Environmental product declaration

Mortars and screeds

PRODUCTS

2261 FLUID FAST
SOLIDONE FLUIDO 25KG
SOLIDONE FLUIDO FAST 25KG
SOLIDONE PRONTO
SOLIDONE RAPIDO 25KG
BENFERCURE-VARIO-10 25KG
BENFERCURE-VARIO-40 25KG
SKIM EURO 25KG
TRIOTECH-30 25KG

Castelnuovo
Rangone **plant** (MO)

In accordance with ISO 14025
and EN 15804:2012
+A2:2019/AC:2021

Program Operator: EPD Italy

Publisher: EPD Italy

Declaration number: EPDMALTE_MASSETTI_2023_rev 1.0

Registration number: EPDITALY1147

Date of issue: 16/12/2025

Valid until: 16/12/2030

General information

EPD owner	
Company name	Laticrete Europe s.r.l.
Registered office	Via Paletti, snc – 41051 Castelnuovo Rangone (MO)
Contact details for information on the EPD	cgirotti@laticreteeurope.com
Programme Operator	
EPD ITALY	Via Gaetano de Castillia n°10 – 20124 Milan, Italy
Information on EPD	
Product name	Pre-mixed hydraulic or polymer-based binders for repairing concrete structures and creating screeds for flooring [1]
Sites	Via Paletti, snc – 41051 Castelnuovo Rangone (MO)
Brief description and technical information about the products	Ready-to-use dry mixes consisting of cement, selected sand (or other aggregates), additives and, in some cases, hydraulic binders or polymers, dosed in precise proportions.
Field of application of the products	Building materials for the construction and industrial sectors, for building and repairing screeds and substrates
Product reference standards (if any)	EN 13813:2004; EN 1504-3:2006 [2]
CPC Code	375 (Articles of concrete, cement and plaster)
Type of EPD	Average product EPD
Verification information	
PCR (title, version, date of publication or update)	PCR ICMQ-001/15 rev3.2 (compliant with EN 15804+A2) dated 03/11/2025
EPD Italy Regulations (version, date of publication or update)	EPD Italy programme regulations rev 7.1 dated 05/09/2025
LCA project report	Life Cycle Assessment study aimed at obtaining EPD - Adhesives, mortars, screeds and sealants from LaticreteEurope Rev0.5. 05/12/2025
Technical support	Spin Life s.r.l – Spin-off of the University of Padua Via C. Cerato 14 – 35122 Padua mauro.fiorenzato@spinlife.it, anna.tinello@spinlife.it Tecno ESG SB Riviera di Chiaia, 270 – 80121 Naples m.travaglioni@tecno-group.eu
Independent verification statement	Independent verification of the statement and data carried out in accordance with ISO 14025:2010. ☐Internal ☒External Third-party verification/validation carried out by: ICMQ S.p.A., via Gaetano de Castillia n°10 – 20124 Milan, Italy. Accredited by Accredia

[1] The list of product codes included in this EPD statement is provided in the "Products" section of this statement.

[2] The standards listed are different because some materials have different properties depending on the type of additives present in the recipe. However, the scope of the products covered by the EPD complies with the concept of similar function, as required by the EPD Italy regulation rev 7.1, chapter 4.2 point e.

Comparability statement	Environmental declarations published within the same product category but originating from different programmes may not be comparable. In particular, EPDs for construction products may not be comparable if they do not comply with EN 15804:2012+A2:2019.
Responsibility statement	The EPD Owner releases EPD Italy from any non-compliance with environmental legislation. The owner of the declaration will be responsible for the information and supporting evidence. EPD Italy accepts no responsibility for the information, data and results provided by the EPD Owner for the life cycle assessment.

Company

The Castelnuovo Rangone plant sells a variety of products and systems in Europe for new buildings or buildings undergoing renovation. The product range includes self-levelling screeds, waterproofing products, adhesives and systems for laying technical porcelain stoneware and natural stone, systems for continuous flooring, systems for concrete repair and building restoration.
The plant was originally owned by Benfer srl, but in 2019 it became part of the Laticrete family, an American company that operates worldwide in the development of high-performance building materials and systems.

