

ENVIRONMENTAL PRODUCT DECLARATION

Mapebond VM Super (USA production)

In accordance with: ISO 14025:2006, EN
15804:2012+A2:2019/AC:2021, ISO 21930:2017

Products included in the EPD:

Mapebond VM Super

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 a single product from a manufacturer/service provider

EPD Owner
Mapei Corp

Programme
International EPD System
www.environdec.com

Programme operator
EPD International AB

Registration number
EPD-IES-0025683:002

Version date
2025-09-18

Validity date
2030-09-17



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 and ISO standard ISO 21930 serve as the core Product Category Rules (PCR)	
Product Category Rules (PCR)	2019:14 Construction products (EN 15804+A2) 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: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/support .

Verification

LCA accountability	Mapei Sustainability, sustainability@mapei.it , Mapei Corp
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
EPD process certificate issued by	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 . International EPD System.	

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

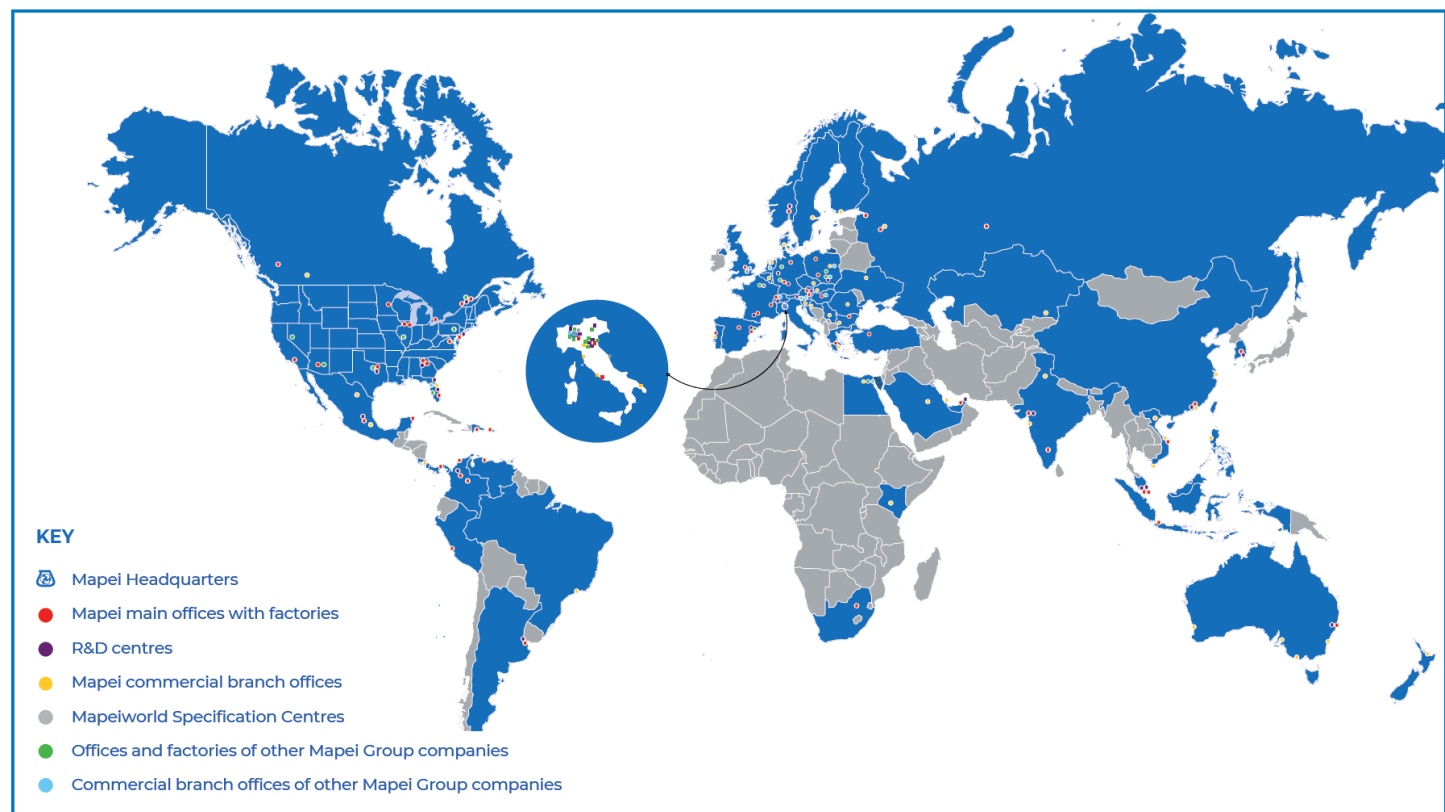
The EPD Owner has the sole ownership, liability, and responsibility for the EPD.

