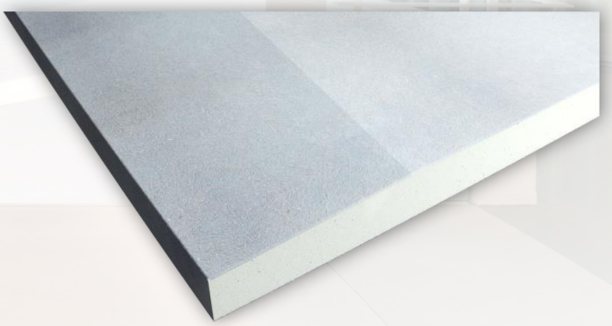
ENVIRONMENTAL PRODUCT DECLARATION

In accordance with EN 15804 and ISO 14025

Glasroc® H Ocean™ – Wetroom Board



Verification Date: 13th January 2016
Valid Until: 13th January 2021
Version : 2.01, 5th August 2016

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 N°

EPD №: S-P-00393

Gyproc SAINT-GOBAIN

ECO PLATFORM EPD EN 15804 VERIFIED

ECO EPD 00000300

EPD® THE INTERNATIONAL EPD® SYSTEM

General information

Manufacturer: Gyproc AB, Kalmarleden 50, 746 37 Bålsta, Sweden

Programme used: International EPD® System (www.environdec.com)

Publisher: Gyproc AB, Kalmarleden 50, 746 37 Bålsta, Sweden

Owner of declaration: Malin Dalborg

EPD registration number/declaration number: S-P-00393

PCR identification: This EPD has been made according to the International EPD System PCR 2012:01 Construction Products and Construction Services (combined PCR & PCR Basic Module Version 2.0). The Saint Gobain Environmental Product Declaration Methodological Guide for Construction Products is also used as a separate reference document.

Product / product family name and manufacturer represented: Glasroc® H Ocean™ – Wetroom Board produced by Gyproc AB, Bålsta.

Declaration issued: January 2016

Valid until: January 2021

Demonstration of verification: EN 15804 as the core PCR + The International EPD System PCR for Construction Products and CPC 54 Construction Services V2 + Saint Gobain Environmental Product Declaration Methodological Guide for Construction Products

An independent verification of the declaration was made, according to ISO 14025:2010 and EN 15804:2012. This verification was external and conducted by the following third party: Håkan Stripple at IVL Swedish Environmental Research Institute, based on the PCR mentioned above.

EPD Prepared by: Central SHEAR, Saint Gobain Gypsum. Contact:
acagen-epd.gypsum@saint-gobain.com

Declaration of Hazardous substances: None

Glasroc® H Ocean™ is a "treated article" which incorporates a biocidal product. Glasroc H contains an antifungal additive, Zinc Pyrithirone, to prevent the degradation of the product by microorganisms

Environmental certifications held at plant: ISO 14001, ISO 50001

Scope: The EPD is based on 2013 - 2014 production data for the Bålsta site, producing Glasroc® H Ocean™ – Wetroom Board. This EPD covers information modules A1 to C4 (cradle to gate with options) as defined in EN 15804:2012.

The Declared unit is 1 m² of installed Glasroc® H Ocean™ – Wetroom Board with a weight of 10 kg/m².

CEN standard EN 15804:2012 serves as the core for the PCR[a] used in this EPD
Independent verification of the declaration, according to EN ISO 14025:2010 ☐ **Internal** ☒ **External**
Third party verifier[b]: Håkan Stripple at IVL Swedish Environmental Research Institute, P.O. Box 53021, SE-400 14 Gothenburg, Sweden Hakan.Stripple@IVL.se Accredited by: The International EPD® System.
[a] Product Category Rules [b] Optional for business-to-business communication; mandatory for business to consumer communication (see EN ISO 14025:2010, 9.4)

Product description

Description of the main product components and/or materials:

Glasroc® H Ocean™ – Wetroom Board is Gyproc's recommended solution for internal wet area applications where normal water exposure is expected (e.g. private homes, hotels, etc). The highly inorganic composition of this board, along with several additives, allows it to be more resistant to moisture and mold, providing a safer solution than conventional plasterboards. The gypsum core is impregnated with additives that significantly reduce the rate of water absorption. The glass fiber mat on the surfaces has a water-repellent light blue coating that provides an excellent adhesion base for waterproofing treatments.

Glasroc® H Ocean™ – Wetroom Board is designated GM-H1 according to EN 15283-1:2008. This designation applies for boards suitable for applications in which very low water absorption rate is required.