Objective and purpose of the EPD

Objective and purpose of the EPD	
Objective	Assessment of potential environmental impacts
Declared unit	1 tonne
Reference service life	The reference service life (RSL) for the products under consideration, being intermediate products for construction, depends on the specific installation situation and the exposure associated with the product. It may be influenced by atmospheric agents and mechanical or chemical loads.
Reference period	01/01/2023-31/12/2023
System boundaries	*"From cradle to gate with options, modules A4-A5, modules C1-C4 and module D"*
Information on the LCA study	
Type of EPD	Average product EPD
Number of products included in the EPD	9
Reference year for data	2023
Geographical validity of data	Global
Data quality	Quality level: "very good"
Energy mix used	% IT *Electricity, medium voltage {IT}| electricity, medium voltage, residual mix* **|** *Cut-off, U. Climate change – total* = 0.641 kgCO2e/kWh
Software used	SimaPro Craft v 10.2 PhD
Database	Ecoinvent v 3.10; Cut-off by classification
Characterisation factors	Method EN 15804 (EF 3.1)

Products

Product description

Pre-mixed cementitious mixtures for mortars and screeds are ready-to-use dry formulations consisting of cementitious binders, selected aggregates with controlled grain size and specific additives that improve workability, adhesion and mechanical strength.

Supplied in powder form, they only require the addition of water at the time of use to obtain homogeneous mixtures, suitable for the construction of floor screeds and for the repair and restoration of concrete structures. The products are available in various packaging configurations and are generally packaged in PE or paper bags, arranged on pallets to facilitate handling, storage and distribution.

Description of the production process

Laticrete Europe Srl formulates, manufactures and packages adhesives and sealants for tiles for the construction industry. These finished products are made using ready-to-use raw materials, which, after being mixed according to the specified formulations, produce solid powder products that are automatically packaged in various types of packaging. The finished products can be used after adequate mixing with water.

In the year covered by this study, the company produced 774,655.00 kg of mortar and screed.

Definition of the range of variability

This EPD refers to an average product. Cementitious premixes are manufactured using the same production process and are identical in terms of absolute composition. Variations between products are associated with the use of different additives (which impart colour and specific physical properties), differences in the percentage composition of raw materials, and the packaging configuration of the finished product.

Therefore, in order to identify variability in relation to the declared unit, with the same production process, the composition of the products and the packaging configuration were considered as variables.

Product codes included in the EPD declaration

The following is a list of products included in this EPD declaration:

- 2261 FLUID FAST
- SOLIDONE FLUIDO 25KG
- SOLIDONE FLUIDO FAST 25KG
- SOLIDONE READY
- SOLIDONE RAPIDO 25KG
- BENFERCURE-VARIO-10 25KG
- BENFERCURE-VARIO-40 25KG
- SKIM EURO 25KG
- TRIOTECH-30 25KG

Information on LCA

System boundaries

The LCA conducted considers upstream, core and downstream processes. In particular, the system boundaries "from cradle to gate with options, modules A4-A5, modules C1-C4 and module D" were considered, which take into account the procurement of raw materials and their transport to the production site, product formulation, distribution, application, disposal and potential reuse, recovery and recycling phases.

Table 1 Modules declared in EPD

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	Deconstruction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	**A2**	**A3**	**A4**	**A5***	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X

* Balancing-out reporting of biogenic carbon

Data quality

The following were used in this study:

- raw data on process consumption, emission measurements, product and waste composition, and product procurement and sales;
- specific data relating to EPD declarations from suppliers of certain raw materials;
- generic data from the Ecoinvent 3.10 database.

Exclusions from the study

The inputs subject to cut-off are listed below:

- Machinery maintenance oils were excluded, as they are insignificant in quantity and therefore considered negligible;
- Production process yield, estimated on the basis of factory waste associated with the EER code and quantitatively below the cut-off threshold.

The contribution of infrastructure has been excluded from the processes that originally contained it, such as the Ecoinvent database processes.