INFORMATION ABOUT EPD OWNER

EPD Owner	Mapei Corp
Contact person name	Corporate Environmental Sustainability
Contact person e-mail	corporate.sustainability@mapei.it
Organisation address	Italy Milano (MI) 20158 Mapei S.p.A. Via Cafiero, 22 28158 - Milano (MI)

Description of the organisation of the EPD Owner

Founded in 1937 in Milan, Italy, Mapei produces adhesives and complementary products for laying all types of floor, wall and coating materials, and also specializes in other chemical products used in the building industry, such as waterproofing products, specialty mortars, admixtures for concrete, cement additives, products for underground constructions and for the restoration of concrete and historical buildings. There are currently 98 subsidiaries in the Mapei Group, with a total of 106 production facilities located around the world in 42 different countries and in 5 different continents. Mapei also has 39 central laboratories. Most locations are ISO 9001 and ISO 14001. Mapei invests 12% in its company's total work-force and 5% of its turnover in Research & Development; in particular, 70% of its R&D efforts are directed to develop eco-sustainable and environmentally friendly products, which give important contribution to all major green rating systems for eco-sustainable buildings such as LEED and BREEAM. Furthermore, Mapei has developed a sales and technical service network with offices all over the world and offers an efficient Technical Assistance Service that is valued by architects, engineers, contractors and owners.



PRODUCT INFORMATION

Product name	Mapebond VM Super
Product identification	Classification C2TES1P1
Product description	Mapebond VM Super is a premium, nonsag veneer mortar designed for the installation of manufactured and natural stone veneer as well as thin brick.
Product information from external sources	For more information see the TDS (Technical Data Sheet) on Mapei corp. website (www.mapei.com/us).
Technical purpose of product	Mapebond VM Super is suitable for use in exterior/interior commercial and residential installations,
Manufacturing or service provision description	The production process starts from raw materials. that are purchased from external and intercompany suppliers and stored in the plant. Bulk raw materials are stored in specific silos and added automatically in the production mixer, according to the formula of the product. Other raw materials. supplied in bags, big bags or tanks, are stored in the warehouse and added automatically or manually in the mixer. The production is a discontinuous process, in which all the components are mechanically mixed in batches. The semi-finished product is then packaged, put on wooden pallets and stored in the finished products warehouse. The quality of final products is controlled before the sale.
Material properties	Volumetric mass density: 1400 kg/m ³
Manufacturing site	Mapei Corporation San Bernardino USA California 92407
Manufacturing site 2	Mapei Corporation Wildwood USA Florida 34785
UN CPC code	375. Articles of concrete, cement and plaster
Geographical scope(s)	USA
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 IMAGES



