EPD®

THE INTERNATIONAL EPD® SYSTEM

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with EN 15804+A1 and ISO 14025

Gyproc DuraGyp Activ'Air®

Publication date: 2016-10-25
Revision/issue date: 2022-02-28
Validity date: 2027-02-26
Version: 2
Scope of the EPD®: Italy

EPD VERIFIED

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

Registration number
The International EPD® System:
S-P-00935

ECO PLATFORM EPD VERIFIED

Gyproc SAINT-GOBAIN

General information

Manufacturer: Saint-Gobain Italia Spa, Via Giovanni Bensi, 8, 20152 Milano MI, Italia
Programme used: International EPD System http://www.environdec.com/
EPD registration number/declaration number: S-P-00935
PCR identification: EN 15804 Sustainability of construction works – Environmental product declaration - core rules for the product category of construction product and The International EPD® System PCR 2012:01 version 2.33 for Construction products and Construction services.
Site of manufacture: Termoli Plant, S.P. Traversa della Termolese, Z.I. Pantano Basso - 86039 Termoli (CB), Italy & Casola Plant, 10 Via Del Senio, Casola Valsenio, Ra 48010, Italy
Owner of the declaration: Saint-Gobain Italia Spa.
Product / product family name and manufacturer represented: Gyproc DuraGyp Activ'Air® plasterboard
UN CPC code: 37530 Articles of plaster or of composition based on plaster
Publication date: 2016-10-25
Revision/issue date: 2022-02-28
Validity date: 2027-02-26
Demonstration of verification: an independent verification of the declaration was made, according to ISO 14025:2010. This verification was external and conducted by the following third party: Andrew NORTON, Renuables, based on the PCR mentioned above.
EPD Prepared by: Central LCA team, Saint-Gobain Gypsum.
Contact: Paola Bonfiglio from Saint-Gobain Italia Spa (Paola.Bonfiglio@saint-gobain.com) and Patricia Jimenez Diaz from central LCA team (Patricia.JimenezDiaz@saint-gobain.com)

The declared unit is 1 m² of of Gyproc DuraGyp Activ'Air® with a weight of 12.1 kg/m².

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

Geographical scope of the EPD®: Italy

EPDs of construction products may not be comparable if they do not comply with EN 15804.

CEN standard EN 15804 serves as the core PCR[a]	
PCR:	PCR 2012:01 Construction products and Construction services, Version 2.33
PCR review was conducted by:	The Technical Committee of the International EPD® System. Chair: Massimo Marino. Contact via info@environdec.com
Independent verification of the declaration, according to EN ISO 14025:2010 **Internal ☐ External ☒**	
Third party verifier:	Andrew Norton , Renuables **http://renuables.co.uk**
Accredited or approved by	The International EPD System

Product description

Product description and use:
This Environmental Product Declaration (EPD®) describes the environmental impacts of 1 m² of of Gyproc DuraGyp Activ'Air® with a weight of 12.1 kg/m² with a thickness of 12.5 mm.

Special board with an increased density core (type D), where gypsum is mixed with glass and wood fibres. These characteristics give the product a high level of surface hardness, as well as mechanical resistance (type I and R). DuraGyp Activ'Air® is a type H1 board, with a low water absorption, allowing its installation in rooms with high levels of relative humidity. It also has a reduced permeability to water vapour (type E) which allows to install it as external board, when not directly exposed to atmospheric agents. Moreover, DuraGyp Activ'Air® is type F, thus providing excellent fire resistance performances. The technology Activ'Air® allows the board to absorb and neutralize up to 70% of the formaldehyde present in the air

Gyproc DuraGyp Activ'Air® is suitable for partitions, ceilings and drywall lining, in all cases where high mechanical and impact resistance is required.

