Environmental Product Declaration

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

Montothêrm (SATE)

From

MONTÓ

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-06846
Date of publication:	2022-11-30
Revision date:	2023-01-19
Valid until:	2027-11-29

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 EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): Construction Products, PCR 2019:14. Version 1.11.
PCR review was conducted by: The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members.
Independent third-party verification of the declaration and data, according to ISO 14025:2006 ☐ EPD Process Certification ☒ EPD Verification
Third-party verifier: Verifier accredited by The International EPD® System Rubén Carnerero Individual verifier E-mail: r.carnerero@ik-ingenieria.com Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third-party verifier: ☒ Yes No☐

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

EPDs within the same product category but from different programs 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 EN 15804 and ISO 14025.

Company information

Owner of the EPD: Pinturas Montó S.A.U

Contact: Verónica Giuliani - Veronica.giuliani@montopinturas.com - Pinturas Montó S.A.U - +34 670554166 - https://www.montopinturas.com

Description of the organisation: Pinturas Montó was a pioneer in the manufacture of vegetable glues and tempera paints, soon embarked on the world of plastic paints, orienting the business towards the decoration sector. In 1996 Pinturas Montó finally moved to its current facilities in Marines on a surface area of 46,000 m2 and manufactured more than 200,000 litres of paint daily.

During these years, Pinturas Montó has undergone significant expansion, accrediting itself as a manufacturer of paints of the highest quality and technology, with a brand that has become a leader in the decorative paints market.

Pinturas Montó has the quality and environmental certificates.

QUALITY POLICY
All the companies that make up the MONTÓ Group are leading companies in the Spanish market and a benchmark in other countries through the quality of all the decorative paint products manufactured, related products marketed, and the services offered. To achieve these objectives, the satisfaction of all stakeholders is necessary, as well as an excellent internal working environment and mutual respect.

ENVIRONMENTAL POLICY
All the companies that make up the MONTÓ Group assume respect for the environment as one of the dimensions of their corporate responsibility, providing the reference framework for establishing environmental objectives. This respect translates into environmentally friendly processes and activities, efficient use of natural resources, minimisation of waste generation and development of products with a lower impact on the environment. The factory, likely to be more polluting, is located at the foot of the Parc Natural Serra Calderona, integrating industry and nature. Montó is convinced of the compatibility of economic activity and the environment and sustainable development's viability.

Name and location of production site: the section declared “SATE – Thermal Insulation” is produced by Pinturas Montó S.A.U. This production site is located at:

- Pinturas Montó, Ctra. de la base militar, 11, 46163 Marines (Valencia) Spain.

Product information

Product name: SATE – Thermal Insulation

Product Description: External Thermal insulation Composite Systems of different types:

Montotherm Mortero Acrilico[1]**:** Plastic mortar. It is specially formulated to achieve excellent results in the final plastering of the MONTO thêrm System.

Montotherm Mortero Siloxano[2]**:** Siloxane mortar with an unbeatable ratio between breathability and waterproofing. It is specially formulated to achieve excellent results in the final plastering of the MONTÓ therm system.

Montotherm primer: Water-based coating used as a primer for the reinforcement layer before the final finish of the MONTÓtherm® System.

Product identification: This EPD® covers all the "SATE – Thermal Insulation" as mentioned above ranges.

Below is a description of one of the products.

Technical characteristics	
Reference Colour	MONTOTHERM PRIMER
Finishing	Smooth matt
Specific gravity	1,53± 0,05 kg/l
Viscosity	120 +/- 20 PO
Solids by volume	46± 1
Solids by weight	66± 1
VOC	Cat c/BA 75/40 (2007/2010):0,20 g/l
Approx. output per coat	6-9 m²/L
Touch-drying	(20ºC RH: 60%): 30-60min
Repainting	((20ºC RH: 60%): 6 h

More information on the products is available at: https://www.montopinturas.com

UN CPC Code: 3511 Paints and varnishes and related products.

