



Declaration number: DAP 033:2026



PLASTERBOARD GYPTEC 13D (IMPACT RESISTANT)

Issue date: 25/09/202

Valid until: 24/09/2031

GYPTEC IBÉRICA – GESSOS TÉCNICOS, S.A.



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1. GENERAL INFORMATION

1.1. The DAPHabitat System

Programme operator:	Associação Plataforma para a Construção Sustentável www.clusterhabitat.pt geral@clusterhabitat.pt	 Cluster Habitat Sustentável
Address:	R. Coronel Veiga Simão, Ed. CTCV Lufapo Hub 3025-307 Coimbra	
Email address:	deptecnico@clusterhabitat.pt	
Telephone number:	(+351) 234 401 576	
Website:	www.daphabitat.pt	
Logo:		

1.2. EPD owner

Name of the owner:	Gypotec Ibérica – Gessos Técnicos, S.A.
Production site:	Rua das Olaias, nº 3 Parque Industrial e Empresarial da Figueira da Foz
Address (head office):	3090-380 Figueira da Foz, Portugal
Telephone number:	(+351) 233 403 050
Email address:	geral@gypotec.eu
Website:	www.gypotec.eu
Logo:	
Information concerning the applicable management Systems:	Quality Management System which fulfills the requirements of the following standard ISO 9001:2015, Registration Number: ES-1595/2009 Environmental Management System which fulfills the requirements of the following standard ISO 14001:2015, Registration Number: ES-2017/0224 https://gypotec.eu/en/technical-documentation/
Specific aspects regarding production:	CEA 23620 – production of plaster products for construction

**Organization's
environmental policy:**

As a portuguese leader in the production and sale of laminated plasterboard, Gypotec Ibérica actively contributes to sustainable development, seeking to reconcile economic prosperity with environmental responsibility and social equality. Gypotec is committed to guiding its actions by the following economic, environmental and social principles, which define its objectives and prioritize its actions in order to contribute to a better life on our planet:

1. Determine the applicable compliance obligations in terms of Quality and Environment, relating to its products and services, environmental and social aspects and impacts, ensure, monitor and evaluate their compliance and correct any deviations detected.
2. Establish and implement conditions that lead to the satisfaction of the needs and expectations of all interested parties (management, customers, employees, suppliers and other partners), with respect for the environment and under conditions of economic sustainability, with a view to continuous improvement, promoting energy efficiency and preventing pollution and damage to the health of employees.
3. Promote the continuous improvement of the Integrated Management System, reviewing the established objectives, their suitability to the context of the organization, stakeholders and the risks and opportunities inherent to its activity, improving the production process and periodically assessing its environmental and social aspects and impacts, from a life cycle perspective and taking into account future activities to be developed.
4. Believe in people, welcome each person's contribution, respect their identity and diversity, promote talent, equal opportunities, inclusion, cooperation and communication. Invest in the health and safety conditions of human capital, taking into account the specificities of the organization.
5. Encourage people to participate in the continuous improvement of the organization's performance and in achieving the established objectives, promoting their awareness, commitment and technical training.
6. Adopt processes that reduce the amount of waste, promoting its internal or external recovery. Promote energy efficiency by prioritizing the use of renewable energy sources and the preservation of natural resources, waterways and air quality, contributing to the mitigation of climate change.
7. Maintain and strengthen its market position through high quality, the constant search for innovative products, technical support and compliance with established deadlines, thus approaching market competition with confidence, openness and determination to differentiate itself from its competitors in a positive way.
8. Create a resilient organization, with the ability to anticipate and react quickly to major changes. Adopt safe practices and investments that prioritize being financially and operationally ready for adversity, market trends, customer needs and growth opportunities.

The Management of Gypotec Ibérica – Gessos Técnicos, S.A., undertakes to periodically review this Integrated System Policy in order to ensure its effectiveness, and that it is documented, implemented, maintained and communicated as appropriate.

