epd-norway
Global Program Operator

Environmental Product Declaration

In accordance with 14025 and EN15804 +A2

Screed tiles

The Norwegian
EPD Foundation

Owner of the declaration:
Tonality GmbH

Product name:
Screed tiles

Declared unit:
1 m²

Product category /PCR:
(IBU-PCR) PCR Part B: Requirements for the EPD for ceramic tiles and slabs, v.8, (19.10.2023)

Program holder and publisher:
The Norwegian EPD foundation

Declaration number:
NEPD-6794-6120-EN

Registration number:
NEPD-6794-6120-EN

Issue date: 06.06.2024

Valid to: 06.06.2029

ver-300924

TONALITY
NATURAL FACADES

General information

Product:
Screed Tiles

Program Operator:
The Norwegian EPD Foundation
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Declaration Number:
NEPD-6794-6120-EN

This declaration is based on Product Category Rules:
(IBU-PCR) PCR Part B: Requirements for the EPD for Ceramic tiles and slabs

Statements:
The owner of the declaration shall be liable for the underlying information and evidence. EPD Norway shall not be liable with respect to manufacturer, life cycle assessment data and evidences.

Declared unit:
1m²

Declared unit with option:
/

Functional unit:
1m2

Verification:
Independent verification of the declaration and data, according to ISO14025:2010

internal ☐ external ■

Signature

Silvia Vilčeková
Independent verifier approved by EPD Norway

Owner of the declaration:
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Place of production:
Tonality GmbH

In der Mark 100

56414 Weroth

Germany

Management system:
[ISO 14001 fill in]

Organisation no:
[123456789MVA fill in]

Issue date:
06.06.2024

Valid to:
06.06.2029

Year of study:
2022

Comparability:
EPDs from other programmes than [Name of Program operator] may not be comparable.

The EPD has been worked out by:
Jona Roßmann
Megha Mittal
Khadija Benis

Approved

Manager of EPD Norway

Product

Description of the company

TONALITY GmbH is a German company that specializes in the production of high-quality ceramic tiles. The company's products are known for their natural cladding, durability, and frost resistance. TONALITY has been in the industry for over 25 years and is recognized for its individuality, consistent high quality, and a wide variety of products. The company's ceramic elements are versatile and can be used for almost all areas, both indoors and outdoors. TONALITY's environmental philosophy emphasizes its responsibility towards the environment and mankind.

Product description and use

Screed tiles are a practical and attractive solution for a variety of construction and design applications. The raw tiles are produced in 3 different ceramic colors (red, grey, creme), red unglazed being the standard. They are available in two different formats: While 55x200x18 mm^3 is the default format, for exposed applications they can also be produced in 900x200x18 mm^3. It is durable, weather-resistant, and comes in a wide range of surface colors (due to glazings) and patterns making it a versatile and attractive choice for architects and designers.

Product specification

The declared product is a flat screed tile made of clay. The tiles are manufactured from various clay bodies and are given their surface colors and characteristics by engobing/ glazing. They are single-skin tiles that are laid on the floor.

The screed tiles consist of the following basic and auxiliary materials (average values):

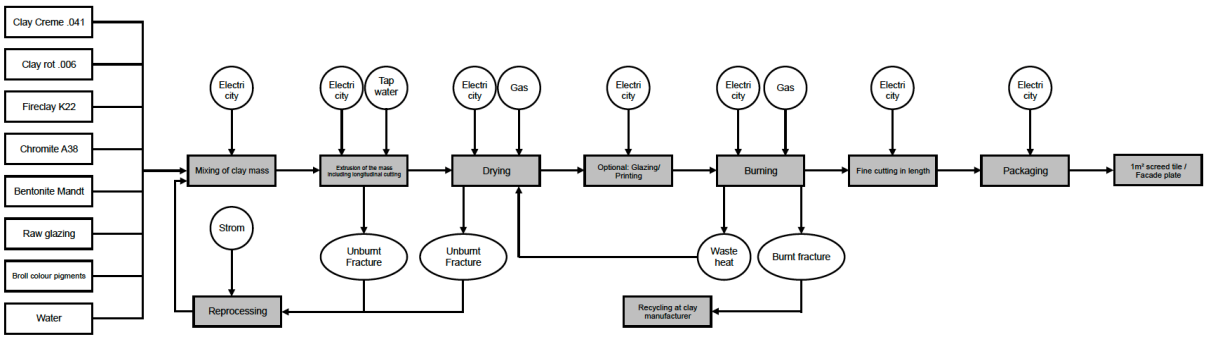
Materials	KG	%
Clay Red	0-15,39	0-35%
Clay Creme	13,63 – 29,43	31-67%
Fireclay	12,81 – 13,63	29 – 31%
Chromite	0-1,34	0-3%
Bentonite	1,5 – 1,55	Ca. 3%
Engobe/ Glaze (incl. pigments)	0,28	<1%
Other	0,078	<1%

