ENVIRONMENTAL PRODUCT DECLARATION

Diathonite Line

In accordance with: ISO 14025:2006, EN 15804:2012+A2:2019/AC:2021

Products included in the EPD:

Diathonite Thermactive, Diathonite Evolution, Diathonite Thermostep.060, Diathonite Acoustix+, Diathonite Deumix+, Diathonite Thermostep.047, Diathonite Sismactive

An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com

EPD of multiple products based on worst-case results

EPD Owner
Diasen Srl

Programme
International EPD System
www.environdec.com

Programme operator
EPD International AB

Registration number
EPD-IES-0030959:002

Version date
2026-06-18

Validity date
2031-06-17

EPD INTERNATIONAL EPD SYSTEM

ECO PLATFORM EPD VERIFIED

DIASEN

GENERAL INFORMATION

Programme information

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

Product category rules

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)	
Product Category Rules (PCR)	2019:14 Construction products (EN 15804+A2) (version 2.0.1) 2.0.1
PCR review was conducted by	The Technical Committee of the International EPD System. See www.environdec.com for a list of members. Review chair: Rob Rouwette (chair), Noa Meron (co-chair). The review panel may be contacted via the Secretariat www.environdec.com/support.

Verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via	☑ EPD verification through an individual EPD verification ☐ EPD verification through EPD Process Certification* ☐ EPD verification through a fully pre-verified tool
Third-party verifier	Certiquality Srl
Accredited by	Accredia
Accredited certification body address	Italy
Procedure for follow-up of data during EPD validity involves third party verifier	☑ Yes ☐ No

*EPD Process Certification involves an accredited certification body certifying and periodically auditing the EPD process and conducting external and independent verification of EPDs that are regularly published. More information can be found in the General Programme Instructions on www.environdec.com.

Ownership and limitations on use of EPD

Limitations

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.

Ownership

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

INFORMATION ABOUT EPD OWNER

EPD Owner	Diasen Srl
Contact person name	Giulia Mengotti
Contact person e-mail	giulia.mengotti@diasen.com
Organisation address	Zona industriale Berbentina, 5, 60041 - Sassoferrato (AN) - Italy 60041 Sassoferrato Italy
LCA Practitioner	Roberto Petrucci, roberto.petrucci@unipg.it

Description of the organisation of the EPD Owner

Diasen is an Italian company operating in the architecture and sustainable building materials sector, committed to developing biophilic solutions and systems that foster more balanced and mutually beneficial relationships between humans and nature, and between built environments and living cycles. Its solutions address needs for comfort and aesthetic quality—such as thermal and acoustic insulation, surface protection, and spatial enhancement—and are designed for public construction, private architecture, and design, with particular attention to how materials interact over time with environmental factors.

The company's activities are guided by compliance with environmental regulations and by a structured approach aimed at identifying, monitoring, and reducing impacts. Since 2007, Diasen has adopted a certified Environmental Management System in accordance with ISO 14001:2015, alongside ISO 9001:2015 and ISO 45001:2018 standards.

Diasen is also a certified B Corp®, demonstrating a commitment verified by independent third parties that attest to its social and environmental responsibility. More than 40 products have undergone LEED®, WELL®, and BREEAM® mapping to support their integration into sustainable building protocols and advanced, high-performance architectural frameworks.

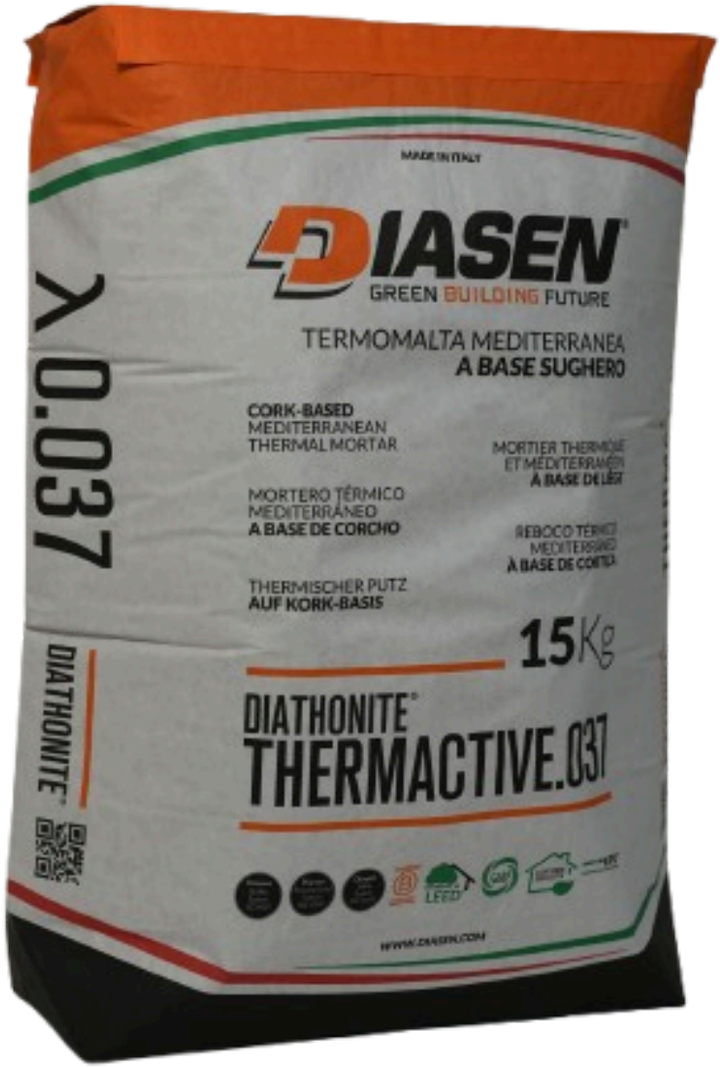
Operational practices include monitoring material flows to limit waste generation and increase recovery where technically feasible. Research and Development (R&D) focuses on integrating raw materials derived from industrial by-products and recoverable streams, prioritizing durability and long-term resource efficiency—key indicators of quality in relation to market outputs.
Product and solution development is oriented toward improving thermal performance and reducing building energy demand. At the same time, the company places strong emphasis on indoor environmental quality and on the long-term interaction between materials, people, and ecosystems, as these aspects are integral to its mission: creating authentic spaces and environments that support human well-being, combining both functional and experiential value.

