

Environmental Product Declaration



In accordance with ISO 14025 and UNE-EN 15804:2012+A2:2019 for:

ISOPLAC plasterboards: A Standard, H1 Moisture Resistant, F Fire Resistant, Super and ID Higher hardness.

from

ISOLANA

ISO  LAC[®]

Programme:	The International EPD [®] System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-01143
Publication date:	2018-01-25
Revision date:	2022-10-20
Valid until:	2027-10-19

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com



General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	info@environdec.com

CEN standard UNE-EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): Construction Products, PCR 2019:14 (UNE-EN 15804:A2), version 1.11.
PCR review was conducted by: Claudia A. Peña. The review panel may be contacted via info@environdec.com
Independent third-party verification of the declaration and data, according to ISO 14025:2006: <input type="checkbox"/> EPD process certification <input checked="" type="checkbox"/> EPD verification
Third party verifier: <i><name and organisation of the third party verifier></i> <i>Lorena Pereda de Fundación Centro Tecnológico de Miranda de Ebro (CTME).</i>
Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see UNE-EN 15804 and ISO 14025.

Company information

Owner of the EPD: CIA ESPAÑOLA DE AISLAMIENTOS SA (ISOLANA). C/ Cobalto 95, 08907 Hospitalet de Llobregat, Barcelona

Contact: www.sistemasisolac.es

Description of the organisation: CIA ESPAÑOLA DE AISLAMIENTOS SA, under the ISOLANA brand, since 1939, has focused its activities on the distribution and supply of construction materials in the following sectors: Thermal and acoustic insulators, laminated plaster pieces, passive fire protection, false ceilings, air conditioning, painting, light floors, ceramic floors and coatings, bathroom, taps, work material, tools and auxiliaries.

One of the main products is plasterboard, in all its references and thicknesses, with the ISOPLAC brand. These plates are made in Roccastrada (Italy).

ISOLANA has 31 branches with a total of 30,500 m2 of covered area, thus offering a very important stock both in quantity of material and in number and variety of references.

Another element that characterizes ISOLANA is that it has a large fleet of trucks that allows us to meet orders on a daily basis and with great agility anywhere on the peninsula.

ISOLANA has chosen EXCELLENCE in all its business actions, creating its own code of conduct, based on fundamental human virtues. The commitment and loyalty of all its members, this action model facilitates not only the harmony of the company but also relationships with customers and external suppliers.

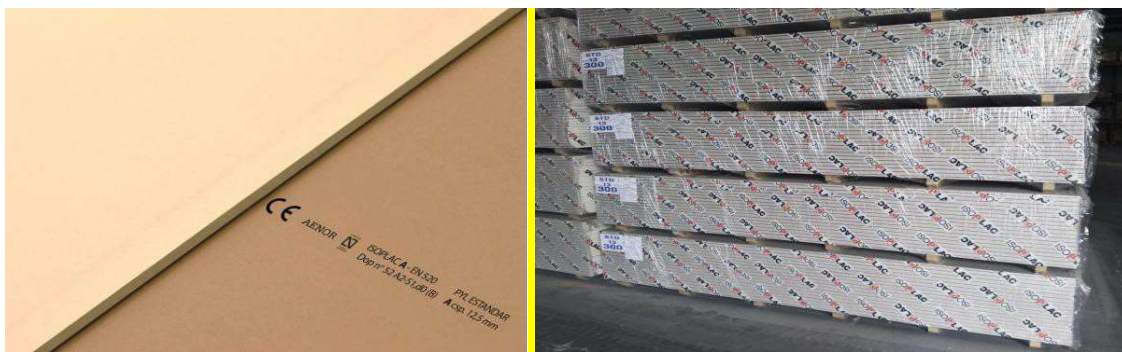
Name and location of production site(s): Poggio Olivi, Roccastrada, 58036 Grosseto (GR), Italy.

Product information

Product name: ISOPLAC plasterboards: A Standard (A10, A13, A15 and A18), H1 Moisture Resistant (H1 and H2); F Fire Resistant (F13 and F15); Super (13 and 15) and ID Higher hardness (ID13 and ID15).

Product identification: ISOPLAC plasterboards: A Standard (A10, A13, A15 and A18), H1 Moisture Resistant (H1 and H2); F Fire Resistant (F13 and F15); Super (13 and 15) and ID Higher hardness (ID13 and ID15).

Product description: ISOPLAC plasterboards are produced according to EN 520 Gypsum plasterboards.



	A Standard	H1 Moisture Resistant	F Fire resistant	Super	ID Higher hardness
Product description	Gypsum based board (plasterboard) standard type A, with one decorative ivory face.	Gypsum based board (plasterboard) standard type H, with additives to reduce the water absorption rate, with one decorative green face.	Gypsum based board (plasterboard) standard type A, fire reaction A1 thanks to the low calorific value of the paper liners.	Gypsum plasterboard for special application, with higher strength, higher surface hardness, controlled density, reduced water absorption (H1) and with additional glass fibres to improve core adhesion at higher temperatures.	Gypsum based board (plasterboard) with higher surface hardness (I) and controlled density – greater than 800 kg/m ³ (D), with one decorative yellow face.
Application/intended use	Suitable for installation with metal stud of partitions, lining systems and ceilings.	Suitable for installation with stud partitions, lining systems and ceilings that require superior moisture resistance.	Suitable for installation with metal stud of partitions, lining systems and ceilings where is required reaction to fire A1.	Suitable where superior mechanical and acoustic performances are required (+30%; +5dB compared to standard boards), also in combination with fire (EI 120) and/or humidity resistance as Hospitals, Schools, Houses and Hotels	Suitable for installation with metal stud of partitions, lining systems and ceilings where higher surface hardness is required.
Standard	EN 520	EN 520	EN 520	EN 520	EN 520
Thickness (mm)	9,5mm (BA10), 12,5mm (BA13), 15mm (BA15), 18mm (BA18).	12,5mm (BA13) and 15mm (BA15).	12,5mm (BA13) and 15mm (BA15).	12,5mm (BA13), 15 mm (BA15)	12,5mm (BA13), 15 mm (BA15)
Nominal weight (kg/m ²)	8 – 9 – 11,4 – 15,5	9,2 – 11,7	9,3 – 11,8	12,7 – 15	12,5 - 15
Fire reaction class	A2-s1,d0	A2-s1,d0	A1	A2-s1,d0	A2-s1,d0
Water vapor resistance factor (EN 10456)	10 in dry area	10 in dry area	10 in dry area	10 in dry area	10 in dry area
Thermal conductivity at 10 °C (W/mK) (EN 10456)	0,21	0,21	0,21	0,25	0,25

UN CPC code: 314 Boards and panels.

