EPD®

THE INTERNATIONAL EPD® SYSTEM

ECO PLATFORM EPD EN 15804 VERIFIED

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with EN 15804 and ISO 14025

Glasroc GTX 9 Tuulensuojalevy - Sheathing Board

Date of issue: 2021-03-26
Validity: 5 years
Valid until: 2026-03-26
Scope of the EPD®: Finland and Baltic

EPD VERIFIED

The environmental impacts of this product have been assessed over its whole life cycle. Its Environmental Product Declaration has been verified by an independent third party.

Registration number
The International EPD® System:
S-P-03416

Gyproc SAINT-GOBAIN

Publisher: The Norwegian EPD Foundation
Registration number: NEPD-2786-1487-EN

epd-norge.no
The Norwegian EPD Foundation

General information

Manufacturer: Saint-Gobain Construction Products Finland Oy
Programme used: International EPD System **http://www.environdec.com/**
EPD registration number/declaration number: S-P-03416
PCR identification: EN 15804 Sustainability of construction works – Environmental product declaration - core rules for the product category of construction product and The International EPD® System PCR 2012:01 version 2.33 for Construction products and Construction services.
Site of manufacture: Saint-Gobain Construction Products Finland Oy KIRKKONUMMI
Owner of the declaration: Saint-Gobain Construction Products Finland Oy
Product / product family name and manufacturer represented: Glasroc GTX 9 Tuulensuojalevy – Sheating board 9.5 mm produced by Saint-Gobain Construction Products Finland Oy
UN CPC code: 37530 Articles of plaster or of composition based on plaster
Declaration issued: 2021-03-26
Valid until: 2026-03-26
Demonstration of verification: an independent verification of the declaration was made, according to ISO 14025:2010. This verification was external and conducted by the following third party: Martin Erlandsson, IVL Swedish Environmental Research Institute , based on the PCR mentioned above.
EPD Prepared by: LCA Central Team, Saint-Gobain.
Contact: Malin Dalborg from Gyproc Saint-Gobain (Malin.Dalborg@saint-gobain.com) and Patricia Jimenez Diaz from LCA central team ((Patricia.JimenezDiaz@saint-gobain.com).

The Declared Unit is 1 m² of installed Glasroc GTX 9 Tuulensuojalevy – Sheating board 9.5 mm with a weight of 7.8 kg /m2 for an expected average service life of 50 years.

Declaration of Hazardous substances: (Candidate list of Substances of Very High Concern): none

Environmental management systems in place: **ISO 14001:2015 Cert. no. EUFI29-20004795-S2**
Quality management systems in place: **ISO 9001:2015 EUFI29-20004795-S1**

Geographical scope of the EPD®: Finland and Baltic

CEN standard EN 15804 serves as the core PCR[a]	
PCR:	PCR 2012:01 Construction products and Construction services, Version 2.2
PCR review was conducted by:	The Technical Committee of the International EPD® System. Chair: Massimo Marino. Contact via info@environdec.com
Independent verification of the declaration, according to EN ISO 14025:2010 **Internal ☐ External ☒**	
Third party verifier:	Martin Erlandsson, IVL Swedish Environmental Research Institute
Accredited or approved by	The International EPD System

Product description

Product description and use:
Glasroc GTX 9 Tuulensuojalevy – Sheating board is a 9,5 mm thick gypsum-based sheathing board with a water-resistant core and covered with glass fiber mats. Sheathing board is a square edge wind resistant plasterboard for weather protection on exterior walls. The board can be exposed to the weather for 6 months which allows greater flexibility in the construction process before the permanent cladding.

Technical data/physical characteristics:

EN CLASSIFICATION	GM-H2 according EN 15283-1:2008
REACTION TO FIRE	Euroclass A2-S1, d0 according EN 15283-1:2008
THERMAL CONDUCTIVITY	0,25 W/(m.K) according EN 15283-1:2008

Description of the main components and/or materials for 1 m2 of product for the calculation of the EPD®:

PARAMETER	VALUE
Quantity of board for 1 m^2 of product	7,8 kg of plasterboard
Thickness	9,5 mm of plasterboard
Surfacing	Color coated glass fiber mat: 720 g/m^2
Packaging for the transportation and distribution	Polyethylene film: 0,2681 g/m^2 Wooden pallet: 0.036 unit/m^2 Graphic label: 0.03 g/m^2
Product used for the Installation	Screws: 8 pc/m^2

During the life cycle of the product any hazardous substance listed in the “Candidate List of Substances of Very High Concern (SVHC) for authorization” has not been used in a percentage higher than 0,1% of the weight of the product.