DIASEN

PRODUCT INFORMATION

Product name	Diathonite Thermactive
Product identification	EN 998-1: Specification for mortar for masonry - Part 1: Rendering and plastering mortar (e.g., for thermal, acoustic, and dehumidifying plasters). EN 998-2: Specification for mortar for masonry - Part 2: Masonry mortar (e.g., for structural or seismic reinforcement mortars).
Product description	The products belonging to the Diathonite line are classified under the UN CPC Code: 37410 (Plasters). Diathonite Thermactive is a high-performance bio-EIFS blending recycled cork (0-3 mm), expanded silica, perlite, and pumice within a natural hydraulic lime (NHL 5) matrix. High-performance bio-EIFS blending recycled cork (0-3 mm), expanded silica, perlite, and pumice within a natural hydraulic lime (NHL 5) matrix. This monolithic thermal plaster provides a versatile, spray-applied shield against extreme temperatures while ensuring superior hygrometric comfort. Naturally bacteriostatic and non-combustible, it remains unaffected by humidity throughout its lifespan. A low-VOC, breathable solution for building protection, fully recyclable as an inert material.
Technical purpose of product	Diathonite products are cork-based thermal and acoustic insulating mortars. They are intended for both interior and exterior applications in residential, commercial, and historical buildings. Their primary technical functions include thermal insulation for energy efficiency, humidity regulation through high breathability, acoustic insulation, and sound absorption. They are designed for application on various substrates to improve building performance.
Manufacturing or service provision description	The manufacturing process of the Diathonite line is a batch (discontinuous) process. Raw materials are received and stored in silos, big bags, or dedicated containers. A specific bulk raw material undergoes a volume reduction process through a specialized milling stage prior to blending. All components are then mechanically mixed according to the product formula. The final dry mix is packaged in bags, palletized on wooden pallets, secured with a protective polymer hooding film, and stored as finished goods. Quality control is strictly performed throughout the process. The manufacturing line requires no water and operates as a closed-loop system: it generates no waste, and residual dust collected by the filtration system is recycled back into the production process.
Material properties	Thermal conductivity: 0.035 W/m.K Volumetric mass density: 250 kg/m^3 Compressive strength: 2.5 MPa
Manufacturing site	DIASEN SRL Zona Industriale Berbentina 5 60041 Sassoferrato Italy
UN CPC code	37410. Plasters
Geographical scope(s)	Global

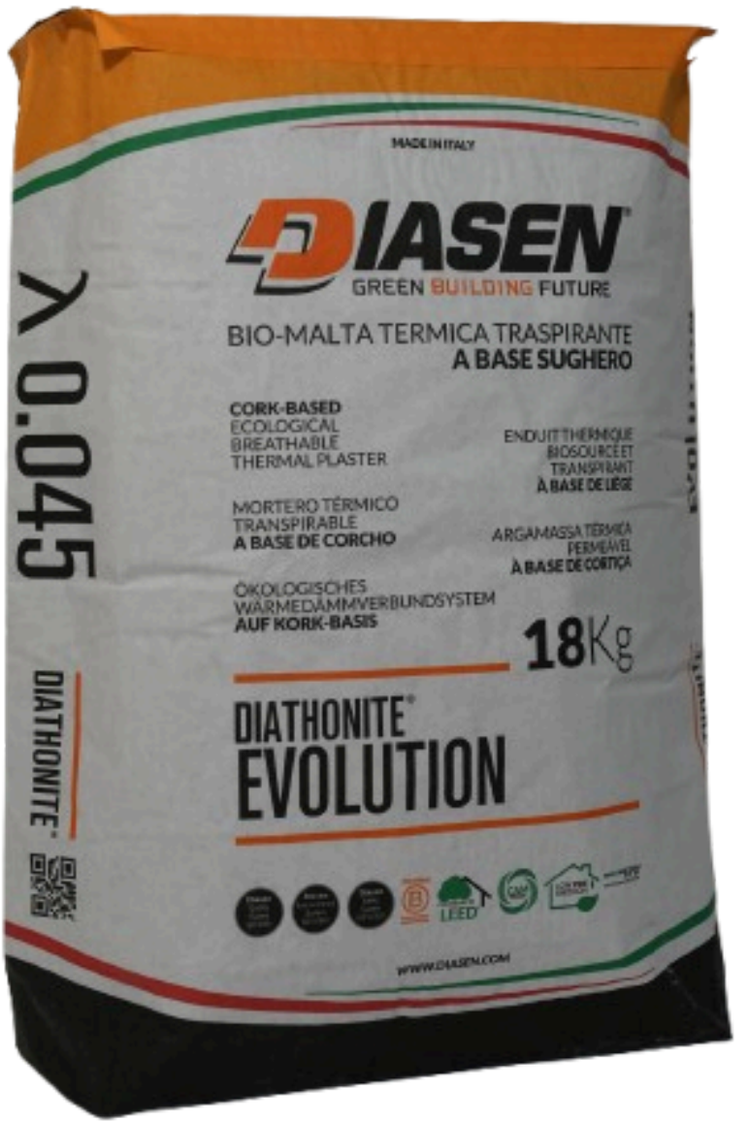
PRODUCT IMAGES


DIASEN
GREEN BUILDING FUTURE
TERMOMALTA MEDITERRANEA
A BASE SUGHERO
CORK-BASED
MEDITERRANEAN
THERMAL MORTAR
MORTIER THERMIQUE
ET MÉDITERRANÉEN
À BASE DE LIÈGE
MORTERO TÉRMICO
MEDITERRÁNEO
A BASE DE CORCHO
THERMISCHER PUTZ
AUF KORK-BASIS
15Kg
DIATHONITE
THERMACTIVE.037
λ 0.037
DIATHONITE

PRODUCT INFORMATION

Product name	Diathonite Evolution
Product identification	EN 998-1: Specification for mortar for masonry - Part 1: Rendering and plastering mortar (e.g., for thermal, acoustic, and dehumidifying plasters). EN 998-2: Specification for mortar for masonry - Part 2: Masonry mortar (e.g., for structural or seismic reinforcement mortars).
Product description	The products belonging to the Diathonite line are classified under the UN CPC Code: 37410 (Plasters). Bio-based EIFS plaster blending recycled cork (0-3 mm), clay, diatomaceous earth, and natural hydraulic lime (NHL 3.5). This highly breathable plaster regulates humidity, providing bacteriostatic and anti-mould protection. By merging cork's thermal insulation with mineral heat inertia, it ensures year-round bioclimatic comfort. Non-combustible and low VOC, it is fully recyclable as an inert material at the end of its lifecycle.
Technical purpose of product	Diathonite products are cork-based thermal and acoustic insulating mortars. They are intended for both interior and exterior applications in residential, commercial, and historical buildings. Their primary technical functions include thermal insulation for energy efficiency, humidity regulation through high breathability, acoustic insulation, and sound absorption. They are designed for application on various substrates to improve building performance.
Manufacturing or service provision description	The manufacturing process of the Diathonite line is a batch (discontinuous) process. Raw materials are received and stored in silos, big bags, or dedicated containers. A specific bulk raw material undergoes a volume reduction process through a specialized milling stage prior to blending. All components are then mechanically mixed according to the product formula. The final dry mix is packaged in bags, palletized on wooden pallets, secured with a protective polymer hooding film, and stored as finished goods. Quality control is strictly performed throughout the process. The manufacturing line requires no water and operates as a closed-loop system: it generates no waste, and residual dust collected by the filtration system is recycled back into the production process.
Material properties	Thermal conductivity: 0.045 W/m.K Volumetric mass density: 360 kg/m^3 Compressive strength: 2.2 MPa
Manufacturing site	DIASEN SRL Zona Industriale Berbentina 5 60041 Sassoferrato Italy
UN CPC code	37410. Plasters
Geographical scope(s)	Global