1.3. Information concerning the EPD

Authors:	1. Gypotec Ibérica – Gessos Técnicos, S.A. 2. Itecons – Instituto de Investigação e Desenvolvimento Tecnológico para a Construção, Energia, Ambiente e Sustentabilidade
Contact of the authors:	1. Gypotec Ibérica – Gessos Técnicos, S.A. Rua das Olaias, nº 3, Parque Industrial e Empresarial da Figueira da Foz, 3090-380 Figueira da Foz, Portugal T (+351) 233 403 050 Dulce Carvalho geral@gypotec.eu

	2. Itecons – Instituto de Investigação e Desenvolvimento Tecnológico para a Construção, Energia, Ambiente e Sustentabilidade Rua Pedro Hispano, s/n, 3030-289 Coimbra, Portugal T (+351) 239 798 949 Maria Inês Santos Daniela Ferreira itecons@itecons.uc.pt
Issue date:	25/09/2026
Registration date:	12/10/2026
Registration number:	DAP 033:2026
Valid until:	24/09/2031
Representativity of the EPD (location, manufacturer, group of manufacturers):	EPD of one (1) product class, produced in one (1) plant, belonging to a single (1) producer (Gypotec Ibérica – Gessos Técnicos, S.A.)
EPD boundary:	EPD: cradle-to-gate with modules C1-C4 and module D
Type of EPD:	Representative EPD for Multiple Products
Geographical representation	Portugal/Europe

1.4. Demonstration of the verification

External independent verification, accordingly, with the standard ISO 14025:2010 and EN 15804:2012+A2:2019	
Certification Body	Verifier
	
(CERTIF – Associação para a Certificação)	(Ana Cláudia Dias)

1.5. EPD registration

Programme operator

(Plataforma para a Construção Sustentável)

1.6. PCR (Product Category Rules) basic model

Name:	RCP de modelo base para produtos e serviços de construção
Issue date:	Edição Fevereiro 2026
Number of registrations on the database:	RCP-mb001
Version:	Versão 3.1.1
Identification and contact of the coordinator(s):	Marisa Almeida marisa@ctcv.pt Luís Arroja arroja@ua.pt José Dinis Silvestre jose.silvestre@ist.utl.pt
Identification and contact of the authors:	Marisa Almeida marisa@ctcv.pt Luís Arroja arroja@ua.pt José Silvestre jds@civil.ist.utl.pt Fausto Freire Cristina Rocha Ana Paula Duarte Ana Cláudia Dias Helena Gervásio Victor Ferreira Ricardo Mateus António Baio Dias Ana Karolina Santos
Composition of the Sectorial Panel:	-
Consultation period:	18/11/2015 - 18/01/2016 12/08/2023 – 30/11/2023
Valid until:	01/06/2027

CEN standard EN 15804 serves as the core Product Category Rules (PCR).

1.7. C-PCR (Complementary Product Category Rules)

Name:	1. PCR: Wall covering 2. EN 17328 :2024 - Complementary product category rules for gypsum-based construction products
Issue date:	1. June 2022 2. July 2024
Number of registrations on the database:	1. RCP002:2014 2. -
Version:	1. Version 1.2 2. --
Identification and contact of the coordinator(s):	1. Marisa Almeida marisa@ctcv.pt Luís Arroja arroja@ua.pt 2. --
Identification and contact of the authors:	1. Marisa Almeida marisa@ctcv.pt Luís Arroja arroja@ua.pt Ana Cláudia Dias acdias@ua.pt 2. --
Composition of the Sectorial Panel:	1. RMC - Revestimentos de Mármore Compactos, S.A.; APICER – Associação Portuguesa da Indústria de Cerâmica; Sonae Indústria, SGPS, S.A.; Gypotec Ibérica - Gessos Técnicos, S.A. 2. --
Consultation period:	1. 12/08/2013 to 30/11/2013 2. --
Valid until:	1. 01/06/2027 2. --

1.8. Information concerning the product/product class

Identification of the product:	Plasterboard Gypotec 13D (Impact Resistant). The results presented in this EPD correspond to the most representative product: Plasterboard Gypotec 13D (Impact Resistant). To estimate the environmental impacts for other thickness (Impact Resistant Plasterboard 15D) the results of Plasterboard 13D can be multiplied by the corresponding conversion factors (see point 3.7. Other additional information).
Illustration of the product:	
Brief description of the product:	Laminated gypsum board formed by high quality plaster encased in two sheets of paper, with higher density and impact resistance. It is a non-combustible material, resistant to fire and impact, free of harmful substances and which ensures a healthy indoor environment.