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

LCA calculation information

EPD TYPE DECLARED	Cradle to Gate with options Product-specific (one product, one manufacturing site)
DECLARED UNIT	1 m² of installed board with a weight of 7,8 kg/m²
SYSTEM BOUNDARIES	Cradle to Gate with options: stages A1 – 3, A4 – A5, B1 – 7, C1 – 4 and D
REFERENCE SERVICE LIFE (RSL)	50 years By default, it corresponds to Standards building design life and value is included in Appendix III of Saint-Gobain Environmental Product Declaration Methodological Guide for Construction Products.
CUT-OFF RULES	Life Cycle Inventory data for a minimum of 99% of total inflows to the upstream and core module shall be included
ALLOCATIONS	Production data. Recycling, energy and waste data have been calculated on a mass basis
GEOGRAPHICAL COVERAGE AND TIME PERIOD	Scope includes Finland and Baltics Data included is collected from one production site, Kirkkonummi. Data collected for the year 2018 Cradle to gate with options Background data: Ecoinvent (from 2015 to 2016) and GaBi (from 2013 to 2016)
PRODUCT CPC CODE	37530 Articles of plaster or of composition based on plaster

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

Life cycle stages

Flow diagram of the Life Cycle

Product stage, A1-A3

Description of the 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 material supply.
This includes the extraction and processing of all raw materials and energy which occur upstream from the manufacturing process.

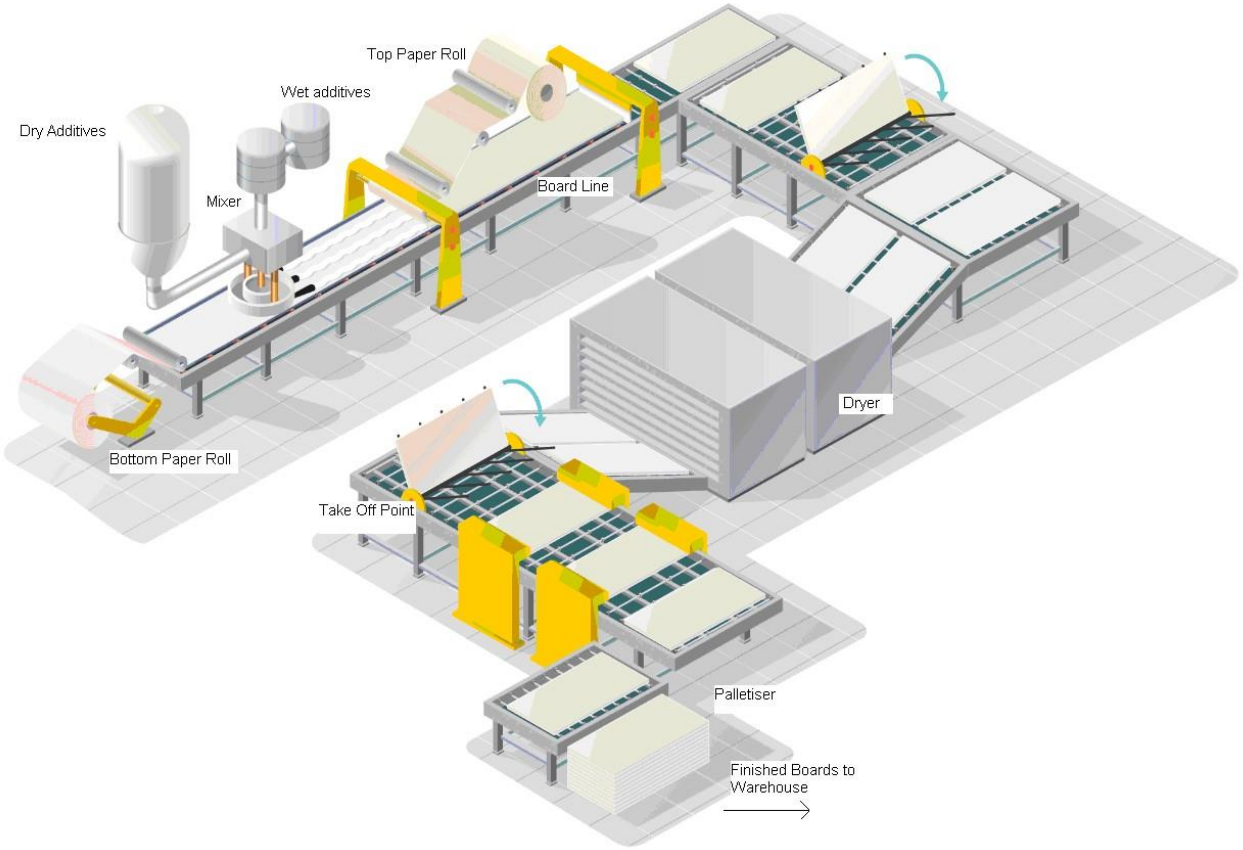
A2, transport to the manufacturer.
The raw materials are transported to the manufacturing site. The modelling includes road, boat and/or train transportations of each raw material.

