

ENVIRONMENTAL PRODUCT DECLARATION

Primer and Coatings Line

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

Products included in the EPD:

Floorgum Paint, Revela Clear, Aquabond, Color Primer, Grip Primer,
D20, SBS-Bond

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-0030969:001

Version date
2026-06-18

Validity date
2031-06-17



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.



PRODUCT INFORMATION

Product name	Floorgum Paint
Product identification	- UNI EN 1504-2:2005 : Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 2: Surface protection systems for concrete
Product description	Water-based, high-durability and single-component coating designed for pedestrian and sports surfaces. Its grain size 0.06–0.1 mm provides a seamless, anti-slip shield with superior resistance to UV rays and thermal shocks. It harmonizes urban functionality, from cycle lanes to multipurpose courts, with long-term wear resistance and environmental safety.
Technical purpose of product	Paints, primers, and protective coatings line engineered for interior and exterior applications on architectural surfaces and building substrates. The line includes water-based, high-durability, anti-slip coatings for sports/pedestrian areas, high-adhesion primers, deep-penetrating surface stabilizers, and protective finishes (including bases for cork-based systems). Their primary technical functions are to enhance surface adhesion, provide mechanical bridging on low-absorption supports, protect against weathering, UV rays, chemical agents, and wear, as well as restore and stabilize aged mineral substrates.
Manufacturing or service provision description	The manufacturing process of the Primers and Coatings line is a batch (discontinuous) liquid production process. Raw materials (resins, aggregates, additives, and water) are received in buckets, bags, or bulk silos and fed into liquid mixers automatically or manually. All components are mechanically blended to reach a homogeneous mix. The finished liquid product is packaged into plastic buckets, palletized on wooden pallets, secured with protective polymer hooding film, and stored in the finished goods warehouse. Quality control is strictly performed throughout and after production. Water from the municipal grid is used exclusively for cleaning the mixers between batches and discharged as industrial wastewater. The process generates no material scraps.
Material properties	Volumetric mass density: 957 kg/m ³
Manufacturing site	DIASEN SRL ZONA INDUSTRIALE BERBENTINA 5 60041 SASSOFERRATO Italy
UN CPC code	3511. Paints and varnishes and related products
Geographical scope(s)	Global

PRODUCT IMAGES





PRODUCT INFORMATION

Product name	Revela Clear
Product identification	- UNI EN 1504-2:2005 : Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 2: Surface protection systems for concrete
Product description	Two-component, water-based transparent coating engineered to preserve and protect architectural textures. It creates an ultra-thin, high-resistance film against abrasion and chemical stress. Ideal for bathrooms, tiles, and resin systems, it offers a "liquid glass" protection that maintains aesthetic purity while ensuring extreme surface durability and hygiene.
Technical purpose of product	Paints, primers, and protective coatings line engineered for interior and exterior applications on architectural surfaces and building substrates. The line includes water-based, high-durability, anti-slip coatings for sports/pedestrian areas, high-adhesion primers, deep-penetrating surface stabilizers, and protective finishes (including bases for cork-based systems). Their primary technical functions are to enhance surface adhesion, provide mechanical bridging on low-absorption supports, protect against weathering, UV rays, chemical agents, and wear, as well as restore and stabilize aged mineral substrates.
Manufacturing or service provision description	The manufacturing process of the Primers and Coatings line is a batch (discontinuous) liquid production process. Raw materials (resins, aggregates, additives, and water) are received in buckets, bags, or bulk silos and fed into liquid mixers automatically or manually. All components are mechanically blended to reach a homogeneous mix. The finished liquid product is packaged into plastic buckets, palletized on wooden pallets, secured with protective polymer hooding film, and stored in the finished goods warehouse. Quality control is strictly performed throughout and after production. Water from the municipal grid is used exclusively for cleaning the mixers between batches and discharged as industrial wastewater. The process generates no material scraps.
Material properties	Volumetric mass density: 1509 kg/m ³
Manufacturing site	DIASEN SRL ZONA INDUSTRIALE BERBENTINA 5 60041 SASSOFERRATO Italy
UN CPC code	3511. Paints and varnishes and related products
Geographical scope(s)	Global

