

ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

Vitreuschina

GSI ceramica

EPD HUB, HUB-1022

Publishing date 12 January 2024, last updated on 12 January 2024, valid until 12 January 2029.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	GSI ceramica
Address	S.P. 150, Km 3.125, 01035 Gallese (VT), Italy
Contact details	info@gsiceramica.it
Website	www.gsiceramica.it

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022
Sector	Construction product
Category of EPD	Third-party verified EPD
Scope of the EPD	Cradle to gate with modules C1-C4, D
EPD author	Pietro Pallozzi
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not

be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	Vitreuschina
Additional labels	-
Product reference	-
Place of production	S.P. 150, Km 3.125, 01035 Gallese (VT), Italy
Period for data	1 July 2022 - 1 July 2023
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 ton of vitreouschina
Declared unit mass	1000 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	1,39E+03
GWP-total, A1-A3 (kgCO ₂ e)	1,33E+03
Secondary material, inputs (%)	0.0431
Secondary material, outputs (%)	3.15
Total energy use, A1-A3 (kWh)	6740.0
Total water use, A1-A3 (m ³ e)	2,18E+00

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

GSI has always been one of the leading companies in the district of Civita Castellana's ceramics industry tradition.

GSI has been using its entrepreneurial spirit to overcome market difficulties for 30 years.

In this context, the founders of the company have cleverly modelled traditional craftsmanship with evolving technical innovations in a Research and Development process based on a work ethic and value system which focuses on the human insight and know-how typical of Italian industry.

PRODUCT DESCRIPTION

Ceramic sanitaryware encompasses mainly bidets, toilets, urinals, and cisterns.

These products are primarily made of materials such as clay, kaolin, quartz, and feldspar. The mixture is cast or pressed, dried, glazed, and then fired to form ceramic sanitaryware.

This EPD considered 1000 kg of average sanitary ceramic product with Vitreous China based on the overall mass volume manufactured during one year, from 1 July 2022 to 1 July 2023, was used in calculating the environmental impact.

Ceramic sanitary ware manufactured by GSI Ceramica is subject to the following international standard norms.

Europe (EU):

Directive (EU) No. 305/2011 applies to the immission of products to the market in the EU / EFTA.

Products require a declaration of performance (DOP) and CE marking taking into account:

EN 997 Freestanding toilets and matching cassette toilets with Integrated siphon, EN 13407 Urinals, EN 14528 Bidets, EN 14688 Sanitary appliances – washbasins, EN 14527 Shower trays for domestic use.

Australia (AS): AS 1976: AS 1172.1: AS 1172.2 AS 3982 AS / NZS 1730 AS 3494 AS/NZS 6400

USA (ASME): ASME A112.19.2 / CSA B45.1: ASME A112.19. ASME A112.19.19

FRANCE (NF): NF D14-601 NF D12-101 NF D12-203 NF D12-101 NF D11-101 NF D11-201

MALESIA (MS): MS 147 MS 1522 MS 795-1 MS 795-2 MS 795-3

SINGAPORE (SS): SS 574 Part I SS 574 Part II: PRC/China (GB): GB 6952

PHILIPPINES (PNS): PNS 15 INDONESIA (SNI): SNI-03-797 THAILAND (TIS):

TIS 792 SAUDI ARABIA (SASO 1473;1474)

Further information can be found at www.gsiceramica.it

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	-	-
Minerals	100	EU, Central America
Fossil materials	-	-
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0.003
Biogenic carbon content in packaging, kg C	14.28

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 ton of vitreouschina
Mass per declared unit	1000 kg
Functional unit	-
Reference service life	40 years

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage								End of life stage				Beyond the system boundaries	
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7		C1	C2	C3	C4	D	
x	x	x	MND	MND	MND	MND	MND	MND	MND	MND	MND		x	x	x	x	x	
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use		Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recycling

Modules not declared = MND. Modules not relevant = MNR.

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during energy transmission.

Vitreous China is composed of Clay, Kaolin, Feldspar, Gypsum, Quartz, Zirconia, and other materials. The raw materials are supplied in two modes:

1. Liquid inside silos.
2. Dried where necessary before storing in silos.

Smaller volumes of components are supplied in sacks and/or big bags.