Technical data/physical characteristics:

EN CLASSIFICATION	Type D E F H1 I R, EN 520:2004+A1:2009
REACTION TO FIRE	A2-s1,d0
WATER VAPOR RESISTANCE	8,8/4 (dry/wet)
THERMAL CONDUCTIVITY	0,25 W/mK

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

PARAMETER	VALUE (expressed per declared unit)
Quantity of plaster per 1m²	12.1 kg
Thickness	12.5 mm
Packaging for the transportation and distribution	Wooden culls: 0.042 kg/kg
Product used for the Installation	Jointing compound 0,33kg/m² board, tape 1,23m /m² board, screws 8 /m² board

During the life cycle of the product no hazardous substance listed in the "Candidate List of Substances of Very High Concern (SVHC) for authorization" has been used in a percentage higher than 0,1% of the weight of the product.

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

LCA calculation information

EPD TYPE	Cradle to Gate with options
DECLARED UNIT	1 m² of installed board weighting 12.1 kg/m²
SYSTEM BOUNDARIES	Cradle to Gate with options: stages A1 – 3, A4 – A5, B1 – 7 and C1 – 4
REFERENCE SERVICE LIFE (RSL)	50 years By default, it corresponds to Standards building design life and value is included in Appendix III of Saint-Gobain Environmental Product Declaration Methodological Guide for Construction Products.
CUT-OFF RULES	Life Cycle Inventory data for a minimum of 99% of total inflows to the upstream and core module shall be included
ALLOCATIONS	Production data. Recycling, energy and waste data have been calculated on a mass basis.
GEOGRAPHICAL COVERAGE AND TIME PERIOD	Scope includes: Italy Data included is collected from one production site in Casola Valsenio and Termoli plant, Saint-Gobain Italia Spa Data collected for the year 2020. Background data: Ecoinvent (v3.1 2013 and 3.5 2015) and GaBi (SP37 2019)
PRODUCT CPC CODE	37530 Articles of plaster or of composition based on plaster

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

Life cycle stages

Flow diagram of the Life Cycle

Product stage, A1-A3

Description of the stage: the product stage of plaster products is subdivided into 3 modules A1, A2 and A3 respectively “Raw material supply”, “transport to manufacturer” and “manufacturing”.

A1, raw material supply.
This includes the extraction and processing of all raw materials and energy which occur upstream from the manufacturing process.

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

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

Manufacturing process flow diagram

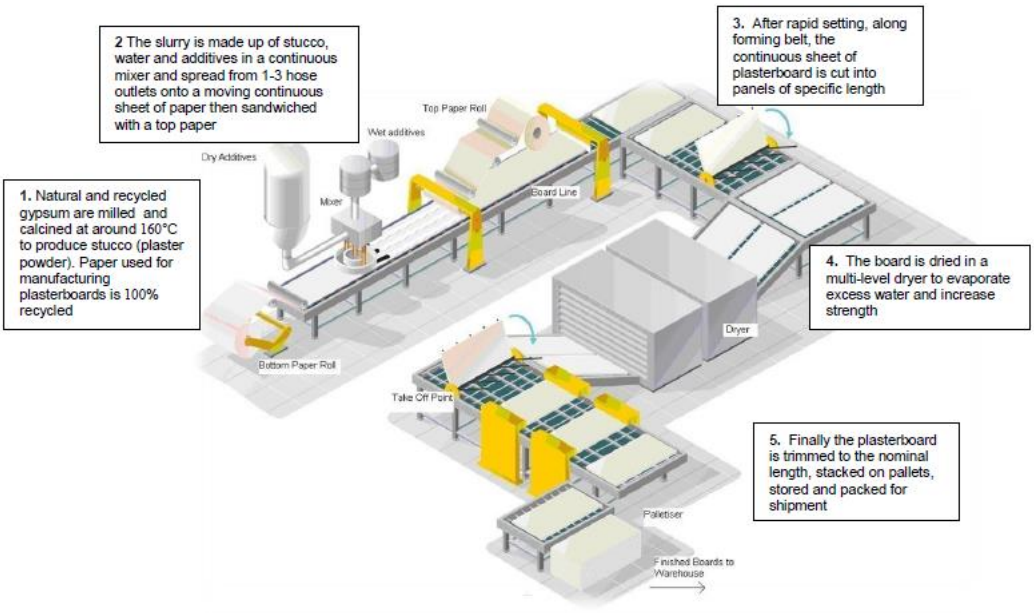


Figure 1: Manufacturing process flow diagram

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

Construction process stage, A4-A5

Description of the stage: the construction process is divided into 2 modules: A4, transport to the building site and A5, installation in the building

A4, transport to the building site.
This module includes transport from the production gate to the building site. Transport is calculated on the basis of a scenario with the parameters described in the following table.