PRODUCT IMAGES





PRODUCT INFORMATION

Product name	Aquabond
Product identification	- UNI EN 1504-2:2005 : Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 2: Surface protection systems for concrete
Product description	A ready-to-use adhesion promoter enriched with selected mineral aggregates. This "mechanical bridge" is engineered to transform smooth or low-absorption substrates into high-grip surfaces. It ensures the perfect integration of plasters and levelling compounds, fostering a structural synergy between the support and the new bio-based layers. VOC-free primer.
Technical purpose of product	Paints, primers, and protective coatings line engineered for interior and exterior applications on architectural surfaces and building substrates. The line includes water-based, high-durability, anti-slip coatings for sports/pedestrian areas, high-adhesion primers, deep-penetrating surface stabilizers, and protective finishes (including bases for cork-based systems). Their primary technical functions are to enhance surface adhesion, provide mechanical bridging on low-absorption supports, protect against weathering, UV rays, chemical agents, and wear, as well as restore and stabilize aged mineral substrates.
Manufacturing or service provision description	The manufacturing process of the Primers and Coatings line is a batch (discontinuous) liquid production process. Raw materials (resins, aggregates, additives, and water) are received in buckets, bags, or bulk silos and fed into liquid mixers automatically or manually. All components are mechanically blended to reach a homogeneous mix. The finished liquid product is packaged into plastic buckets, palletized on wooden pallets, secured with protective polymer hooding film, and stored in the finished goods warehouse. Quality control is strictly performed throughout and after production. Water from the municipal grid is used exclusively for cleaning the mixers between batches and discharged as industrial wastewater. The process generates no material scraps.
Material properties	Volumetric mass density: 1405 kg/m ³
Manufacturing site	DIASEN SRL ZONA INDUSTRIALE BERBENTINA 5 60041 SASSOFERRATO Italy
UN CPC code	3511. Paints and varnishes and related products
Geographical scope(s)	Global

PRODUCT IMAGES





PRODUCT INFORMATION

Product name	Color Primer
Product identification	- UNI EN 1504-2:2005 : Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 2: Surface protection systems for concrete
Product description	A white, opaque product formulated with elastomeric resins and fine quartz. Ideal for enhancing adhesion of water-based decorative coatings and cork-based finishes such as Decork Mediterraneo Deep and Decork Façade Reflex. Perfect for both indoor and outdoor continuity, it balances aesthetic homogeneity with superior adhesion on diverse mineral supports.
Technical purpose of product	Paints, primers, and protective coatings line engineered for interior and exterior applications on architectural surfaces and building substrates. The line includes water-based, high-durability, anti-slip coatings for sports/pedestrian areas, high-adhesion primers, deep-penetrating surface stabilizers, and protective finishes (including bases for cork-based systems). Their primary technical functions are to enhance surface adhesion, provide mechanical bridging on low-absorption supports, protect against weathering, UV rays, chemical agents, and wear, as well as restore and stabilize aged mineral substrates.
Manufacturing or service provision description	The manufacturing process of the Primers and Coatings line is a batch (discontinuous) liquid production process. Raw materials (resins, aggregates, additives, and water) are received in buckets, bags, or bulk silos and fed into liquid mixers automatically or manually. All components are mechanically blended to reach a homogeneous mix. The finished liquid product is packaged into plastic buckets, palletized on wooden pallets, secured with protective polymer hooding film, and stored in the finished goods warehouse. Quality control is strictly performed throughout and after production. Water from the municipal grid is used exclusively for cleaning the mixers between batches and discharged as industrial wastewater. The process generates no material scraps.
Material properties	Volumetric mass density: 1376 kg/m ³
Manufacturing site	DIASEN SRL ZONA INDUSTRIALE BERBENTINA 5 60041 SASSOFERRATO Italy
UN CPC code	3511. Paints and varnishes and related products
Geographical scope(s)	Global