	Its a high energy saving and acoustic performance enhancer, contributing to the comfort and efficiency of the building.																				
Main technical characteristics of the product:	Table 1: Technical characteristics (https://gypotec.eu/en/technical-documentation/) <table><tr><th>Essential characteristics</th><th>Performance</th><th>Harmonized technical specification</th></tr><tr><td>Reaction to Fire</td><td>A2-s1,d0</td><td>EN 520</td></tr><tr><td>Water Vapor Resistance μ</td><td>10</td><td>EN 12524</td></tr><tr><td>Flexural Strength Longitudinal (L) and Transverse (T): Thickness 12.5mm Thickness 15mm</td><td>L: 550N; T: 210N L: 650N; T: 250N</td><td>EN 520</td></tr><tr><td>Thermal Conductivity W/m.°C (23°C/dry) / W/m.°C (23°C/ 50%) Thickness 12.5mm Thickness 15mm</td><td>0.130/ 0.230 0.130/ 0.230</td><td>EN 12664</td></tr></table>	Essential characteristics	Performance	Harmonized technical specification	Reaction to Fire	A2-s1,d0	EN 520	Water Vapor Resistance μ	10	EN 12524	Flexural Strength Longitudinal (L) and Transverse (T): Thickness 12.5mm Thickness 15mm	L: 550N; T: 210N L: 650N; T: 250N	EN 520	Thermal Conductivity W/m.°C (23°C/dry) / W/m.°C (23°C/ 50%) Thickness 12.5mm Thickness 15mm	0.130/ 0.230 0.130/ 0.230	EN 12664					
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Description of the product’s application/use:	Suitable for areas requiring higher damage resistance, such as schools, hospitals and pavilions.																				
Packaging information:	The packaging consists of plastic film, wood (particleboard) bearers, label and information leaflet (Table 2). Table 2: Packaging materials. <table><tr><th>Packaging material</th><th>Plastic film</th><th>Wood (particleboard) bearers</th><th>Label</th><th>Information leaflet</th></tr><tr><td></td><td>kg/m²</td><td>kg/m²</td><td>kg/m²</td><td>kg/m²</td></tr><tr><td>Plasterboard Gyptec 13D (Impact Resistant)</td><td>4.26E-03</td><td>7.18E-02</td><td>2.34E-05</td><td>6.94E-04</td></tr><tr><td>Plasterboard Gyptec 15D (Impact Resistant)</td><td>4.26E-03</td><td>8.84E-02</td><td>2.88E-05</td><td>8.55E-04</td></tr></table>	Packaging material	Plastic film	Wood (particleboard) bearers	Label	Information leaflet		kg/m²	kg/m²	kg/m²	kg/m²	Plasterboard Gyptec 13D (Impact Resistant)	4.26E-03	7.18E-02	2.34E-05	6.94E-04	Plasterboard Gyptec 15D (Impact Resistant)	4.26E-03	8.84E-02	2.88E-05	8.55E-04
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Placing on the market / Rules of application in the market / Technical rules of the product:	- EN 520+A1 Gypsum plaster boards. Definitions, requirements and test methods - UNE 102043 – “Assembly of constructive systems with laminated plasterboard (PYL). Partitions, linings and ceilings. Definitions, applications and recommendations.” - Sistemas Constructivos con Placa de Yeso Laminado, Asociación Técnica y Empresarial del Yeso – A.T.E.D.Y., 4.ª, Edição, January 2011.																				
Quality control	Quality assurance in accordance with the technical standards of the product																				
Special delivery conditions:	Not applicable																				
Components and substances to declare:	The gypsum plasterboards are formed by high quality plaster mixed with additives and encased in two sheets of paper. The products do not contain any substance included in the Candidate List of Substances of Very High Concern (SVHCs) for authorization with concentrations higher than 0.1% weight by weight (w/w).																				
Where explanatory material may be obtained:	www.gypotec.eu																				
History of the LCA studies:	Not applicable																				

