



ENVIRONMENTAL PRODUCT DECLARATION

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

Gyproc Hybrid stud GHR 70



THE INTERNATIONAL EPD® SYSTEM

The International EPD® System www.environdec.com

Programme operator: EPD international AB

Registration number: EPD-IES-0002926

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EPD of multiple products, based on average results of
the product group GHR 70, in lengths of 2485 mm,
2685 mm, and 2985 mm



Programme information

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

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

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

An independent third party verification of the declaration and data was made according to ISO 14025:2006. This verification was external and conducted by the following third party based on the PCR mentioned above.

EPD process certification EPD verification

Third party verifier: Vijay Thakur, Intertek, Vijay.Thakur@intertek.com

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 for 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 shall be based on the same PCR (including the same version number up to the first two digits) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical DU/FU); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterization factors); have equivalent content declarations; and be valid at the time of Comparison. For further information about comparability, see EN 15804:2012+A2:2019/AC:2021 and ISO 14025:2006.

Product information

Product name: Gyproc Hybrid stud GHR 70

Declared unit: 1 m

UN CPC CODE: 3191 - Other products of wood

Main GTIN number: 7318937176068 (2485 mm), 7318937176099 (2685 mm), 7318937176129 (2985 mm)

Other GTIN numbers for other dimensions can be found at www.gyproc.se

Company information

Manufacturer: Saint-Gobain Sweden AB, Gyproc

Saint-Gobain Gyproc develops and delivers innovative, safe and sustainable lightweight building systems, primarily for interior walls, exterior walls and suspended ceilings. Our systems are based on gypsum boards and profiles that are 100 percent recyclable. Examples of focus areas for our solutions are sound insulation and fire protection that ensure a healthy and good indoor environment.

Website: www.gyproc.se

Production plant: Anders Bard Träprodukter AB, Broaryd for Saint-Gobain Sweden AB

Product- and Management system-related certification: SS-EN: ISO 9001, ISO 14001

LCA & EPD Information

Owner of the declaration: Saint-Gobain Sweden AB, Gyproc

Contact person: Malin Dalborg (malin.dalborg@saint-gobain.com)

EPD prepared by: Amy Stockwell (amy.stockwell@carbonzero.se)

Type of EPD: Cradle to gate with options, including stages A+C+D

Geographical scope of the EPD®: Sweden and Norway

Year of data collection: January – December 2023

Product description

Product description and description of use

This Environmental Product Declaration (EPD®) describes the environmental impacts of 1 m installed Gyproc® Hybrid stud 70 mm

Gyproc® Hybrid stud is an initiative in the sign of our sustainability ambitions and consists of two wooden flanges joined with a number of steel sheets.

It is manufactured flat and unfolds during assembly. Packed in bundles of 6 studs, it is very space-efficient to transport and store. It is possible to install with screws or staples.

To calculate the result for 1 kg of Gyproc® Hybrid stud 70 mm, divide the result with the weight of the Hybrid stud: 0.77 kg/m (conversion factor $1/0.77 = 1.3$).

Product specifications

Product components	Value / Description
Weight of 1 m hybrid stud	GHR 70 2485mm, 0.766 kg
	GHR 70 2685mm, 0.773 kg
	GHR 70 2985mm, 0.777 kg
Width	70 mm
Products used for installation	none

Technical data

All technical characteristics and properties for any product could be find on www.gyproc.se

Declaration of the main product components and/or materials

Description of the main components and/or materials:

Product components	Weight (%)	Post-consumer recycled material weight (%)	Biogenic material, (kg C/DU)
Wood	90-91%	0	0.32
Metal	9-10%	15 %	0
Sum	100%	1.3-1.5%	0.32
Packaging materials	Weight (kg/DU)	Weight versus the product and packaging (%)	Weight biogenic carbon, (kg C/DU)
PP straps	0.003	0.3%	0
LDPE	0.006	0.7%	0
Wood	0.012	1.5%	0.005

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

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

LCA calculation information

Parameter	Value / description
TYPE OF EPD	Cradle to gate with options, including stages A+C+D
DECLARED UNIT	1 m Gyproc® Hybrid stud 70
SYSTEM BOUNDARIES	Cradle to gate with options, including stages A+C+D
CUT-OFF RULES	<p>In the case 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.</p> <p>Flows related to human activities such as employee transport are excluded.</p> <p>The construction of plants, production of machines and transportation systems are excluded since the related flows are supposed to be negligible compared to the production of the building product when compared at these systems lifetime level.</p>
ALLOCATIONS	Allocation in the manufacturing site (A3) is based on economic and mass allocation. The polluter pays and the modularity principles as well have been followed.
GEOGRAPHICAL COVERAGE AND TIME PERIOD	<p>Scope: Sweden and Norway</p> <p>Data is collected from one production site, Broaryd, located in Sweden</p> <p>Data collected for the year 2023-2024</p>
BACKGROUND DATA SOURCE	The databases Sphera 2023.2 and ecoinvent v.3.9.1
SOFTWARE	Sphera LCA for Experts (GaBi) 10.9