PRODUCT IMAGES





PRODUCT INFORMATION

Product name	Grip Primer
Product identification	- UNI EN 1504-2:2005 : Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 2: Surface protection systems for concrete
Product description	High-performance bonding agent engineered for difficult surfaces like metals, ceramics, and polyurethane boards. Formulated with specialized resins and mineral fillers, it acts as a reliable interface for liquid-applied systems. It ensures a robust, long-lasting connection between modern industrial materials and advanced architectural coatings.
Technical purpose of product	Paints, primers, and protective coatings line engineered for interior and exterior applications on architectural surfaces and building substrates. The line includes water-based, high-durability, anti-slip coatings for sports/pedestrian areas, high-adhesion primers, deep-penetrating surface stabilizers, and protective finishes (including bases for cork-based systems). Their primary technical functions are to enhance surface adhesion, provide mechanical bridging on low-absorption supports, protect against weathering, UV rays, chemical agents, and wear, as well as restore and stabilize aged mineral substrates.
Manufacturing or service provision description	The manufacturing process of the Primers and Coatings line is a batch (discontinuous) liquid production process. Raw materials (resins, aggregates, additives, and water) are received in buckets, bags, or bulk silos and fed into liquid mixers automatically or manually. All components are mechanically blended to reach a homogeneous mix. The finished liquid product is packaged into plastic buckets, palletized on wooden pallets, secured with protective polymer hooding film, and stored in the finished goods warehouse. Quality control is strictly performed throughout and after production. Water from the municipal grid is used exclusively for cleaning the mixers between batches and discharged as industrial wastewater. The process generates no material scraps.
Material properties	Volumetric mass density: 1764 kg/m ³
Manufacturing site	DIASEN SRL ZONA INDUSTRIALE BERBENTINA 5 60041 SASSOFERRATO Italy
UN CPC code	3511. Paints and varnishes and related products
Geographical scope(s)	Global

PRODUCT IMAGES





PRODUCT INFORMATION

Product name	D20
Product identification	- UNI EN 1504-2:2005 : Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 2: Surface protection systems for concrete
Product description	A deep-penetrating water-based primer designed to re-awaken and stabilize dusty or aged mineral supports. By encapsulating surface particles, it restores the structural integrity of skim coats and plasters. This transparent stabilizer ensures that decorative finishes bond to a solid, healthy foundation, enhancing the lifespan of the entire wall system. VOC-free primer.
Technical purpose of product	Paints, primers, and protective coatings line engineered for interior and exterior applications on architectural surfaces and building substrates. The line includes water-based, high-durability, anti-slip coatings for sports/pedestrian areas, high-adhesion primers, deep-penetrating surface stabilizers, and protective finishes (including bases for cork-based systems). Their primary technical functions are to enhance surface adhesion, provide mechanical bridging on low-absorption supports, protect against weathering, UV rays, chemical agents, and wear, as well as restore and stabilize aged mineral substrates.
Manufacturing or service provision description	The manufacturing process of the Primers and Coatings line is a batch (discontinuous) liquid production process. Raw materials (resins, aggregates, additives, and water) are received in buckets, bags, or bulk silos and fed into liquid mixers automatically or manually. All components are mechanically blended to reach a homogeneous mix. The finished liquid product is packaged into plastic buckets, palletized on wooden pallets, secured with protective polymer hooding film, and stored in the finished goods warehouse. Quality control is strictly performed throughout and after production. Water from the municipal grid is used exclusively for cleaning the mixers between batches and discharged as industrial wastewater. The process generates no material scraps.
Material properties	Volumetric mass density: 1338 kg/m ³
Manufacturing site	DIASEN SRL ZONA INDUSTRIALE BERBENTINA 5 60041 SASSOFERRATO Italy
UN CPC code	3511. Paints and varnishes and related products
Geographical scope(s)	Global