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.	Truck, maximum load weight of 27 t and consumption of 0.38 liters per km
Distance	420 km
Capacity utilisation (including empty returns)	85% (30% empty returns)
Bulk density of transported products	911 – 995 kg/m3
Volume capacity utilisation factor	1

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

PARAMETER	VALUE (expressed per declared unit)
Ancillary materials for installation (specified by materials)	Jointing compound 0.33kg/m² board, tape 1.23m /m² board, screws 8 /m² board
Water use	0.165 liters/m² board
Other resource use	None
Quantitative description of energy type (regional mix) and consumption during the installation process	None required
Wastage of materials on the building site before waste processing, generated by the product's installation (specified by type)	Plasterboard: 0.484 kg (4%) Screws: 0 kg Jointing Compound: 0.0165 kg Jointing Tape: 0.00021 kg Wooden culls: 0.042 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)	Plasterboard: 0.484 kg (4%) to landfill Jointing Compound: 0.0165 kg to landfill Jointing Tape: 0.00021 kg to landfill Wooden culls: 0.042 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;
B6, operational energy use
B7, operational water use

Description of scenarios and additional technical information:
The product has a reference service life of 50 years. This assumes that the product will last in situ with no requirements for maintenance, repair, replacement or refurbishment throughout this period. Therefore, it has no impact at this stage.

Maintenance:

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

Repair:

PARAMETER	VALUE (exp0ressed per declared unit)
Repair process	None required during product lifetime
Inspection process	None required during product lifetime
Repair cycle	None required during product lifetime
Ancillary materials (e.g. lubricant, specify materials)	None required during product lifetime
Wastage material during repair (specify materials)	None required during product lifetime
Net fresh water consumption during repair	None required during product lifetime
Energy input during repair (e.g. crane activity), energy carrier type, (e.g. electricity) and amount if applicable and relevant	None required during product lifetime

Replacement:

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

Refurbishment:

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

Use of energy and water:

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

End-of-life stage C1-C4

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

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

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

PARAMETER	VALUE (expressed per declared unit)
Collection process specified by type	100% of waste is collected by truck to be landfilled
Recovery system specified by type	No waste is recycled
Disposal specified by type	100% landfilled
Assumptions for scenario development (e.g. transportation)	On average, gypsum waste is transported 50 km by truck from construction/demolition sites to treatment plant (landfill).

Reuse/recovery/recycling potential, D

Description of the stage: module D has not been taken into account.

LCA result

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

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

All figures refer to a declared unit of 1 m² of Gyproc DuraGyp Activ'Air®with a weight of 12.1 kg/m².