Assumptions and limitations

Where available, primary data was used to conduct this study. Where access to this type of data was not possible, datasets from the Ecoinvent v 3.10 database were used as a reference.

The main assumptions made in this study are listed below:

- the packaging of raw materials was taken from the factory's packaging waste;
  composite and mixed packaging waste was modelled by re-proportioning plastic, paper and wood packaging in equal quantities;

- All hazardous waste was grouped and modelled using a conservative incineration dataset: *'Hazardous waste, for incineration {Europe without Switzerland}| treatment of hazardous waste, hazardous waste incineration | Cut-off,* U";
- a distance of 100 km was assumed for the transport of packaging waste from finished products to treatment plants;
- In the absence of precise data regarding the type, class and fuel used by the vehicles employed for transport, we proceeded by assuming a Euro 5 diesel truck weighing 16-32 tonnes.
- for intermodal transport (lorry-ship-lorry/lorry-train-lorry), it was assumed that 10% was by lorry and the remainder by ship/train;
- for the distribution of products in the Middle East, in the absence of primary data, the distance between the Laticrete plant and the capitals of the countries of the Arabian Peninsula was taken as a reference.

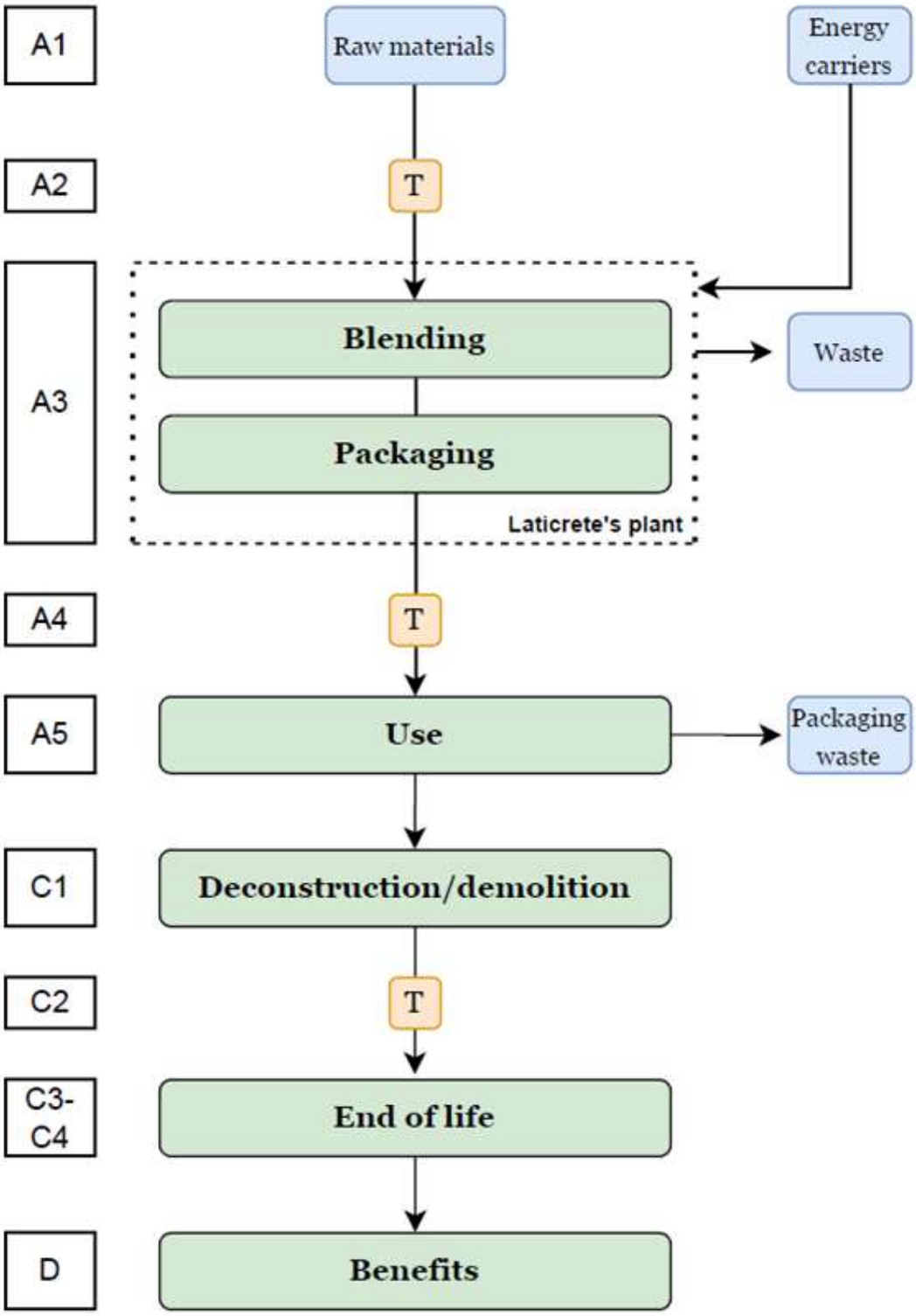
Allocation rules

In the case under study, the two products under consideration are produced simultaneously. In this LCA study, a *"co-product allocation*" was carried out because the company simultaneously produces two main products, namely cementitious premixes (which can be further divided into two categories, "mortars and screeds" and "adhesives") and sealants. In the reference year, the production of cementitious premixes accounted for 97.6% of total production.
In this study, it was therefore decided to use a mass-based allocation. The physical allocation coefficients were calculated on the basis of the kg of cementitious premixes and sealants produced at the plant in 2023.

Disposal and end of life

Module	Description	Processes involved
C1	Product demolition	This includes all processes and activities involved in product demolition. In the absence of specific data, the consumption associated with the demolition of concrete structures was considered to be [0.07 MJ/kg] (*JRC, Model for Life Cycle Assessment (LCA) of buildings*).