LCA information

Declared unit: Manufacture, transport, installation, use and end of life ("cradle to grave") has been selected as the declared unit, the kilograms of paint required, including packaging to cover 1m^2 of surface area, with a useful life of ten years.

EPD Statement: EPD specifies where the results of Monotherm Mortero acrílico 120 are presented, as it is the product with the highest environmental impact within the facade cladding family. The results of the other products of the family are presented in Annex I.

Monotherm Mortero acrílico has been taken as a reference point as it is the product with the highest impact within the SATE family, and given that the difference in environmental impact at stage A1-A3 is ±10% with Monotherm mortero acrílico, the information presented is valid for the EPD results. For the Montotherm Primer, the results will be presented individually in Annex I.

Reference service life: 10 years (as declared by the manufacturer).

[1] See annex II
[2] See annex II

Allocations: General consumption and total plant production have been considered for the respective allocation of energy and waste in the different products. In addition, raw materials have been assimilated into the elements with the most significant environmental impact.

Time representativeness: the primary data of the manufacturing site refer to the year 2020 and the electricity mix of the electricity supplier, EDPenergía[3] .

LCA database(s) and software used: Ecoinvent v3. 8 (allocation, cut-off by classification) database and SimaPro 9.3 software have been used for LCA calculations. The LCA methods used to comply with EN 15804:A2.

Description of system boundaries: Cradle to grave and module D (A+B+C+D). The principles of modularity and polluter pay have been followed.

The following processes have been excluded:

- Flows related to human activities, such as transportation of employees.
- Plant construction, production of machines and transport systems, and maintenance activities.

A1-A3: Product stage

A1-A3: product stage, including the supply of all materials, products and energy, as well as waste treatment during this stage, which includes the following modules:

- A1: extraction and processing of raw materials, processing of inputs constituting secondary materials.
- A2: transport to the manufacturer.
- A3: manufacturing.

Paints are manufactured by mixing and dispersing the necessary raw materials. Paints are made up of:

- Fixed vehicle or binder.
- Pigments.
- Loads.
- Volatile vehicle.
- Additives.

Next, the production process is described, distinguishing between water-based and solvent-based paints.

Water-based paint production process

Feeding of raw materials.
The raw materials: water, fillers, emulsion, pigments and additives are mainly supplied in bulk, being transported by tanker trucks; in addition, they are also supplied in sacks, big bags and containers (IBCs).

The dosing of the raw materials to the disperser (mixer), once verified by quality control, can be done automatically or manually.

Dispersion and pasting.

[3] https://espana.edp.com/es

Water is the main ingredient for the production of fillers. It is used to dissolve fillers and pigments. Water dosing is carried out automatically by employing water meters. The dispersion process, on the other hand, is a process by which the agglomerate of fillers is reduced into smaller particles by applying mechanical stress.

Quality control laboratory check. Once the dispersion has been carried out and before transferring to the semi-finished product tanks, the quality control laboratory technicians analyse the pastes to check whether they comply with the established parameters.

Feeding and blending of raw materials and significant semi-finished products.
Feeding the main semi-finished products and raw materials to the manufacturing tanks automatically and manually, respectively. At this stage of the manufacturing process, different pastes are mixed with the fixed vehicle or emulsion, and water, additives, thickeners and colouring agents are added to make up the final paint.

Manufacture of solvent paints
The process for solvent-based paints is similar to that for water-based paints. Only two things change. The solvent and resins are the main ingredients for the production of dispersion pastes. The solvent and resin is the main ingredient for the production of dispersion pastes, which has a different process after dispersion: grinding.

Grinding is the process of obtaining a mixture with a certain grain fineness, which ensures that the final product is free of coarse particles. This process is carried out when dispersion cannot reach the fineness or when it is necessary to maximise the development of the raw material.

Quality control laboratory check.
As described above, new samples are taken in plastic containers for analysis.

Packaging.
When the quality control laboratory confirms that the finished product meets the specifications, it is packaged in the corresponding (polypropylene) cans, which are distributed in sizes ranging from 250 ml to 5 gallons.
As permitted by UNE-EN 15804, the results of stages A1-A3 have been grouped into a single product stage (A).