1.9. Calculation rules of the LCA

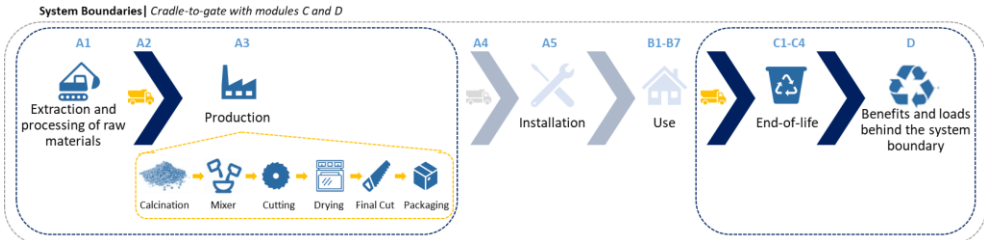
Declared unit:	1 m ² of Plasterboard Gyptec 13D (Impact Resistant).																						
Mass conversion factors:	Table 3: Description of the reference flow. <table><tr><th colspan="2">Parameter</th><th>Value</th><th>Unit</th></tr><tr><td colspan="2">Unit of measurement</td><td>1</td><td>m²</td></tr><tr><td rowspan="2">Plasterboard Gyptec 13D (Impact Resistant)</td><td>Product weight</td><td>10.29E00</td><td>kg/m²</td></tr><tr><td>Conversion factor to 1 kg</td><td>9.72E-02</td><td>m²/kg</td></tr><tr><td rowspan="2">Plasterboard Gyptec 15D (Impact Resistant)</td><td>Product weight</td><td>12.24E00</td><td>kg/m²</td></tr><tr><td>Conversion factor to 1 kg</td><td>8.17E-02</td><td>m²/kg</td></tr></table> The results presented in this EPD correspond to the most representative product: Plasterboard Gyptec 13D (Impact Resistant). To estimate the environmental impacts for other thickness (Impact Resistant Plasterboard 15D) the results of Plasterboard 13D can be multiplied by the corresponding conversion factors (see point 3.7. Other additional information).	Parameter		Value	Unit	Unit of measurement		1	m ²	Plasterboard Gyptec 13D (Impact Resistant)	Product weight	10.29E00	kg/m ²	Conversion factor to 1 kg	9.72E-02	m ² /kg	Plasterboard Gyptec 15D (Impact Resistant)	Product weight	12.24E00	kg/m ²	Conversion factor to 1 kg	8.17E-02	m ² /kg
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	Conversion factor to 1 kg	8.17E-02	m ² /kg																				
System boundaries:	EPD: cradle-to-gate with modules C1-C4 and module D  Figure 1: System boundaries (cradle-to-gate with modules C1-C4 and module D) of Plasterboard Gyptec (Impact Resistant).																						
Criteria for the exclusion:	According to EN 15804:2012+A2:2019, the cut-off criterion for unit processes is 1% of the total energy consumed and 1% of the total mass of the inputs, with a maximum of 5% of energy usage and mass per module of the life cycle. The developed LCA includes all available data associated to the product stage [A1-A3] and end of life stage [C1-C4]. The following processes were not considered: - Construction of industrial infrastructure and equipment manufacturing; - Maintenance operations of industrial infrastructure and equipment (in accordance with EN 17328:2024); - Burdens of infrastructures associated to transportation of pre-products and raw materials; - Transport of fuels used at the manufacturing site; - Consumption and emissions related to human activities such as employee transport, administration departments and central support services (where this information is not amalgamated into site totals).																						
Assumption and limitations:	The year 2024 was considered as the reference year for data collection. This year was selected because it is a typical year.																						
Quality and other characteristics about the information used in the LCA:	Specific data was used based on the average production of Gyptec Impact Resistant Plasterboards in 2024. For processes that the producer has no influence over or specific information on, such as the production of raw and auxiliary materials and the production of electricity (Table 4), generic data from the Ecoinvent v3.12, EF database 2.0 and Agri-footprint v5.0 databases was used, taking geographical coverage into account.																						

Table 4: GHG emissions (GWP-total) associated with electricity consumption in the production process of gypsum boards.

Type of information	Description
GHG emissions (GWP-total) associated with electricity consumption in the production process of gypsum boards (kg CO ₂ eq./kWh)	0.142
Electricity mix	Hydro: 30.0%; Wind 32.4%; Solar 9.8%; Biomass 6.3%; Natural gas: 14.9%; Nuclear 4.8%; Other fossil 1.8%

The quality of the primary and generic data was assessed based on the levels and criteria of the UN Environment Global Guidance on LCA database development, taking into account at least 80% of the environmental impacts in each of the main impact categories. This assessment showed that the quality of the primary data is very good, and that the quality of the generic data is, in most cases, good or very good.