C2	Transport to the treatment site	End-of-life products are sent to sorting centres, so a distance of 100 km is assumed as a precaution. In the absence of information on the means of transport used, the following datasets were used as a precaution: *Transport, freight, lorry, unspecified {RER}| transport, freight, lorry, all sizes, EURO5 to generic market for transport, freight, lorry, unspecified	Cut-off, U* and *Transport, freight, lorry, unspecified {RoW}| transport, freight, lorry, all sizes, EURO5 to generic market for transport, freight, lorry, unspecified	Cut-off, U* depending on the geographical area of distribution (74.9% RER and 25.1% ROW).
C3	Preliminary treatment prior to recovery	It is assumed that the products will be managed according to the disposal scenario in accordance with European Directive 2008/98/EC, which considers a recycling rate of 70%.
C4	Disposal of materials	It is assumed that the products will be managed according to the disposal scenario in accordance with European Directive 2008/98/EC, which considers a disposal rate of 30%, characterised by the dataset *'Inert waste {RER}| treatment of inert waste, sanitary landfill* **|** *Cut-off, U*'.

Flow diagram



Data collection and inventory

Product characteristics	
Product names	Mortars and screeds
Identification code	Specific to the product and indicated on the packaging
Technical characteristics	Ready-to-use premixed cementitious products consisting of a mixture of hydraulic binders, sand, carbonate and specific additives.
Application/intended use	Use in construction to build and repair screeds and substrates
Physical properties	Apparent density ~ 1.25 g/cm3 Maximum grain size ~ 0.5 mm Flammability: NO Classification according to EN 12004-1: C2 TE S1 Initial adhesion ≥ 1.0 N/mm2 Adhesion after immersion in water ≥ 1.0 N/mm2 Adhesion after thermal ageing ≥ 1.0 N/mm2 Adhesion after freeze-thaw cycles ≥ 1.0 N/mm2 Open time: Adhesion after 30 minutes ≥ 0.5 N/mm2 Transverse deformation ≥ 2.5 mm Vertical slip ≤ 0.5 mm Temperature resistance from -30°C to +90°C

The study aims to analyze the potential environmental impacts associated with families of premixed cementitious products for mortars and screeds, intended for the construction sector. All products are manufactured using the same production process, i.e. mixing ready-to-use raw materials, and differ in terms of color and properties (conferred by additives), percentage composition of the various raw material inputs and packaging of the finished product. Consequently, all inputs and outputs to the production flow were considered on a large scale.