LCA information

Declared unit: 1 m² covering surface of installed building gypsum board used as components of internal partitions, linings, design elements or ceilings during a period of 50 years. The conversion to kg of this Declared unit is:

- 8; 9; 11,4 and 15,5 kg/m² Standard (ISOPLAC A10, A13, A15, A18)
- 9,2 and 11,7 kg/m² ISOPLAC H1, H2 (Moisture Resistant)
- 9,3 and 11,8 kg/m² ISOPLAC F (F13 and F15).
- 12,7 and 15,5 kg/m² ISOPLAC Super (13 and 15)
- 12,5 and 15 kg/m² ISOPLAC ID (Higher hardness ID 13 and ID 15)

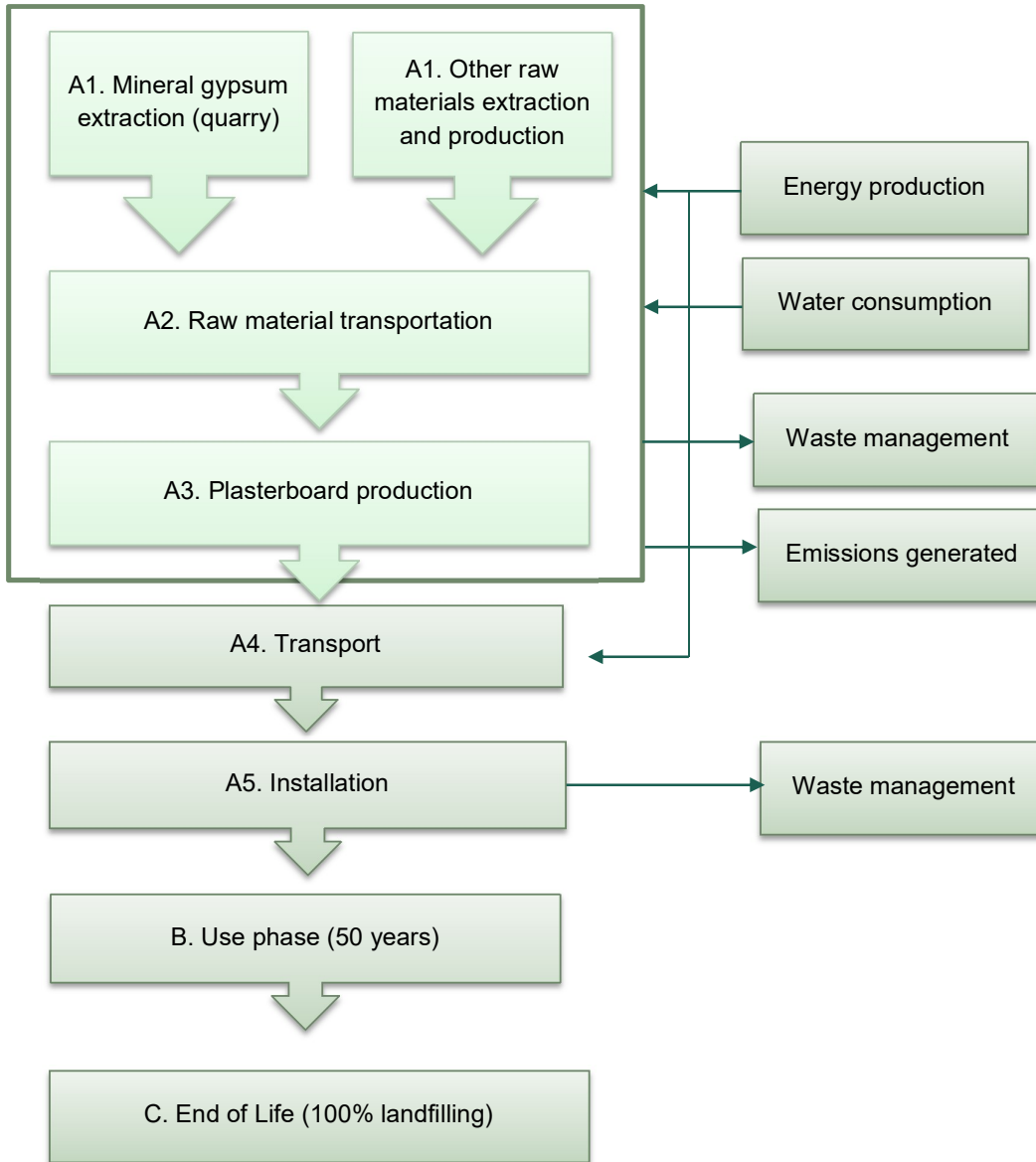
Reference service life: 50 years. It is assumed that gypsum boards have the same reference service life than the building where the product is installed.

Time representativeness: 2021.

Database(s) and LCA software used: SimaPro v9.3 and Ecoinvent 3.6 have been used.

Description of system boundaries: ; Cradle to gate with options, modules A4-A5, modules B1-B7, modules C1-C4 and module D.

System diagram:



More information:

Technical data sheets, Declaration of Performance and Safety Data Sheet for all these products are available at <https://isolana.es>

ISOPLAC plasterboards are classified A+ according to EN ISO 16000-09 standard with regard to the emission of formaldehyde, acetaldehyde and other substances.

The EPD and the LCA study have been developed by ISOLANA Ahorro Energético SL (dtecnico@isolana.es) considering:

DATA USED AND DATA QUALITY	<p>Primary data about the product has been obtained from the production center of Roccastrada (Grosseto, Italy) for the year 2021.</p> <p>Secondary data has been obtained from Ecoinvent 3.6. A score of 3.9 out of 5 is obtained for the data quality matrix required by UNE EN 15804:2012+A2:2019.</p> <p>For the calculation, the indicators have been converted from qualitative to quantitative, going from "very bad" to "1st, from " bad to "2" and so on, in this way, the aforementioned final values are formed.</p>
CUT-OFF RULES	<p>Life Cycle Inventory data for a minimum of 99% of total inflows to the upstream and core module shall be included.</p>
ALLOCATION	<p>Energy consumption and waste management of the plant have been allocated to the product considering the total amount (in m²) of products generated in the reference year.</p>
ELECTRICITY USED AT MODULE A3	<p>The specific electricity mix of the provider has been considered: 3% renewable sources; 14% coal; 71% natural gas; 1% petroleum products; 6% nuclear; 5% other sources. This mix generates 0,498 kg CO₂ eq./kWh.</p>

Modules declared, geographical scope, share of specific data (in GWP-GHG indicator) and data variation:

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage	
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential	
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Modules declared	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Geography	IT	IT	IT	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	
Specific data used	>90% GWP-GHG					-	-	-	-	-	-	-	-	-	-	-	-	
Variation – products	-					-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	-					-	-	-	-	-	-	-	-	-	-	-	-	-

Additional technical information (as per Section 7.1 in UNE-EN 15804)

Product stage, A1-A3

Raw material supply (A1)

Extraction of natural resources from the quarry and manufacture of additives and other raw materials. The main raw materials for plasterboard are: gypsum, water, cellulose, foaming agent, fluidizer and starch.