Allocation rules:	The industrial unit where Gypotec Impact Resistant Plasterboards are manufactured also produces other products (not at the same time). Considering this, a mass allocation methodology was used to determine which inputs and outputs are due to manufacturing these products.
Software used for the assessment:	SimaPro v10.4
Background database used for the LCA:	Ecoinvent v3.12 EF Database v2.0 Agri-footprint v5.0
Comparability of EPD for construction products:	The EPD of construction products and services cannot be comparable in case they are not produced according to EN 15804 and EN 15942 and according to the comparability conditions determined by ISO 14025.

1.10. Use of the average environmental performance

Not applicable.

1.11. Technical information for Reference Service Life (RSL)

Not applicable.

1.12. Flow diagram of input and output of the process

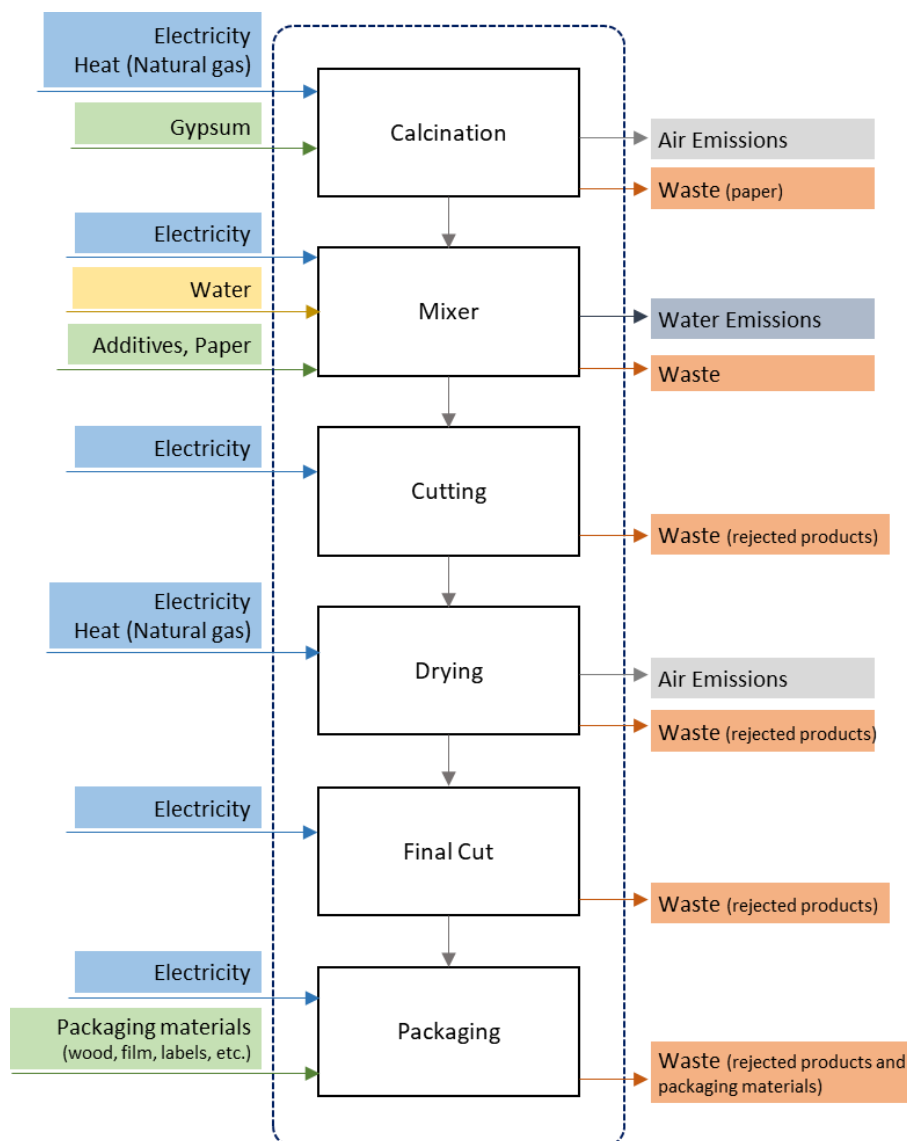


Figure 2: Production process of Impact Resistant Gypsum Plasterboard.