A2. Transport
- External transport of raw materials to the production plant.

A3. Manufacturing
- Manufacture of the product and co-products.
- Production of auxiliary materials or pre-products.
- Treatment of waste generated from manufacturing processes. They are processing to end-of-waste or final waste disposal status, including any packaging that does not leave the factory gate with the product.

A4. Transport
- Transport from the production gate to the construction site.

SCENARIO INFORMATION	VALUE/DESCRIPTION
Type of vehicle used for transport	Long-haul truck Trans-oceanic cargo ship
Vehicle load capacity	Truck: 32 tonnes
Fuel type and consumption	Truck: 31.1L/100 km Cargo ship:0,0014L/100 TnKm
Distance to the site	Truck: 660 km Cargo ship: 28 km
Capacity utilisation (including empty returns)	Percentage assumed in Ecoinvent
Bulk density of transported products	1.83 Kg/l
Volume capacity utilisation factor	1

A5. Construction installation:

The product is transferred directly from the truck to the construction site.

SCENARIO INFORMATION	VALUE/DESCRIPTION
Auxiliary materials for installation	It is not necessary to
Water use	Not used
Use of other resources	It is not necessary to
Quantitative description of the type of energy and consumption during the preparation and installation process.	Not used
Direct emissions to ambient air, soil and water	0.62 g/L
Waste materials at the construction site, generated by the installation of the product	No generation
Output materials as a result of waste processing on the construction site	Product waste

B1 – B7. No material use or energy consumption is required during the use stage of the products under study.

C1. Deconstruction/demolition

- The impact is considered 0.

C2. Transport

- Transportation of the discarded product accounts for part of the waste processing, e.g. to a recycling site and transportation of waste.

C3. Waste processing for reuse, recovery and/or recycling

- It is considered that there is no recycling or reuse at the end of the product's life because, during the demolition of buildings, there is no selective separation of materials in the vast majority of cases. Consequently, the impact is considered 0.

C4. Disposal

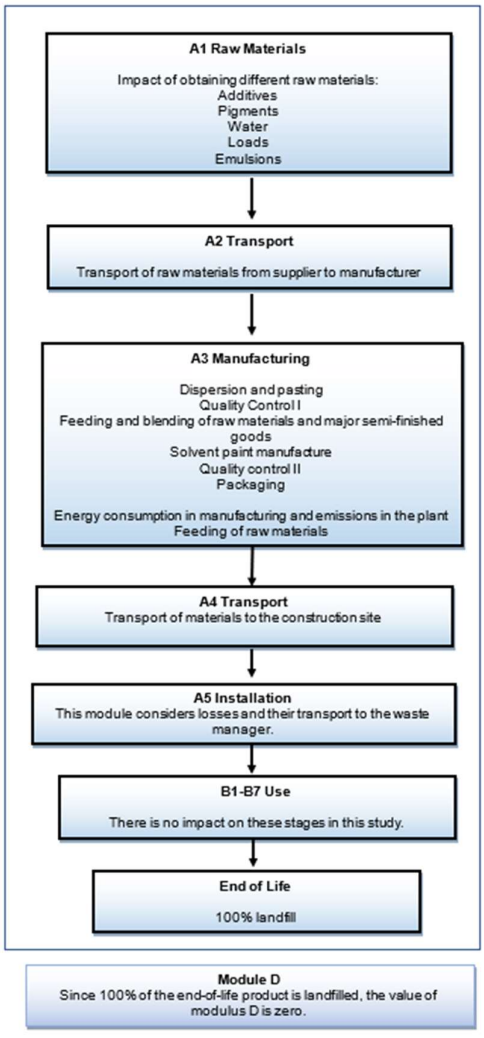
- Waste disposal, including physical pre-treatment and management of the disposal site. According to the "polluter pays principle, emissions from waste disposal are considered part of the product system under study and, therefore, part of this module, according to the "polluter pays principle".