PRODUCT IMAGES





PRODUCT INFORMATION

Product name	SBS-Bond
Product identification	- UNI EN 1504-2:2005 : Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 2: Surface protection systems for concrete
Product description	A ready-to-use, water-based primer specifically engineered for the regeneration of bituminous membranes. It creates a high-adhesion interface on weathered or slate-finished surfaces, allowing for the seamless application of new liquid waterproofing. A vital tool for sustainable renovations, facilitating the over-coating of existing roofs without demolition.
Technical purpose of product	Paints, primers, and protective coatings line engineered for interior and exterior applications on architectural surfaces and building substrates. The line includes water-based, high-durability, anti-slip coatings for sports/pedestrian areas, high-adhesion primers, deep-penetrating surface stabilizers, and protective finishes (including bases for cork-based systems). Their primary technical functions are to enhance surface adhesion, provide mechanical bridging on low-absorption supports, protect against weathering, UV rays, chemical agents, and wear, as well as restore and stabilize aged mineral substrates.
Manufacturing or service provision description	The manufacturing process of the Primers and Coatings line is a batch (discontinuous) liquid production process. Raw materials (resins, aggregates, additives, and water) are received in buckets, bags, or bulk silos and fed into liquid mixers automatically or manually. All components are mechanically blended to reach a homogeneous mix. The finished liquid product is packaged into plastic buckets, palletized on wooden pallets, secured with protective polymer hooding film, and stored in the finished goods warehouse. Quality control is strictly performed throughout and after production. Water from the municipal grid is used exclusively for cleaning the mixers between batches and discharged as industrial wastewater. The process generates no material scraps.
Material properties	Volumetric mass density: 1029 kg/m ³
Manufacturing site	DIASEN SRL ZONA INDUSTRIALE BERBENTINA 5 60041 SASSOFERRATO Italy
UN CPC code	3511. Paints and varnishes and related products
Geographical scope(s)	Global

PRODUCT IMAGES





TECHNICAL CHARACTERISTICS AND PERFORMANCE

Technical performance

Product name	Category	Slip Resistance	Resistance to chemicals	Resistance to sliding friction	Accelerated weathering test	Permeability to water vapour	VOC test	Pull-off test Glass (MPa)	Pull-off test Concrete	Pull-off test Metal	Pull-off test Cementitious Substrates
Floorgum Paint	Anti-slip water-based coating	1,127 (level 3)	Alkali (diluted ammonia) = Good (24 hours) Detergents (neutral undiluted) = Excellent (24 hours)	PTV = 66	1680 hr (> 10 yr)	689	-	-	-	-	-
Revela Clear	Transparent protective surface coating	195	Excellent on Hydrocarbons, Lubricating oils, Salt, Diesel fuel	-	1680 hr (> 10 yr)	1932	-	-	-	-	-
Aquabond	Mineral-filled adhesion promoter	-	-	-	-	788	VOC free	> 4.0	-	> 4.0	> 4.0
Color Primer	Elastomeric white primer coat	-	-	-	-	-	-	-	1.66	1.50	-
Grip Primer	High-performance substrate bonding agent	-	-	-	-	Sd = 0,49 m	-	-	1.66	1.50	-

D20	Deep-penetrating substrate stabilizer	-	-	-	-	Sd = 0,43 m	VOC free	-	-	-	-
SBS-Bond	Bituminous membrane regenerating primer	-	-	-	-	-	-	-	-	-	-

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 Primer and Coating 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
Water	0.395	0	0	
Quartz	0.256	0	0	0
Talcum Powder	0.048	0	0	0
Di-isocyanate	0.084	0	0	0
Polyurethane resin	0.275	0	0	0
Acrylic resins	0.217	0	0	0
Organic Additives	0.012	0	0	0
Inorganic Additives	0.021	0	0	0
White spirit	0.04	0	0	0
Siloxane Emulsion	0.055	0	0	0
Total	1.403	0	0	0
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	0.0417	4.165	0.0163
PP bucket	0.1462	14.62	0
LDPE Film	0.0007	0.07	0
Paper	0.0225	2.25	0.0102
Total	0.2111	21.105	0.0265

Note 1	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂
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LCA INFORMATION