During the manufacturing process, the internal recycling of production remains (8.60% of the total plaster) is carried out, thus reducing the amount of virgin plaster needed.

Transport to the manufacturer (A2)

Transport of all raw materials considered in module A1, from the place of extraction, production and treatment to the factory gate.

Manufacturing (A3)

This module considers all the manufacturing processes of the plasterboard, including the consumption of water and energy in the manufacturing processes, consumption of materials for packaging, as well as the treatment of the waste generated. Part of the product losses are reintroduced into the manufacturing process.

For construction, use and end of life scenarios the following scenarios have been considered. The scenarios included are currently in use and are representative for one of the most probable alternatives.

Construction

Transport to the building site (A4)

Transport of the product, from the production plant to the installation site.

An average distance of 747 km by road and 1910 km by ship has been considered.

PARAMETER	VALUE (expressed per declared unit)
Fuel type and consumption vehicle or vehicle type used for transport	Road: Transport, freight, lorry 16-32 metric ton, EURO5 Ship: Transport, freight, sea, container ship
Distance	747 km by lorry 1910 km by ship
Capacity utilisation (including empty returns)	Ecoinvent assumption applied, i.e. 50% capacity (including empty returns)
Bulk density of transported products	720 – 860 kg/m ³ for Standard 736 – 780 kg/m ³ for Reduced water absorption 744 – 786 kg/m ³ Fire resistant 1016 – 1033 kg/m ³ Super 1000 kg/m ³ Higherer hardness
Volume capacity utilisation factor	1

Installation into the building (A5)

This module includes the consumption of auxiliary materials (in addition to the product) to place the product in the building, as well as the management of possible waste generated during this information module.

* Galvanized steel profiles have not been taken into consideration for the present analysis.

The waste from the installation of the plate is transported 50 km. by 16-32 tn trucks from the construction site to the landfill (100% landfill).

PARAMETER	VALUE (expressed per declared unit)
Ancillary materials for installation (specified by materials for the most popular system: partition double layers each-side)	Stainless steel screws: 8,80 units/m ² Joint filler: 0,30 kg/m ² Fiberglass tape: 1,60 m/m ²
Water and other resources consumption	None
Quantitative description of energy type (regional use) and consumption during the installation process	None
Waste of materials at the work site, before processing waste, generated during the installation of the product (Packaging and installation losses)	5% of plasterboard
Output materials (specified by type) as results of waste processing at the building site (specified by route)	Packaging waste to recycling Wastage product to landfill
Direct emissions to ambient air, soil and water	None

Use stage

Being a passive product within a construction, the use stage (including modules B1 to B7) does not generate impacts.

End of life

Demolition (C1)

To demolish the plasterboard once installed, a manual cutting tool, or a mallet, is used, which does not require energy nor water consumption.

Transport (C2)

It is considered that once the product and the auxiliary installation materials have been uninstalled, the waste is transported for 50 km to the landfill site.

Waste processing for reuse, recovery and/or recycling (C3)

Waste is considered not to be processed prior to disposal.

Disposal (C4)

Product waste are considered to be deposited in a landfill.

PARAMETER	VALUE (expressed per declared unit)
Collection process specified by type	100% collected with mixed de-construction and demolition waste to landfill
Recovery system specified by type	0% recycling
Disposal specified by type	100% landfill
Assumptions for scenario development	Demolition waste is transported 50 km by 16-32 lorry from the site to the final treatment site (landfill)

Reuse-recovery-recycling potential (D)

As the product is considered to be 100% landfilled, there are no reuse, recovery or recycling operations. 100% of the weight is sent to landfill.

Content information

Product components	ISOPLAC A 13 STANDARD (12,5 mm)	ISOPLAC H1 13 Reduced Water Absortion (12,5 mm)	ISOPLAC F 13 Fire Resistant (12,5 mm)	ISOPLAC SUPER 13 (12,5 mm)	ISOPLAC ID 13 Higer Hardness (12,5 mm)	Post-consumer material, weight-%	Renewable material, weight-%
Mineral gypsum	< 94%	< 94%	< 94%	< 94%	< 94%	0	0
Paper	< 5%	< 5%	< 5%	< 5%	< 5%	100	100
Chemicals, organic	< 1%	< 1%	< 1%	< 1%	< 1%	0	0
Chemicals inorganic	< 1%	< 1%	< 1%	< 1%	< 1%	0	0
TOTAL (kg/m2)	9,00	9,20	9,30	12,7	12,5	*	*
Total Post-consumer material	4,49%	3,91%	3,87%	3,08%	3,07%	0	0
Total Renewable material	4,49%	3,91%	3,87%	3,08%	3,07%	0	0
Packaging materials	Weight, kg	Weight, kg	Weight, kg	Weight, kg	Weight, kg	Weight (% with respect to the average product 10,32 kg/m2)	
Film	6,70E-03	6,70E-03	6,70E-03	6,70E-03	6,70E-03	0,06%	
Pallet	1,40E-02	1,40E-02	1,40E-02	1,40E-02	1,40E-02	0,14%	

* Reference is made to the product taken as the calculation basis for each of the families. See Table of Conversion Factors for each particular plate thickness on Page 28.

Hazardous substance listed in the “Candidate List of Substances of Very Higher Concern (SVHC) for authorization” has not been used in a percentage higherer than 0.1% of the weight of the product.

Environmental Information

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.

Life cycle impact assessment methods defined in UNE-EN 15804:2012+A2:2019 and in the PCR have been applied. These methods are implemented in SimaPro as "UNE-EN 15804+A2 Method". As indicated by the PCR, the Eutrophication aquatic freshwater is given in both kg PO₄ eq. and Kg P eq.