CONTENT DECLARATION

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	Biogenic material kg CO ₂ , eq./declared unit
Binders	0.39	0	0	0	0
Fillers	0.59	0	0	0	0
Additives	0.02	0	0	0	0
Total	1	0	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	Biogenic material kg CO ₂ , eq./declared unit
Plastic	0.02	1.53	0	0
Wood	0.02	1.51	0.01	0.04
Total	0.04	3.04	0.01	0.04
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	Mapebond VM Super 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 Other database Sphera Database (fka GaBi) CUP 2025.2
LCA Software	LCA for Experts (formerly GaBi Software) N/A
Version of the EN 15804 reference package	EF Reference Package 3.1
Characterisation methods	EF Reference Package 3.1
Technology description including background system	Mapebond VM Super has a high content of unique dry polymer, resulting in excellent adhesion between the substrate and veneer units. It exceeds ANSI A118.4ET, ANSI A118.11 and ANSI A118.15ET requirements when mixed with water.
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	Primary data collection concern the year 2024 and represent the whole annual production. The quality of the relevant data used for the EPD in terms of its time, geography and technology representativeness using EN15804:2012+A2:2019, Annex E, E2 is mostly "very good" and "good". The relevant data assessed included "no poor" or "very poor" data.
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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	2024	Primary data	11.6%
Generation of electricity used in manufacturing of product	Database	ecoinvent 3.11	2024	Primary data	2.19%
Transport of the raw materials to manufacturing sites	Database	Sphera	2024	Secondary data	
Raw Materials	EPD, Database	Supplier, Sphera	2023-2024	Secondary data	
Total share of primary data, of GWP-GHG results for A1-A3					13.79%
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	Residual electricity mix on the market	
Energy sources	Hydro	1%
	Wind	3.2%
	Solar	0%
	Biomass	5.2%
	Geothermal	0%
	Waste	0%
	Nuclear	9.8%
	Natural gas	35.7%

	Coal	9.4%
	Oil	35.6%
	Peat	0%
	Other	0%
Climate impact (GWP-GHG):	0.64 kg CO ₂ eq./kWh	

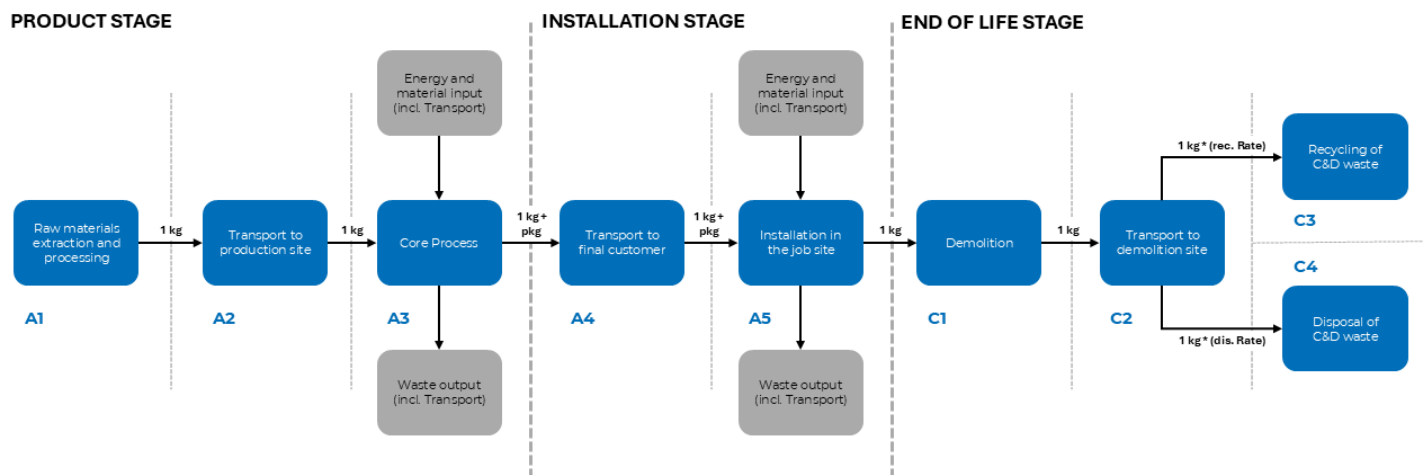
Method used to calculate residual electricity mix	Electricity mix US (IEA 2023)
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SYSTEM BOUNDARY