EPD based on declared or functional unit	Declared unit
Declared unit and reference flow	Color Primer 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 water-based protective coatings, primers, and adhesion promoters belonging to the Primer and Coatings Line. This multi-product EPD reflects a conservative worst-case scenario formulation among all included product variations. The products mainly consist of water (0.00 to 0.79 kg/kg), polyurethane resins (0.00 to 0.55 kg/kg), quartz (0.00 to 0.512 kg/kg), acrylic resins (0.00 to 0.433 kg/kg), di-isocyanates (0.00 to 0.167 kg/kg), and siloxane emulsions (0.00 to 0.11 kg/kg). The manufacturing process is a batch (discontinuous) liquid blending operation. Raw materials are mechanically mixed, packaged in plastic buckets (PP) on wooden pallets, and wrapped with protective LDPE film. Municipal water is used exclusively for equipment cleaning between production cycles and discharged as industrial wastewater, generating no material scraps. Manufacturing operations are powered by an electricity mix composed of 19.10% self-produced solar energy and 80.90% from the national grid (Italian Residual Mix). The LCA background system relies on the Ecoinvent 3.11 database and SimaPro 10.3.0 software, covering a 'Cradle-to-gate' boundary (Modules A1–A3).
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
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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	6.04%
Input Raw materials	Collected data	EPD Owner Ecoinvent 3.11	2025	Primary data and 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					6.04%
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	0%
	Wind	0.39%
	Solar	7.14%
	Biomass	0%
	Geothermal	0%
	Waste	0%
	Nuclear	4.73%
	Natural gas	44.69%
	Coal	0.09%
	Oil	6.6%
	Peat	0%

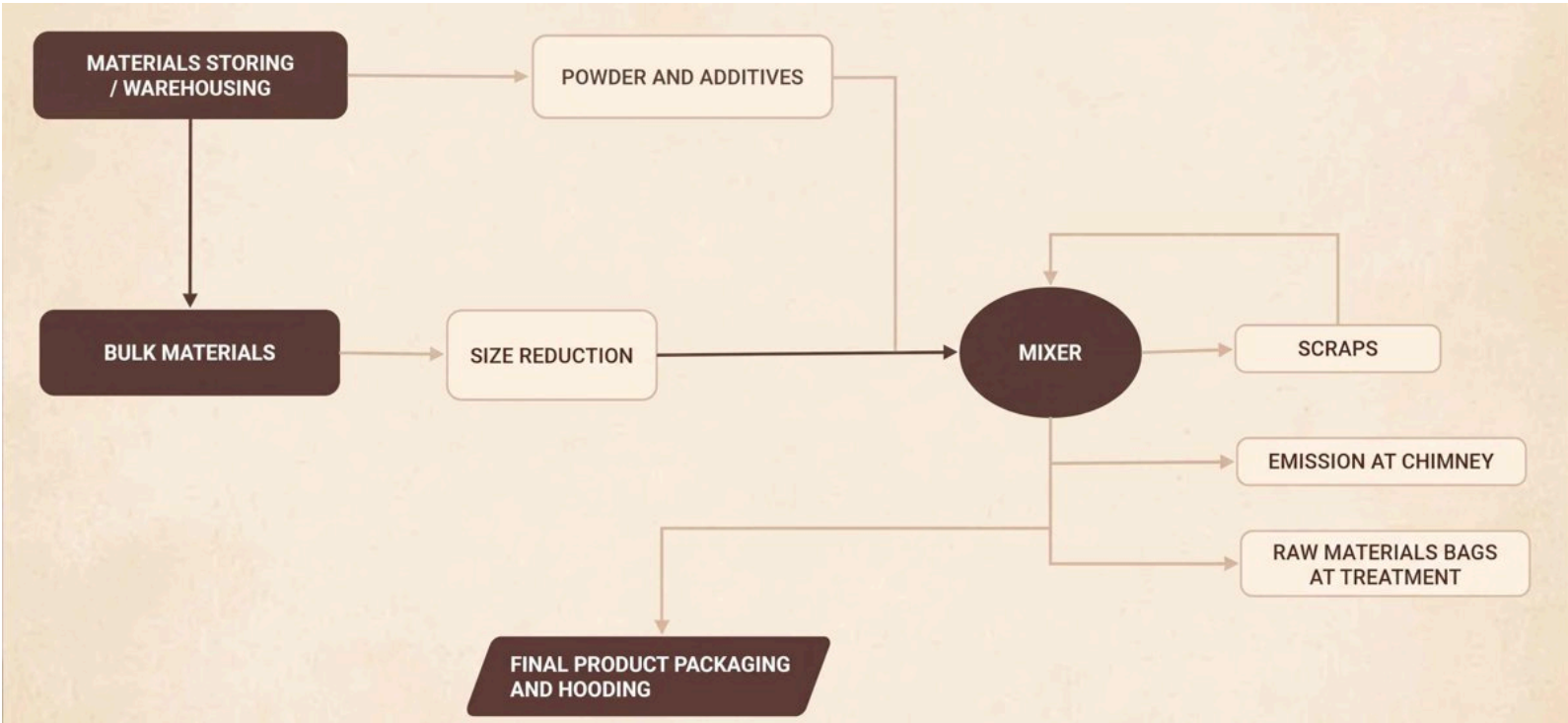
	Other	0%
Climate impact (GWP-GHG):	0.49 kg CO ₂ eq./kWh	