Potential environmental impact – mandatory indicators according to UNE-EN 15804 – ISOPLAC A STANDARD

Indicator	Unit	Results per Declared unit															
		Manufacture	Construction			Use							End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Global warming fossil fuels (GWP- fossil)	kg CO ₂ eq	2,00E+00	1,15E+00	5,11E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	6,87E-02	0,00	8,72E-02	0,00	
Global warming - biogenic (GWP-biogenic)	kg CO ₂ eq	-1,56E-02	2,75E-03	1,08E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,82E-04	0,00	7,04E-04	0,00	
Gobal warming land use and land use change (GWP-luluc)	kg CO ₂ eq	1,16E-03	4,92E-04	6,28E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,70E-05	0,00	3,89E-05	0,00	
Global warming total (GWP-total)	kg CO ₂ eq	1,98E+00	1,16E+00	5,23E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	6,89E-02	0,00	8,79E-02	0,00	
Ozone layer depletion (ODP)	kg CFC 11 eq	3,01E-07	2,62E-07	2,77E-08	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,59E-08	0,00	2,70E-08	0,00	
Acidification (AP)	mol H ⁺ eq	5,60E-03	8,05E-03	2,88E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,79E-04	0,00	7,44E-04	0,00	
Eutrophication - freshwater (EP-freshwater)	kg PO ₄ eq	9,59E-04	8,61E-04	2,27E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3,52E-05	0,00	9,81E-05	0,00	
Eutrophication - freshwater (EP-freshwater)	kg P eq	4,55E-05	7,65E-06	1,55E-05	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	4,82E-07	0,00	1,46E-06	0,00	
Eutrophication - marine (EP-marine)	kg N eq.	1,77E-03	2,21E-03	4,67E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	8,31E-05	0,00	2,52E-04	0,00	
Eutrophication - terrestrial (EP-terrestrial)	mol N eq.	3,94E-03	6,96E-03	1,64E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,81E-04	0,00	8,02E-04	0,00	
Trophospheric Ozone Formation (POCP)	kg NMVOC eq	1,80E-02	2,43E-02	5,36E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	9,18E-04	0,00	2,77E-03	0,00	
Abiotic depletion for non-fossil resources (ADP-minerals&metals)	kg Sb eq	5,29E-06	3,75E-06	9,42E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,39E-07	0,00	9,32E-07	0,00	

Abiotic depletion for fossil resources (ADP-fossil)	MJ, net calorific value	2,79E+01	1,68E+01	5,67E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,02E+00	0,00	2,00E+00	0,00
Water user deprivation (WDP)	m ³	7,58E-01	4,77E-02	1,55E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3,01E-03	0,00	8,86E-02	0,00

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are higher or as there is limited experience with the indicator.

Potential environmental impact – additional mandatory and voluntary indicators

Indicator	Unit	Results per Declared unit															
		Manufacture			Construction			Use							End of life		Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Global Warming Potential - GHG	kg CO2 eq	1,98E+00	1,14E+00	5,03E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	6,82E-02	0,00	8,59E-02	0,00

Use of resources

Indicator	Unit	Results per Declared unit															
		Manufacture			Construction			Use							End of life		Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Use of renewable primary energy, excluding the resources of non-renewable primary energy used as a raw materials	MJ, net calorific value	2,00E+00	2,30E-01	6,05E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,46E-02	0,00	3,38E-02	0,00
Use of renewable primary energy used as raw materials	MJ, net calorific value	2,10E-01	0,00E+00	1,05E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Total use a renewable primary energy (primary energy and resources of renewable primary energy used as raw materials)	MJ, net calorific value	2,21E+00	2,30E-01	6,16E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,46E-02	0,00	3,38E-02	0,00	
Use of non-renewable primary energy, excluding the resources of non-renewable primary energy used as a raw materials	MJ, net calorific value	3,15E+01	1,82E+01	6,42E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,10E+00	0,00	2,18E+00	0,00	
Use of non-renewable primary energy used as raw materials	MJ, net calorific value	2,90E-01	0,00E+00	1,45E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	

Total use of non-renewable primary energy (primary energy and resources of renewable primary energy used as raw materials)	MJ, net calorific value	3,18E+01	1,82E+01	6,44E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,10E+00	0,00	2,18E+00	0,00
Use of secondary materials	kg	7,21E-01	0,00E+00	3,60E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00
Net use of fresh water	m ³	2,33E-02	1,70E-03	4,06E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,08E-04	0,00	2,15E-03	0,00

Waste production and output flows

Waste production

Indicator	Unit	Results per Declared unit																	
		Manufacture			Construction			Use							End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D			
Hazardous waste disposed	kg	4,28E-05	4,22E-05	4,33E-05	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,71E-06	0,00	3,14E-06	0,00			
Non-hazardous waste disposed	kg	1,87E-01	8,07E-01	1,67E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	5,34E-02	0,00	8,29E+00	0,00			
Radioactive waste disposed	kg	4,36E-05	1,16E-04	1,39E-05	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	7,03E-06	0,00	1,23E-05	0,00			

Output flows

Indicator	Unit	Results per Declared unit																	
		Manufacture			Construction			Use							End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D			
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00			
Materials for recycling	kg	1,50E-02	0,00E+00	7,50E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00			
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00			
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00			

Information on biogenic carbon content

Results per Declared unit		
BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	6,59E-01
Biogenic carbon content in packaging	kg C	2,62E-02

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

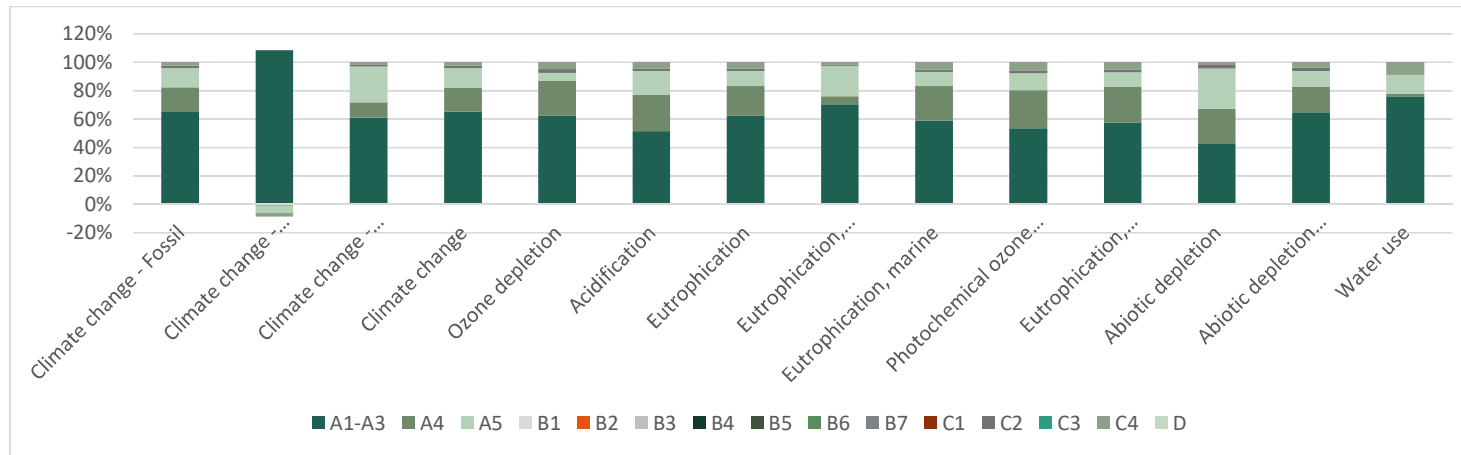
Most of the impacts occur during the product stage. In fact, 58% of the impacts associated with global warming, 57% of the impacts associated with the consumption of non-renewable resources, 58% of the impacts associated with energy consumption and 72% of the impacts associated with water consumption occur during this stage. These impacts are basically due to the extraction and processing of raw materials (A1).