Table 2 Product composition

Substance	Range [%]
Grey cement	17-18
Grey cement	< 1
Sand	76-77
Cellulose	< 1
Calcium formate	< 1 %
Thickener	< 1 %
Base polymer	< 1 %
Calcium carbonate	2-3
Anti-foaming agent	< 1 %
Calcium sulphate	1-2
Sodium potassium tartrate	< 1 %

Substance	Range [%]
Plasticiser	< 1 %
Grey cement	< 1 %

Table 3 Further product information: biogenic C content in packaging

	Quantity [kgC/kg]
Biogenic C content in the product	2.37E-04
Biogenic C content in packaging	6.57E-03

* 1 kg of biogenic carbon is equivalent to 44/12 kg of CO_2.

This product does not contain any post-consumer materials.
The functional unit does not contain any substances included in the *Candidate List of Substances of Very High Concern* (SVHC).

Data quality

Data collection	01/01/2023 – 31/12/2023
Sites	Data refer only to the site in Castelnuovo Rangone (MO)
Geography	Latricrete Europe manufactures 100% of the products covered by this EPD. The market for these products is global, with shipments to various countries on different continents.
Technology	The products are made by measuring out the raw materials in precise formulations and mixing them to create products in solid powder form.
Representativeness of the average	The average product covers 100% of the mortar and screed products manufactured.
LCI/LCA databases used	Ecoinvent v3.10
EPDs used	• EPD Ultracem CEM I 52.5 R SR5 (EPD process certification number: P4687) • EPD NATURAL AGGREGATES VAGA (registration number S-P-05423, The International EPD System) • EPD Calcium Aluminate Binder – High alumina content TERNAL® WHITE (registration number S-P-06863, The International EPD System)
Data quality scheme	EN 15804:2012+A2:2019, Annex E, Table E.1
Use of "fair" data with impacts > 30%	No "fair" data with an impact greater than 30% in core categories was used
Use of 'poor' data	No 'poor' data with an impact greater than 30% in core categories was used
Use of 'very poor' data	No "very poor" data with an impact greater than 30% in core categories was used

LCA results

Table 4 Results of potential environmental impacts

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5*	C1	C2	C3	C4	D	Δ min	Δ max
Total GWP	kg CO2e	2.18E+02	3.21E+01	-1.06E+01	2.39E+02	1.36E+02	2.61E+01	6.33E+00	1.50E+01	7.20E+00	7.31E+00	-5.38E+02	-10.5%	16.7
Fossil GWP	kg CO2e	2.18E+02	3.21E+01	1.22E+01	2.63E+02	1.36E+02	3.92E+00	6.29E+00	1.50E+01	7.18E+00	3.01E+00	-5.36E+02	-13.0%	18.2
Biogenic GWP	kg CO2e	-3.32E-01	5.85E-03	-2.28E+01	-2.32E+01	2.41E-02	2.22E+01	1.57E-02	2.73E-03	7.57E-03	4.30E+00	1.43E-02	-174.9%	306.9
GWP-luluc	kg CO2e	4.96E-02	1.08E-02	4.70E-02	1.07E-01	4.63E-02	6.77E-03	1.95E-02	5.36E-03	6.62E-03	7.28E-04	-1.64E+00	-10.8%	13.5
ODP	kg CFC11 eq	6.42E-06	6.32E-07	3.49E-07	7.40E-06	2.54E-06	8.58E-08	1.09E-07	2.77E-07	5.75E-08	9.41E-08	-1.82E-05	-19.5%	25.0
AP	mol H+ eq	5.04E-01	1.08E-01	4.70E-02	6.59E-01	4.34E-01	1.81E-02	3.21E-02	4.82E-02	4.37E-02	3.31E-02	-1.69E+00	-14.6	20.9
EP-freshwater	kg P eq	7.97E-03	2.53E-04	7.33E-04	8.96E-03	1.08E-03	2.87E-04	6.00E-04	1.24E-04	2.58E-04	1.01E-04	-1.82E-02	-17.0	22.7
EP-marine	kg N eq	7.03E-02	3.58E-02	1.67E-02	1.23E-01	1.43E-01	5.38E-03	4.26E-03	1.58E-02	9.85E-03	8.21E-03	-4.66E-01	-11.1%	13.3
EP-terrestrial	mol N eq	1.41E+00	3.94E-01	1.41E-01	1.95E+00	1.57E+00	5.27E-02	4.83E-02	1.74E-01	1.24E-01	8.87E-02	-5.13E+00	-11.5	15.1%
POCP	kg NMVOC eq	4.18E-01	1.63E-01	6.26E-02	6.44E-01	6.61E-01	1.30E-02	1.60E-02	7.43E-02	3.44E-02	3.25E-02	-2.44E+00	-12.4%	17.4
ADP-minerals&metals2	kg Sb eq	2.62E-04	1.02E-04	6.38E-05	4.28E-04	4.34E-04	1.32E-05	1.38E-05	4.63E-05	3.74E-05	5.75E-06	-1.70E-03	-23.3%	36.8
ADP-fossil2	MJ	1.31E+03	3.79E+01	4.94E+01	1.40E+03	1.62E+02	2.30E+01	1.07E+02	1.87E+01	4.81E+01	4.72E+00	-1.35E+03	-14.5	19.2
WDP2	m3 deprivation	2.82E+01	1.86E+00	2.90E+02	3.20E+02	7.96E+00	1.42E+03	1.68E+00	9.64E-01	-2.31E+01	-3.92E+01	-2.82E+02	-0.7%	1.1