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	MNA

ENVIRONMENTAL IMPACTS

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse, recovery, recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Global Warming Potential (GWP 100) - *kg CO_2 equiv/FU*	3,4E+00	2,3E-01	1,8E-01	0	0	0	0	0	0	0	5,7E-02	3,1E-02	0	2,0E-01	MNA
The global warming potential of a gas refers to the total contribution to global warming resulting from the emission of one unit of that gas relative to one unit of the reference gas, carbon dioxide, which is assigned a value of 1.															
Ozone Depletion (ODP) *kg CFC 11 equiv/FU*	7,9E-05	3,5E-17	3,1E-06	0	0	0	0	0	0	0	7,7E-18	7,7E-18	0	1,1E-15	MNA
Destruction of the stratospheric ozone layer which shields the earth from ultraviolet radiation harmful to life, This destruction of ozone is caused by the breakdown of certain chlorine and/or bromine containing compounds (chlorofluorocarbons or halons), which break down when they reach the stratosphere and then catalytically destroy ozone molecules,															
Acidification potential (AP) *kg SO_2 equiv/FU*	9,4E-03	9,2E-04	5,1E-04	0	0	0	0	0	0	0	2,0E-04	1,3E-04	0	1,2E-03	MNA
Acid depositions have negative impacts on natural ecosystems and the man-made environment incl, buildings, The main sources for emissions of acidifying substances are agriculture and fossil fuel combustion used for electricity production, heating and transport,															
Eutrophication potential (EP) *kg $(PO_4)^{3-}$ equiv/FU*	4,0E-03	2,2E-04	1,8E-04	0	0	0	0	0	0	0	1,2E-05	3,2E-05	0	1,3E-04	MNA
Excessive enrichment of waters and continental surfaces with nutrients, and the associated adverse biological effects,															
Photochemical ozone creation (POPC) *kg Ethylene equiv/FU*	2,1E-04	3,4E-05	4,9E-05	0	0	0	0	0	0	0	1,3E-05	5,1E-06	0	9,5E-05	MNA
Chemical reactions brought about by the light energy of the sun, The reaction of nitrogen oxides with hydrocarbons in the presence of sunlight to form ozone is an example of a photochemical reaction.															
Abiotic depletion potential for non-fossil ressources (ADP-elements) - *kg Sb equiv/FU*	9,0E-06	3,1E-09	2,3E-06	0	0	0	0	0	0	0	1,4E-09	2,7E-09	0	6,9E-08	MNA
Abiotic depletion potential for fossil ressources (ADP-fossil fuels) - *MJ/FU*	5,2E+01	3,2E+00	2,6E+00	0	0	0	0	0	0	0	7,1E-01	4,2E-01	0	2,7E+00	MNA
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 R e u s e
	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	2,01E+01	7,4E-02	1,3E+00	0	0	0	0	0	0	0	2,3E-03	2,5E-02	0	3,5E-01	MNA
Use of renewable primary energy used as raw materials *MJ/FU*	7,13E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	MNA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw	2,72E+01	7,4E-02	1,3E+00	0	0	0	0	0	0	0	2,3E-03	2,5E-02	0	3,5E-01	MNA
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw	5,49E+01	3,2E+00	2,7E+00	0	0	0	0	0	0	0	7,1E-01	4,2E-01	0	2,8E+00	MNA
Use of non-renewable primary energy used as raw materials *MJ/FU*	3,45E-01	0	0	0	0	0	0	0	0	0	0	0	0	0	MNA
Total use of non-renewable primary energy resources (primary energy and primary energy resources used as raw	5,52E+01	3,2E+00	2,7E+00	0	0	0	0	0	0	0	7,1E-01	4,2E-01	0	2,8E+00	MNA
Use of secondary material *kg/FU*	1,51E-01	0	7,6E-03	0	0	0	0	0	0	0	0	0	0	0	MNA
Use of renewable secondary fuels- *MJ/FU*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MNA
Use of non-renewable secondary fuels - *MJ/FU*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MNA
Use of net fresh water - m^3/FU	2,06E-02	2,5E-05	9,3E-04	0	0	0	0	0	0	0	4,2E-06	4,2E-05	0	7,0E-04	MNA