PRODUCT IMAGES


MADE IN ITALY
DIASEN
GREEN BUILDING FUTURE
BIO-MALTA TERMICA TRASPIRANTE
A BASE SUGHERO
CORK-BASED
ECOLOGICAL
BREATHABLE
THERMAL PLASTER
ENDUIT THERMIQUE
BIOSOURCÉ ET
TRANSPIRANT
À BASE DE LIÈGE
MORTERO TÉRMICO
TRANSPIRABLE
A BASE DE CORCHO
ARGAMASSA TÉRMICA
PERMEÁVEL
À BASE DE CORTIÇA
ÖKOLOGISCHES
WÄRMEDÄMMVERBUNDSYSTEM
AUF KORK-BASIS
18Kg
DIATHONITE®
EVOLUTION
λ 0.045
DIATHONITE
LEED
WWW.DIASEN.COM

PRODUCT INFORMATION

Product name	Diathonite Thermostep.060
Product identification	UNI EN 13813:2004: Screed material and floor screeds - Screed material - Properties and requirements.
Product description	The products belonging to the Diathonite line are classified under the UN CPC Code: 37410 (Plasters). Lightweight thermal plaster for the insulation of floors and roofs, blending recycled cork (0-3 mm), clay, and diatomaceous earth. This lightweight mineral compound provides high-performance floor and roof insulation without overstressing existing structures. Its natural porosity ensures superior breathability and hygrometric balance for both new builds and renovations. Non-combustible and low VOC, it bridges structural lightness with bioclimatic efficiency, remaining fully recyclable as an inert material.
Technical purpose of product	Diathonite products are cork-based thermal and acoustic insulating mortars. They are intended for both interior and exterior applications in residential, commercial, and historical buildings. Their primary technical functions include thermal insulation for energy efficiency, humidity regulation through high breathability, acoustic insulation, and sound absorption. They are designed for application on various substrates to improve building performance.
Manufacturing or service provision description	The manufacturing process of the Diathonite line is a batch (discontinuous) process. Raw materials are received and stored in silos, big bags, or dedicated containers. A specific bulk raw material undergoes a volume reduction process through a specialized milling stage prior to blending. All components are then mechanically mixed according to the product formula. The final dry mix is packaged in bags, palletized on wooden pallets, secured with a protective polymer hooding film, and stored as finished goods. Quality control is strictly performed throughout the process. The manufacturing line requires no water and operates as a closed-loop system: it generates no waste, and residual dust collected by the filtration system is recycled back into the production process.
Material properties	Thermal conductivity: 0.06 W/m.K Volumetric mass density: 800 kg/m^3 Compressive strength: 10 MPa
Manufacturing site	DIASEN SRL Zona Industriale Berbentina 5 60041 Sassoferrato Italy
UN CPC code	37410. Plasters
Geographical scope(s)	Global

PRODUCT IMAGES

λ 0.060
DIASEN
GREEN
FUTURE
BIO-MALTA TERMICA
A BASSO SPESSORE
25Kg
DIATHONITE
THERMOSTEP.060

PRODUCT INFORMATION

Product name	Diathonite Acoustix+
Product identification	EN 998-1: Specification for mortar for masonry - Part 1: Rendering and plastering mortar (e.g., for thermal, acoustic, and dehumidifying plasters). EN 998-2: Specification for mortar for masonry - Part 2: Masonry mortar (e.g., for structural or seismic reinforcement mortars).
Product description	The products belonging to the Diathonite line are classified under the UN CPC Code: 37410 (Plasters). Bio-based, acoustic-active (NRC 0.75; αw = 0.75) plaster blending recycled cork (0-3 mm), clay, and diatomaceous earth. It eliminates reverberation and echoes through its natural porosity. Highly breathable and bacteriostatic, it regulates indoor humidity while providing thermal inertia. Formulated with natural hydraulic binders, it is non-combustible, low VOC, and fully recyclable as an inert material, harmonizing acoustic comfort with environmental circularity.
Technical purpose of product	Diathonite products are cork-based thermal and acoustic insulating mortars. They are intended for both interior and exterior applications in residential, commercial, and historical buildings. Their primary technical functions include thermal insulation for energy efficiency, humidity regulation through high breathability, acoustic insulation, and sound absorption. They are designed for application on various substrates to improve building performance.
Manufacturing or service provision description	The manufacturing process of the Diathonite line is a batch (discontinuous) process. Raw materials are received and stored in silos, big bags, or dedicated containers. A specific bulk raw material undergoes a volume reduction process through a specialized milling stage prior to blending. All components are then mechanically mixed according to the product formula. The final dry mix is packaged in bags, palletized on wooden pallets, secured with a protective polymer hooding film, and stored as finished goods. Quality control is strictly performed throughout the process. The manufacturing line requires no water and operates as a closed-loop system: it generates no waste, and residual dust collected by the filtration system is recycled back into the production process.
Material properties	Compressive strength: 4 MPa Thermal conductivity: 0.075 W/m.K Volumetric mass density: 400 kg/m^3
Manufacturing site	DIASEN SRL Zona Industriale Berbentina 5 60041 Sassoferrato Italy
UN CPC code	37410. Plasters
Geographical scope(s)	Global