LCA calculation information	
Declared Unit	1 m² of installed board
System boundaries	Cradle to Gate with Options: Upstream & Core processes (A1 – A3), Downstream processes (A4 – A5, B1 – B7, C1 – C4)
Reference service life (RSL)	50 years
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	During A3: water use, recycling, energy and waste data have been calculated on a mass basis.
Geographical coverage and time period	Upstream and downstream data includes Sweden, Denmark, Norway and Finland. Data for the A3 stage was collected September 30th 2013 – September 30th 2014 from the Bålsta plant in Sweden

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 programs.

Life cycle stages

Figure 1: Flow diagram of the product life cycle. The process of the product life cycle is described below.

Product stage, A1-A3

Description of the stage:
A1: Raw material extraction and processing, processing of secondary material input (e.g. recycling processes). 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, including provision of all materials, products and energy, as well as waste processing up to the end-of-waste state or disposal of final residues during the product stage. This module includes the manufacture of products. The use of packaging material is taken into account at this stage. The processing of any waste arising from this stage is also included.

Manufacture:
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 while maintaining product quality.

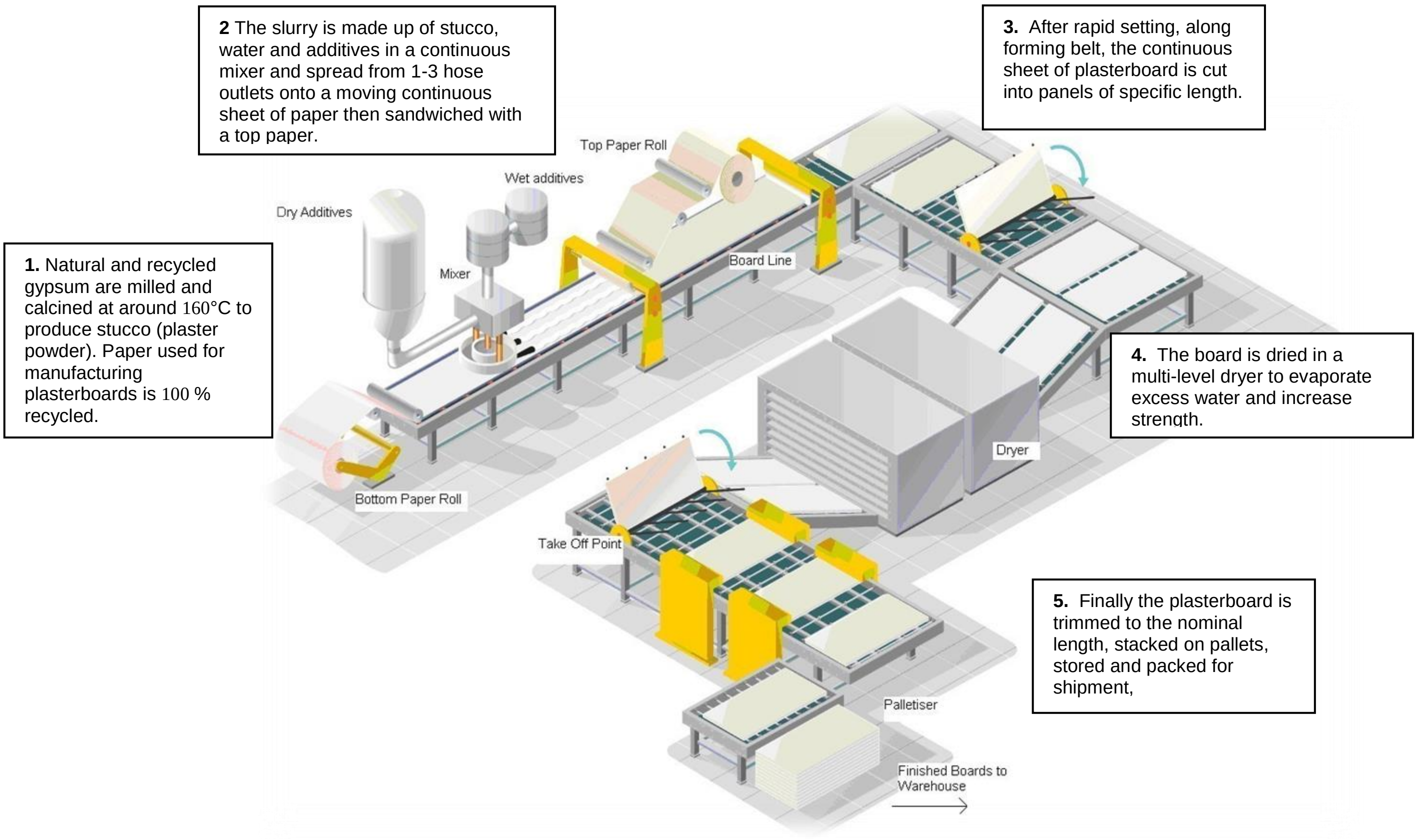


Figure 2: Manufacturing process flow diagram. The manufacturing process is described in detail within the diagram.

Construction process stage, A4-A5

Description of the stage:
A4: Transport to the building site.

A5: Installation into the building, including provision of all materials, products and energy, as well as waste processing up to the end-of-waste state or disposal of final residues during the construction process stage. These information modules also include all impacts and aspects related to any losses during this construction process stage (i.e. production, transport, and waste processing and disposal of the lost products and materials).

Transport to the building site:

PARAMETER	VALUE (expressed per declared unit)
Fuel type and consumption of vehicle or vehicle type used for transport e.g. long distance truck, boat, etc.	Vehicle: 26 metric tonne truck with an average payload of 20 metric tonnes Fuel type: diesel Average consumption: 0.30 litres per km
Distance	462 km by boat, 243 km by truck. This is calculated by taking a weighted average of the transport data from the Bålsta site to any relevant destinations.
Capacity utilisation (including empty returns)	77 % volume capacity 34 % empty returns