SCENARIO INFORMATION	VALUE/DESCRIPTION
Collection process specified by type	The product is collected completely mixed with the construction waste.
Recovery system specified by type	0 Kg for reuse 0 Kg for recycling 0 Kg for energy recovery
Elimination specified by type	Disposal to landfill
Assumptions for scenario development (e.g. transport)	A range of size class 16-32 gross metric tonnes and emission class Euro VI Diesel fuel consumption: 25.5 l/100 Km Distance: 50 km

Scenarios included in A4-A5 and C1-C4 are currently in use and represent one of the most probable alternatives.

D. Re-use-recovery-recycling potential
This product does not have considerable benefits due to recycling and/or reuse.

System diagram:



More information:

- The underlying LCA study has been carried out by Isolana Energética.
- The study covers at least 95% of the materials and energy per module and at least 99% of the total use of materials and energy of each unit process.
- More information about the product is available at: https://www.montopinturas.com

Modules declared, geographical scope, the 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	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	GLO	SPAIN	GLO	GLO	-	-	-	-	-	-	-	GLO	GLO	GLO	GLO	GLO
Specific data	>90% GWP-GHG					-	-	-	-	-	-	-	-	-	-	-	-
Variation - products	Variation of declared impact products< 10% - for each product group					-	-	-	-	-	-	-	-	-	-	-	-

Content information Declared unit

Product Components	Weight, kg	Post-consumer material, wt-%	Renewable material, wt-%
Additives	0 – 0.1	0	0
Pigments	0 – 0.1	0	0
Water	0.05 – 0.2	0	0
Loads	0.4 – 0.8	0	0
Styrene acrylic emulsion	0.1 – 0.4	0	0
Packaging materials	**Weight, kg**	**Weight-% (vs. product)**	
Wooden pallets	1,22E-03	< 3%	
Film	1,30E-05		
Canister	3,15E-02		

During the life cycle of the products, no hazardous substance included in the "Candidate List of Substances for Authorization (SVHC)" has been used in a percentage higher than 0.1% of the weight of the product.

Environmental Information

Monotherm Mortero acrílico has been taken as a reference point as it is the product with the highest impact within the SATE – Thermal Insulation family, and given that the difference in environmental impact is ±10% with Monotherm Mortero Siloxano, the following information is valid for the EPD results.

MONTOTHERM MORTERO ACRÍLICO - MONTOTHERM MORTERO SILOXANO

Environmental Impact Potential: mandatory indicators according to EN 15804

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

Results per declared unit																
Indicator	**Unit**	**Total A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP -Fossil	kg CO2 eq	1,67E+00	2,11 E-01	4,26 E-02	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,92 E-02	0,00 E+00	1,87 E-02	0,00 E+00
GWP - Biogenic	kg CO2 eq	-6,43E-02	6,91 E-05	-1,20 E-03	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	2,04 E-05	0,00 E+00	8,57 E-05	0,00 E+00
GWP - luluc	kg CO2 eq	1,72E-03	1,72 E-06	4,90 E-05	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	7,19 E-06	0,00 E+00	4,21 E-06	0,00 E+00
GWP - Total	kg CO2 eq	1,60E+00	2,11 E-01	4,15 E-02	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,92 E-02	0,00 E+00	1,88 E-02	0,00 E+00
ODP	kg CFC11 eq	1,88E-07	5,00 E-08	4,93 E-09	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	4,78 E-09	0,00 E+00	9,26 E-09	0,00 E+00
AP	mol H+ eq	2,47E-02	4,71 E-04	5,75 E-04	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	6,11 E-05	0,00 E+00	1,84 E-04	0,00 E+00
EP-freshwater	kg P eq	5,94E-05	1,08 E-07	1,46 E-06	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,37 E-07	0,00 E+00	1,19 E-07	0,00 E+00
	kg PO4 eq	1,82E-04	3,31 E-07	4,48 E-06	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	4,20 E-07	0,00 E+00	3,66 E-07	0,00 E+00
EP-Marine	kg N eq	1,51E-03	8,26 E-05	3,93 E-05	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,34 E-05	0,00 E+00	6,92 E-05	0,00 E+00
EP-terrestrial	mol N eq	1,55E-02	9,19 E-04	4,07 E-04	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,49 E-04	0,00 E+00	7,61 E-04	0,00 E+00
POCP	kg NMVOC eq	5,59E-03	3,09 E-04	1,49 E-04	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	5,89 E-05	0,00 E+00	2,18 E-04	0,00 E+00
ADP-minerals&metals*	kg Sb eq	9,15E-06	9,10 E-09	1,94 E-07	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	4,59 E-08	0,00 E+00	3,65 E-08	0,00 E+00
ADP-Fossil	MJ	2,20E+01	2,99 E+00	6,43 E-01	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	3,12 E-01	0,00 E+00	6,06 E-01	0,00 E+00
WDP	m3 depriv.	1,77E+00	-5,00 E-04	4,41 E-02	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,07 E-03	0,00 E+00	1,92 E-03	0,00 E+00
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption.															

