVERY, RECYCLING
Optional 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
Respiratory inorganics [Disease incidences]	8.47E-09	1.77E-10	5.60E-10	0	0	0	0	0	0	0	6.56E-10	1.29E-10	0	1.98E-09	0
Ionising radiation - human health [kBq U235 eq.][3]	5.09E-03	2.05E-05	3.06E-04	0	0	0	0	0	0	0	3.92E-05	1.49E-05	0	3.82E-04	0
Ecotoxicity freshwater [CTUe][4]	1.27E+00	6.78E-02	1.04E-01	0	0	0	0	0	0	0	2.52E-02	4.94E-02	0	1.26E-01	0
Cancer human health effects [CTUh][3]	9.99E-11	1.28E-12	5.75E-12	0	0	0	0	0	0	0	8.18E-12	9.31E-13	0	9.37E-12	0
Non-cancer human health effects [CTUh][3]	9.08E-10	4.16E-11	8.26E-11	0	0	0	0	0	0	0	1.95E-11	3.03E-11	0	8.69E-11	0
Land use [Pt]	3.33E+00	6.58E-04	2.07E-01	0	0	0	0	0	0	0	3.75E-03	4.79E-04	0	6.61E-01	0

[3] The ionising radiation category deals mainly with the eventual impact of low-dose ionising radiation on the human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure, or radioactive waste disposal in underground facilities. Potential ionising radiation from the soil, radon and some construction materials is also not measured by this indicator.

[4] 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.

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

DU: 1 kg of Gyproc Joint Filler, as installed	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
Climate Change (GWP-GHG) [kg CO_2 eq.][5]	1.48E-01	1.07E-02	9.14E-03	0	0	0	0	0	0	0	5.46E-03	7.80E-03	0	1.34E-02	0

[5] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Information on biogenic carbon content

Biogenic carbon content		PRODUCT STAGE A1 / A2 / A3
	Biogenic carbon content in product [kg]	1.45E-03
	Biogenic carbon content in packaging [kg]*	7.11E-03

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

*Takes account of the proportion of secondary packaging that is estimated to be removed at the warehouse prior to dispatch.

Additional information

Electricity information

The following information is applicable for electricity used at the Newark, England manufacturing site and the warehouses in East Leake, Kirkby Thore, Robertsbridge and Sherburn (all located in England).

Type of information	Description
Electricity purchaser	Saint-Gobain Construction Products UK Ltd.
Electricity provider	Smartest Energy
Electricity mix	Hydro – 14.85%; Wind – 53.83%, Solar PV – 18.08%, Waste to Energy – 3.74%, Biomass – 3.06%, Thermal – 6.17%, Anaerobic – 0.29%
Reference year	2022
Type of dataset	Sphera Database 2024.1, all datasets reference 2022 emissions: Hydro - "GB: Electricity from hydro power Sphera" Thermal and Anaerobic - "GB: Electricity from biogas Sphera" Solar PV - "GB: Electricity from photovoltaic Sphera" Biomass - "GB: Electricity from biomass Sphera" Wind - "GB: Electricity from wind power Sphera" Waste to Energy - "GB: Electricity from waste Sphera"
GWP-GHG **CO_2 emissions kg CO_2 eq. / kWh**	Certificate issue = 0 kg CO_2 / kWh Modelled impact = 0.0655 kg CO_2 eq. / kWh

*Saint-Gobain Construction Products UK Ltd. is the entity that Saint-Gobain British Gypsum operate under.

Data quality

Inventory data quality is judged by geographical, temporal, and technological representativeness. To cover these requirements and to ensure reliable results, first-hand industry data crossed with LCA background datasets were used. The data were collected from internal/supplier records and reporting documents. After evaluating the inventory, according to the defined ranking in the LCA report, the assessment reflects good inventory data quality.

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