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	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	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	USA	USA	USA	USA	USA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	USA	USA	USA	USA	USA
Share of specific data	13.8%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - products	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation - sites	9%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Process flow diagram(s) related images



SCENARIOS

Name of the default scenario	Standard
Description of the default scenario	N/A

Module A4: Transport to the building site

Explanatory name of the default scenario in module A4	Average distribution
Description of the default scenario in module A4	Average transport distance of the finished product to final customers.

Module A4 information	Value	Unit
Distance	1000	km
Capacity utilization (including empty returns)	85	%
Bulk density of transported products	1400	kg/m ³
Volume capacity utilization factor (factor: =1 or <1 or ≥1 for compressed or nested packaged products)	1	Dimensionless
Means of transport	Truck-trailer Euro 6 A-C, gross weight 34-40 t, payload capacity 27 t	Dimensionless

Module A5: Installation in the building

Explanatory name of the default scenario in module A5	Installation phase
Description of the default scenario in module A5	The installation phase includes the electricity consumption for the mixing and for the application of the product. The packaging is collected and sent to treatment. (varia in base allo scenario)

Module A5 information	Value	Unit
Net fresh water consumption during installation	0.00022	m ³
Ancillary materials for installation	0	kg
Other resources use	0	kg
Electricity and other energy consumption for the installation	0.295	kWh
Waste materials on building site before waste processing, generated by the product's installation (specified by type)	0.0153 (Plastics) 0.0151 (Wood) 0.0105 (C&D waste)	kg
Output materials (specified by type) as result of waste processing at the building site e.g. of collection for recycling, for energy recovery, disposal (specified by route)	0.00472 (Incineration) 0.0301 (Landfill) 0.00623 (Recycling)	kg
Direct emission to ambient air, soil and water	0	kg

Module C: End-of-life

Explanatory name of the default scenario in module C	End of Life
Brief description of the default scenario in module C	Waste treatment rates based on local waste management system.

Module C information	Value	Unit
Collected separately	0	kg
Collected with mixed construction waste	1	kg
Reuse	0	kg
Recycling	0.31	kg
Energy Recovery	0	kg
Landfill	0.69	kg
Transport to waste treatment	100	km

Module D: Beyond product life cycle

Explanatory name of the default scenario in module D	Potential benefits
Description of the default scenario in module D	It contains credits from the recycling of the fraction of product in module C3, at the end of life, the product can be collected and recycled for use in substitution of virgin raw aggregates. This module contains also the credit from the incineration of a fraction of packaging waste (A5).