Bulk density of transported products	800 kg/m³
Volume capacity utilisation factor	0.77

Installation in the building:

PARAMETER	VALUE (expressed per declared unit)
Ancillary materials for installation (specified by materials)	Jointing compound: 0.33 kg. Commonly a wet ready mix plaster compound Joint tape: 1.23 m weighing 0.0042 kg. Paper based tape for reinforcing flat joints Drywall screws: 8 pc. Zinc plated
Water use	1.65E-04 m^3/m^2 board
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)	Board: 0.26 kg Jointing compound: 0.00858 kg Jointing tape: 0.03198 m weighing 0.0001 kg
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)	Board: 0.1378 kg to recycling Board: 0.1222 kg to landfill Jointing compound: 0.00455 kg to recycling Jointing compound: 0.00404 kg to landfill Jointing tape 0.017 m weighing 0.000053 kg to recycling Jointing tape: 0.015 m weighing 0.000047 kg to landfill
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, including provision and transport of all materials, products and related energy and water use, as well as waste processing up to the end-of-waste state or disposal of final residues during this part of the use stage. These information modules also include all impacts and aspects related to the losses during this part of the use stage
(i.e. production, transport, and waste processing and disposal of the lost products and materials).

Maintenance:

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

Repair:

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

Replacement:

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

Refurbishment:

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

Use of energy and water:

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

End-of-life stage C1-C4

Description of the stage: The end-of-life stage includes:
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.

End-of-life:

PARAMETER	VALUE (expressed per declared unit) / DESCRIPTION
Collection process specified by type	53 % of waste is collected by truck and taken to be recycled, while the remaining 47 % of waste is collected by truck to be landfilled
Recovery system specified by type	53 % recycled
Disposal specified by type	47 % landfilled
Assumptions for scenario development (e.g. transportation)	On average, Gypsum waste is transported 295 km by road from construction / demolition sites to recycling sites, while waste is transported 32 km by road from construction / demolition sites to landfill sites

Reuse/recovery/recycling potential, D

Description of the stage:
Module D includes: reuse, recovery and/or recycling potentials, expressed as net impacts and benefits.

LCA results

Description of the system boundary (X = Included in LCA, MND = Module Not Declared)