A3, manufacturing.
This module includes the manufacture of products and the manufacture of packaging. The production of packaging material is taken into account at this stage. The processing of any waste arising from this stage is also included.

Object	Value	Data quality
A3 data quality of electricity and CO2 emission kg CO2 eq. / kWh	0.05	The emission of Finland electricity is based on Thinkstep 2018 database and Guarantee of Origin certificate.

The LCA calculation has been made taking into account the fact that during the manufacturing process it is used 100% renewable electricity. This 100% renewable electricity bought is evidenced by Guarantee of Origin certificates (GOs) from LOS, valid for the period chosen in the calculation (2018).

Manufacturing process flow diagram



Manufacturing in detail:
The initial materials are homogenously mixed to form a gypsum slurry that is spread via multiple hose outlets onto a paper liner on a moving conveyor belt. A second paper liner is fed onto the production line from above to form the plasterboard. The plasterboard continues along the production line where it is finished, dried, and cut to size.

Recycled Gypsum waste is reintegrated back into the manufacturing process wherever possible.

Construction process stage, A4-A5

Description of the 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 (Representative as average for the Swedish market). Influence of transport to others countries (Denmark, Finland and Norway) is shown at page 17.

Transport is calculated on the basis of a scenario with the parameters described in the following table.

PARAMETER	VALUE (expressed per functional/declared unit)
Fuel type and consumption of vehicle or vehicle type used for transport e.g. long distance truck, boat, etc.	Truck, maximum load weight of 27t and consumption of 0.38 liters per km
Distance	Truck: 583 km by truck, 449 km by ship
Capacity utilisation (including empty returns)	85% for truck
Bulk density of transported products	821 kg/m^3
Volume capacity utilisation factor	1

A5, installation into the building.
The accompanying table quantifies the parameters for installing the product at the building site. All installation materials and their waste processing are included.

PARAMETER	VALUE (expressed per functional/declared unit)
Ancillary materials for installation (specified by materials)	Screws: 8 pc / m²
Other resource use	None
Quantitative description of energy type (regional mix) and consumption during the installation process	None
Wastage of materials on the building site before waste processing, generated by the product's installation (specified by type)	Plasterboard: 0.39 kg (5%) Screws: 0 kg Polyethylene film: 0,2681 g/m² Graphic paper label: 0.03 g/m² Wooden pallet: 0.036 unit/m²
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: 0,3315 kg (85%) to landfill Plasterboard: 0,0585 kg (15%) to recycling Polyethylene film: 0,2681 g/m² to recycling Graphic paper label: 0.03 g/m² to landfill Wooden pallet: 0.036 unit/m² to recycling
Direct emissions to ambient air, soil and water	None

Use stage (excluding potential savings), B1-B7

Description of the stage:
The use stage, related to the building fabric includes:

B1, use or application of the installed product;
B2, maintenance;
B3, repair;
B4, replacement;
B5, refurbishment;
B6, operational energy use
B7, operational water use

Description of scenarios and additional technical information:
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.