SYSTEM BOUNDARY

Description of the System boundary	d) Cradle to gate (A1-A3).
Excluded modules	No, there is no excluded module, or there are no excluded modules

	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	ND	ND	ND	ND	ND
Geography	Global	Global	Italy	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Share of specific data	6.04%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - products	87.67%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
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' approach, covering exclusively the product stage (Modules A1-A3). Construction process stage (A4-A5), Use stage (B1-B7), End-of-life stage (C1-C4), and Benefits and loads beyond the system boundary (Module D) are omitted (Not Declared).

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.	4.91E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Climate change - fossil	GWP-fossil	kg CO ₂ eq.	4.89E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Climate change - biogenic	GWP-biogenic	kg CO ₂ eq.	3.97E-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Climate change - land use and land-use change	GWP-luluc	kg CO ₂ eq.	1.81E-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ozone depletion	ODP	kg CFC-11 eq.	1.53E-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acidification	AP	mol H ⁺ eq.	2.33E-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Eutrophication aquatic freshwater	EP-freshwater	kg P eq.	1.48E-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Eutrophication aquatic marine	EP-marine	kg N eq.	5.34E-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Eutrophication terrestrial	EP-terrestrial	mol N eq.	4.74E-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Photochemical ozone formation	POCP	kg NMVOC eq.	1.83E-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Depletion of abiotic resources - minerals and metals	ADP-minerals&metals ¹	kg Sb eq.	2.42E-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Depletion of abiotic resources - fossil fuels	ADP-fossil ¹	MJ, net calorific value	9.50E+1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Water use	WDP ¹	m ³ world eq. deprived	1.15E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
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 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.	4.71E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acronyms	GWP-GHG = Global warming potential greenhouse gas.																
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	2.58E-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ionizing radiation - human health	IRP ¹	kBq U235 eq.	3.60E-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Eco-toxicity - freshwater	ETP-fw ²	CTUe	9.07E+1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Human toxicity - cancer effects	HTP-c ²	CTUh	4.78E-9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Human toxicity - non-cancer effects	HTP-nc ²	CTUh	1.06E-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Land-use related impacts/soil quality	SQP ²	Dimensionless	2.16E+1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
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.																
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	6.74E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PERM	MJ, net calorific value	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PERT	MJ, net calorific value	6.74E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PENRE	MJ, net calorific value	8.36E+1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PENRM	MJ, net calorific value	7.93E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PENRT	MJ, net calorific value	9.16E+1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SM	kg	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
RSF	MJ, net calorific value	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NRSF	MJ, net calorific value	2.49E-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FW	m ³	1.14E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
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 re-sources; 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 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	4.32E-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NHWD	kg	8.50E-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
RWD	kg	9.27E-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acronyms	HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed.															

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	ND	ND	ND	ND	ND
MFR	kg	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MER	kg	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
EEE	MJ, net calorific value	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
EET	MJ, net calorific value	0.00E+0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acronyms	CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy.															

ABBREVIATIONS

Not Applicable

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VERSION HISTORY

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