During the product transportation stage, 24% of the impacts associated with global warming, 32% of the impacts associated with the consumption of non-renewable resources, 25% of the impacts associated with energy consumption and 4% of the impacts associated with water consumption are produced.

During the installation stage, the contribution in any of the impact categories does not exceed 13%.

There are no impacts associated with the use stage of the product since gypsum board is a passive product within the building and has no impact at this stage of the life cycle.

During the end-of-life stage, the main associated impact is the generation of waste, corresponding to 92% of its total impact.



For the rest of the plasterboard, the impact results maintain the same trend.

Potential environmental impact – mandatory indicators according to EN UNE 15804 – H1 MOISTURE RESISTANT

Indicator	Unit	Results per Declared unit															
		Manufacture	Construction			Use							End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Global warming fossil fuels (GWP- fossil)	kg CO ₂ eq	2,71E+00	1,55E+00	2,36E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	8,02E-02	0,00	1,02E-01	0,00	
Global warming - biogenic (GWP-biogenic)	kg CO ₂ eq	-3,46E-01	3,69E-03	1,01E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,12E-04	0,00	8,22E-04	0,00	
Gobal warming land use and land use change (GWP-luluc)	kg CO ₂ eq	2,81E-03	6,62E-04	1,77E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3,15E-05	0,00	4,54E-05	0,00	
Global warming total (GWP-total)	kg CO ₂ eq	2,37E+00	1,55E+00	2,46E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	8,05E-02	0,00	1,03E-01	0,00	
Ozone layer depletion (ODP)	kg CFC 11 eq	3,65E-05	3,52E-07	9,19E-09	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,86E-08	0,00	3,16E-08	0,00	
Acidification (AP)	mol H ⁺ eq	1,05E-02	1,08E-02	1,17E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3,26E-04	0,00	8,68E-04	0,00	
Eutrophication - freshwater (EP-freshwater)	kg PO ₄ eq	1,64E-03	1,16E-03	9,75E-05	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	4,11E-05	0,00	1,15E-04	0,00	
Eutrophication - freshwater (EP-freshwater)	kg P eq	9,17E-05	1,03E-05	6,34E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	5,62E-07	0,00	1,70E-06	0,00	
Eutrophication - marine (EP-marine)	kg N eq.	2,87E-03	2,96E-03	2,10E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	9,71E-05	0,00	2,94E-04	0,00	
Eutrophication - terrestrial (EP-terrestrial)	mol N eq.	7,29E-03	9,35E-03	6,85E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3,28E-04	0,00	9,36E-04	0,00	
Trophospheric Ozone Formation (POCP)	kg NMVOC eq	3,01E-02	3,28E-02	2,39E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,07E-03	0,00	3,24E-03	0,00	
Abiotic depletion for non-fossil resources (ADP-minerals&metals)	kg Sb eq	1,11E-05	5,03E-06	2,44E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,79E-07	0,00	1,09E-06	0,00	
Abiotic depletion for fossil resources (ADP-fossil)	MJ, net calorific value	3,53E+01	2,26E+01	1,76E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,19E+00	0,00	2,34E+00	0,00	
Water user deprivation (WDP)	m ³	1,04E+00	6,39E-02	3,83E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3,52E-03	0,00	1,03E-01	0,00	

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are higher or as there is limited experience with the indicator.

Potential environmental impact – additional mandatory and voluntary indicators

Indicator	Unit	Results per Declared unit															
		Manufacture			Construction			Use							End of life		Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Global Warming Potential - GHG	kg CO2 eq	2,67E+00	1,53E+00	2,35E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	7,96E-02	0,00	1,00E-01	0,00

Use of resources

Indicator	Unit	Results per Declared unit															
		Manufacture			Construction			Use							End of life		Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Use of renewable primary energy, excluding the resources of non-renewable primary energy used as a raw materials	MJ, net calorific value	1,56E+01	3,09E-01	3,18E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,71E-02	0,00	3,95E-02	0,00
Use of renewable primary energy used as raw materials	MJ, net calorific value	2,70E-01	0,00E+00	1,35E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Total use a renewable primary energy (primary energy and resources of renewable primary energy used as raw materials)	MJ, net calorific value	1,59E+01	3,09E-01	3,32E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,71E-02	0,00	3,95E-02	0,00	
Use of non-renewable primary energy, excluding the resources of non-renewable primary energy used as a raw materials	MJ, net calorific value	4,10E+01	2,45E+01	2,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,29E+00	0,00	2,54E+00	0,00	
Use of non-renewable primary energy used as raw materials	MJ, net calorific value	2,90E-01	0,00E+00	1,45E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Total use of non-renewable primary energy (primary energy and resources of renewable primary energy used as raw materials)	MJ, net calorific value	4,13E+01	2,45E+01	2,01E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,29E+00	0,00	2,54E+00	0,00	
Use of secondary materials	kg	7,25E-01	0,00E+00	3,63E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	

Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00
Net use of fresh water	m ³	3,30E-02	2,28E-03	1,00E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,26E-04	0,00	2,51E-03	0,00