Maintenance:

PARAMETER	VALUE (expressed per functional/declared unit)
Maintenance process	None required during product lifetime
Maintenance cycle	None required during product lifetime
Ancillary materials for maintenance (e.g. cleaning agent, specify materials)	None required during product lifetime
Wastage material during maintenance (specify materials)	None required during product lifetime
Net fresh water consumption during maintenance	None required during product lifetime
Energy input during maintenance (e.g. vacuum cleaning), energy carrier type, (e.g. electricity) and amount, if applicable and relevant	None required during product lifetime

Repair:

PARAMETER	VALUE (expressed per functional/declared unit)
Repair process	None required during product lifetime
Inspection process	None required during product lifetime
Repair cycle	None required during product lifetime
Ancillary materials (e.g. lubricant, specify materials)	None required during product lifetime
Wastage material during repair (specify materials)	None required during product lifetime
Net fresh water consumption during repair	None required during product lifetime
Energy input during repair (e.g. crane activity), energy carrier type, (e.g. electricity) and amount if applicable and relevant	None required during product lifetime

Replacement:

PARAMETER	VALUE (expressed per functional/declared unit)
Replacement cycle	None required during product lifetime
Energy input during replacement (e.g. crane activity), energy carrier type, (e.g. electricity) and amount if applicable and relevant	None required during product lifetime
Exchange of worn parts during the product's life cycle (e.g. zinc galvanized steel sheet), specify materials	None required during product lifetime

Refurbishment:

PARAMETER	VALUE (expressed per functional/declared unit)
Refurbishment process	None required during product lifetime
Refurbishment cycle	None required during product lifetime
Material input for refurbishment (e.g. bricks), including ancillary materials for the refurbishment process (e.g. lubricant, specify materials)	None required during product lifetime
Wastage material during refurbishment (specify materials)	None required during product lifetime
Energy input during refurbishment (e.g. crane activity), energy carrier type, (e.g. electricity) and amount	None required during product lifetime
Further assumptions for scenario development (e.g. frequency and time period of use, number of occupants)	None required during product lifetime

Use of energy and water:

PARAMETER	VALUE (expressed per functional/declared unit)
Ancillary materials specified by material	None required during product lifetime
Net fresh water consumption	None required during product lifetime
Type of energy carrier (e.g. electricity, natural gas, district heating)	None required during product lifetime
Power output of equipment	None required during product lifetime
Characteristic performance (e.g. energy efficiency, emissions, variation of performance with capacity utilisation etc.)	None required during product lifetime
Further assumptions for scenario development (e.g. frequency and time period of use, number of occupants)	None required during product lifetime

End-of-life stage C1-C4

Description of the stage: This stage includes the next modules:

C1, de-construction, demolition;
C2, transport to waste processing;
C3, waste processing for reuse, recovery and/or recycling;
C4, disposal, including provision and all transport, provision of all materials, products and related energy and water use.

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

PARAMETER	VALUE (expressed per functional/declared unit)
Collection process specified by type	7,82 kg collected with mixed construction waste
Recovery system specified by type	15% of collected mixed construction waste recycled (1.17 kg)
Disposal specified by type	85% of collected mixed construction waste landfilled (6.65 kg)
Assumptions for scenario development (e.g. transportation)	On average, Gypsum waste is transported 200 km by truck to the recycling facility, and 32 km to the landfill facility.

Reuse/recovery/recycling potential, D

Description of the stage: An end of life recycling rate of 15% has been assumed using local demolition waste data, and adjusted considering the recyclability of the product. Figures displayed in Module D account for this recycling. The recycle material will substitute natural gypsum when manufacture new plasterboards.

LCA results

Description of the system boundary (X = Included in LCA, MNA = Module Not Assessed)

CML 2001 has been used as the impact model. Specific data has been supplied by the plant, and generic data come from GABI and Ecoinvent databases.
All emissions to air, water, and soil, and all materials and energy used have been included.

All figures refer to a declared unit of 1 m² of installed building plasterboard of 7,8 kg/m² and an expected average service life of 50 years.