During production approximately 20% water is required during the shaping process. Clay and fireclay comes from regional deposits in the local area (Westerwald).

Technical data

Technical specification	value	unit
Format (length x width x thickness)	555x200x18mm3 (default) 900x300x18mm3 (design)	
Water absorption	<4	%
Flexural strength	≥30 - ≥32	N/mm^2
Slip resistance	R9/FGK	Confirmed according to CEN/TS16165i
Resistance to deep wear	Max 393 mm^3	Confirmed according to EN ISO 10545-6
Resistance to surface wear (class)	• Heron: 3 • Baldet: 4 • Baco: 5 • Cassini: 3 • Samir: 3 • Bobone: 3	Confirmed according to according to DIN EN ISO 10545-7
Flammability	A1 non-flammable	
Thermal conductivity at 30°C	1,3	W/mK
Thermal shock resistance	acc. to EN ISO 10545-9	
Frost resistance	acc. to EN ISO 10545-12	

Production



The production process consists of seven steps. In the first step, the raw clay mass is mixed. The required components are dosed, homogenized and mixed with water to form a plastic working mass. The next step includes the extrusion and segmentation of the mixed raw mass. The raw cut tiles are then dried with the waste heat of the burning oven. Optionally, the tiles can then be printed or glazed in various colors, printing designs etc. In the next step, the tiles are being burned in a gas oven. Afterwards, the length of the tiles is being fine cut. The finished tiles are then packed, stored and transported to the site.

Installation

The tiles are laid on the floor starting from the rear left corner of the room. The edges of tiles are dipped in adhesive and layed together to form patterns repeated in every fourth row. More details on the same can be found here. Information on installing in the national technical approvals must be followed. When drilling and cutting the ceramic material, appropriate personal protective equipment (respiratory protection P2/FFP2, eye protection and hearing

protection) must be worn to protect against the effects of quartz dust, possible splinters and noise. Adequate ventilation of the workplace must be ensured and tools with low dust exposure (e.g. wet cutters) should be used. Additional protection against unauthorized removal is possible.

Packaging
The products are packaged on reusable Euro pallets, some with intermediate layers of cardboard or wood and with polyethylene shrink wrap, and the reusable pallets can be returned for a refund. All other packaging materials are taken back via the building materials trade and fed into the recycling process.

Market
The respective national regulations apply for use, in Germany the general building authority approval with the no. Z-10.3-796 of the German Institute for Building Technology dated 15.11.2018 and the general building authority approval with the no. Z-10.3-798 of the German Institute for Building Technology dated 16.05.2018.

Reference service life, product
Screed tiles do not change after the end of the production process. When used according to regulations, they are extremely durable. The reference service life is 50 years.

LCA: Calculation rules

Declared unit:
The declaration refers to 1 m^2 of screed tiles. The average weight per unit area of a screed tile is 37,4 kg/m^2. The gross density of the declared product is 2000-2200 kg/m^3.

Data quality:
The data collected by TONALITY GmbH for the 2022 production year was used to model the production stage of the screed tile. All other relevant background data records were taken from the Ecoquery software database. The primary data was generated from 01.01.2022 to 31.12.2022. Background data was obtained from Ecoinvent with reference years between 1989 and 2023.

Allocation:
The waste screed tiles can be reused. The burnt fracture is reused in the production process in place of clay. Alternatively, this broken clay can be used in a wide variety of areas, for example in road construction, as clay powder for tennis courts, as fireclay in the production of stoneware, etc.

The unburned fracture is returned to the clay supplier and mixed with lower clay qualities (recycling) with a rate of 3%. TONALITY GmbH does not receive any money for this.
As TONALITY GmbH supplies the unburnt fracture free of charge, no co-product allocation rules were applied. The unburnt fracture leaves the system boundaries free of value and burden.