Glaze

The raw material is mixed with water before being sieved and then ground. Glue is added shortly before processing.

Casting

The small batch method involves the battery casting method with plaster molds.

The porous plastic molds are used for high-pressure casting.

Remains and rejects are 100% recyclable and.

Drying

After casting, the ceramic products are processed through various drying methods. Rejects are 100% recyclable.

Glazing

The glaze is applied to the dry blank either manually or fully automatically using robots. Surplus is collected and re-used.

Firing

The blanks are fired at over, 1250 °C in a tunnel kiln for approx. 18–24 hours.

Sorting

After firing, each product is subject to extensive individual examination. Nonconform products that do not meet the quality requirements can often be touched up and fired again in a shuttle kiln or recycled near to production site.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

This EPD does not cover the installation phase.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

PRODUCT END OF LIFE (C1-c4, D)

Material recycling of ceramic sanitaryware is technically possible.

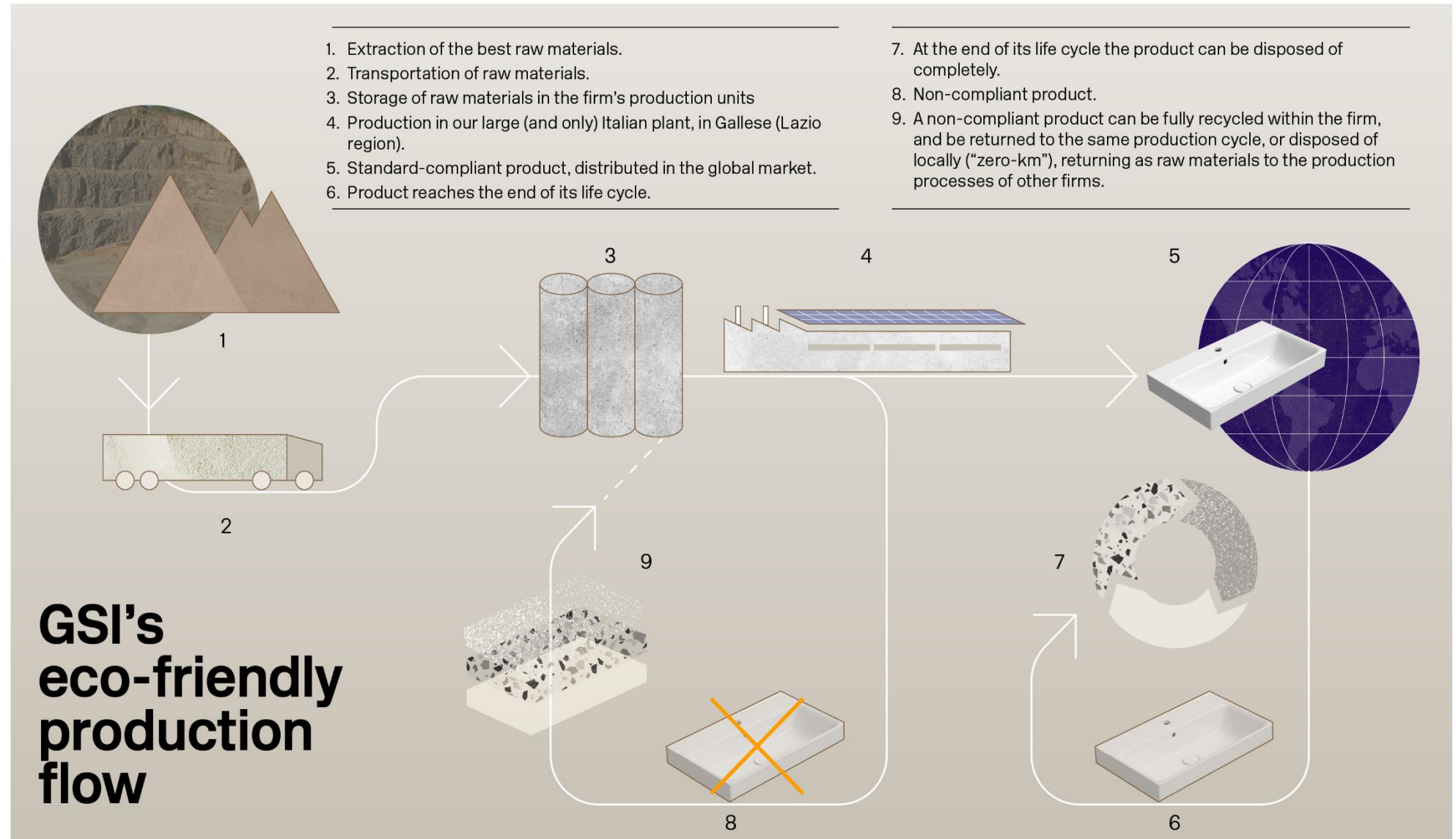
The product can also be deposited.