The Impact Resistant Gypsum Plasterboard production comprises 6 stages: calcination, mixer, cutting, drying, final cut and packaging. Gypotec is dedicated to the production of gypsum boards. For this purpose, it uses gypsum of three different types: mineral gypsum from gypsum extraction, synthetic gypsum from the desulphurization operations of thermoelectric power station, and recycled gypsum from the installation of plasterboards (post-consumer waste). This gypsum is prepared for production, by grinding, drying and calcination, using thermal energy from the burning of natural gas and mechanical energy

from the action of electrically driven mills. At the end of this process, a hemihydrate powder is obtained, which is then stored in silos.

In the mixing area, this hemihydrate powder is mixed with water and additives to form a mass, which is then injected between two sheets of paper to form the plate that is transported to a cutting area, where it is selected and cut to size to be inserted into the dryer.

In the dryer, excess water is removed, using thermal energy from burning natural gas, and then the board is taken to the final cutting and packaging area, where it is subjected to final finishing and packaging.

2. CORE ENVIRONMENTAL IMPACT INDICATORS

2.1. Description of the system boundaries

(X = included; ND = module not declared)

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY
Raw material supply	Transport	Manufacturing	Transport	Construction installation process	Raw material supply	Transport	Manufacturing	Transport	Construction installation process	Raw material supply	Transport	Manufacturing	Transport	Construction installation process	Raw material supply	Transport
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X

2.1.1. Justification for the exemption to declare modules C and D

Not applicable.

2.2. Core environmental impact indicators

	Global warming potential - total;	Global warming potential fossil;	Global warming potential - biogenic;	Global warming potential land use and land use change;	Depletion potential of the stratospheric ozone layer;	Acidification potential;
	GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP
Unit	kg CO ₂ eq.	kg CO ₂ eq.	kg CO ₂ eq.	kg CO ₂ eq.	kg CFC 11 eq.	mol H ⁺ eq.
Modules A1-A3	2.58E+00	3.00E+00	-4.44E-01	1.57E-02	8.29E-08	6.76E-03
Module C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Module C2	2.33E-01	2.33E-01	4.93E-05	3.58E-06	5.28E-09	2.62E-04
Module C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Module C4	8.82E-01	2.93E-01	5.89E-01	1.30E-04	6.70E-09	3.23E-01
Module D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

LEGEND:

	Product stage
	End of life stage
	Benefits and loads beyond the system boundary

Units expressed by declared unit.

	Eutrophication potential aquatic freshwater;	Eutrophication potential aquatic marine;	Eutrophication potential terrestrial;	Formation potential of tropospheric ozone;	Abiotic depletion potential for non-fossil resources;	Abiotic depletion potential for fossil resources potential;	Water (user) deprivation potential;
	EP-freshwater	EP-marine	EP-terrestrial	POCP	ADP-minerals&metals	ADP-fossil	WDP
Unit	kg Peq.	kg N eq.	mol N eq.	kg COVNM eq.	kg Sb eq.	MJ, P.C.I.	m ³ World eq. deprived
Modules A1-A3	7.80E-05	2.66E-03	2.28E-02	1.02E-02	1.58E-05	4.49E+01	8.90E-01
Module C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Module C2	1.51E-07	6.15E-05	6.77E-04	5.71E-04	6.22E-09	3.06E+00	2.12E-03
Module C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Module C4	4.34E-06	1.23E-03	6.52E-03	2.18E-02	6.14E-08	4.76E+00	-1.10E+00
Module D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

LEGEND:

	Product stage
	End of life stage
	Benefits and loads beyond the system boundary

P.C.I. – Net calorific value

Units expressed by declared unit.

“The results obtained for the indicators “Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)”, “Abiotic depletion potential for fossil resources potential (ADP-fossil)” and “Water (user) deprivation potential (WDP)” should be used with caution since the uncertainties associated with them are high or there is little experience with the indicator.”

2.3. Additional environmental impact indicators

	Potential incidence of disease due to PM emissions	Potential Human exposure efficiency relative to U235	Potential Comparative Toxic Unit for ecosystems	Potential Comparative Toxic Unit for humans, cancer effects	Potential Comparative Toxic Unit for humans, not cancer effects	Potential soil quality index
	PM	IRP	ETP-fw	HTP-c	HTP-nc	SQP
Unit	Disease incidence	kBq U 235 eq.	CTUe	CTUh	CTUh	-
Modules A1-A3	ND	ND	ND	ND	ND	ND
Module C1	ND	ND	ND	ND	ND	ND
Module C2	ND	ND	ND	ND	ND	ND
Module C3	ND	ND	ND	ND	ND	ND
Module C4	ND	ND	ND	ND	ND	ND
Module D	ND	ND	ND	ND	ND	ND

LEGEND:

	Product stage
	End of life stage
	Benefits and loads beyond the system boundary

Units expressed by declared unit.