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
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

ENVIRONMENTAL IMPACTS

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse, recovery, recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Global Warming Potential (GWP 100) - *kg CO_2 equiv/FU*	2,13E+00	8,16E-02	1,47E-01	0	0	0	0	0	0	0	3,43E-02	1,02E-02	0,00129	1,04E-01	-2,69E-03
	The global warming potential of a gas refers to the total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas, carbon dioxide, which is assigned a value of 1.														
Ozone Depletion (ODP) *kg CFC 11 equiv/FU*	1,26E-07	1,25E-17	6,30E-09	0	0	0	0	0	0	0	4,67E-18	5,88E-15	2,06E-12	5,80E-16	-1,46E-05
	Destruction of the stratospheric ozone layer which shields the earth from ultraviolet radiation harmful to life. This destruction of ozone is caused by the breakdown of certain chlorine and/or bromine containing compounds (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules.														
Acidification potential (AP) *kg SO_2 equiv/FU*	8,61E-03	3,26E-04	5,38E-04	0	0	0	0	0	0	0	1,20E-04	4,19E-05	1,46E-05	5,92E-04	-1,33E-06
	Acid depositions have negative impacts on natural ecosystems and the man-made environment incl, buildings. The main sources for emissions of acidifying substances are agriculture and fossil fuel combustion used for electricity production, heating and transport.														
Eutrophication potential (EP) *kg $(PO_4)^{3-}$ equiv/FU*	1,34E-02	7,95E-05	6,84E-04	0	0	0	0	0	0	0	7,01E-06	1,06E-05	2,68E-06	6,71E-05	-3,33E-02
	Excessive enrichment of waters and continental surfaces with nutrients, and the associated adverse biological effects.														
Photochemical ozone creation (POPC) *kg Ethylene equiv/FU*	2,83E-04	1,19E-05	1,75E-04	0	0	0	0	0	0	0	8,09E-06	1,72E-06	1,79E-06	4,88E-05	0
	Chemical reactions brought about by the light energy of the sun. The reaction of nitrogen oxides with hydrocarbons in the presence of sunlight to form ozone is an example of a photochemical reaction.														
Abiotic depletion potential for non-fossil ressources (ADP-elements) - *kg Sb equiv/FU*	1,10E-05	1,09E-09	2,43E-06	0	0	0	0	0	0	0	8,51E-10	8,83E-10	7,07E-10	3,53E-08	0
Abiotic depletion potential for fossil ressources (ADP-fossil fuels) - *MJ/FU*	3,73E+01	1,14E+00	2,26E+00	0	0	0	0	0	0	0	4,27E-01	1,38E-01	0,0137	1,38E+00	0
	Consumption of non-renewable resources, thereby lowering their availability for future generations.														