Potential Environmental Impact: additional mandatory and voluntary indicators

Results per declared unit																
Indicator	**Unit**	**Total A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[4]	kg CO2 eq	1,63E+00	2,09E-01	4,15E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,90E-02	0,00E+00	1,84E-02	0,00E+00

Liability disclaimers shall be added, if required by EN 15804.

Use of resources

Results per declared unit																
Indicator	**Unit**	**Total A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	3,27E+00	4,57E-03	7,26E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,97E-03	0,00E+00	1,23E-02	0,00E+00
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	3,27E+00	4,57E-03	7,26E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,97E-03	0,00E+00	1,23E-02	0,00E+00
PENRE	MJ	2,36E+01	3,17E+00	6,88E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,31E-01	0,00E+00	6,43E-01	0,00E+00
PENRM	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	2,36E+01	3,17E+00	6,88E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,31E-01	0,00E+00	6,43E-01	0,00E+00
SM	Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m3	4,27E-02	8,22E-06	1,07E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,71E-05	0,00E+00	7,29E-04	0,00E+00
Acronyms	PERE = use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = use of net fresh water.															

Waste production and production flow

Waste production

Results per declared unit																
Indicator	**Unit**	**Total A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed of	kg	3,32E-05	7,80E-06	7,99E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,55E-07	0,00E+00	6,71E-07	0,00E+00
Non-hazardous waste disposed of	kg	3,18E+00	1,23E-04	1,54E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,92E-02	0,00E+00	4,41E+00	0,00E+00
Radioactive waste disposed of	kg	7,39E-05	2,14E-05	2,02E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,11E-06	0,00E+00	4,08E-06	0,00E+00

[4] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Outflows

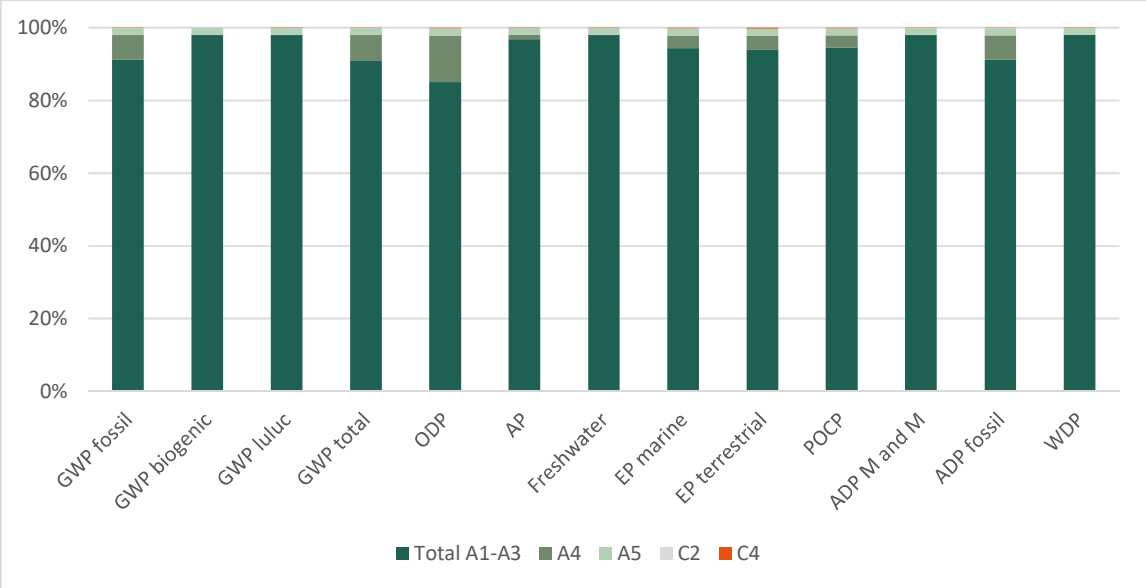
Results per declared unit																
Indicator	Unit	Total A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for reuse	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Information on biogenic carbon content