*balancing out-reporting of biogenic C

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

Disclaimer 2 – *"The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.*

This study does not comply with ISO 21930:2017.
In general, the variation of more than 10% is due to the different ratio of raw materials and the different types and quantities of materials used for packaging.
As evident from the results reported in the tables above, there is a significant variation compared to the average product, particularly for the **Climate change – Biogenic** impact category. This category is very sensitive to variations in the biogenic carbon content of packaging. In fact, having studied different configurations that minimise and maximise the amount of packaging associated with 1 kg of product, although the variations in terms of mass are minimal, the difference in biogenic C content leads to large differences in impact.
Furthermore, this impact category has the peculiarity that the value of what should be the lower range is higher than the average product; vice versa for the upper range. This is due to the fact that the lower range was studied considering the packaging configuration that minimises the amount of packaging associated with 1 kg of product, while the upper range considers the configuration that maximises the amount. For all impact categories, these configurations minimise and maximise impacts in the various impact categories, except for Climate Change – Biogenic, which is influenced by the type and composition of the materials that make up the packaging.

All products studied are kept grouped together, even if they vary by more than 10%, as they belong to the same product category, have the same components and are manufactured using the same production process. It is therefore in the company's interest to maintain this grouping.

Table 5 Resource use results

Impact category	Unit	A	A2	A3	A1-A3	A4	A5*	C1	C2	C3	C4	D
PERE	MJ	6.03E+01	7.54E+00	5.01E+01	1.18E+02	2.98E+01	2.56E+01	3.40E+01	3.36E+00	8.30E+00	1.40E+00	-8.42E+03
PERM	MJ	4.61E+00	0.00E+00	2.06E+02	2.11E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	6.49E+01	7.54E+00	2.57E+02	3.29E+02	2.98E+01	2.56E+01	3.40E+01	3.36E+00	8.30E+00	1.40E+00	-8.42E+03
PENRE	MJ	1.08E+03	4.50E+02	1.74E+02	1.70E+03	1.91E+03	5.03E+01	1.49E+02	2.14E+02	8.81E+01	6.99E+01	-1.05E+04
PENRM	MJ	7.25E+01	0.00E+00	5.76E+01	1.30E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	1.15E+03	4.50E+02	2.31E+02	1.83E+03	1.91E+03	5.03E+01	1.49E+02	2.14E+02	8.81E+01	6.99E+01	-1.05E+04
SM	kg	2.46E+01	0.00E+00	0.00E+00	2.46E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	4.34E+01	0.00E+00	0.00E+00	4.34E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	1.49E+01	0.00E+00	0.00E+00	1.49E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m3	5.66E-01	5.92E-02	5.39E+00	6.02E+00	2.46E-01	3.30E+01	1.24E-01	2.91E-02	-5.27E-01	-8.44E-01	-1.10E+01