System boundary:
The declaration corresponds to an EPD of the type "cradle to factory gate - with options".

The LCA takes into account the extraction and provision of raw materials, transport of raw materials and actual product manufacture as well as packaging materials (Modules A1-A3), the

transport of the product to the installation site (Module A4), the treatment of packaging materials in waste incineration plants after installation of the product (Module A5), as well as transport after dismantling (Module C2) and the end-of-life (landfilling of the screed tile in an inert material landfill (Module C4). The credits for electricity and thermal energy from the disposal of the packaging were also taken into account (Module D).

The stage of use (Module B) is not taken into account in this study.

Cut-off criteria:

All data from the operational data collection, i.e. all raw materials used according to recipe, ancillary materials, packaging, waste, the thermal energy used as well as the electricity requirement and co-products were taken into account in the balance. Transportation was considered for all inputs.

In accordance with PCR Part A, material and energy flows with a share of less than 1 percent of the total mass of the product were also taken into account.

The production of machinery, equipment and other infrastructure required for the production of the items under consideration, as well as resource consumption and waste of the nearby office was not taken into account in the life cycle assessments.

LCA: Scenarios and additional technical information

The following information describes the scenarios in the different modules of the EPD.

- Module A4: 1% transportation losses
- Module A5: 3% installation losses
- Module B: is excluded as per PCR.
- Module C1: Manual dismantling (no loads).
- Module C2: truck transport to waste processing (50km). The transport distance can, if necessary, be adjusted at the building level (e.g. for an actual transport distance of 100 km: multiply the life cycle assessment values by a factor of 2).
- Module C3: average loads for waste processing (shredding). Material losses considered: 3%.
- Module D is defined as benefits and loads beyond the product system boundary. Any production scrap generated is credited in module D.
- Scenario D/3: Energy obtained from municipal incineration of packaging waste

Transport from production place to assembly/user (A4)

Type	Capacity utilisation (incl. return) %	Type of vehicle	Distance KM	Fuel/Energy consumption	value (l/t)
Truck	Acc. To Ecoquery dataset transport, freight, lorry >32 metric ton, EURO6	lorry >32 metric ton, EURO6	100	Acc. To Ecoquery dataset transport, freight, lorry >32 metric ton, EURO6	Acc. To Ecoquery dataset transport, freight, lorry >32 metric ton, EURO6

The product is stacked into wooden pallets manually and is transported to the installation site, assumed to be about 100 km away, in a lorry (>32 metric ton).

Assembly (A5)

	Unit	Value
Auxiliary	Kg	1
Water consumption	m3	0
Electricity consumption	kWh	0
Other energy carriers	MJ	0
Material loss	Kg	1.12
Output materials from waste treatment	Kg	0.22
Dust in the air	kg	0

End of Life (C1, C3, C4)

	Unit	Value
Hazardous waste disposed	Kg	0
Collected as mixed construction waste	Kg	0
Reuse	Kg	0
Recycling	Kg	0
Energy recovery	Kg	0
To landfill	Kg	37.4

All of the tiles are granulated and landfilled at the end of life.

Transport to waste processing (C2)

Type	Capacity utilisation (incl. return) %	Type of vehicle	Distance KM	Fuel/Energy consumption	value (l/t)
Truck	50%	Lorry, >32 metric ton	50	Acc. To Ecoquery dataset transport, freight, lorry >32 metric ton, EURO6	Acc. To Ecoquery dataset transport, freight, lorry >32 metric ton, EURO6

All packaging material is collected on-site and transported for recycling via lorry to a waste treatment site 50 km away. The tile is taken to a waste treatment site 50 km away by lorry.

Benefits and loads beyond the system boundaries (D)

The benefits and loads beyond the life cycle have been modeled based on all net output waste flows from modules A5 and C3.
The packaging material is assumed to be incinerated with energy recovery.

Additional technical information

Storage

Ceramic tiles require no specific conditions for storage.

Product waste

Cuttings depend heavily on the building context, however an average estimate of 3% wastage was assumed.