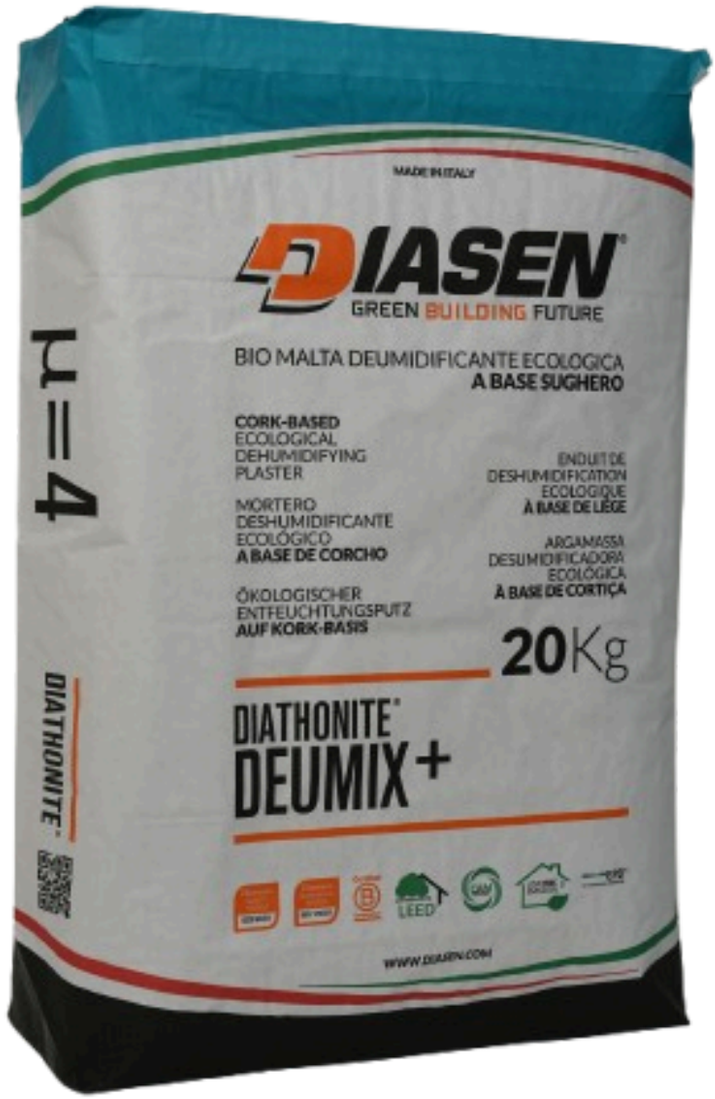
PRODUCT IMAGES

MADE IN ITALY
DIASEN
GREEN BUILDING FUTURE
BIO-MALTA FONOASSORBENTE
A BASE SUGHERO
CORK-BASED
SOUND ABSORBING
ECOLOGICAL PLASTER
MORTIER
PHONOABSORBANT
BIOSOURCÉ
À BASE DE LIÈGE
MORTERO
FONOABSORBENTE
ECOLÓGICO
A BASE DE CORCHO
REBOCO ECOLÓGICO
PARA ABSORÇÃO
ACÚSTICA
À BASE DE CORTIÇA
SCHALLDÄMMENDER ÖKO-
AUF KORK-BASIS
19Kg
DIATHONITE
ACOUSTIX+
LEED
WWW.DIASEN.COM
NRC 0.75
DIATHONITE

PRODUCT INFORMATION

Product name	Diathonite Deumix+
Product identification	EN 998-1: Specification for mortar for masonry - Part 1: Rendering and plastering mortar (e.g., for thermal, acoustic, and dehumidifying plasters). EN 998-2: Specification for mortar for masonry - Part 2: Masonry mortar (e.g., for structural or seismic reinforcement mortars).
Product description	The products belonging to the Diathonite line are classified under the UN CPC Code: 37410 (Plasters). Bio-based, macroporous plaster combining recycled cork (0-3 mm), clay, and natural hydraulic lime (NHL 5). Is engineered for capillary dehumidification and salt neutralization. Its internal porosity captures saline efflorescence while facilitating water evaporation, restoring the wall's health. Natural, non-combustible, and low VOC, it harmonizes structural durability with a healthy, moistur×10-regulated indoor microclimate and full end-of-life recyclability.
Technical purpose of product	Diathonite products are cork-based thermal and acoustic insulating mortars. They are intended for both interior and exterior applications in residential, commercial, and historical buildings. Their primary technical functions include thermal insulation for energy efficiency, humidity regulation through high breathability, acoustic insulation, and sound absorption. They are designed for application on various substrates to improve building performance.
Manufacturing or service provision description	The manufacturing process of the Diathonite line is a batch (discontinuous) process. Raw materials are received and stored in silos, big bags, or dedicated containers. A specific bulk raw material undergoes a volume reduction process through a specialized milling stage prior to blending. All components are then mechanically mixed according to the product formula. The final dry mix is packaged in bags, palletized on wooden pallets, secured with a protective polymer hooding film, and stored as finished goods. Quality control is strictly performed throughout the process. The manufacturing line requires no water and operates as a closed-loop system: it generates no waste, and residual dust collected by the filtration system is recycled back into the production process.
Material properties	Thermal conductivity: 0.08 W/m.K Volumetric mass density: 450 kg/m^3 Compressive strength: 5 MPa
Manufacturing site	DIASEN SRL Zona Industriale Berbentina 5 60041 Sassoferrato Italy
UN CPC code	37410. Plasters
Geographical scope(s)	Global

PRODUCT IMAGES


MADE IN ITALY
DIASEN
GREEN BUILDING FUTURE
BIO MALTA DEUMIDIFICANTE ECOLOGICA
A BASE SUGHERO
CORK-BASED
ECOLOGICAL
DEHUMIDIFYING
PLASTER
MORTERO
DESHUMIDIFICANTE
ECOLÓGICO
A BASE DE CORCHO
ÖKOLOGISCHER
ENTFEUCHTUNGSPUTZ
AUF KORK-BASIS
ENDUIT DE
DESHUMIDIFICATION
ECOLOGIQUE
À BASE DE LIÈGE
ARGAMASSA
DESUMIDIFICADORA
ECOLÓGICA
À BASE DE CORTIÇA
20Kg
DIATHONITE
DEUMIX+
μ=4
DIATHONITE
LEED
WWW.DIASEN.COM

PRODUCT INFORMATION

Product name	Diathonite Thermostep.047
Product identification	UNI EN 13813:2004: Screed material and floor screeds - Screed material - Properties and requirements.
Product description	The products belonging to the Diathonite line are classified under the UN CPC Code: 37410 (Plasters). Lightweight thermal plaster for the insulation of floors and roofs, blending recycled cork (0-3 mm), clay, and diatomaceous earth within a natural hydraulic lime (NHL 3.5) matrix. This lightweight compound is engineered for high-performance floor, balcony, and roof insulation, correcting thermal bridges without overstressing existing structures. It harmonizes structural durability with superior hygrometric balance and acoustic comfort. Non-combustible, low-VOC, and fully recyclable as an inert material at the end of its lifecycle.
Technical purpose of product	Diathonite products are cork-based thermal and acoustic insulating mortars. They are intended for both interior and exterior applications in residential, commercial, and historical buildings. Their primary technical functions include thermal insulation for energy efficiency, humidity regulation through high breathability, acoustic insulation, and sound absorption. They are designed for application on various substrates to improve building performance.
Manufacturing or service provision description	The manufacturing process of the Diathonite line is a batch (discontinuous) process. Raw materials are received and stored in silos, big bags, or dedicated containers. A specific bulk raw material undergoes a volume reduction process through a specialized milling stage prior to blending. All components are then mechanically mixed according to the product formula. The final dry mix is packaged in bags, palletized on wooden pallets, secured with a protective polymer hooding film, and stored as finished goods. Quality control is strictly performed throughout the process. The manufacturing line requires no water and operates as a closed-loop system: it generates no waste, and residual dust collected by the filtration system is recycled back into the production process.
Material properties	Volumetric mass density: 500 kg/m^3 Thermal conductivity: 0.047 W/m.K Compressive strength: 5 MPa
Manufacturing site	DIASEN SRL Zona Industriale Berbentina 5 60041 Sassoferrato Italy
UN CPC code	37410. Plasters
Geographical scope(s)	Global