Waste production and output flows

Waste production

Indicator	Unit	Results per Declared unit																	
		Manufacture			Construction			Use							End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D			
Hazardous waste disposed	kg	8,17E-05	5,67E-05	1,68E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3,17E-06	0,00	3,67E-06	0,00		
Non-hazardous waste disposed	kg	6,18E-01	1,08E+00	1,07E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	6,24E-02	0,00	9,68E+00	0,00		
Radioactive waste disposed	kg	7,10E-05	1,56E-04	5,14E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	8,20E-06	0,00	1,43E-05	0,00		

Output flows

Indicator	Unit	Results per Declared unit																	
		Manufacture			Construction			Use							End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D			
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00			
Materials for recycling	kg	1,50E-02	0,00E+00	7,50E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00			
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00			
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00			

Information on biogenic carbon content

Results per Declared unit		
BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	6,59E-01
Biogenic carbon content in packaging	kg C	3,33E-02

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

Potential environmental impact – mandatory indicators according to UNE-EN 15804 – ISOPLAC F FIRE RESISTANT

Indicator	Unit	Results per Declared unit															
		Manufacture	Construction			Use							End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Global warming fossil fuels (GWP- fossil)	kg CO ₂ eq	2,22E+00	1,58E+00	2,36E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	8,11E-02	0,00	1,03E-01	0,00	
Global warming - biogenic (GWP-biogenic)	kg CO ₂ eq	-3,51E-01	3,79E-03	1,01E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,14E-04	0,00	8,31E-04	0,00	
Gobal warming land use and land use change (GWP-luluc)	kg CO ₂ eq	2,39E-03	6,75E-04	1,77E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3,18E-05	0,00	4,59E-05	0,00	
Global warming total (GWP-total)	kg CO ₂ eq	1,87E+00	1,58E+00	2,46E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	8,13E-02	0,00	1,04E-01	0,00	
Ozone layer depletion (ODP)	kg CFC 11 eq	3,24E-07	3,60E-07	9,17E-09	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,88E-08	0,00	3,19E-08	0,00	
Acidification (AP)	mol H ⁺ eq	7,57E-03	1,10E-02	1,17E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3,29E-04	0,00	8,77E-04	0,00	
Eutrophication - freshwater (EP-freshwater)	kg PO ₄ eq	1,41E-03	1,18E-03	9,74E-05	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	4,15E-05	0,00	1,16E-04	0,00	
Eutrophication - freshwater (EP-freshwater)	kg P eq	7,95E-05	1,05E-05	6,34E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	5,68E-07	0,00	1,72E-06	0,00	
Eutrophication - marine (EP-marine)	kg N eq.	2,36E-03	3,02E-03	2,10E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	9,81E-05	0,00	2,97E-04	0,00	
Eutrophication - terrestrial (EP-terrestrial)	mol N eq.	5,55E-03	9,54E-03	6,85E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3,32E-04	0,00	9,46E-04	0,00	
Trophospheric Ozone Formation (POCP)	kg NMVOC eq	2,43E-02	3,34E-02	2,39E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,08E-03	0,00	3,27E-03	0,00	
Abiotic depletion for non-fossil resources (ADP-minerals&metals)	kg Sb eq	7,25E-06	5,15E-06	2,44E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,82E-07	0,00	1,10E-06	0,00	
Abiotic depletion for fossil resources (ADP-fossil)	MJ, net calorific value	3,04E+01	2,30E+01	1,76E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,20E+00	0,00	2,36E+00	0,00	
Water user deprivation (WDP)	m ³	9,50E-01	6,52E-02	3,83E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3,55E-03	0,00	1,04E-01	0,00	

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are higher or as there is limited experience with the indicator.

Potential environmental impact – additional mandatory and voluntary indicators

Indicator	Unit	Results per Declared unit															
		Manufacture			Construction			Use							End of life		Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Global Warming Potential - GHG	kg CO2 eq	2,20E+00	1,57E+00	2,35E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	8,04E-02	0,00	1,01E-01	0,00

Use of resources

Indicator	Unit	Results per Declared unit															
		Manufacture			Construction			Use							End of life		Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Use of renewable primary energy, excluding the resources of non-renewable primary energy used as a raw materials	MJ, net calorific value	1,49E+01	3,15E-01	3,18E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,73E-02	0,00	3,99E-02	0,00
Use of renewable primary energy used as raw materials	MJ, net calorific value	2,10E-01	0,00E+00	1,05E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Total use a renewable primary energy (primary energy and resources of renewable primary energy used as raw materials)	MJ, net calorific value	1,51E+01	3,15E-01	3,29E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,73E-02	0,00	3,99E-02	0,00	
Use of non-renewable primary energy, excluding the resources of non-renewable primary energy used as a raw materials	MJ, net calorific value	3,51E+01	2,49E+01	2,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,30E+00	0,00	2,57E+00	0,00	
Use of non-renewable primary energy used as raw materials	MJ, net calorific value	2,90E-01	0,00E+00	2,61E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Total use of non-renewable primary energy (primary energy and resources of renewable primary energy used as raw materials)	MJ, net calorific value	3,54E+01	2,49E+01	2,02E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,30E+00	0,00	2,57E+00	0,00	
Use of secondary materials	kg	7,25E-01	0,00E+00	3,63E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	

Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00
Net use of fresh water	m ³	2,97E-02	2,34E-03	1,00E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,28E-04	0,00	2,54E-03	0,00

Waste production and output flows

Waste production

Indicator	Unit	Results per Declared unit																
		Manufacture			Construction			Use							End of life			Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
Hazardous waste disposed	kg	7,82E-05	5,79E-05	1,68E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3,20E-06	0,00	3,71E-06	0,00		
Non-hazardous waste disposed	kg	2,58E-01	1,11E+00	1,03E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	6,30E-02	0,00	9,78E+00	0,00		
Radioactive waste disposed	kg	6,08E-05	1,59E-04	5,13E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	8,29E-06	0,00	1,45E-05	0,00		

Output flows

Indicator	Unit	Results per Declared unit																
		Manufacture			Construction			Use							End of life			Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00		
Materials for recycling	kg	1,50E-02	0,00E+00	7,50E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00		
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00		
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00		

Information on biogenic carbon content

Results per Declared unit		
BIogenic CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	6,59E-01
Biogenic carbon content in packaging	kg C	2,58E-02

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

Potential environmental impact – mandatory indicators according to UNE-EN 15804 – ISOPLAC SUPER