LCA: Results

System boundaries (X=included, MND= module not declared, MNR=module not relevant)

Product stage			Assembly stage		Use stage							End of life stage				Benefits & loads beyond system boundary
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

Core environmental impact indicators

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO2 eq.	1,41E+01	1,40E-01	3,59E+00	1,79E+01	4,08E-01	1,20E+00	0,00E+00	2,07E-01	0,00E+00	3,97E-01	-7,06E-01
GWP-fossil	kg CO2 eq.	1,39E+01	1,40E-01	1,11E+01	2,52E+01	4,08E-01	1,05E+00	0,00E+00	2,07E-01	0,00E+00	3,94E-01	-6,48E-01
GWP-biogenic	kg CO2 eq.	1,96E-01	7,01E-05	-7,54E+00	-7,34E+00	2,05E-04	1,42E-01	0,00E+00	1,04E-04	0,00E+00	2,18E-03	-5,70E-02
GWP-LULUC	kg CO2 eq.	5,10E-03	4,96E-05	2,36E-02	2,87E-02	1,45E-04	5,10E-05	0,00E+00	7,36E-05	0,00E+00	9,57E-05	-1,02E-03
ODP	kg CFC 11 eq.	4,36E-07	2,91E-09	9,30E-07	1,37E-06	8,50E-09	1,74E-09	0,00E+00	4,32E-09	0,00E+00	1,23E-08	-1,11E-08
AP	mol H^+ eq.	4,48E-02	3,30E-04	3,74E-02	8,26E-02	9,63E-04	1,15E-03	0,00E+00	4,90E-04	0,00E+00	4,35E-03	-1,07E-03
EP-freshwater	kg P eq.	2,67E-03	9,83E-06	4,33E-03	7,00E-03	2,87E-05	7,07E-05	0,00E+00	1,46E-05	0,00E+00	6,61E-04	-6,98E-04
EP-marine	kg N eq.	1,73E-02	8,66E-05	9,42E-03	2,68E-02	2,53E-04	3,67E-04	0,00E+00	1,28E-04	0,00E+00	1,08E-03	-3,81E-04
EP-terrestial	mol N eq.	1,86E-01	9,36E-04	9,32E-02	2,80E-01	2,73E-03	4,25E-03	0,00E+00	1,39E-03	0,00E+00	1,16E-02	-2,69E-03
POCP	kg NMVOC eq.	6,40E-02	5,73E-04	5,82E-02	1,23E-01	1,67E-03	1,21E-03	0,00E+00	8,50E-04	0,00E+00	4,26E-03	-1,01E-03
ADP-M&M	kg Sb eq.	9,57E-05	3,99E-07	1,49E-05	1,11E-04	1,17E-06	1,59E-06	0,00E+00	5,92E-07	0,00E+00	7,73E-07	-5,15E-07
ADP-fossil	MJ	2,07E+02	2,10E+00	4,57E+02	6,66E+02	6,12E+00	1,96E+00	0,00E+00	3,11E+00	0,00E+00	9,17E+00	-9,95E+00
WDP	m^3	1,21E+00	1,05E-02	3,65E+00	4,87E+00	3,07E-02	9,45E-02	0,00E+00	1,56E-02	0,00E+00	5,49E-02	-8,16E-02

GWP-total: *Global Warming Potential;* ***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; See "additional requirements" for indicator given as PO4 eq.* ***EP-marine:*** *Eutrophication potential, fraction of nutrients reaching freshwater end compartment;* ***EP-terrestial:*** *Eutrophication potential, Accumulated Exceedance;* ***POCP****: Formation potential of tropospheric ozone;* ***ADP-M&M****: Abiotic depletion potential for non-fossil resources (minerals and metals);* ***ADP-fossil:*** *Abiotic depletion potential for fossil resources;* ***WDP:*** *Water deprivation potential, deprivation weighted water counsumption*