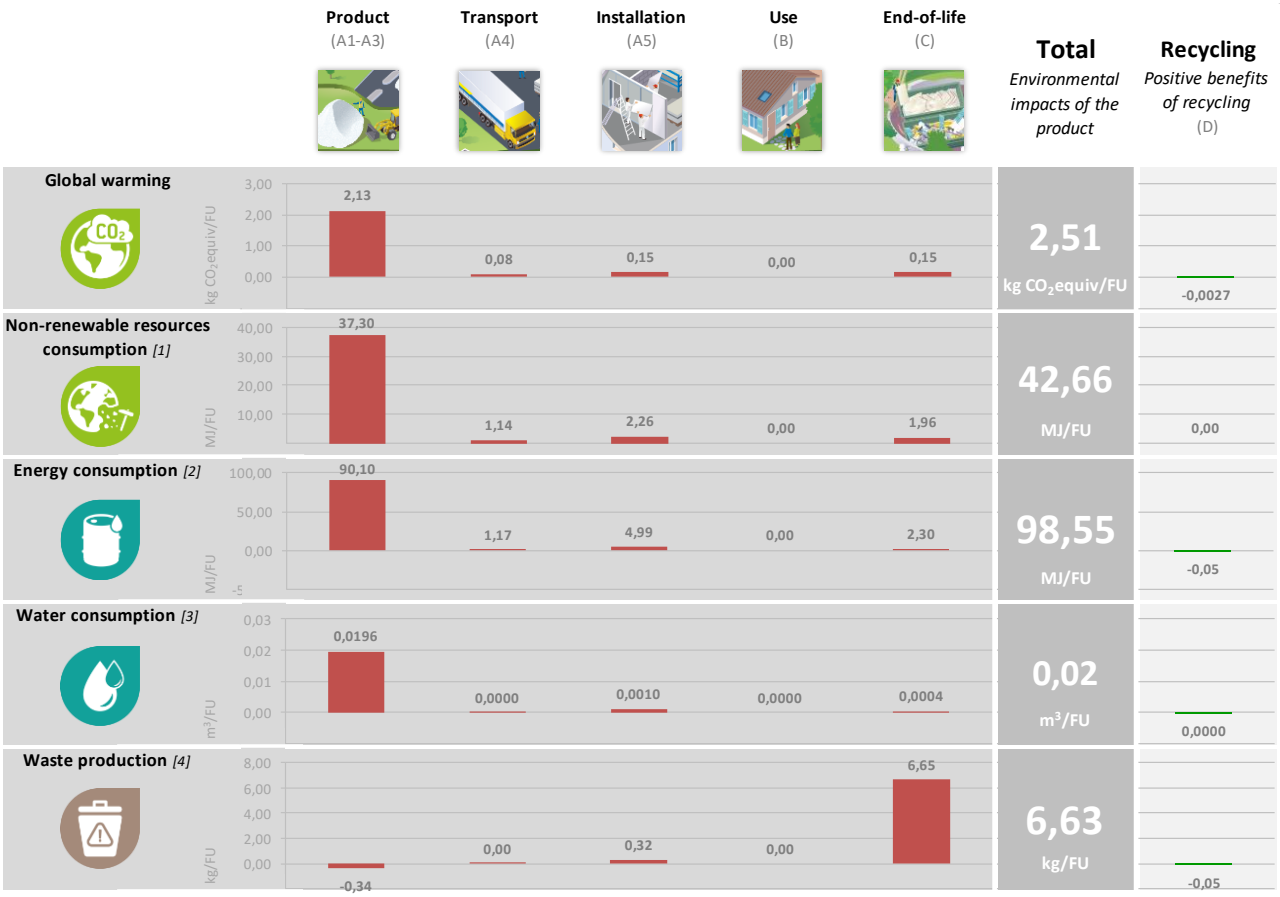
RESOURCE USE															
Parameters	**Product stage**	**Construction process stage**		**Use stage**							**End-of-life stage**				**D Reuse, recovery, recycling**
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Use of renewable primary energy excluding renewable primary energy resources used as raw materials *MJ/FU*	2,78E+01	2,6E-02	1,5E+00	0	0	0	0	0	0	0	1,4E-03	8,5E-03	9,6E-02	1,8E-01	9,6E-03
Use of renewable primary energy used as raw materials *MJ/FU*	1,21E+00	-	5,8E-02	-	-	-	-	-	-	-	-	-	-	-	-
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) *MJ/FU*	1,20E+01	2,91E+01	2,6E-02	1,5E+00	0	0	0	0	0	0	0	1,4E-03	8,5E-03	9,6E-02	1,8E-01
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials - *MJ/FU*	3,70E+01	1,1E+00	2,3E+00	0	0	0	0	0	0	0	4,3E-01	1,4E-01	1,4E-02	1,4E+00	4,1E-02
Use of non-renewable primary energy used as raw materials *MJ/FU*	2,40E+01	-	1,1E+00	-	-	-	-	-	-	-	-	-	-	-	-
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) - *MJ/FU*	7,18E+01	6,10E+01	1,1E+00	3,5E+00	0	0	0	0	0	0	0	4,3E-01	1,4E-01	1,4E-02	1,4E+00
Use of secondary material *kg/FU*	1,05E+00	0	5,2E-02	0	0	0	0	0	0	0	0	0	0	0	0
Use of renewable secondary fuels- *MJ/FU*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Use of non-renewable secondary fuels - *MJ/FU*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Use of net fresh water - m^3/*FU*	1,96E-02	8,7E-06	1,0E-03	0	0	0	0	0	0	0	2,6E-06	1,4E-05	2,3E-05	3,6E-04	1,2E-05

WASTE CATEGORIES															
Parameters	**Product stage**	**Construction process stage**		**Use stage**							**End-of-life stage**				**D Reuse, recovery, recycling**
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Hazardous waste disposed *kg/FU*	2,66E-08	4,09E-09	3,13E-09	0	0	0	0	0	0	0	5,28E-11	7,66E-09	2,14E-10	2,44E-08	-8,51E-10
Non-hazardous (excluding inert) waste disposed *kg/FU*	-3,40E-01	1,38E-05	3,16E-01	0	0	0	0	0	0	0	6,30E-05	1,17E-05	3,95E-5	6,65E+00	-5,13E-02
Radioactive waste disposed *kg/FU*	3,25E-05	1,33E-06	1,23E-05	0	0	0	0	0	0	0	5,28E-07	2,84E-07	8,32E-08	1,90E-05	-2,96E-06