The impact indicator “POTENTIAL HUMAN EXPOSURE EFFICIENCY RELATIVE TO U235” focuses mainly on the possible impact of a low dose of ionising radiation on human health resulting from the nuclear fuel cycle. It does not consider effects arising from possible nuclear accidents, occupational exposure or the disposal of radioactive waste in underground facilities. Potential ionising radiation from soil, radon and some building materials is also not measured by this indicator.

The results of the indicators “POTENTIAL COMPARATIVE TOXIC UNIT FOR ECOSYSTEMS (ETP-FW)”, “POTENTIAL COMPARATIVE TOXIC UNIT FOR HUMANS, CANCER EFFECTS”, “POTENTIAL COMPARATIVE TOXIC UNIT FOR HUMANS, NOT CANCER EFFECTS” and “POTENTIAL SOIL QUALITY INDEX” should be used with caution as the uncertainties associated with them are high or there is little experience with the indicator.

2.4. Indicators describing resource use

	Primary energy					
	EPR	RR	TRR	EPNR	RNR	TRNR
Unit	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.	MJ, P.C.I.
Modules A1-A3	3.37E+00	7.37E+00	1.07E+01	4.48E+01	2.65E-01	4.50E+01
Module C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Module C2	7.51E-03	0.00E+00	7.51E-03	3.06E+00	0.00E+00	3.06E+00
Module C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Module C4	1.50E-01	0.00E+00	1.50E-01	4.76E+00	0.00E+00	4.76E+00
Module D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

LEGEND:

- Product stage
- End of life stage
- Benefits and loads beyond the system boundary

EPR = use of renewable primary energy excluding renewable primary energy resources used as raw materials; RR = use of renewable primary energy resources used as raw materials; TRR = total use of renewable primary energy resources (EPR + RR); EPNR = use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; RNR = use of non-renewable primary energy resources used as raw materials; TRNR = total use of non-renewable primary energy resources (EPNR + RNR).

Units expressed by declared unit.

	Secondary materials and fuels, and use of water			
	MS	CSR	CSNR	Net use of fresh water
Unit	kg	MJ, P.C.I.	MJ, P.C.I.	m ³
Modules A1-A3	3.97E-01	1.25E-01	4.13E-01	2.10E-02
Module C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Module C2	0.00E+00	1.36E-07	0.00E+00	5.19E-05
Module C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Module C4	0.00E+00	1.26E-05	0.00E+00	-2.55E-02
Module D	0.00E+00	0.00E+00	0.00E+00	0.00E+00

LEGEND:

- Product stage
- End of life stage
- Benefits and loads beyond the system boundary

MS = use of secondary material; CSR = use of renewable secondary fuels; CSNR = use of non-renewable secondary fuels.

Units expressed by declared unit.

2.5. Other environmental information describing different waste categories

	Hazardous waste disposed	Non-hazardous waste disposed	Radioactive waste disposed
Unit	kg	kg	kg
Modules A1-A3	1.00E-01	3.68E+00	1.92E-05
Module C1	0.00E+00	0.00E+00	0.00E+00
Module C2	3.81E-04	1.02E-02	1.71E-07
Module C3	0.00E+00	0.00E+00	0.00E+00
Module C4	4.10E-02	3.99E+01	3.82E-06
Module D	0.00E+00	0.00E+00	0.00E+00

LEGEND:

	Product stage
	End of life stage
	Benefits and loads beyond the system boundary

Units expressed by declared unit.

2.6. Environmental information describing output flows

	Components for re-use	Materials for recycling	Materials for energy recovery	Exported energy
Unit	kg	kg	kg	MJ
Modules A1-A3	0.00E+00	4.70E-02	5.04E-02	5.16E-02
Module C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Module C2	0.00E+00	7.77E-08	7.61E-10	4.09E-04
Module C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Module C4	0.00E+00	1.84E-05	1.44E-07	2.55E-02
Module D	0.00E+00	0.00E+00	0.00E+00	0.00E+00

LEGEND:

	Product stage
	End of life stage
	Benefits and loads beyond the system boundary

Units expressed by declared unit.