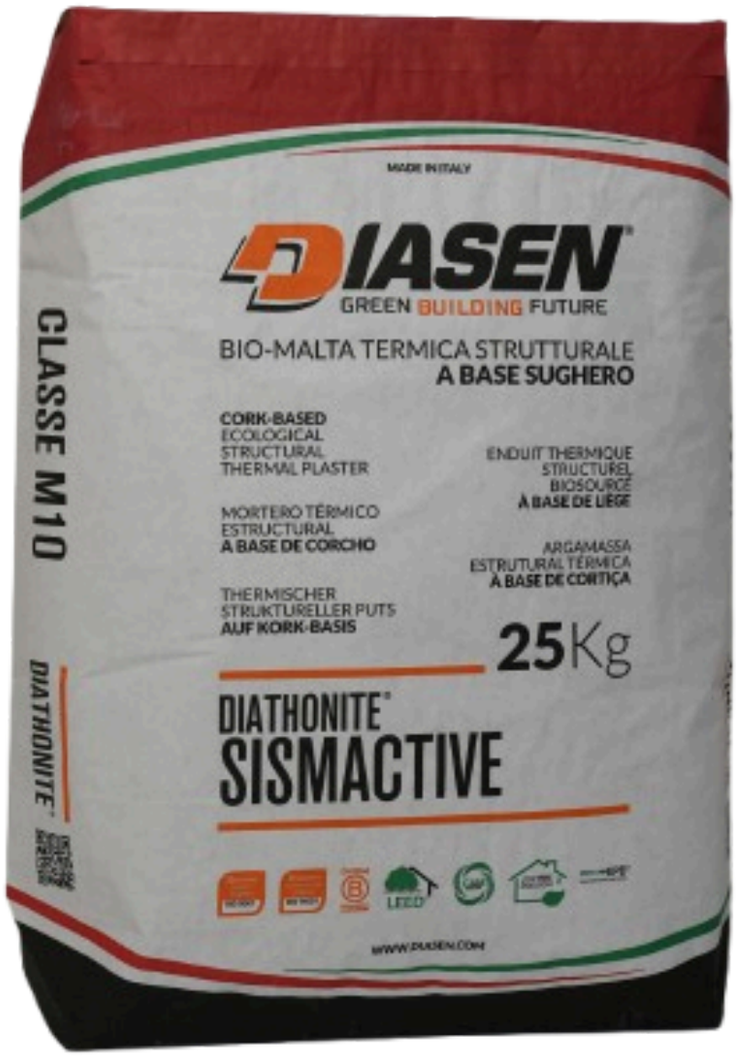
PRODUCT IMAGES

MADE IN ITALY
DIASEN
GREEN BUILDING FUTURE
TERMOPAVIMENTO ULTRALEGGERO
A BASE SUGHERO
CORK-BASED
ULTRALIGHT
THERMAL FLOOR
THERMO-PLANCHER
ULTRA-LÉGER
À BASE DE LIÈGE
TERMOPAVIMENTO
ULTRA-LIGERO
A BASE DE CORCHO
TERMO-PAVIMENTO
ULTRA-LEVE
À BASE DE CORTIÇA
ULTRALEICHTER
THERMO-ESTRICH
AUF KORK-BASIS
18Kg
DIATHONITE
THERMOSTEP.047
λ 0.047
DIATHONITE
LEED
WWW.DIASEN.COM

PRODUCT INFORMATION

Product name	Diathonite Sismactive
Product identification	EN 998-2: Specification for mortar for masonry - Part 2: Masonry mortar (e.g., for structural or seismic reinforcement mortars).
Product description	The products belonging to the Diathonite line are classified under the UN CPC Code: 37410 (Plasters).
Product information from external sources	Bio-based structural plaster blending recycled cork (0-3 mm), clay, and diatomaceous earth within a hydraulic binder. Engineered as a technical matrix for CRM systems, it provides seismic reinforcement and consolidation for masonry, vaults, and historical buildings. This breathable product harmonizes high mechanical resistance with thermal insulation, correcting bridges while ensuring hygrometric comfort. Non-combustible, low-VOC, and fully recyclable as an inert material.
Technical purpose of product	Diathonite products are cork-based thermal and acoustic insulating mortars. They are intended for both interior and exterior applications in residential, commercial, and historical buildings. Their primary technical functions include thermal insulation for energy efficiency, humidity regulation through high breathability, acoustic insulation, and sound absorption. They are designed for application on various substrates to improve building performance.
Manufacturing or service provision description	The manufacturing process of the Diathonite line is a batch (discontinuous) process. Raw materials are received and stored in silos, big bags, or dedicated containers. A specific bulk raw material undergoes a volume reduction process through a specialized milling stage prior to blending. All components are then mechanically mixed according to the product formula. The final dry mix is packaged in bags, palletized on wooden pallets, secured with a protective polymer hooding film, and stored as finished goods. Quality control is strictly performed throughout the process. The manufacturing line requires no water and operates as a closed-loop system: it generates no waste, and residual dust collected by the filtration system is recycled back into the production process.
Material properties	Compressive strength: 10 MPa Thermal conductivity: 0.065 W/m.K Volumetric mass density: 800 kg/m^3
Manufacturing site	DIASEN SRL Zona Industriale Berbentina 5 60041 Sassoferrato Italy
UN CPC code	37410. Plasters
Geographical scope(s)	Global

PRODUCT IMAGES


MADE IN ITALY
DIASEN
GREEN BUILDING FUTURE
BIO-MALTA TERMICA STRUTTURALE
A BASE SUGHERO
CORK-BASED
ECOLOGICAL
STRUCTURAL
THERMAL PLASTER
MORTERO TÉRMICO
ESTRUCTURAL
A BASE DE CORCHO
THERMISCHER
STRUKTURELLER PUTS
AUF KORK-BASIS
ENDUIT THERMIQUE
STRUCTUREL
BIOSOURCÉ
À BASE DE LIÈGE
ARGAMASSA
ESTRUTURAL TÉRMICA
À BASE DE CORTIÇA
25Kg
DIATHONITE
SISMACTIVE
LEED
WWW.DIASEN.COM
CLASSE M10
DIATHONITE