WASTE CATEGORIES

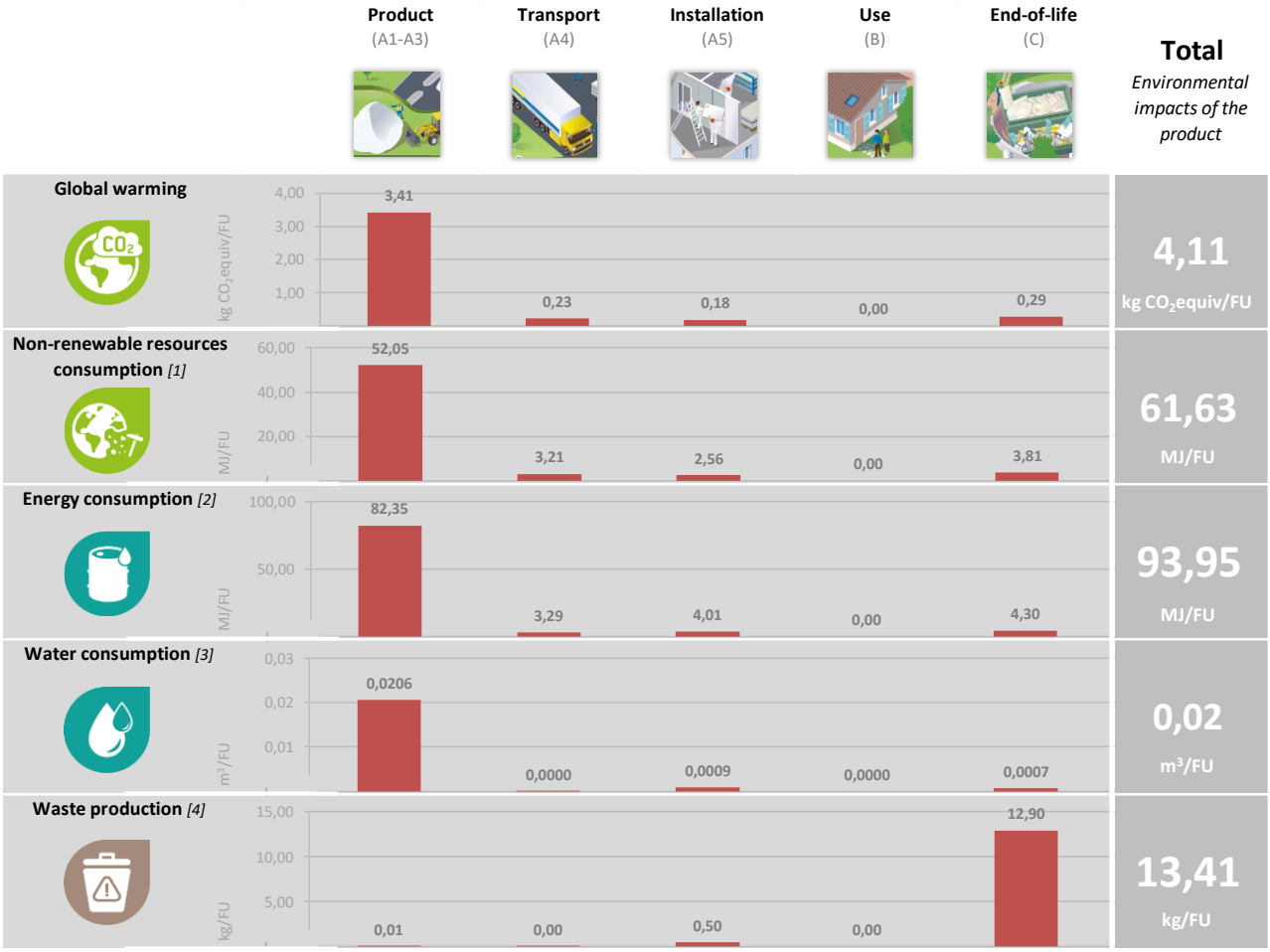
Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse, recovery, recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Hazardous waste disposed *kg/FU*	4,2E-07	1,2E-08	2,1E-08	0	0	0	0	0	0	0	8,7E-11	2,3E-08	0	4,8E-08	MNA
Non-hazardous (excluding inert) waste disposed *kg/FU*	1,2E-02	3,9E-05	5,0E-01	0	0	0	0	0	0	0	1,0E-04	3,5E-05	0	1,3E+01	MNA
Radioactive waste disposed *kg/FU*	5,4E-04	3,8E-06	3,5E-05	0	0	0	0	0	0	0	8,7E-07	8,6E-07	0	3,7E-05	MNA

OUTPUT FLOWS

Parameters	Product stage	Construction process stage		Use stage							End-of-life stage				D Reuse, recovery, recycling
	A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
Components for re-use *kg/FU*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MNA
Materials for recycling *kg/FU*	1,6E-01	0	4,8E-02	0	0	0	0	0	0	0	0	0	0	0	MNA
Materials for energy recovery *kg/FU*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MNA
Exported energy, detailed by energy carrier *MJ/FU*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	MNA

LCA results interpretation

The following figure refers to a declared unit of 1 m² of of Gyproc DuraGyp Activ'Air® with a weight of 12.1 kg/m².