Results per declared unit		
BIOGENIC CARBON CONTENT	**Unit**	**QUANTITY**
Biogenic carbon content in the product	kg C	0
Biogenic carbon content in packaging	kg C	5,01E-05

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO_2

As shown in the table of potential environmental impact (mandatory indicators) and the graph of results in impact categories, modules A1-A3 have the most significant impact on the whole life cycle, representing 90.09% of the total impact, for this case, raw materials are identified as the process with the most significant impact within the stage. Modules A4 and A5 have a low impact, representing 5.35% and 2.25% of the life cycle impact, respectively. Modules C2 and C4 have a minimal impact, representing 0.69% and 1.62% of the total impact, respectively. Finally, the life cycle impact is 1.89E+00 kg CO_2 equivalent.



Results in impact categories

Information related to the EPD Sector

This is not a sectoral EPD.

Differences versus previous versions

- The following names have been corrected:

Previous	Current
Montotherm Mortero Acrilico 120	Montotherm Mortero Acrilico
Montotherm Mortero Siloxano 70	Montotherm Mortero Siloxano

References

- General Instructions of the International EPD® System Programme. Version 3.01.
- PCR 2019:14 Construction products - Version 1.11
- CEN (2019): EN 15804:2012+A2:2019, Sustainability of construction works - Environmental product declarations - Basic standards for the construction product category.
- ISO 14040:2006: Environmental Management - Life Cycle Assessment - Principles and framework.
- ISO 14044:2006: Environmental Management - Life Cycle Assessment - Requirements and guidelines.
- ISO 14025:2006: Environmental labels and declarations-Environmental declarations type III-Principles and procedures.
- ISO 14020:2000: Environmental labels and declarations - General principles.
- LCA Pinturas Montó.
- Additives in the Plastics Industry. Lauran van Oers, Ester van der Voet, and Veit Grundmann (2012).