Ceramic sanitaryware is currently reused together with building rubble in European countries.

The following /waste keys/ can be indicated for the respective components:

1. Wastes from the manufacture of ceramic products = CER 101208
2. Paper and cardboard packaging = CER 150101
3. Plastic packaging = CER 150102
4. Wood waste = CER 150103
5. Construction and demolition waste: tiles, bricks, and ceramic = CER 170103

MANUFACTURING PROCESS



**GSI's
eco-friendly
production
flow**

LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	Allocated by mass or volume
Packaging materials	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	Without average
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3	-

This EPD covers all our products made in Vitreous China made in only one production site, the similar process used for the production of this product makes this EPD representative.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent v3.8 and One Click LCA databases were used as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	1,21E+02	7,30E+01	1,14E+03	1,33E+03	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,01E+00	6,00E+01	5,33E+00	-4,37E+01
GWP – fossil	kg CO ₂ e	1,21E+02	7,30E+01	1,20E+03	1,39E+03	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,01E+00	1,03E+00	5,32E+00	-2,23E+00
GWP – biogenic	kg CO ₂ e	1,24E-02	0,00E+00	-5,90E+01	-5,90E+01	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	5,90E+01	0,00E+00	-4,17E+01
GWP – LULUC	kg CO ₂ e	1,19E-01	3,01E-02	2,73E-01	4,22E-01	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,67E-03	1,01E-03	4,99E-03	2,75E-01
Ozone depletion pot.	kg CFC ₁₁ e	1,95E-05	1,63E-05	1,72E-04	2,08E-04	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,99E-06	3,81E-08	2,14E-06	4,16E-07
Acidification potential	mol H ⁺ e	7,30E-01	3,75E-01	2,56E+00	3,66E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,73E-02	3,78E-03	5,14E-02	-2,34E-02
EP-freshwater ²⁾	kg Pe	5,67E-03	5,97E-04	1,97E-02	2,60E-02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,60E-05	3,40E-05	5,62E-05	7,97E-05
EP-marine	kg Ne	1,14E-01	1,05E-01	6,78E-01	8,97E-01	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,09E-02	1,24E-03	1,80E-02	-2,60E-02
EP-terrestrial	mol Ne	1,30E+00	1,16E+00	5,72E+00	8,17E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,20E-01	9,66E-03	1,99E-01	-2,51E-01
POCP (“smog”) ³⁾	kg NMVOCe	3,63E-01	3,49E-01	1,73E+00	2,44E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,65E-02	2,99E-03	5,75E-02	-8,28E-02
ADP-minerals & metals ⁴⁾	kg Sbe	1,31E-02	2,19E-04	7,94E-04	1,41E-02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,13E-05	1,47E-05	1,24E-05	-1,36E-06
ADP-fossil resources	MJ	1,70E+03	1,06E+03	1,99E+04	2,27E+04	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,30E+02	7,13E+00	1,45E+02	-1,64E+02
Water use ⁵⁾	m ³ e depr.	6,54E+01	4,66E+00	2,81E+02	3,51E+02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,71E-01	2,55E-01	5,83E-01	2,14E+01