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.	5.12E-1	6.65E-2	6.95E-2	ND	ND	ND	ND	ND	ND	ND	3.15E-3	8.85E-3	9.01E-4	1.11E-2	-6.91E-3
Climate change - fossil	GWP-fossil	kg CO ₂ eq.	5.33E-1	6.35E-2	4.66E-2	ND	ND	ND	ND	ND	ND	ND	3.14E-3	8.45E-3	8.88E-4	1.10E-2	-6.89E-3
Climate change - biogenic	GWP-biogenic	kg CO ₂ eq.	-2.18E-2	3.00E-3	2.28E-2	ND	ND	ND	ND	ND	ND	ND	3.32E-6	3.98E-4	5.62E-6	6.97E-5	-7.91E-6
Climate change - land use and land-use change	GWP-luluc	kg CO ₂ eq.	1.52E-4	3.45E-5	7.52E-5	ND	ND	ND	ND	ND	ND	ND	5.75E-6	4.58E-6	7.65E-6	4.52E-5	-1.40E-5
Ozone depletion	ODP	kg CFC-11 eq.	9.13E-9	1.54E-14	2.95E-13	ND	ND	ND	ND	ND	ND	ND	2.33E-14	2.05E-15	1.75E-15	3.07E-14	-1.35E-14
Acidification	AP	mol H ⁺ eq.	1.33E-3	6.46E-5	6.28E-5	ND	ND	ND	ND	ND	ND	ND	4.37E-6	8.84E-6	4.50E-6	7.79E-5	-7.09E-6
Eutrophication aquatic freshwater	EP-freshwater	kg P eq.	2.32E-5	1.18E-7	1.96E-7	ND	ND	ND	ND	ND	ND	ND	1.04E-9	1.57E-8	2.22E-9	1.64E-8	-2.66E-9
Eutrophication aquatic marine	EP-marine	kg N eq.	5.21E-4	2.63E-5	1.43E-5	ND	ND	ND	ND	ND	ND	ND	9.43E-7	3.62E-6	2.09E-6	2.04E-5	-2.81E-6
Eutrophication terrestrial	EP-terrestrial	mol N eq.	1.71E-3	2.84E-4	1.58E-4	ND	ND	ND	ND	ND	ND	ND	1.03E-5	3.92E-5	2.27E-5	2.22E-4	-3.09E-5
Photochemical ozone formation	POCP	kg NMVOC eq.	7.15E-4	5.98E-5	4.10E-5	ND	ND	ND	ND	ND	ND	ND	2.72E-6	8.16E-6	5.58E-6	6.10E-5	-7.41E-6
Depletion of abiotic resources - minerals and metals	ADP-minerals&metals ¹	kg Sb eq.	4.20E-7	1.00E-8	4.77E-9	ND	ND	ND	ND	ND	ND	ND	3.68E-10	1.33E-9	9.02E-10	6.82E-10	-4.37E-10
Depletion of abiotic resources - fossil fuels	ADP-fossil ¹	MJ, net calorific value	6.31E+0	8.39E-1	6.68E-1	ND	ND	ND	ND	ND	ND	ND	5.16E-2	1.11E-1	1.64E-2	1.44E-1	-1.06E-1
Water use	WDP ¹	m ³ world eq. deprived	1.14E-1	9.19E-4	1.84E-2	ND	ND	ND	ND	ND	ND	ND	6.47E-4	1.22E-4	1.58E-4	1.19E-3	-2.21E-4
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.	5.32E-1	6.36E-2	4.67E-2	ND	ND	ND	ND	ND	ND	ND	3.15E-3	8.46E-3	8.98E-4	1.11E-2	-6.92E-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	1.22E-8	5.41E-10	5.80E-10	ND	ND	ND	ND	ND	ND	ND	4.03E-11	7.43E-11	8.62E-11	9.70E-10	-1.87E-10
Ionizing radiation - human health	IRP ¹	kBq U235 eq.	2.33E-2	2.41E-4	5.29E-3	ND	ND	ND	ND	ND	ND	ND	4.18E-4	3.21E-5	3.30E-5	1.70E-4	-1.50E-4
Eco-toxicity - freshwater	ETP-fw ²	CTUe	1.65E+0	6.05E-1	1.40E-1	ND	ND	ND	ND	ND	ND	ND	9.35E-3	8.04E-2	1.64E-2	1.12E-1	-1.33E-2
Human toxicity - cancer effects	HTP-c ²	CTUh	6.27E-11	9.57E-12	5.62E-12	ND	ND	ND	ND	ND	ND	ND	4.14E-13	1.27E-12	2.61E-13	1.92E-12	-4.24E-13
Human toxicity - non-cancer effects	HTP-nc ²	CTUh	1.16E-9	3.04E-10	9.24E-11	ND	ND	ND	ND	ND	ND	ND	6.04E-12	4.04E-11	1.09E-11	7.19E-11	-9.59E-12
Land-use related impacts/soil quality	SQP ²	Dimensionless	6.53E+0	1.24E-1	6.46E-2	ND	ND	ND	ND	ND	ND	ND	4.84E-3	1.65E-2	4.64E-3	3.57E-2	-6.80E-3
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	4.39E-1	3.49E-2	2.65E-1	ND	ND	ND	ND	ND	ND	ND	1.49E-2	4.64E-3	1.61E-3	2.79E-2	-7.95E-3
PERM	MJ, net calorific value	1.83E-1	0.00E+0	-7.44E-2	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PERT	MJ, net calorific value	6.22E-1	3.49E-2	1.90E-1	ND	ND	ND	ND	ND	ND	ND	1.49E-2	4.64E-3	1.61E-3	2.79E-2	-7.95E-3
PENRE	MJ, net calorific value	5.60E+0	8.39E-1	8.87E-1	ND	ND	ND	ND	ND	ND	ND	5.16E-2	1.11E-1	1.64E-2	1.44E-1	-1.06E-1
PENRM	MJ, net calorific value	7.07E-1	0.00E+0	-2.19E-1	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	6.31E+0	8.39E-1	6.68E-1	ND	ND	ND	ND	ND	ND	ND	5.16E-2	1.11E-1	1.64E-2	1.44E-1	-1.06E-1
SM	kg	3.35E-2	0.00E+0	0.00E+0	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	1.90E-2	0.00E+0	0.00E+0	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	1.83E-1	0.00E+0	0.00E+0	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	m ³	4.23E-1	3.77E-5	4.88E-4	ND	ND	ND	ND	ND	ND	ND	1.97E-5	5.00E-6	4.29E-6	3.49E-5	-1.56E-5
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.															
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	6.58E-3	1.39E-10	3.90E-10	ND	ND	ND	ND	ND	ND	ND	3.06E-11	1.85E-11	2.26E-12	3.16E-11	-1.81E-11
NHWD	kg	2.98E-1	8.59E-5	3.11E-2	ND	ND	ND	ND	ND	ND	ND	1.77E-5	1.14E-5	4.14E-6	7.21E-1	-6.57E-3
RWD	kg	2.88E-5	2.88E-6	6.38E-5	ND	ND	ND	ND	ND	ND	ND	5.06E-6	3.83E-7	2.08E-7	1.53E-6	-1.74E-6
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	0.00E+0	0.00E+0	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	kg	3.32E-3	0.00E+0	6.23E-3	ND	ND	ND	ND	ND	ND	ND	0.00E+0	0.00E+0	3.24E-1	0.00E+0	0.00E+0
MER	kg	0.00E+0	0.00E+0	4.72E-3	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	6.79E-4	0.00E+0	6.63E-3	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	0.00E+0	1.24E-2	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).															