LCA scope

	Product stage			Construction stage		Use stage							End of life stage				Benefits and loads beyond the system boundary	
	Raw material supply	Transport	Manufacturing	Transport	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	ND							X	X	X	X	X	
Geography	SE	SE	SE	SE/NO		-							SE/NO				SE/NO	
Specific data used	21%																	
Variation products	± 4%																	
Variation sites	0%																	

Life cycle stages

A1-A3. Product stage

The product stage of Gyproc® Hybrid stud 70 is subdivided into 3 modules A1, A2 and A3:

A1. Raw materials supply

This module includes the extraction and processing of all raw materials (timber and steel) which occur upstream to the manufacturing site.

A2. Transport to the manufacturer

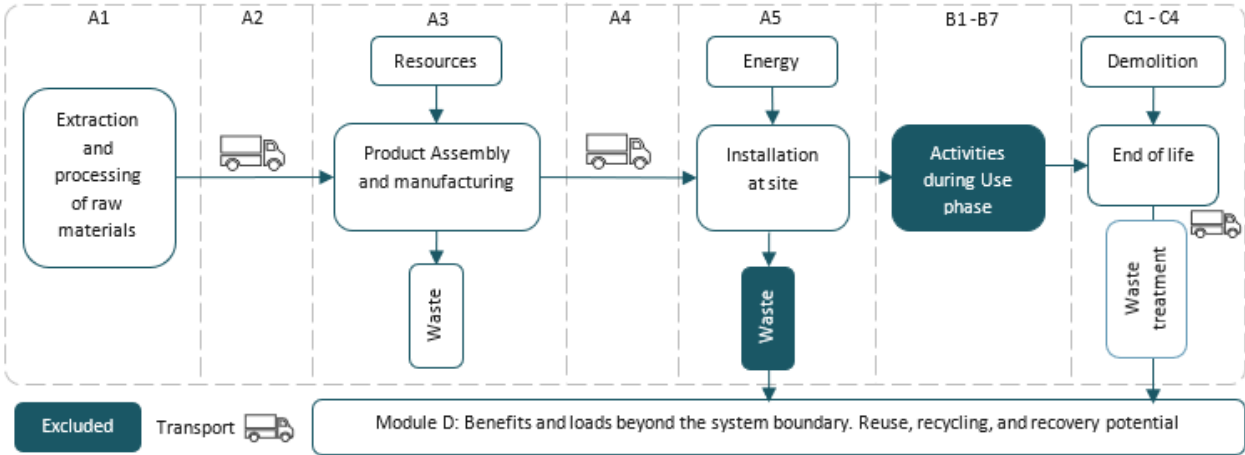
This module includes the transportation of raw materials to the manufacturing site.

A3. Manufacturing

This module includes the manufacturing of products and the production of packaging. The processing of any waste arising from this stage is also included.

System boundaries

System diagram:



Manufacturing in detail:

The purpose of the Hybrid stud production line, is to mount an adjustable number of metal sheets on two wooden battens of varying lengths, in order to assemble a foldable hybrid stud.

The wooden battens are fed through the machine and the sheet metal sheets are stamped into the correct positions and then rolled down to the correct final depth.

When the last sheet metal has been rolled down, the stud is fed out and falls into a compartment, where 6 joists are stacked and strapped into a complete 6-pack bundle.

A4-A5. Construction process stage

The scenarios used are realistic and representative of the most probable alternatives. They do not incorporate processes or procedures that are not currently in use or which have not been demonstrated to be practical.

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.	Truck-trailer, Euro 0 - 6 mix, 34 - 40t gross weight / 27t payload capacity. Diesel consumption of 0.0167 kg/tkm.
Distance	500 km by truck
Capacity utilization (including empty returns)	61% (dataset default)
Bulk density of transported products	480 kg/m ³
Volume capacity utilization factor	<1

A5. Installation in the building:

The disposal of packaging was not included as the weight of the packaging is less than 3% of the weight of the product. Biogenic carbon was balanced however.

Studs are installed with hand tools and either screws or staples. These are considered negligible and therefore not included. The studs are designed to lengths which should make the quantity disposed negligible.

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 the entire building.

C2: Transport to waste processing

C3: Waste processing for reuse, recovery and/or recycling

C4: Waste disposal; including physical pre-treatment and site management.