Indicator	Unit	Results per Declared unit														Module	
		Manufacture			Construction			Use					End of life				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		D
Global warming fossil fuels (GWP- fossil)	kg CO ₂ eq	2,86E+00	2,11E+00	2,36E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,11E-01	0,00	1,41E-01	0,00
Global warming - biogenic (GWP-biogenic)	kg CO ₂ eq	-3,56E-01	5,07E-03	1,01E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,93E-04	0,00	1,14E-03	0,00
Global warming land use and land use change (GWP-luluc)	kg CO ₂ eq	3,04E-03	9,07E-04	1,77E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	4,35E-05	0,00	6,27E-05	0,00
Global warming total (GWP-total)	kg CO ₂ eq	2,51E+00	2,13E+00	2,46E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,11E-01	0,00	1,42E-01	0,00
Ozone layer depletion (ODP)	kg CFC 11 eq	3,65E-05	4,83E-07	9,17E-09	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,56E-08	0,00	4,36E-08	0,00
Acidification (AP)	mol H ⁺ eq	1,18E-02	1,48E-02	1,17E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	4,50E-04	0,00	1,20E-03	0,00
Eutrophication - freshwater (EP-freshwater)	kg PO ₄ eq	1,79E-03	1,59E-03	9,74E-05	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	5,68E-05	0,00	1,58E-04	0,00
Eutrophication - freshwater (EP-freshwater)	kg P eq	9,93E-05	1,41E-05	6,34E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	7,77E-07	0,00	2,35E-06	0,00
Eutrophication - marine (EP-marine)	kg N eq.	3,17E-03	4,05E-03	2,10E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,34E-04	0,00	4,06E-04	0,00
Eutrophication - terrestrial (EP-terrestrial)	mol N eq.	8,19E-03	1,28E-02	6,85E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	4,53E-04	0,00	1,29E-03	0,00
Trophospheric Ozone Formation (POCP)	kg NMVOC eq	3,36E-02	4,49E-02	2,39E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,48E-03	0,00	4,47E-03	0,00
Abiotic depletion for non-fossil resources (ADP-minerals&metals)	kg Sb eq	1,33E-05	6,92E-06	2,44E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3,85E-07	0,00	1,50E-06	0,00
Abiotic depletion for fossil resources (ADP-fossil)	MJ, net calorific value	3,72E+01	3,09E+01	1,76E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,64E+00	0,00	3,23E+00	0,00
Water user deprivation (WDP)	m ³	1,10E+00	8,77E-02	3,83E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	4,86E-03	0,00	1,43E-01	0,00

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are higher or as there is limited experience with the indicator.

Potential environmental impact – additional mandatory and voluntary indicators

Indicator	Unit	Results per Declared unit															
		Manufacture		Construction			Use						End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Global Warming Potential - GHG	kg CO2 eq	2,82E+00	2,11E+00	2,35E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,10E-01	0,00	1,38E-01	0,00

Use of resources

Indicator	Unit	Results per Declared unit															
		Manufacture		Construction			Use						End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Use of renewable primary energy, excluding the resources of non-renewable primary energy used as a raw materials	MJ, net calorific value	1,69E+01	4,24E-01	3,18E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,36E-02	0,00	5,45E-02	0,00
Use of renewable primary energy used as raw materials	MJ, net calorific value	2,00E-01	0,00E+00	1,00E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Total use a renewable primary energy (primary energy and resources of renewable primary energy used as raw materials)	MJ, net calorific value	1,71E+01	4,24E-01	3,28E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,36E-02	0,00	5,45E-02	0,00	
Use of non-renewable primary energy, excluding the resources of non-renewable primary energy used as a raw materials	MJ, net calorific value	4,35E+01	4,41E+00	2,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,78E+00	0,00	1,75E+00	0,00	
Use of non-renewable primary energy used as raw materials	MJ, net calorific value	2,90E-01	0,00E+00	1,45E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Total use of non-renewable primary energy (primary energy and resources of renewable primary energy used as raw materials)	MJ, net calorific value	4,38E+01	4,41E+00	2,01E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,78E+00	0,00	1,75E+00	0,00	
Use of secondary materials	kg	8,50E-01	0,00E+00	4,25E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	

Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00
Net use of fresh water	m ³	3,49E-02	3,13E-03	1,00E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,75E-04	0,00	3,47E-03	0,00

Waste production and output flows

Waste production

Indicator	Unit	Results per Declared unit																	
		Manufacture			Construction			Use							End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D			
Hazardous waste disposed	kg	8,77E-05	7,77E-05	1,68E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	4,37E-06	0,00	5,06E-06	0,00		
Non-hazardous waste disposed	kg	6,44E-01	1,49E+00	1,02E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	8,61E-02	0,00	1,34E+01	0,00		
Radioactive waste disposed	kg	8,05E-05	2,13E-04	5,13E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,13E-05	0,00	1,98E-05	0,00		

Output flows

Indicator	Unit	Results per Declared unit																	
		Manufacture			Construction			Use							End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D			
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00			
Materials for recycling	kg	1,50E-02	0,00E+00	7,50E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00			
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00			
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00			

Information on biogenic carbon content

Results per Declared unit		
BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	7,18E-01
Biogenic carbon content in packaging	kg C	2,44E-02

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

Potential environmental impact – mandatory indicators according to UNE-EN 15804 – ISOPLAC HIGHER HARDNESS

Indicator	Unit	Results per Declared unit														Module	
		Manufacture	Construction			Use							End of life				
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		D
Global warming fossil fuels (GWP- fossil)	kg CO ₂ eq	2,33E+00	2,05E+00	2,36E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,09E-01	0,00	1,38E-01	0,00
Global warming - biogenic (GWP-biogenic)	kg CO ₂ eq	-3,90E-01	4,92E-03	1,01E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,89E-04	0,00	1,12E-03	0,00
Global warming land use and land use change (GWP-luluc)	kg CO ₂ eq	2,58E-03	8,78E-04	1,77E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	4,28E-05	0,00	6,17E-05	0,00
Global warming total (GWP-total)	kg CO ₂ eq	1,94E+00	2,05E+00	2,46E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,09E-01	0,00	1,40E-01	0,00
Ozone layer depletion (ODP)	kg CFC 11 eq	3,35E-07	4,69E-07	9,23E-09	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,52E-08	0,00	4,29E-08	0,00
Acidification (AP)	mol H ⁺ eq	8,48E-03	1,44E-02	1,17E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	4,43E-04	0,00	1,18E-03	0,00
Eutrophication - freshwater (EP-freshwater)	kg PO ₄ eq	1,52E-03	1,54E-03	9,76E-05	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	5,59E-05	0,00	1,56E-04	0,00
Eutrophication - freshwater (EP-freshwater)	kg P eq	8,49E-05	1,37E-05	6,34E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	7,65E-07	0,00	2,32E-06	0,00
Eutrophication - marine (EP-marine)	kg N eq.	2,58E-03	3,92E-03	2,10E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,32E-04	0,00	3,99E-04	0,00
Eutrophication - terrestrial (EP-terrestrial)	mol N eq.	6,24E-03	1,24E-02	6,86E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	4,46E-04	0,00	1,27E-03	0,00
Trophospheric Ozone Formation (POCP)	kg NMVOC eq	2,69E-02	4,35E-02	2,40E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,46E-03	0,00	4,40E-03	0,00
Abiotic depletion for non-fossil resources (ADP-minerals&metals)	kg Sb eq	8,62E-06	6,71E-06	2,44E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	3,79E-07	0,00	1,48E-06	0,00
Abiotic depletion for fossil resources (ADP-fossil)	MJ, net calorific value	3,18E+01	3,00E+01	1,76E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,61E+00	0,00	3,18E+00	0,00
Water user deprivation (WDP)	m ³	9,89E-01	8,50E-02	3,84E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	4,78E-03	0,00	1,41E-01	0,00