ADDITIONAL ENVIRONMENTAL INFORMATION

Recycled content

3.35% of recycled materials in 1 kg of product with packaging

Disassembly

The finished product is potentially suitable for disassembly through selective demolition.

ABBREVIATIONS

General Abbreviations

EN: European Norm (Standard)

EPD: Environmental Product Declaration

EF: Environmental Footprint

GPI: General Programme Instructions

ISO: International Organization for Standardization

LCA: Life Cycle Assessment

PCR: Product Category Rules

c-PCR: Complementary Product Category Rules

CEN: European Committee for Standardization

CLC: Co-location centre

CPC: Central product classification

GHS: Globally harmonized system of classification and labelling of chemicals

GRI: Global Reporting Initiative

Environmental Impact Indicators (EN 15804)

GHG: Greenhouse gas

GWP: Global Warming Potential (kg CO₂ eq.)

GWP-fossil: Global Warming Potential from fossil sources (kg CO₂ eq.)

GWP-biogenic: Global Warming Potential from biogenic sources (kg CO₂ eq.)

GWP-luluc: Global Warming Potential from land use and land use change (kg CO₂ eq.)

GWP-total: Total Global Warming Potential (kg CO₂ eq.)

GWP-GHG: Global Warming Potential for greenhouse gases (kg CO₂ eq.)