OUTPUT FLOWS															
Parameters	**Product stage**	**Construction process stage**		**Use stage**							**End-of-life stage**				**D Reuse, recovery, recycling**
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Components for re-use *kg/FU*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Materials for recycling *kg/FU*	4,21E-02	0	1,15E+00	0	0	0	0	0	0	0	0	0	1,17	0	0
Materials for energy recovery *kg/FU*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported energy, detailed by energy carrier *MJ/FU*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

LCA results interpretation

The following figure refers to a functional unit of 1 m² of installed building plasterboard with a weight total of 7,8 kg/m² and for specific application of external use for an expected average service life of 50 years.



[1] This indicator corresponds to the abiotic depletion potential of fossil resources.

[2] This indicator corresponds to the total use of primary energy.

[3] This indicator corresponds to the use of net fresh water.

[4] This indicator corresponds to the sum of hazardous, non-hazardous and radioactive waste disposed.

Global Warming Potential (Climate Change) (GWP)

When analyzing the above figure for GWP, it can clearly be seen that the majority of contribution to this environmental impact is from the production modules (A1 – A3). This is primarily because the sources of greenhouse gas emissions are predominant in this part of the life cycle. CO2 is generated upstream from the production of electricity and is also released on site by the combustion of natural gas. We can see that other sections of the life cycle also contribute to the GWP; however the production modules contribute to over 80% of the contribution. Combustion of fuel in transport vehicles will generate the second highest percentage of greenhouse gas emissions.

Non-renewable resources consumptions

We can see that the consumption of non – renewable resources is once more found to have the highest value in the production modules. This is because a large quantity of natural gas is consumed within the factory, and non – renewable fuels such as natural gas and coal are used to generate the large amount of electricity we use. The contribution to this impact from the other modules is very small and primarily due to the non – renewable resources consumed during transportation.

Energy Consumptions
As we can see, modules A1 – A3 have the highest contribution to total energy consumption. Energy in the form of electricity and natural gas is consumed in a vast quantity during the manufacture of plasterboard so we would expect the production modules to contribute the most to this impact category.

Water Consumption
Water is used within the manufacturing facility and therefore we see the highest contribution in the production phase. However, we recycle a lot of the water on site so the contribution is still relatively low. The second highest contribution occurs in the installation site due to the water used on the joint components.

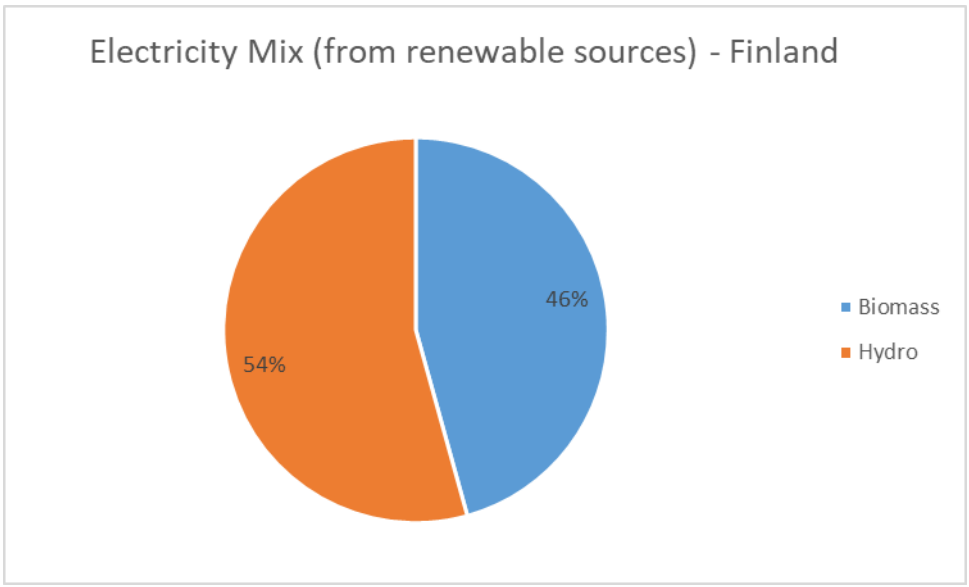
Waste Production
Waste production does not follow the same trend as the above environmental impacts. The largest contributor is the end of life module. This is because the 85% of the product is assumed here to be sent to landfill once it reaches the end of life state. The remind 15% is recycled, for this reason there is a benefit impact associated with the production module. The very small impact associated with installation is due to the loss rate of product during implementation.