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

Parameter	Information
C1: Diesel for de-construction / demolition	1.72E-04 kg/kg
C1: Collection process specified by type	0.77 kg of Gyproc® Hybrid stud 70 is collected with mixed deconstruction and demolition waste 22% landfill 45% recycling 33% backfilling and other recovery – this was modelled as recycling
C2: Assumptions for scenario development (e.g. transportation)	Truck-trailer, Euro 0 - 6 mix, 34 - 40t gross weight / 27t payload capacity. Diesel consumption of 0.0167 kg/tkm. Distance to waste treatment facilities 50 km
C3: Recovery system specified by type	0.60 kg recycled
C4: Disposal specified by type	0.17 kg to landfill

D. Reuse/recovery/recycling potential

In the module D is declared 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
- Outputs of secondary materials: product sent to recycling, backfilling or 'other'.
- Exported electrical energy: landfill of wood.

LCA results

As specified in EN 15804:2012+A2:2019/AC:2021 and the Product-Category Rules, the environmental impacts are declared and reported using the baseline characterization factors EF 3.1. Raw materials and energy consumption 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.

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




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

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

Results refer to a declared unit of 1m Gyproc hybrid stud GHR 70. The following results refer to an average product manufactured in a single plant: Anders Bard Träprodukter AB, Broaryd for Saint-Gobain Sweden AB.











GHR 70 is sold in 3 lengths. The average impact per metre was calculated.

Environmental Impacts

Environmental indicators		Product stage	Construction stage		End of life stage			Benefits and loads beyond the life cycle	
		A1 / A2 / A3	A4 Transport	A5 Installation	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
	Climate Change (total) [kg CO ₂ eq.]	-9.04E-01	3.17E-02	1.76E-02	5.08E-04	6.14E-03	9.19E-01	5.15E-01	-1.38E-01
	Climate Change (fossil) [kg CO ₂ eq.]	2.72E-01	3.11E-02	ND	4.98E-04	6.02E-03	1.41E-02	1.20E-02	-1.38E-01
	Climate Change (biogenic) [kg CO ₂ eq.]	-1.18E+00	9.61E-05	1.76E-02	1.52E-06	1.86E-05	9.05E-01	5.03E-01	-4.76E-05
	Climate Change (land use change) [kg CO ₂ eq.]	6.04E-04	5.09E-04	ND	8.04E-06	9.84E-05	2.89E-06	1.85E-05	-2.18E-04
	Ozone depletion [kg CFC-11 eq.]	8.74E-09	4.46E-15	ND	7.05E-17	8.63E-16	3.01E-13	2.27E-14	-6.02E-09
	Acidification terrestrial and freshwater [Mole of H ⁺ eq.]	9.47E-04	3.97E-05	ND	2.47E-06	7.68E-06	3.78E-05	7.22E-05	-5.31E-04
	Eutrophication freshwater [kg P eq.]	9.05E-06	1.29E-07	ND	2.04E-09	2.50E-08	6.13E-08	5.40E-07	-4.86E-06
	Eutrophication marine [kg N eq.]	2.83E-04	1.46E-05	ND	1.16E-06	2.83E-06	9.74E-06	3.11E-05	-1.57E-04
	Eutrophication terrestrial [Mole of N eq.]	3.00E-03	1.70E-04	ND	1.29E-05	3.29E-05	1.04E-04	2.83E-04	-1.72E-03
	Photochemical ozone formation - human health [kg NMVOC eq.]	9.09E-04	4.03E-05	ND	3.30E-06	7.80E-06	3.78E-05	1.81E-04	-5.14E-04
	Resource use, mineral and metals [kg Sb eq.] ¹	3.23E-06	2.64E-09	ND	4.17E-11	5.10E-10	2.93E-09	4.81E-10	-2.08E-06
	Resource use, energy carriers [MJ] ¹	3.96E+00	3.99E-01	ND	6.30E-03	7.72E-02	1.84E-01	1.73E-01	-1.38E+00
	Water deprivation potential [m ³ world equiv.] ¹	-5.72E-04	4.69E-04	ND	7.41E-06	9.07E-05	5.92E-04	1.39E-03	4.81E-03