Additional environmental impact indicators

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
PM	Disease incidence	9,09E-07	1,36E-08	6,33E-07	1,56E-06	3,97E-08	8,08E-09	0,00E+00	2,02E-08	0,00E+00	6,61E-08	-5,20E-09
IRP	kBq U235 eq.	4,86E-01	2,55E-03	2,88E+00	3,36E+00	7,44E-03	2,05E-02	0,00E+00	3,78E-03	0,00E+00	1,23E-02	-1,01E-01
ETP-fw	CTUe	3,71E+01	4,97E-01	3,73E+01	7,50E+01	1,45E+00	5,89E-01	0,00E+00	7,37E-01	0,00E+00	6,74E+00	-1,67E+00
HTP-c	CTUh	5,05E-08	8,94E-10	5,67E-08	1,08E-07	2,61E-09	4,99E-10	0,00E+00	1,33E-09	0,00E+00	2,24E-09	-1,01E-09
HTP-nc	CTUh	5,05E-08	8,94E-10	5,67E-08	1,08E-07	2,61E-09	4,99E-10	0,00E+00	1,33E-09	0,00E+00	2,24E-09	-3,41E-09
SQP	Dimensionless	3,19E+01	2,11E+00	1,04E+03	1,07E+03	6,15E+00	1,40E+00	0,00E+00	3,13E+00	0,00E+00	2,25E+01	-1,18E+00

PM: *Particulate matter emissions;* ***IRP:*** *Ionising radiation, human health;* ***ETP-fw:*** *Ecotoxicity (freshwater);* ***ETP-c:*** *Human toxicity, cancer effects;* ***HTP-nc:*** *Human toxicity, non-cancer effects;* ***SQP:*** *Land use related impacts / soil quality*

Classification of disclaimers to the declaration of core and additional environmental impact indicators

ILCD classification	Indicator	Disclaimer
ILCD type / level 1	Global warming potential (GWP)	None
	Depletion potential of the stratospheric ozone layer (ODP)	None
	Potential incidence of disease due to PM emissions (PM)	None
ILCD type / level 2	Acidification potential, Accumulated Exceedance (AP)	None
	Eutrophication potential, Fraction of nutrients reaching marine end compartment (EP-marine)	None
	Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	None
	Formation potential of tropospheric ozone (POCP)	None
	Potential Human exposure efficiency relative to U235 (IRP)	1
ILCD type / level 3	Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)	2
	Abiotic depletion potential for fossil resources (ADP-fossil)	2
	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	2
	Potential Comparative Toxic Unit for ecosystems (ETP-fw)	2
	Potential Comparative Toxic Unit for humans (HTP-c)	2
	Potential Comparative Toxic Unit for humans (HTP-nc)	2
	Potential Soil quality index (SQP)	2

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 on these results are high or as there is limited experienced with the indicator

Resource use

Parameter	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
RPEE	MJ	8,20E+00	3,33E-02	1,36E+02	1,45E+02	9,71E-02	-6,76E-01	0,00E+00	4,94E-02	0,00E+00	1,91E-01	-1,76E+00
RPEM	MJ	1,40E-02	0,00E+00	6,31E+01	6,31E+01	0,00E+00	1,18E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
TPE	MJ	8,21E+00	3,33E-02	1,99E+02	2,08E+02	9,71E-02	5,06E-01	0,00E+00	4,94E-02	0,00E+00	1,91E-01	-1,76E+00
NRPE	MJ	2,07E+02	2,10E+00	1,65E+02	3,73E+02	6,12E+00	-3,72E+00	0,00E+00	3,11E+00	0,00E+00	9,17E+00	-9,95E+00
NRPM	MJ	5,49E-01	0,00E+00	2,92E+02	2,93E+02	0,00E+00	5,68E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
TRPE	MJ	2,07E+02	2,10E+00	4,57E+02	6,66E+02	6,12E+00	1,96E+00	0,00E+00	3,11E+00	0,00E+00	9,17E+00	-9,95E+00
SM	kg	1,05E-01	9,06E-04	1,34E-01	2,39E-01	2,64E-03	6,98E-04	0,00E+00	1,34E-03	0,00E+00	3,05E-03	-1,39E-03
RSF	MJ	8,19E-03	1,14E-05	1,07E+00	1,08E+00	3,34E-05	1,19E-03	0,00E+00	1,70E-05	0,00E+00	5,52E-05	-7,90E-06
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
W	m^3	4,41E-02	3,05E-04	1,08E-01	1,52E-01	8,90E-04	2,38E-03	0,00E+00	4,52E-04	0,00E+00	-1,11E-01	-2,93E-03

RPEE Renewable primary energy resources used as energy carrier; RPEM Renewable primary energy resources used as raw materials; TPE Total use of renewable primary energy resources; NRPE Non renewable primary energy resources used as energy carrier; NRPM Non renewable primary energy resources used as materials; TRPE Total use of non renewable primary energy resources; SM Use of secondary materials; RSF Use of renewable secondary fuels; NRSF Use of non renewable secondary fuels; W Use of net fresh water