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

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	MND

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) - *kg CO_2 eq./DU*	2.9E+00	1.3E-01	1.4E-01	0	0	0	0	0	0	0	3.3E-02	6.7E-02	1.4E-02	0	0
	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.														
Depletion potential of the stratospheric ozone layer (ODP) *kg CFC 11 eq./DU*	2.3E-07	8.9E-08	1.8E-08	0	0	0	0	0	0	0	4.1E-09	4.7E-08	1.7E-09	0	0
	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 eq./DU*	1.5E-02	8.1E-04	6.9E-04	0	0	0	0	0	0	0	2.5E-04	4.0E-04	6.2E-05	0	0
	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 $(PO_4)^{3-}$ eq./DU*	1.1E-03	1.9E-04	7.6E-05	0	0	0	0	0	0	0	5.9E-05	9.9E-05	5.0E-06	1.7E-04	0
	Excessive enrichment of waters and continental surfaces with nutrients, and the associated adverse biological effects.														
Formation potential of tropospheric ozone (POPC) *kg Ethene eq./DU*	1.7E-03	5.8E-05	7.1E-05	0	0	0	0	0	0	0	7.3E-05	3.0E-05	9.1E-06	0	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 resources (ADP-elements) - *kg Sb eq./DU*	2.4E-06	1.0E-10	6.7E-08	0	0	0	0	0	0	0	5.2E-09	1.7E-11	3.3E-10	0	0
Abiotic depletion potential for fossil resources (ADP-fossil fuels) - *MJ/DU*	7.5E+01	1.6E+00	3.2E+00	0	0	0	0	0	0	0	4.6E-01	8.3E-01	2.3E-01	0	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/DU*	3.3E+00	2.8E-03	3.4E-01	0	0	0	0	0	0	0	1.9E-03	4.6E-04	1.8E-02	0	0
Use of renewable primary energy used as raw materials *MJ/DU*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) *MJ/DU*	3.3E+00	2.8E-03	3.4E-01	0	0	0	0	0	0	0	1.9E-03	4.6E-04	1.8E-02	0	0
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials - *MJ/DU*	7.5E+01	1.6E+00	3.3E+00	0	0	0	0	0	0	0	4.6E-01	8.3E-01	2.5E-01	0	0
Use of non-renewable primary energy used as raw materials *MJ/DU*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials) - *MJ/DU*	7.5E+01	1.6E+00	3.3E+00	0	0	0	0	0	0	0	4.6E-01	8.3E-01	2.5E-01	0	0
Use of secondary material *kg/DU*	4.8E+00	1.2E-08	1.4E-01	0	0	0	0	0	0	0	0	0	0	0	0
Use of renewable secondary fuels - *MJ/DU*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Use of non-renewable secondary fuels - *MJ/DU*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Use of net fresh water - *m^3/DU*	1.7E-02	1.5E-04	1.2E-03	0	0	0	0	0	0	0	6.2E-05	7.9E-05	3.7E-05	0	0

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/DU*	4.5E-04	3.6E-05	3.8E-04	0	0	0	0	0	0	0	0	1.9E-05	1.6E-05	0	0
Non-hazardous (excluding inert) waste disposed *kg/DU*	1.2E-01	1.8E-04	2.9E-01	0	0	0	0	0	0	0	0	7.1E-05	2.7E+00	2.7E+00	0
Radioactive waste disposed *kg/DU*	8.5E-05	2.5E-05	5.8E-06	0	0	0	0	0	0	0	0	1.3E-05	1.4E-06	0	0

OUTPUT FLOWS

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				
	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
Components for re-use *kg/DU*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Materials for recycling *kg/DU*	1.5E-02	1.0E-06	1.2E-01	0	0	0	0	0	0	0	0	3.3E-07	4.4E-06	0	-
Materials for energy recovery *kg/DU*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exported energy, detailed by energy carrier *MJ/DU*	8.0E-08	5.6E-11	2.0E-05	0	0	0	0	0	0	0	0	0	0	0	0

LCA results interpretation

	Axis	Product (A1-A3)	Transport (A4)	Installation (A5)	Use (B)	End-of-life (C)	Total Environmental impacts of the product	Recycling (D) Positive benefits of recycling	
Global warming	4.00E+00 2.00E+00 0.00E+00	2.87E+00	1.30E-01	1.39E-01	0.00E+00	1.14E-01	3.25 kg CO_2eq./DU	0.00E+00	
Non-renewable fossil resource consumption [1]	1.00E+02 0.00E+00	7.45E+01	1.60E+00	3.24E+00	0.00E+00	1.52E+00	80.9 MJ/DU	0.00E+00	[1] This indicator corresponds to the abiotic depletion potential of fossil resources.
Energy consumption [2]	1.00E+02 0.00E+00	7.86E+01	1.62E+00	3.63E+00	0.00E+00	1.56E+00	85.4 MJ/DU	0.00E+00	[2] This indicator corresponds to the total use of primary energy.
Water consumption [3]	2.00E-02 0.00E+00	1.68E-02	1.53E-04	1.18E-03	0.00E+00	1.78E-04	0.018 m^3/DU	0.00E+00	[3] This indicator corresponds to the net use of fresh water.
Waste generated [4]	1.00E+01 0.00E+00	1.22E-01	2.42E-04	2.86E-01	0.00E+00	5.31E+00	5.72 kg/DU	0.00E+00	[4] This indicator corresponds to the sum of hazardous, non-hazardous and radioactive waste disposed. See page 9 for the split of waste categories.