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

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

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

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

Global Warming Potential (Climate Change) (GWP)

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

Non-renewable resources consumptions

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

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

Water Consumption
As we don't use water in any of the other modules (A4, B1 – B7, C1 – C4), we can see that there is no contribution to water consumption. The highest contributor is the installation phase due to the fact that the plaster powder need water to be applied. For the production phase, water refers to upstream (water used in the raw material extraction and manufacture and for energy production) is the second contribution.

Waste Production
Waste production does not follow the same trend as the above environmental impacts. The largest contributor is the end of life module. This is because the entire product is assumed here to be sent to landfill once it reaches the end of life state. However, there is a still a small impact associated with the installation module since we do generate a loss rate of product during implementation.

Additional information

Thickness conversion factor

This EPD includes a range of thicknesses, 12.5 and 15 mm, using a multiplication factor in order to obtain the environmental performance of every thickness.

The following table shows the multiplication factor for each individual thickness in the product family. In order to determine the environmental impacts associated with a determinate product thickness, the results indicated in this EPD must be multiplies by the corresponding multiplication factor. To obtain this factor, a conservative principle has been followed.

PRODUCT THICKNESS (MM)	MULTIPLICATION FACTOR
12.5	**1**
15	1,2

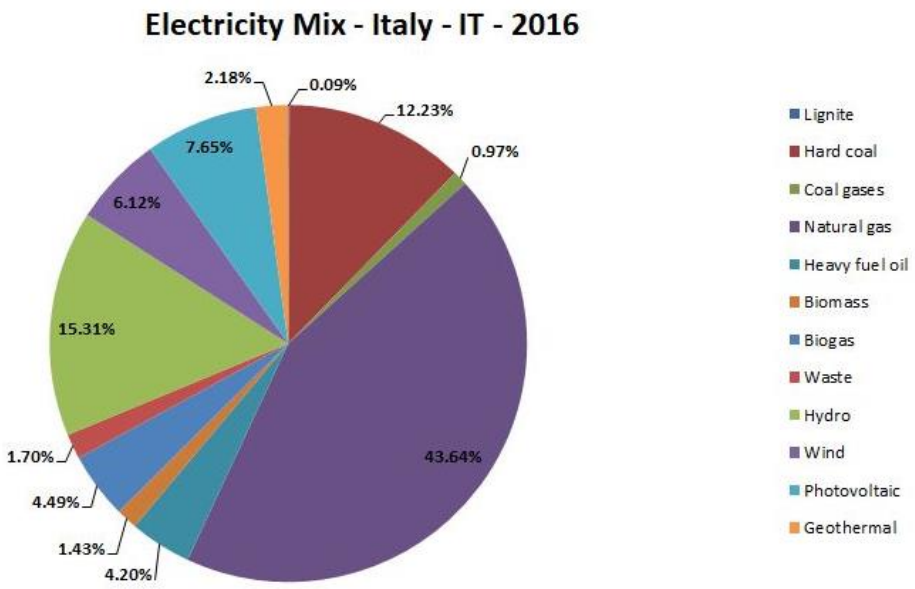
Differences with older versions of the EPD

	EPD v1	EPD v2 (current version)
Global warming (kgCO2eq./FU)	4.22	4.11
Non-renewable resources consumption (MJ./FU)	76.7	61.63
Energy consumption (MJ/FU)	74.07	93.95
Water consumption (m3/FU)	0.017	0.022
Waste production (kg/FU)	13.59	13.41

Main changes are related to the production data in addition to the LCA database and LCA software.

Electricity description

TYPE OF INFORMATION	DESCRIPTION
Location	Representative of average production in Italy
Geographical representativeness description	Split of energy sources in Italy - Lignite:0.09% - Hard coal: 12.23% - Coal gases:0.97% - Natural gas: 43.64% - Heavy fuel oil: 4.20% - Biomass: 1.43% - Biogas: 4.49% - Waste: 1.70% - Hydro: 15.31% - Wind: 6.12% - Photovoltaic: 7.65% - Geothermal: 2.18%
Reference year	2016
Type of data set	Cradle to gate
Source	GaBi database from 2019 version



References

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