End of life - Waste

Parameter	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
HW	KG	3,26E-01	3,05 E-03	4,35E-01	7,64E-01	8,90 E-03	1,17 E-02	0,00E+00	4,52 E-03	0,00E+00	1,55E-02	-1,96E-02
NHW	KG	2,41E+01	6,11 E-02	2,43E+01	4,85E+01	1,78 E-01	5,87 E-01	0,00E+00	9,06 E-02	0,00E+00	1,41E+02	-3,41E+00
RW	KG	1,38E-04	6,30 E-07	7,36E-04	8,74E-04	1,84 E-06	4,73 E-06	0,00E+00	9,35 E-07	0,00E+00	3,00E-06	-3,07E-05

HW Hazardous waste disposed; NHW Non hazardous waste disposed; RW Radioactive waste disposed

End of life – output flow

Parameter	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
CR	Kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MR	Kg	3,24E-03	1,59E-05	5,38E-03	8,64E-03	4,64E-05	4,67E-05	0,00E+00	2,36E-05	0,00E+00	1,18E-04	-1,99E-04
MER	Kg	8,26E-06	9,17E-08	8,19E-06	1,65E-05	2,68E-07	4,32E-07	0,00E+00	1,36E-07	0,00E+00	2,28E-07	-1,19E-07
EEE	MJ	3.34E-01	3.16E-04	4.89E-02	3.83E-01	9.19E-04	1.18E+01	0.00E+00	4.67E-04	0.00E+00	3.81E-03	-1.10E+01
ETE	MJ	4.60E-02	3.87E-04	3.12E-02	7.75E-02	1.13E-03	2.00E+01	0.00E+00	5.72E-04	0.00E+00	8.54E-03	-1.98E+01

CR Components for reuse; MR Materials for recycling; MER Materials for energy recovery; EEE Exported electric energy; ETE Exported thermal energy

Reading example: 9,0 E-03 = $9{,}0*10^{-3}$ = 0,009

Information describing the biogenic carbon content at the factory gate

Biogenic carbon content	Unit	Value
Biogenic carbon content in product	kg C	0
Biogenic carbon content in the accompanying packaging	kg C	2,11

Additional requirements

Greenhous gas emission from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

National electricity grid	Unit	Value
Electricity from German Grid	kg CO2 -eq/kWh	0,327

Additional environmental impact indicators required in NPCR Part A for construction products

In order to increase the transparency of biogenic carbon contribution to climate impact, the indicator GWP-IOBC is required as it declares climate impacts calculated according to the principle of instantaneous oxidation. GWP-IOBC is also referred to as GWP-GHG in context to Swedish public procurement legislation.

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-IOBC	kg CO2 eq.	1.39E+01	1.40E-01	1.11E+01	2.52E+01	4.08E-01	1.05E+00	0.00E+00	2.07E-01	0.00E+00	3.95E-01	-6.52E-01

GWP-IOBC *Global warming potential calculated according to the principle of instantanious oxidation.*

Hazardous substances

The declaration is based upon reference to threshold values and/or test results and/or material safety data sheets provided to EPD verifiers. Documentation available upon request to EPD owner.

- ✓ The product contains no substances given by the REACH Candidate list or the Norwegian priority list.
- ❑ The product contains substances given by the REACH Candidate list or the Norwegian priority list that are less than 0,1 % by weight.
- ❑ The product contains dangerous substances, more than 0,1% by weight, given by the REACH Candidate List or the Norwegian Priority list, see table.
- ❑ The product contains no substances given by the REACH Candidate list or the Norwegian priority list. The product is classified as hazardous waste (Avfallsforskiften, Annex III), see table.

Indoor environment

The product meets the requirements for low emissions.

Carbon footprint

Carbon footprint has not been worked out for the product.

Bibliography

ISO 14025:2010	Environmental labels and declarations - Type III environmental declarations - Principles and procedures
ISO 14044:2006	Environmental management - Life cycle assessment - Requirements and guidelines
EN 15804:2012+A2:2019	Sustainability of construction works - Environmental product declaration - Core rules for the product category of construction products
ISO 21930:2007	Sustainability in building construction - Environmental declaration of building products
ISO 14020:2023-07	Environmental statements and programmes for products – Principles and general requirements

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