Environmental positive contribution & comments

Comments relating to consumption of energy resources:
The plant constantly works on environmental impact reduction and energy efficiency. The main energy resource is Liquefied Natural Gas (LNG). Natural gas is the third most important source of energy in the world providing high energy content, high combustion efficiency and a clean flame. LNG is odourless, colourless, non-toxic and non-corrosive. From an environmental standpoint, it has great advantages over other fossil fuels. When combusted, LNG burns more cleanly and emits lower levels of carbon dioxide as compared to the emissions from naphtha, coal, oil and LPG. The combustion of LNG provides 20-30 % less carbon dioxide and 85 % less nitrogen oxide compared to petrol, diesel and heavy oil. LNG releases 95 % less particles compared to heavy oil.

- ✓ Liquefied Natural Gas (LNG) is one of the most environmentally friendly fossil fuels.

Comments relating to recovered matter:
Gypsum slurry is made up from stucco, water and other additives to control production and performance. To get the gypsum slurry to flow, excess water is added to the stucco. This is gently evaporated off during a 35-40 minutes pass through a long, drying chamber running on LNG.

Extensive R&D programs have been devoted to the drying process in Gyproc AB, as this has an effect on the quality and environmental impact of the finished product. Organic dispersants are evaluated and used mainly to reduce the amount of water used and eventually reduce the drying time. The evaporated water, emitted to air during the drying process, contains valuable thermal energy being assessed for re-used in other applications.

- ✓ Gyproc AB runs an energy recovery programme where excess heat energy is recovered. The first stage of the programme re-uses excess heat emitted directly from the drying chamber, making the plant almost self-sufficient for heating the premises and other processes where heat is required.
- ✓ The second stage of the programme re-uses excess heat in a thermal plant distributing the heat through a pipeline system to consumers in a local district heating scheme.
- ✓ A third stage is planned to be implemented during the next ten years, to re-use the excess heat emitted to air through a chimney system. At the end of the programme, Gyproc AB will recover most of the excess heat generated in the drying process.

Comments relating to the consumption of water:
The majority of the water consumed during board production is drawn from Lake Mälaren. This is the third largest lake in Sweden, after Lakes Vänern and Vättern. Its surface area is 1,140 km² with a water volume of ~14.3 billion m³. Lake Mälaren spans 120 kilometres from east to west.

- ✓ Fresh water from the public network is not used in production.

Comments relating to the consumption of recovered energy and materials:
This product makes use of recycled gypsum. The gypsum blend that is used contains more than 20% recycled gypsum in the form of DSG, reprocessed internal gypsum production residue and recycled construction and demolition waste gypsum.

An effective collection and recycling system for construction and demolition waste gypsum run by Gyproc AB and partners has both reduced the need for new raw materials and the need for landfill.

- ✓ Gyproc offers a recycling bag system for gypsum waste from new construction.

The environmental impact is the overall most important factor during development projects. Gyproc AB works with building optimization together with architects and contractors to reduce environmental impacts. The entire building process is optimized all the way from planning and design to management of waste recycling. The main objective is to avoid waste generated at the project site by delivering the right quantity of products in the right size to the right point at building site.

- ✓ Gyproc offers products in special formats, cut to a specified size at the Gyproc plant.
- ✓ Gyproc offers special packaging solutions to deliver products to a specific point at building site.

References

1. The International EPD System PCR for Construction Products and CPC 54 Construction Services V2

2. Saint Gobain Environmental Product Declaration Methodological Guide for Construction Products

3. EN 520:2004+A1:2009
Gypsum plasterboards - Part 1: Definitions, requirements and test methods

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

5. ISO 21930:2007
Sustainability in building construction – Environmental declaration of building products

6. ISO 14025:2006
Environmental labels and declarations – Type III environmental declarations – Principles and procedures

7. ISO 9001:2008
Quality management systems. Requirements

8. ISO 14001:2004
Environmental management systems – Requirements with guidance for use

9. ISO 50001:2011
Energy management systems -- Requirements with guidance for use

10. LCA project report created by Saint – Gobain