Additional Norwegian requirements

Greenhouse gas emissions from the use of electricity in the manufacturing phase

The LCA calculation has been made taking into account the fact that during the manufacturing process it is used 100% renewable electricity. This 100% renewable electricity bought is evidenced by Guarantee of Origin certificates. GO's. from LOS. contracted 2018- 2020. to be prolonged to be valid at least equal to the validity of this EPD

TYPE OF INFORMATION	DESCRIPTION
Location	Representative of average production in Finland
Geographical representativeness description	**Split of energy sources in Finland** - Hydro: 54% - Biomass: 46%
Reference year	2018
Type of data set	Cradle to gate from Thinkstep
Source	Gabi database from International Energy Agency -2013 Guarantee of Origin certificates (GOs) – 2018



The dataset used to model the renewable electricity mix used for these calculations come from thinkstep database.

DATA SOURCE	AMOUNT	UNIT
thinkstep (2018)	0.05	kg CO2 eq /KWh

Dangerous substances

The product contains no substances given by the REACH Candidate list (of 15.01.2018) or the Norwegian priority list. (REACH registration number 01-2119472313-44-0039)

Indoor environment

No test performed

Carbon footprint

Carbon footprint has not been worked out for the product

Declaration of additional scenario information in A4

The transport to market (A4) on this EPD is calculated based on a distance of 200 km due to the Finnish scope.

Additional information is given in the table below regarding distances to other relevant markets and calculation factors for converting A4 to the specific market. Impact figures for A4 shall be multiply by the multiplication factor below.

Country	Average distance	Multiplication factor
Norway (Oslo)	350 km (boat) 450 km (truck)	2,76

References

1. EPD International (2017) General Programme Instructions for the International EPD® System. Version 3.0, dated 2017-12-11. www.environdec.com.
2. The International EPD System PCR 2012:01 Construction products and Construction services, Version 2.33
3. EN 15804:2012 + A1:2013 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products
4. ISO 21930:2007 Sustainability in building construction – Environmental declaration of building products
5. ISO 14025:2006 Environmental labels and declarations – Type III environmental declarations – Principles and procedures
6. ISO 14040:2006 Environmental management. Life cycle assessment. Principles and framework
7. ISO 14044:2006 Environmental management. Life cycle assessment. Requirements and guidelines
8. Saint-Gobain Environmental Product Declaration Methodological Guide for Construction Products, Version 3.0.1 (2013)
9. European Chemical Agency, Candidate List of substances of very high concern for Authorisation. http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

ANNEX 1

ANNEX 1: Self declaration from EPD owner

Specific Norwegian requirements

1 Applied electricity data set used in the manufacturing phase

The electricity mix for the electricity used in manufacturing (A3) is the electricity grid mix

Representative of average production in Germany (2019)

DATA SOURCE	AMOUT	UNIT
thinkstep (2019)	0.05	kg CO2 eq /KWh

2 Content of dangerous substances

X The product contains no substances given by the REACH Candidate list or the Norwegian priority list.

3 Transport from the place of manufacture to a central warehouse

Transport distance, and CO_2-eqv./DU from transport of the product from factory gate to central warehouse in Oslo shall be given. The following table shall be included in the EPD:

The transport to market (A4) on this EPD is calculated based on a distance of 200 km due to the Finnish scope.

Additional information is given in the table below regarding distances to other relevant markets and calculation factors for converting A4 to the specific market. Impact figures for A4 shall be multiply by the multiplication factor below.

COUNTRY	Average distance	Multiplication factor
Norway (Oslo)	350 km (boat) 450 km (truck)	2,76

4 Impact on the indoor environment

X Indoor air emission testing has been performed; specify test method and reference;
All our floor adhesives are M1 rated.