TECHNICAL CHARACTERISTICS AND PERFORMANCE

Technical performance

Product name	Category	Thermal Conductivity (W/mK)	Compression Strength (N/mm^2)	Fire reaction	Vapour permeability coefficient	Capillarity water absorption (kg/m2h0,5)	Adhesion (N/mm^2)	Specific weight (kg/m^3)	Chloride Content (Cl)	Total heavy metals	Test VOC - emissions
Diathonite Thermactive	Thermal Plaster	0.035	M 2.80	Class A1	3	1	> 0,10 – FP:B	250 ± 10	0.012	Pass	low-VOC
Diathonite Evolution	Thermal Plaster	0.045	M 2.20	Class A1	4	0,40	> 0,10 – FP:B	360 ± 20	0.011	Pass	low-VOC
Diathonite Acoustix+	Acoustic Plaster	0.075	M 4	Class A1	4	ND	ND:B	400 ± 20	ND	Pass	low-VOC
Diathonite Deumix+	Dehumidification Plaster	0.08	M 5	Class A1	4	ND	> 0,20 – FP:B	450 ± 10	ND	Pass	low-VOC
Diathonite Thermostep.060	Lightweight Screed	0.060	M 10	Class A1	4	ND	ND	800 ± 80	ND	Pass	low-VOC
Diathonite Sismactive	Seismic Plaster	0.065	M 10	Class A1	5	0.30	> 0,50 – FP:B	800 ± 80	0.015	Pass	low-VOC
Diathonite Thermostep.047	Lightweight Screed	0.047	M 5	Class A1	4	ND	ND	ND	ND	Pass	low-VOC

CONTENT DECLARATION

Content declaration of multiple products	The content declaration in this multi-product EPD represents a conservative formulation designed to reflect the worst-case scenario among the products included in the Diathonite line. This ensures that the environmental impacts declared represent the upper limit for all variations within the product group.
Hazardous and toxic substances	The product does not contain any substances from the SVHC candidate list in concentrations exceeding 0.1% of its weight.

PRODUCT CONTENT

Content name	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material[1], kg C/declared unit
Cork	0.1427	0	15.375	0.08335
Clay	0.074	0	0	0
Perlite	0.0678	0	0	0
Binder	0.66	0	0	0
Cellulose Fibre	0.004	0	0.345	0.00158
Organic Additives	0.008	0	0.625	0.0033
Inorganic Additives	0.0115	0	0	0
Calcium Carbonates	0.009	0	0	0
Pumice	0.023	0	0	0
Total	**1**	**0**	**16.345**	**0.08823**
Note 1	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2			

PACKAGING MATERIALS

Material name	Mass, kg	Mass-% (versus the product)	Biogenic material[1], kg C/declared unit
Wood	0.0239	2.39	0.005842
Paper/PE Box	0.00864	0.864	0.00259
LDPE Film	0.002009	0	0.00008195
Total	**0.034549**	**3.254**	**0.00851395**
Note 1	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2		

LCA INFORMATION

EPD based on declared or functional unit	Declared unit
Declared unit and reference flow	Diathonite Mass: 1 kg
Conversion factor to mass	1
Are infrastructure or capital goods included in any upstream, core or downstream processes?	☐ Yes ☑ No
Data sources used for this EPD	ecoinvent database (general) ecoinvent 3.11 database
LCA Software	SimaPro 10.3
Version of the EN 15804 reference package	EF Reference Package 3.1
Characterisation methods	EN 15804. VERSION: EF 3.1
Technology description including background system	The products considered are cork-based thermal, acoustic, dehumidifying, and structural mortars belonging to the Diathonite line. This multi-product EPD reflects a conservative worst-case scenario formulation among the product variations. The products mainly consist of granulated cork ($7.72 \cdot 10^{-2}$ to 0.23 kg/kg), hydrated lime (0.318 to 0.431 kg/kg), and hydraulic lime (0.19 to 0.303 kg/kg). The manufacturing process is an industrial batch blending operation that requires no water and generates zero waste. Manufacturing operations are powered by an electricity mix composed of 19.10% self-produced solar energy and 80.90% from the national grid. The LCA background system relies on the Ecoinvent 3.11 database and SimaPro 10.3.0 software, covering a 'Cradle-to-gate with options' boundary (Modules A1-A3, C1-C3, and D).
Scrap (recycled material) inputs contribution level	Less than 10% of the GWP-GHG results in modules A1-A3 come from scrap inputs

Data quality assessment

Description of data quality assessment and reference years	2025, no data with poor or very poor quality used in the analysis.

DATA QUALITY ASSESSMENT

Process name	Source type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
Manufacturing of product	Collected data	EPD owner	2025	Primary Data	0%
Generation of electricity used in manufacturing of product	Collected data and Database	EPD Owner and AIB Residual Mix	2025	Primary data	33.14%
Input Raw materials	Collected data	EPD Owner Ecoinvent 3.11	2025	Primary data, Secondary data	0%
Other processes	Databases	Ecoinvent 3.11	2025	Secondary data	0%
Total share of primary data, of GWP-GHG results for A1-A3					**33.14%**
Note	The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories.				

ELECTRICITY USED IN THE MANUFACTURING PROCESS IN A3 (A5 FOR SERVICES)

Type of electricity mix	Specific electricity mix as generated, or purchased from an electricity supplier, demonstrated by a contractual instrument	
Energy sources	Hydro	1.21%
	Wind	0.39%
	Solar	7.14%
	Biomass	0.75%
	Geothermal	0%
	Waste	0%
	Nuclear	4.73%
	Natural gas	44.69%
	Coal	0.09%
	Oil	6.6%
	Peat	0%