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are higher or as there is limited experience with the indicator.

Potential environmental impact – additional mandatory and voluntary indicators

Indicator	Unit	Results per Declared unit															
		Manufacture			Construction			Use					End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Global Warming Potential - GHG	kg CO2 eq	2,31E+00	2,04E+00	2,35E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,08E-01	0,00	1,36E-01	0,00	

Use of resources

Indicator	Unit	Results per Declared unit															
		Manufacture			Construction			Use					End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Use of renewable primary energy, excluding the resources of non-renewable primary energy used as a raw materials	MJ, net calorific value	1,62E+01	4,11E-01	3,18E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,32E-02	0,00	5,36E-02	0,00
Use of renewable primary energy used as raw materials	MJ, net calorific value	3,80E-01	0,00E+00	1,90E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Total use a renewable primary energy (primary energy and resources of renewable primary energy used as raw materials)	MJ, net calorific value	1,65E+01	4,11E-01	3,37E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,32E-02	0,00	5,36E-02	0,00	
Use of non-renewable primary energy, excluding the resources of non-renewable primary energy used as a raw materials	MJ, net calorific value	3,69E+01	3,24E+01	2,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,75E+00	0,00	3,46E+00	0,00	
Use of non-renewable primary energy used as raw materials	MJ, net calorific value	2,90E-01	0,00E+00	1,45E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Total use of non-renewable primary energy (primary energy and resources of renewable primary energy used as raw materials)	MJ, net calorific value	3,71E+01	4,11E-01	3,33E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,32E-02	0,00	5,36E-02	0,00	
Use of secondary materials	kg	8,24E-01	0,00E+00	4,12E-02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Net use of fresh water	m ³	3,10E-02	3,03E-03	1,01E-03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,72E-04	0,00	3,42E-03	0,00	

Waste production and output flows

Waste production

Indicator	Unit	Results per Declared unit															
		Manufacture			Construction			Use					End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Hazardous waste disposed	kg	8,26E-05	7,54E-05	1,69E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	4,31E-06	0,00	4,99E-06	0,00	
Non-hazardous waste disposed	kg	2,77E-01	1,44E+00	1,14E-01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	8,48E-02	0,00	1,32E+01	0,00	
Radioactive waste disposed	kg	6,77E-05	2,07E-04	5,16E-06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	1,12E-05	0,00	1,95E-05	0,00	

Output flows

Indicator	Unit	Results per Declared unit															
		Manufacture			Construction			Use					End of life				Module
		A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Materials for recycling	kg	1,50E-02	0,00E+00	7,50E-04	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	
Exported energy	MJ per vector	0,00E+00	0,00E+00	0,00E+00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00E+00	0,00	0,00E+00	0,00	

Information on biogenic carbon content

Results per Declared unit		
BIOGENIC CARBON CONTENT	Unit	QUANTITY
Biogenic carbon content in product	kg C	7,03E-01
Biogenic carbon content in packaging	kg C	4,58E-02

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

Additional information

Because the LCA results of this DAP refer to the bales with less thickness for each of the product families, to obtain the results of environmental impacts for each thickness, they must be multiplied by their corresponding factor in the following table:

References	kg/m2	Conversion factor	* Total post-consumer recycled materials	*Total renewable materials
ISOPLAC A 10 STANDARD	8,00	0,89	4,49%	4,49%
ISOPLAC A 13 STANDARD	9,00	1,00	3,99%	3,99%
ISOPLAC A 15 STANDARD	11,4	1,27	3,15%	3,15%
ISOPLAC A 18 STANDARD	15,5	1,72	2,32%	2,32%
ISOPLAC F 13 FIRE RESISTANT	9,30	1,00	3,87%	3,87%
ISOPLAC F 15 FIRE RESISTANT	11,80	1,27	3,05%	3,05%
ISOPLAC H1 13 MOISTURE RESISTANT	9,20	1,00	3,91%	3,91%
ISOPLAC H1 15 MOISTURE RESISTANT	11,70	1,27	3,07%	3,07%
ISOPLAC ID 13 ID HIGHER HARDNESS	12,50	1,00	3,07%	3,07%
ISOPLAC ID 15 ID HIGHER HARDNESS	15,00	1,20	2,56%	2,56%
ISOPLAC SUPER 13	12,70	1,00	3,08%	3,08%
ISOPLAC SUPER 15	15,00	1,18	2,61%	2,61%

Information related to Sector EPD

- This is not a Sector EPD.

Differences versus previous versions

- In this version, the scope of the EPD has been expanded to include four more products from the same range: Fire Resistant, Moisture Resistant, Higher Hardness and Super.
- The energy values for electricity, natural gas and diesel have been updated for module A3.
- The Italian Energy Mix for 2015 has been updated to the Supplier's Electric Mix for 2020.
- Simapro calculation software version has been updated from v8.4.0 to v9.3.
- The Ecoinvent database version v3.3 has been updated to v3.6.

References

- General Programme Instructions of the International EPD[®] System. Version 3.01.
- PCR 2019:14. Construction products. Version 1.11
- ISO 14020: 2000 Environmental labels and declarations - General principles.
- ISO 14025: 2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures.
- ISO 14040: 2006 Environmental management - Life cycle assessment - Principles and framework.
- ISO 14044: 2006 Environmental management - Life cycle assessment - Requirements and guidelines.
- UNE-EN 15804:2012 + A2:2019 Sustainability of construction works - Environmental product. Declarations - Basic rules for the Construction product category.
- UNE-EN 520: 2005 Gypsum plasterboards. Definitions, requirements and test methods.