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

Table 6 Waste production results and output flows

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5*	C1	C2	C3	C4	D
HWD	kg	3.43E+00	3.02E-03	2.61E-03	3.44E+00	1.29E-02	2.25E-04	2.20E-04	1.43E-03	3.54E-04	4.67E-04	-1.10E-01
NHWD	kg	2.94E+00	2.10E+01	1.94E+00	2.59E+01	9.03E+01	4.49E+00	3.09E-01	1.35E+01	1.16E+00	3.00E+02	-5.55E+01
RWD	kg	1.55E-03	1.46E-04	3.70E-04	2.07E-03	5.63E-04	2.07E-04	1.07E-03	6.35E-05	1.70E-04	2.29E-05	-7.84E-03
CRU	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
MFR	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
MER	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
EEE	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
EET	MJ	0.00E+00	0.00E+00	3.03E+00	3.03E+00	0.00E+00	5.09E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Acronyms	HWD = hazardous waste disposed of; NHWD = non-hazardous waste disposed of; RWD = radioactive waste disposed of; CRU = components for reuse; MFR = materials for recycling; MER = materials for energy recovery; EEE = exported electricity; EET = exported thermal energy

The values for the additional environmental impact categories were calculated in the LCA report but not included in the EPD.

The results show that the main contribution to the total impact is associated with:

- raw materials, for all impact categories *except Climate change – Biogenic, Eutrophication, marine, Eutrophication, terrestrial, Photochemical ozone formation and Resource use, mineral and metals*
- distribution of the finished product, particularly for the impact categories *Eutrophication, marine, Eutrophication, terrestrial, Photochemical ozone formation and Resource use, mineral and metals*
- End-of-life management, for the *Climate change – Biogenic* category (due to biogenic CO_2 emissions)

Other contributions, such as packaging, raw material transport, factory and electricity consumption, waste and atmospheric emissions, are less significant.

Furthermore, the assessment of the ranges of variability shows a variation of more than 10% for all impact categories, due to the different ratio of raw materials and the different types and quantities of materials used for packaging.

References

The following standards and/or guidelines were used as references in conducting this study:

- ISO 1404:2006+A1:2020 Environmental management – Life Cycle Assessment – Principles and framework
- ISO 14044:2006+A1:2017+A2:2020 Environmental management – Life Cycle Assessment – Requirements and guidelines
- ISO 14025:2006 Environmental labels and declarations – Type III environmental declarations – Principles and procedures
- EN 15804:2012+A2:2019/AC:2021 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction works
- EPD Italy programme regulations rev 7.1 of 05/09/2025
- PCR ICMQ-001/15 – Construction products and services rev3.2 (compliant with EN 15804+A2) dated 03/11/2025
- EPD-IES-0014604 - HYDRAULIC LIME dated 28/10/2024 valid until 27/10/2029
- Ultracem CEM I 52.5 R SR5, process certification no. EPD P4687 dated 19/07/2024 valid until 19/07/2029
- S-P-06863 - Calcium Aluminate Binder – High alumina content TERNAL® WHITE dated 28/09/2022 valid until 28/09/2027
- S-P-05423 - NATURAL AGGREGATES VAGA DRIED sand and gravel dated 21/11/2022, valid until 02/20/2027
- DIMOVA, Silvia. "Model for life cycle assessment (LCA) of buildings." (2018).
- João, P. A. C. H. E. C. O., DE BRITO Jorge, and LAMPERTI TORNAGHI Marco. "Use of recycled aggregates in concrete: opportunities for upscaling in Europe." (2023).
- LCA Report: Life Cycle Assessment study aimed at obtaining EPD - Adhesives, mortars, screeds and sealants from LaticreteEurope Rev0.5. 05/12/2025