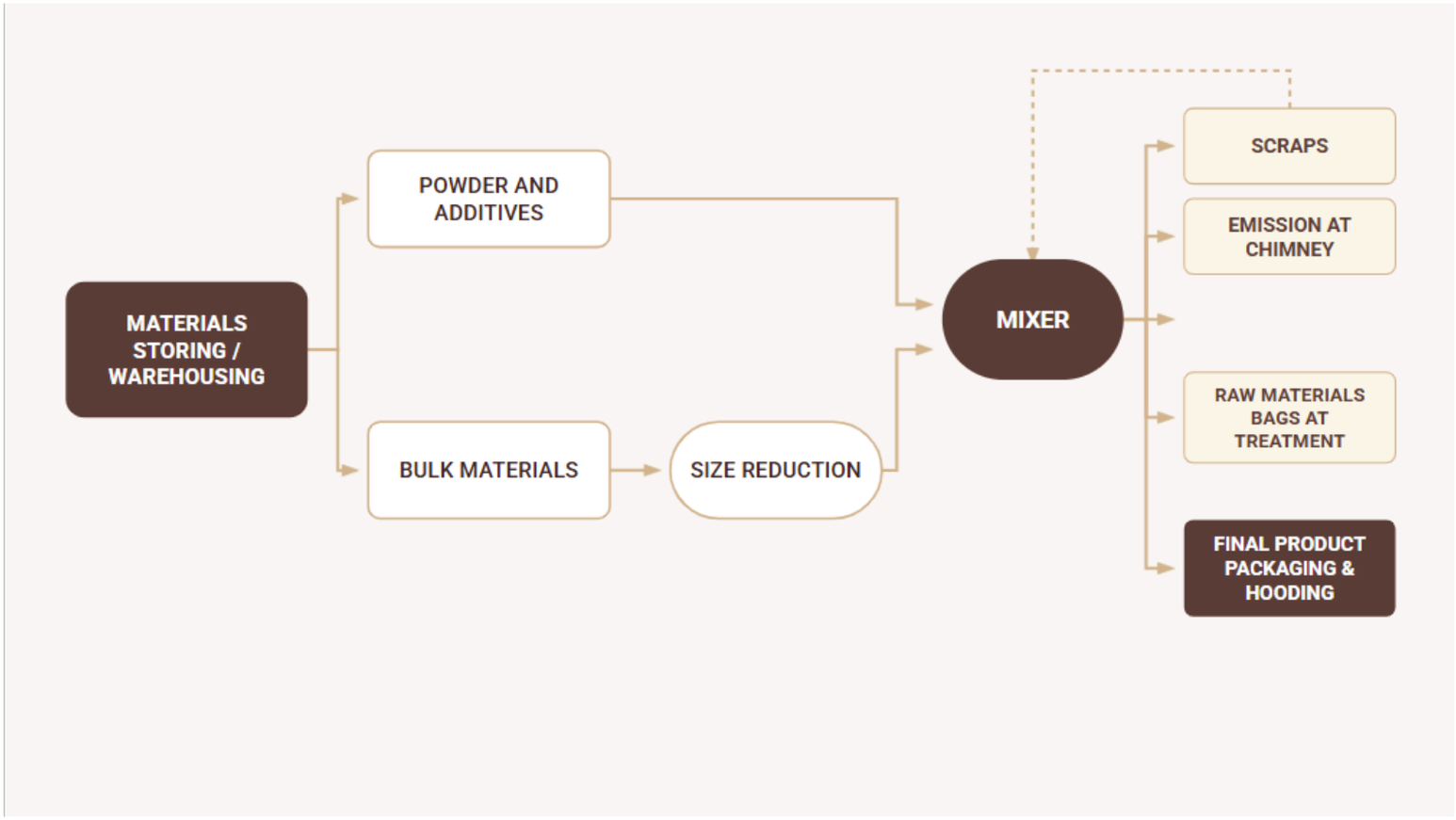
	Other	0%
Climate impact (GWP-GHG):	0.82 kg CO_2 eq./kWh	

SYSTEM BOUNDARY

Description of the System boundary	b) Cradle to gate with options, modules C1-C4, module D and with optional modules (A1-A3 + C + D and additional modules).
Excluded modules	Yes, there is an excluded module, or there are excluded modules
Justification for omission of modules	Cradle to gate (A1–A3) with the addition of Modules C1-C3 and Module D. Modules B1-B7 excluded

	Product stage			**Construction process stage**		**Use stage**							**End of life stage**				**Beyond product life cycle**
	Raw material supply	Transport	Manufacturing	Transport to site	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	Global	Global	Italy	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Global	Global	Global	Global	Global
Share of specific data	33.42%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - products	47.17%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Disclaimer	The share of specific/primary data and both variations (products and sites) refer to GWP-GHG results only.																

Process flow diagram(s) related images



DEFAULT SCENARIO

Name of the default scenario	Cradle-to-gate
Description of the default scenario	The system boundary of this EPD follows a 'Cradle-to-gate with options' approach, covering the product stage (Modules A1-A3), the end-of-life stage (Modules C1-C3), and the benefits and loads beyond the system boundary (Module D). Construction stage (A4-A5) and Use stage (B1-B7) modules are omitted.

Module C: End-of-life

Explanatory name of the default scenario in module C	Standard Scenario
Description of the default scenario in module C	The default end-of-life scenario is modelled in accordance with the standard scenarios provided by the core Product Category Rules (PCR 2019:14). After building deconstruction (Module C1), the generated mortar waste is transported to treatment facilities (Module C2). The scenario accounts for both the potential impacts of waste processing for material recycling (Module C3) and the impacts associated with final disposal or landfilling (Module C4), evaluated according to standard indicators.

Module D: Beyond product life cycle

Explanatory name of the default scenario in module D	Inert material reuse
Description of the default scenario in module D	The net environmental benefits in Module D are calculated assuming that 100% of the inert waste generated during building deconstruction undergoes mechanical sorting and crushing. In accordance with the reference LCA study parameters, the recycled mortar achieves a 50% technical quality factor compared to primary materials, effectively displacing 0.60 kg of natural gravel per kg of product

ENVIRONMENTAL PERFORMANCE

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Mandatory environmental performance indicators according to EN 15804

Impact category	Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Climate change - total	GWP-total	kg CO_2 eq.	9.10E-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.79E-3	4.24E-3	1.80E-1	6.06E-4	-6.50E-3
Climate change - fossil	GWP-fossil	kg CO_2 eq.	1.08E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.78E-3	4.24E-3	2.75E-3	6.06E-4	-6.48E-3
Climate change - biogenic	GWP-biogenic	kg CO_2 eq.	-1.80E-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.69E-6	9.71E-7	1.80E-1	5.90E-7	-6.45E-6
Climate change - land use and land-use change	GWP-luluc	kg CO_2 eq.	5.17E-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.93E-7	1.52E-6	5.12E-7	1.59E-7	-6.70E-6
Ozone depletion	ODP	kg CFC-11 eq.	1.47E-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.51E-11	9.27E-11	5.30E-11	8.81E-12	-3.64E-11
Acidification	AP	mol H^+ eq.	3.25E-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.53E-5	1.40E-5	2.11E-5	7.25E-6	-4.87E-5
Eutrophication aquatic freshwater	EP-freshwater	kg P eq.	1.44E-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16E-7	2.99E-7	3.30E-7	3.46E-8	-1.77E-6
Eutrophication aquatic marine	EP-marine	kg N eq.	6.61E-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03E-5	4.76E-6	8.50E-6	3.25E-6	-1.42E-5
Eutrophication terrestrial	EP-terrestrial	mol N eq.	6.87E-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.22E-4	5.18E-5	9.26E-5	3.55E-5	-1.64E-4
Photochemical ozone formation	POCP	kg NMVOC eq.	2.66E-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.23E-5	2.22E-5	2.71E-5	9.97E-6	-4.85E-5
Depletion of abiotic resources - minerals and metals	ADP-minerals&metals[1]	kg Sb eq.	1.76E-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.44E-8	1.19E-8	7.52E-9	2.30E-9	-4.11E-8
Depletion of abiotic resources - fossil fuels	ADP-fossil[1]	MJ, net calorific value	9.87E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.97E-2	6.38E-2	4.10E-2	7.95E-3	-9.20E-2
Water use	WDP[1]	m^3 world eq. deprived	1.10E-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.19E-4	2.82E-4	1.67E-4	1.90E-5	-7.10E-3
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																
General disclaimer	The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).																
Disclaimer 1	The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator																

Additional mandatory environmental performance indicators

Impact category	Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Climate change - GWP-GHG	GWP-GHG[1]	kg CO_2 eq.	8.20E-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.78E-3	4.22E-3	2.72E-3	6.05E-4	-6.42E-3
Acronyms	GWP-GHG = Global warming potential greenhouse gas.																
General disclaimer	The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).																
Disclaimer 1	The GWP-GHG indicator is termed GWP-IOBC/GHG in the ILCD+EPD+ data format. The indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.																