Annex I
Environmental Information

MONTOTHERM PRIMER

Potential environmental impact: mandatory indicators according to EN 15804

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

Results per declared unit																
Indicator	**Unit**	**Total A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP -Fossil	kg CO2 eq	1,72E-01	1,95 E-02	3,44 E-03	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,65 E-04	0,00 E+00	1,61 E-04	0,00 E+00
GWP - Biogenic	kg CO2 eq	-6,46E-03	6,42 E-06	-1,29 E-04	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,76 E-07	0,00 E+00	7,39 E-07	0,00 E+00
GWP - luluc	kg CO2 eq	1,87E-04	1,59 E-07	3,74 E-06	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	6,20 E-08	0,00 E+00	3,63 E-08	0,00 E+00
GWP - Total	kg CO2 eq	1,65E-01	1,96 E-02	3,32 E-03	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,66 E-04	0,00 E+00	1,62 E-04	0,00 E+00
ODP	kg CFC11 eq	1,94E-08	4,64 E-09	3,92 E-10	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	4,12 E-11	0,00 E+00	7,99 E-11	0,00 E+00
AP	mol H+ eq	2,43E-03	4,37 E-05	4,87 E-05	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	5,27 E-07	0,00 E+00	1,58 E-06	0,00 E+00
EP-freshwater	kg P eq	6,02E-06	1,00 E-08	1,20 E-07	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,18 E-09	0,00 E+00	1,03 E-09	0,00 E+00
	kg PO4 eq	1,85E-05	3,08 E-08	3,70 E-07	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	3,62 E-09	0,00 E+00	3,15 E-09	0,00 E+00
EP-Marine	kg N eq	1,54E-04	7,67 E-06	3,11 E-06	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,16 E-07	0,00 E+00	5,96 E-07	0,00 E+00
EP-terrestrial	mol N eq	1,59E-03	8,53 E-05	3,20 E-05	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,29 E-06	0,00 E+00	6,56 E-06	0,00 E+00
POCP	kg NMVOC eq	5,79E-04	2,87 E-05	1,16 E-05	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	5,08 E-07	0,00 E+00	1,88 E-06	0,00 E+00
ADP-minerals&metals*	kg Sb eq	8,68E-07	8,45 E-10	1,74 E-08	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	3,96 E-10	0,00 E+00	3,15 E-10	0,00 E+00
ADP-Fossil	MJ	2,40E+00	2,77 E-01	4,83 E-02	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	2,69 E-03	0,00 E+00	5,22 E-03	0,00 E+00
WDP	m3 depriv.	1,81E-01	-4,64 E-05	3,62 E-03	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	9,25 E-06	0,00 E+00	1,65 E-05	0,00 E+00
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption.															

Potential environmental impact: additional mandatory and voluntary indicators

Results per declared unit																
Indicator	**Unit**	**Total A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[5]	kg CO2 eq	1,67E-01	1,94 E-02	3,36 E-03	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	1,64 E-04	0,00E +00	1,59 E-04	0,00E +00

Liability disclaimers shall be added, if required by EN 15804.

Use of resources

Results per declared unit																
Indicator	**Unit**	**Total A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	3,27E-01	4,25E -04	6,55E -03	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	3,42E -05	0,00E +00	1,06E -04	0,00E +00
PERM	MJ	0,00E+00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00
PERT	MJ	3,27E-01	4,25E -04	6,55E -03	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	3,42E -05	0,00E +00	1,06E -04	0,00E +00
PENRE	MJ	2,57E+00	2,94E -01	5,16E -02	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	2,86E -03	0,00E +00	5,55E -03	0,00E +00
PENRM	MJ	0,00E+00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00
PENRT	MJ	2,57E+00	2,94E -01	5,16E -02	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	2,86E -03	0,00E +00	5,55E -03	0,00E +00
SM	Kg	0,00E+00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00
RSF	MJ	0,00E+00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00
NRSF	MJ	0,00E+00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00
FW	m3	4,38E-03	7,63E -07	8,78E -05	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	0,00E +00	3,20E -07	0,00E +00	6,29E -06	0,00E +00
Acronyms	PERE = use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = use of net fresh water.															

Waste production and production flow

Waste production

Results per declared unit																
Indicator	**Unit**	**Total A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed of	kg	3,32E-06	7,25 E-07	6,68 E-08	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	6,51 E-09	0,00 E+00	5,79 E-09	0,00 E+00
Non-hazardous waste disposed of	kg	2,99E-01	1,14 E-05	6,76 E-03	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	2,52 E-04	0,00 E+00	3,80 E-02	0,00 E+00
Radioactive waste disposed of	kg	7,76E-06	1,98 E-06	1,57 E-07	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,82 E-08	0,00 E+00	3,52 E-08	0,00 E+00