2.7. Information describing the biogenic carbon content at the factory gate

The results presented in this EPD correspond to the most representative product: Plasterboard Gypotec 13D (Impact Resistant).

Biogenic carbon content*	Units**	Modules A1-A3 (results)
Biogenic carbon content in product	kg C	1.52E-01
Biogenic carbon content in accompanying packaging	kg C	3.01E-02
* 1 kg biogenic carbon is equivalent to 44/12 kg of CO₂. ** This information can be omitted whenever the content of biogenic carbon in the product, or in the respective packaging, is less than 5% of the mass of the product, or the respective packaging.		

3. SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

3.1. C1 De-construction, demolition – End of life of the product

According to EN 17328:2024, “*The deconstruction and/or dismantling (C1) of gypsum-based products often occurs as part of the demolition of the entire building. Due to regulatory requirements, gypsum wastes need to be separated from other mineral deconstruction waste. That is why selective dismantling needs to be applied, either entirely manually or with some electrical devices. Therefore, the environmental impact of deconstructing gypsum-based products is assumed to be very small compared to the deconstruction of other (mineral) building products and therefore, the corresponding environmental impacts can be neglected on the grounds of materiality*”. The deconstruction of Gypotec Impact Resistant Plasterboard is typically carried out manually, without associated consumption, so the impacts are zero.

3.2. C2 Transport – End of life of the product

In the transport of the gypsum plasterboard waste, it was considered that the waste operators are within a radius of 50 km, according to primary information from the manufacturer. It was also assumed that the waste was transported by lorry with a gross weight of 3.5-7.5 tonnes.

3.3. C3 Waste processing for reuse, recovery and/or recycling – End of life of the product

It was considered that, in the present moment, no waste is sent to reuse, recycling or energy recovery. The impact is considered zero.

3.4. C4 Disposal – End of life of the product

A scenario of landfill disposal (100%) was considered. The landfill scenario was defined based on a conservative approach and primary information from the manufacturer (current situation).

3.5. Scenario and technical information for module D

At present there are no processes for re-use or recovery. Therefore, the potential benefits beyond the system boundaries (D) are zero.

3.6. Additional information on release of dangerous substances to indoor air, soil, and water during the use stage

Gypotec gypsum boards are rated A+ for indoor air quality. This qualification comes from the French regulations for emissions of volatile pollutants, with Category A+ being the best indoor air quality classification, meaning very low or no emissions of substances in indoor air, such as VOCs (volatile organic compound).

<https://gypotec.eu/en/gypotec-the-most-advantageous-gypsum-board/>

3.7. Other additional information

FACTORS TO ESTIMATE ENVIRONMENTAL IMPACTS FOR OTHER THICKNESSES:

Impact Resistant plasterboards are produced in different format. To estimate environmental impacts for other thicknesses, results might be multiplied by the corresponding factor in the following table.

	Conversion factors	
	Plasterboard 13D	Plasterboard 15D
GWP-Total (kg CO ₂ eq.)	1.00	1.16
GWP-Fossil (kg CO ₂ eq.)	1.00	1.17
GWP-Biogenic (kg CO ₂ eq.)	1.00	0.91
GWP-Luluc (kg CO ₂ eq.)	1.00	1.03
ODP (kg CFC-11 eq.)	1.00	1.17
AP (mol H ⁺ eq.)	1.00	1.19

	Conversion factors	
	Plasterboard 13D	Plasterboard 15D
EP-Freshwater (kg P eq.)	1.00	1.04
EP-Marine (kg N eq.)	1.00	1.15
EP-Terrestrial (mol N eq.)	1.00	1.16
POCP (kg NMVOC eq.)	1.00	1.19
ADP-Minerals&metals (kg Sb eq.)	1.00	1.04
ADP-Fossil (MJ)	1.00	1.18
WDP (m ³ world eq. deprived)	1.00	1.39

END OF LIFE:

A scenario of landfill disposal (100%) was considered. The landfill scenario was defined based on a conservative approach and primary information from the manufacturer (current situation). However, Gypotec is currently implementing a post-consumer plasterboard waste collection system to recycle it internally.

Gypotec plasterboards can be recycled in a closed loop into new product without any loss in quality or performance. Gypotec plasterboard waste from deconstruction should be consigned to a recycling center.

4. REFERENCES

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