Additional voluntary environmental performance indicators according to EN 15804

Impact category	Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter emissions	PM	Disease incidence	2.61E-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.84E-11	4.29E-10	8.32E-11	2.55E-11	-8.47E-10
Ionizing radiation - human health	IRP[1]	kBq U235 eq.	2.02E-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.47E-5	6.94E-5	1.71E-4	7.10E-6	-5.44E-4
Eco-toxicity - freshwater	ETP-fw[2]	CTUe	5.33E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.24E-3	7.26E-3	5.47E-3	1.22E-3	-2.50E-2
Human toxicity - cancer effects	HTP-c[2]	CTUh	3.30E-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.55E-13	6.92E-13	5.48E-13	1.31E-13	-3.14E-12
Human toxicity - non-cancer effects	HTP-nc[2]	CTUh	4.84E-9	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.39E-11	3.99E-11	1.71E-11	4.00E-12	-7.39E-11
Land-use related impacts/soil quality	SQP[2]	Dimensionless	7.43E+1	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.79E-3	6.23E-2	8.65E-3	1.09E-3	-8.90E-2
Acronyms	PM = Potential incidence of disease due to particulate matter emissions; IRP = Potential human exposure efficiency relative to U235; ETP-fw = Potential comparative toxic unit for ecosystems; HTP-c = Potential comparative toxic unit for humans; HTP-nc = Potential comparative toxic unit for humans; SQP = Potential soil quality index.																
General disclaimer	The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).																
Disclaimer 1	This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.																
Disclaimer 2	The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.																

Resource use indicators according to EN 15804

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ, net calorific value	2.45E+1	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.79E-3	4.24E-3	4.90E-1	6.06E-4	-5.03E-3
PERM	MJ, net calorific value	4.26E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	-4.26E+0	0.00E+0	0.00E+0
PERT	MJ, net calorific value	2.87E+1	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.79E-3	4.24E-3	-3.77E+0	6.06E-4	-5.03E-3
PENRE	MJ, net calorific value	9.53E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.14E-2	6.59E-2	4.18E-2	8.22E-3	-8.37E-2
PENRM	MJ, net calorific value	3.10E-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PENRT	MJ, net calorific value	9.79E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.14E-2	6.59E-2	4.18E-2	8.22E-3	-8.37E-2
SM	kg	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
RSF	MJ, net calorific value	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	MJ, net calorific value	5.96E-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.03E-7	3.21E-6	2.65E-7	6.45E-8	-4.64E-6
FW	m^3	1.50E-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.20E-4	2.82E-4	1.70E-4	1.92E-5	-7.11E-3
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.															
General disclaimer	The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).															

Waste indicators according to EN 15804

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	kg	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NHWD	kg	2.02E-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
RWD	kg	5.25E-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.07E-9	1.70E-8	4.82E-8	1.75E-9	1.32E-7
Acronyms	HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed.															
General disclaimer	The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).															

Output flow indicators according to EN 15804

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
CRU	kg	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	kg	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.00E-1
MER	kg	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EEE	MJ, net calorific value	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EET	MJ, net calorific value	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Acronyms	CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy.															
General disclaimer	The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3/A1-A5 for services).															

ABBREVIATIONS

Not Applicable

REFERENCES

[1]. General Programme Instructions For The International Epd System - Version 5.0.1 2025-02-27;

[2]. Product Category Rules (PCR) - Construction Products PCR 2019:14 - Version 2.0.1;

[3]. ISO 14025:2010 - Environmental labels and declarations - Type III environmental declarations – Principles and procedures;

[4]. ISO 14040:2021 - Environmental Management – Life cycle assessment – Principles and framework;

[5]. ISO 14044:2021 - Environmental Management – Life cycle assessment – Requirements and guidelines;

[6]. ISO 15804:2021 - Sustainability of construction works – Environmental product declarations - Core rules for the product category of construction products;

[7]. ISO 15942:2021 - Sustainability of construction works — Environmental product declarations — Communication format business-to-business;

[8]. ISO 14020:2023 - Environmental labels and declarations — General principles;

[9]. Sito web: https://www.enel.it/content/dam/enel-it/documenti-supporto/mercatolibero-luce/Tabella%20Mix%20Energetico%20Enel%20Energia.pdf

[10]. L. Dalhgren, H. Stripple, “A comparative Study of Various Concept for Shopping Bags and Cements Sacks”. Study commissioned by Billerud Korsnäs AB. IVL Swedish Environmental Research Institute 2016. Report Number: U5732;

[11]. Association of Issuing Bodies, “European Residual Mixes Results of the calculation of Residual Mixes for the calendar year 2023”. Version 1.0, 2024-05-30;

[12]. P. Guo, W. Meng, J. Du, L. Stevenson, B. Han, Y. Bao, “Lightweight ultra-high-performance concrete (UHPC) with expanded glass aggregate: Development, characterization, and life-cycle assessment”. Construction and Building Materials 371 (2023);

[13]. E.Battiston, F.Carollo, G.Tameni, E. Bernardo, A.Mazzi, “Life Cycle Assessment of Industrial Glass Cullet Recycling Process Based on Alkaline Activation”. Ceramics2025;8,09;

[14]. G. Manthos, D.Zagklis, C.Georgopoulos, C.Zafiri, M.Kornaros, “Life Cycle Assessment of Waste Glass Geopolymerization for the Production of Sustainable Construction Materials” Processes 2025, 13, 331;

[15]. CONAI, “Relazione Generale Consuntiva 2024”. (2025);

[16]. ISPRA, “Rapporto Rifiuti Speciali” – Edizione 2025;

[17]. R.N. Pereira, I. Malico, P. Mesquita, A.M.O. Sousa, A.C Goncalves, “Energy use of cork residues in the Portuguese cork industry”. Conference Paper · October 2017.

VERSION HISTORY

Version 001, 2026-06-18

- Original version of the EPD

PDF template version 1