[5] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Outflows

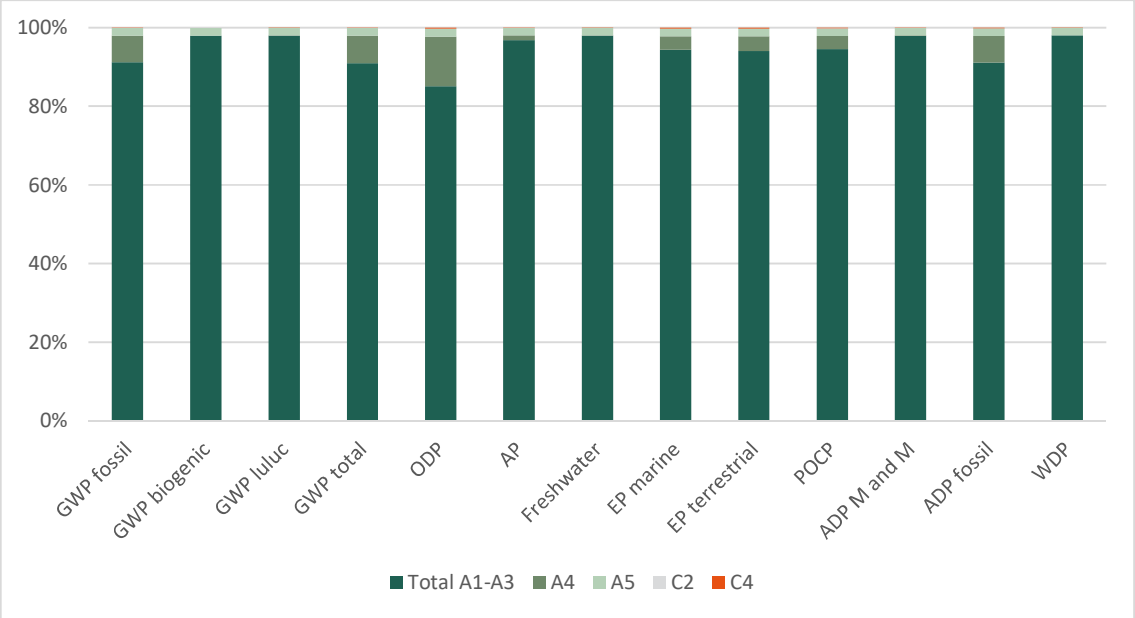
Results per declared unit																
Indicator	Unit	Total A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for reuse	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Information on biogenic carbon content

Results per declared unit		
BIOGENIC CARBON CONTENT	**Unit**	**QUANTITY**
Biogenic carbon content in the product	kg C	0
Biogenic carbon content in packaging	kg C	5,28E-05

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO_2

As shown in the environmental impact potential table (mandatory indicators) and the graph of results in impact categories, modules A1-A3 have the most significant impact on the whole life cycle, representing at least 92.88% of the total impact. For this case, raw materials are identified as the process with the most significant impact within the stage. Modules A4 and A5 have a low impact, representing 5.05% and 1.86% of the total impact, respectively. Modules C2 and C4 have a minimal impact, representing 0.06% and 0.14% of the total impact, respectively. Finally, the life cycle impact is 4.75 kg CO_2 equivalent.



Results in impact categories

Annex II

Acrylic mortar is available in different particle sizes of 70, 120, 150 and striped. For this study, acrylic mortar 120 was taken as a reference. To calculate the result for the other particle sizes, the respective conversion factor must be used.

Reference	kg/l	Conversion factor
Mortero Acrílico 70	1.81	0,98
Mortero Acrílico	1.83	1
Mortero Acrílico 150	1.83	1
Mortero Acrílico Rayado	1.72	0.94

The siloxane mortar is presented in different granulometries of 70, 120, 150 and striped. For this study, siloxane mortar 70 was taken as a reference. To calculate the result for the other particle sizes, the respective conversion factor must be used.

Reference	kg/l	Conversion factor
Mortero Siloxano	1.78	1
Mortero Siloxano 120	1.77	0.99
Mortero Siloxano 150	1.79	1.01
Mortero Siloxano Rayado	1.79	1.01

EPD®

www.environdec.com