ODP: Ozone Depletion Potential (kg CFC-11 eq.)

AP: Acidification Potential (mol H⁺ eq.)

EP: Eutrophication Potential

EP-freshwater: Freshwater eutrophication potential (kg P eq.)

EP-marine: Marine eutrophication potential (kg N eq.)

EP-terrestrial: Terrestrial eutrophication potential (mol N eq.)

POCP: Photochemical Ozone Creation Potential (kg NMVOC eq.)

ADP: Abiotic Depletion Potential

ADP-minerals&metals: Abiotic depletion potential for non-fossil resources (kg Sb eq.)

ADP-fossil: Abiotic depletion potential for fossil resources (MJ)

WDP: Water Deprivation Potential (m³)

Resource Use Indicators

PERE: Use of renewable primary energy excluding renewable primary energy resources used as raw materials (MJ)

PERM: Use of renewable primary energy resources used as raw materials (MJ)

PERT: Total use of renewable primary energy resources (MJ)

PENRE: Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (MJ)

PENRM: Use of non-renewable primary energy resources used as raw materials (MJ)

PENRT: Total use of non-renewable primary energy resources (MJ)

SM: Use of secondary material (kg)

RSF: Use of renewable secondary fuels (MJ)

NRSF: Use of non-renewable secondary fuels (MJ)

FW: Use of net fresh water (m³)

Waste Indicators

HW: Hazardous Waste (disposed) (kg)

NHW: Non-Hazardous Waste (disposed) (kg)

RW: Radioactive Waste (disposed) (kg)

Output Flow Indicators

CFR: Components for Reuse (kg)

MR: Material for Recycling (kg)

MER: Materials for Energy Recovery (kg)

EEE: Exported Energy, Electricity (MJ)

EET: Exported Energy, Thermal (MJ)

Lifecycle Stages / Modules

A1: Raw material supply

A2: Transport

A3: Manufacturing

A4: Transport to site

A5: Construction/Installation

B1: Use

B2: Maintenance

B3: Repair

B4: Replacement

B5: Refurbishment

B6: Operational energy use

B7: Operational water use

C1: Deconstruction/Demolition

C2: Transport to waste processing

C3: Waste processing

C4: Disposal

D: Reuse-Recovery-Recycling potential

Other Relevant Terms

SVHC: Substances of Very High Concern

EC No.: European Community Number

CAS No.: Chemical Abstracts Service Number

MJ: Megajoule

kg: Kilogram

m³: Cubic Meter

NMVOC: Non-Methane Volatile Organic Compounds

Sb eq.: Antimony Equivalents

P eq.: Phosphorus Equivalents

N eq.: Nitrogen Equivalents

CFC-11 eq.: Chlorofluorocarbon-11 Equivalents

CO₂ eq.: Carbon Dioxide Equivalents

kg C: Kilograms of Carbon

kg CO₂ eq.: Kilograms of Carbon Dioxide Equivalent

ND: Not Declared

EoL: End of Life

TDS: Technical Data Sheet

AIB: Association of Issuing Body

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REFERENCES

EN 15804: SUSTAINABILITY OF CONSTRUCTION WORKS - ENVIRONMENTAL PRODUCT DECLARATIONS - CORE RULES FOR THE PRODUCT CATEGORY OF CONSTRUCTION PRODUCTS

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PCR 2019:14 CONSTRUCTION PRODUCTS (EN 15804: A2), VERSION 2.0.1

UNITED STATES ENERGY MIX - IEA WEBSITE - TOTAL ENERGY SUPPLY (TES) BY SOURCE

EPA, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY - NATIONAL OVERVIEW: FACTS AND FIGURES ON MATERIALS, WASTES AND RECYCLING

EPA, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY - CONTAINERS AND PACKAGING: PRODUCT-SPECIFIC DATA

VERSION HISTORY

Original version of the EPD