¹ Disclaimer : 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		End of life stage				Benefits and loads beyond the life cycle
	A1 / A2 / A3	A4 Transport	A5 Installation	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
 Use of renewable primary energy (PERE) [MJ] ²	6.44E+00	3.43E-02	ND	5.43E-04	6.65E-03	1.46E-01	1.77E-02	-3.34E+00
 Use of renewable primary energy resources used as raw materials (PERM) [MJ] ²	1.44E+01	0	ND	0	0	-1.11E+01	0	0
 Total use of renewable primary energy resources (PERT) [MJ] ²	2.09E+01	3.43E-02	ND	5.43E-04	6.65E-03	-1.09E+01	1.77E-02	-3.34E+00
 Use of non-renewable primary energy (PENRE) [MJ] ²	4.92E+00	3.99E-01	ND	6.30E-03	7.72E-02	1.84E-01	1.73E-01	-2.05E+00
 Non-renewable primary energy resources used as raw materials (PENRM) [MJ] ²	3.86E-01	0	ND	0	0	0	0	0
 Total use of non-renewable primary energy resources (PENRT) [MJ] ²	5.31E+00	3.99E-01	ND	6.30E-03	7.72E-02	1.84E-01	1.73E-01	-2.05E+00
 Input of secondary material (SM) [kg]	1.08E-02	0	ND	0	0	0	0	0
 Use of renewable secondary fuels (RSF) [MJ]	0	0	ND	0	0	0	0	0
 Use of non-renewable secondary fuels (NRSF) [MJ]	0	0	ND	0	0	0	0	0
 Use of net fresh water (FW) [m ³]	8.46E-04	3.83E-05	ND	6.05E-07	7.41E-06	6.41E-05	3.82E-05	-1.88E-04

² From EPD International Construction Product PCR 1.3.4 (Annex 3). The option B was retained to calculate the primary energy use indicators.

Waste Category & Output flows



Waste Category & Output Flows	Product stage	Construction stage		End of life stage				Benefits and loads beyond the life cycle
	A1 / A2 / A3	A4 Transport	A5 Installation	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	D Reuse, recovery, recycling
 Hazardous waste disposed (HWD) [kg]	1.19E-04	1.53E-11	ND	2.41E-13	2.95E-12	3.33E-10	3.03E-11	-8.29E-05
 Non-hazardous waste disposed (NHWD) [kg]	3.33E-02	6.51E-05	ND	1.03E-06	1.26E-05	1.13E-05	1.02E-01	-2.24E-02
 Radioactive waste disposed (RWD) [kg]	2.78E-04	7.26E-07	ND	1.15E-08	1.41E-07	1.31E-05	2.12E-06	-4.04E-05
 Components for re-use (CRU) [kg]	0	0	ND	0	0	0	0	0
 Materials for Recycling (MFR) [kg]	4.25E-03	0	ND	0	0	6.01E-01	0	-2.96E-03
 Material for Energy Recovery (MER) [kg]	0	0	ND	0	0	0	0	0
 Exported electrical energy (EEE) [MJ]	0	0	ND	0	0	0	1.05E-01	-2.54E-02
 Exported thermal energy (EET) [MJ]	3.65E-02	0	ND	0	0	0	0	0

Additional indicators from EN 15804

	Product stage	Construction stage		End of life stage				Benefits and loads beyond the life cycle
		A1 / A2 / A3	A4 Transport	A5 Installation	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal
Environmental indicators								
 GWP-GHG / GWP-IOBC [kg CO ₂ eq.] ³	2.73E-01	3.17E-02	ND	5.07E-04	6.14E-03	1.42E-02	2.60E-01	-1.38E-01

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.

Information on biogenic carbon content

		At factory gate
Biogenic Carbon Content		A1 / A2 / A3
	Biogenic carbon content in product [kg]	3.16E-01
	Biogenic carbon content in packaging [kg]	4.79E-03

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

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

Additional information:

Electricity information

The table below presents the information for the Swedish residual grid mix.

Parameter	Information
Location	Sweden
Share of electricity covered by Guarantee of Origin	0% of the electricity consumption is covered by the GO 100% of electricity consumption is covered by residual mix
Geographical representativeness description	Sweden residual grid mix
Reference year	For residual mix: 2023
Type of dataset	Cradle to gate from Sphera
Source	Residual mix: Sphera 2023 Association of Issuing bodies (AIB)
CO₂ emission (kg CO₂ eq. / kWh) (Based on GHG-GWP)	0.103 kg of CO ₂ eq /kWh

References

AIB 2023	Association of Issuing Bodies. European Residual Mixes 2023. Version 1.0.
EN 15804:2012+A2:2019 /AC:2021	Sustainability of construction works – Environmental product declaration – Core rules for the product category of constructions products v1.3.4
EPD International	General Programme Instructions of the International EPD® System, version 4.0
EPD IES 02537	Swedish sawn dried timber of spruce or pine, Svenskt Trä
Eurostat 2022	Treatment of waste by waste category, hazardousness and waste management operations [env_wastrt__custom_14720002] Retrieved 2024-11-27
ISO 14025:2006	International Standard ISO 14025 – Environmental labels and declarations — Type III environmental declarations — Principles and procedures
ISO 14040:2006	International Standard ISO 14040: Environmental Management – Life cycle assessment – Principles and framework. Second edition 2006-07-01.
ISO 14044:2006	International Standard ISO 14044: Environmental Management – Life cycle assessment – Requirements and Guidelines.
SCB 2020	Treated waste by treatment category and waste category. Retrieved 2024-11-27