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO₄e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	7,44E-06	6,84E-06	1,28E-05	2,71E-05	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,67E-07	6,28E-08	1,01E-06	-9,85E-07
Ionizing radiation ⁶⁾	kBq U235e	1,72E+01	4,99E+00	6,10E+01	8,32E+01	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,06E-01	9,50E-02	6,55E-01	5,66E+00
Ecotoxicity (freshwater)	CTUe	6,65E+03	9,63E+02	7,85E+03	1,55E+04	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,20E+02	6,16E+01	9,56E+01	6,16E+02
Human toxicity, cancer	CTUh	2,39E-07	2,71E-08	2,56E-07	5,22E-07	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,37E-09	2,61E-09	4,20E-09	1,27E-09
Human tox. non-cancer	CTUh	4,53E-06	9,10E-07	4,89E-06	1,03E-05	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,12E-07	2,44E-08	6,70E-08	1,33E-07

SQP ⁷⁾	-	7,34E+02	8,96E+02	3,35E+03	4,98E+03	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,03E+01	8,54E+00	3,09E+02	-3,47E+03
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6) EN 15804+A2 disclaimer for Ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	1,40E+02	1,22E+01	1,72E+03	1,87E+03	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,53E+00	8,98E-01	1,28E+00	-2,09E+02
Renew. PER as material	MJ	0,00E+00	0,00E+00	5,15E+02	5,15E+02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-5,15E+02	0,00E+00	4,30E+02
Total use of renew. PER	MJ	1,40E+02	1,22E+01	2,23E+03	2,39E+03	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,53E+00	-5,14E+02	1,28E+00	2,22E+02
Non-re. PER as energy	MJ	1,70E+03	1,06E+03	1,96E+04	2,24E+04	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,30E+02	7,12E+00	1,45E+02	7,59E+01
Non-re. PER as material	MJ	0,00E+00	0,00E+00	2,55E+02	2,55E+02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-2,58E+02	0,00E+00	2,79E+02
Total use of non-re. PER	MJ	1,70E+03	1,06E+03	1,99E+04	2,27E+04	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,30E+02	-2,50E+02	1,45E+02	3,55E+02
Secondary materials	kg	4,31E-01	3,38E-01	2,75E+01	2,83E+01	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,29E-02	3,27E-02	3,23E-02	2,52E+01
Renew. secondary fuels	MJ	4,38E-03	3,87E-03	6,03E+00	6,04E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,56E-04	2,11E-04	7,95E-04	-4,35E-02
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	-6,17E+00	1,29E-01	8,22E+00	2,18E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,54E-02	6,11E-03	1,61E-01	5,23E-01

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	2,32E+01	1,49E+00	3,25E+01	5,72E+01	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,88E-01	1,29E-01	0,00E+00	1,50E+00
Non-hazardous waste	kg	2,31E+02	2,37E+01	5,35E+02	7,89E+02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,00E+00	2,28E+00	1,01E+03	2,69E+01
Radioactive waste	kg	6,39E-03	7,08E-03	2,56E-02	3,91E-02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,62E-04	3,40E-05	0,00E+00	1,36E-03

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	9,82E+01	9,82E+01	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	3,15E+01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	6,34E+01	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	1,18E+02	7,22E+01	1,18E+03	1,37E+03	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,92E+00	1,40E+00	5,21E+00	-1,59E+00
Ozone depletion Pot.	kg CFC ₁₁ e	1,81E-05	1,29E-05	1,50E-04	1,81E-04	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,57E-06	3,32E-08	1,69E-06	4,39E-07
Acidification	kg SO ₂ e	6,10E-01	2,94E-01	2,08E+00	2,98E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,91E-02	2,98E-03	3,87E-02	-6,35E-03
Eutrophication	kg PO ₄ ³⁻ e	2,54E-01	5,90E-02	9,46E-01	1,26E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,67E-03	4,59E-03	9,89E-03	-5,55E-02
POCP ("smog")	kg C ₂ H ₄ e	2,64E-02	1,09E-02	1,29E-01	1,66E-01	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,18E-03	3,77E-04	1,62E-03	-2,45E-03
ADP-elements	kg Sbe	1,24E-02	2,14E-04	7,41E-04	1,33E-02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,06E-05	1,46E-05	1,21E-05	-4,06E-06
ADP-fossil	MJ	1,70E+03	1,06E+03	1,99E+04	2,27E+04	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,30E+02	7,12E+00	1,45E+02	-1,63E+02

VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? Read more online

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited

12.01.2024

