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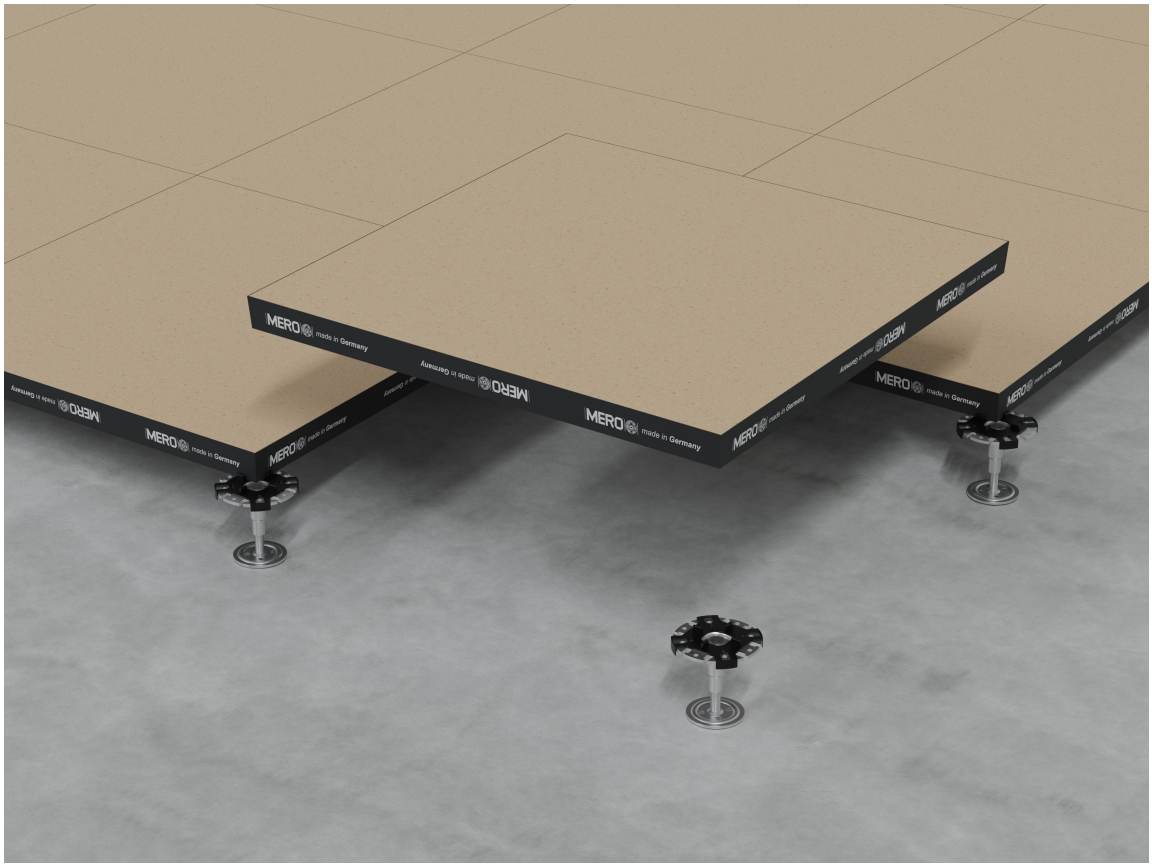
ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 and EN 15804+A2

MERO-TSK International GmbH & Co. KG
Doppelboden Typ 5 NB 38



MERO-TSK International GmbH & Co. KG
Certified ISO 9001 / 14001

Owner of the declaration
MERO-TSK International GmbH & Co. KG
Max-Mengeringhausen-Strasse 5
D-97084 Wuerzburg
Germany

Product
Doppelboden Typ 5 NB 38

Declared product / Declared unit
1 m²

This declaration is based on Product Category Rules
EN 15804:2012 + A2:2019,
NPCR Part A:2021

Program operator:
EPD Global
Majorstuen P.O. Box 5250
N-0303 Oslo
Norway

Declaration number
NEPD-11799-11799-2

Registration number
NEPD-11799-11799-2

Issue date
11.06.2026

Valid to
10.06.2031

EPD Software
Emidat Platform v1.0.0

General Information

Product
Doppelboden Typ 5 NB 38

Program Operator
EPD Global
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Email: post@epd-norge.no

Declaration Number
NEPD-11799-11799-2

This declaration is based on Product Category Rules
EN 15804:2012 + A2:2019,
NPCR Part A:2021

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

Declared unit
1 m^2

General information on verification of EPD from EPD tools
Independent verification of data, other environmental information and the declaration according to ISO 14025:2011-10, § 8.1.3 and § 8.1.4. Verification of each EPD is made according to EPD Global's guidelines for verification and approval requiring that tools are i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPD Global, and iii) the process is reviewed annually by an independent third-party verifier. See Appendix G of EPD Global's General Programme Instructions for further information on EPD tools.

Verification
Independent third-party verification based on the verification of the EPD tool, background data and test-EPD in accordance with EPD Global's procedures and guidelines for verification and approval of EPD tools.

Third-party verifier: Rui Wang, IVL Swedish Environmental Research Institute

Owner of the declaration
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Place of production
Prichsenstadt, Germany

Management system
ISO 14001 , ISO 9001

Issue date
11.06.2026

Valid to
10.06.2031

Year of study
2024

Comparability
EPDs of construction products may not be comparable if they do not comply with EN 15804 and are not seen in a building context. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804 and if the background systems are not based on the same database (including primary and secondary data).

Development and verification of EPD
The declaration was created using the Emidat EPD tool v1.0, developed by Emidat GmbH which is third-party verified and approved as a Reference Flow Tool with internal review under administration and surveillance by EPD Global under provisions stated in general information on verification of EPD from EPD tools.

Developer of EPD: Rainer Philipp
Reviewer of company-specific input data and EPD: Carina Amend

Approved

Håkon Hauan, The Norwegian EPD Foundation

Product

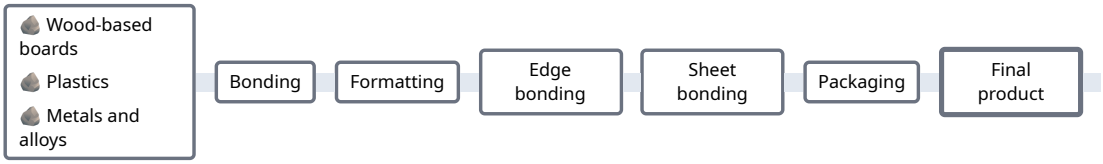
Product description

A raised access floor is a modular flooring system consisting of a load-bearing substructure and removable floor panels. It is primarily used in office buildings, data centers, control rooms, and technical facilities to enable flexible space utilization and concealed installation of building services. The type 5 NB38 floor panels, typically consists of 600 x 600 mm, are made of 38mm thick woodcore with steel sheet on bottom, providing excellent structural strength, dimensional stability, which are produced according to the European standard DIN EN 12825. They rest on height-adjustable steel pedestals, which can be supplemented by stringers to increase system rigidity and load-bearing capacity as required.

Application description

The space created between the structural slab and the raised floor panels forms a void that serves as an installation zone. Within this cavity, electrical wiring, data cables, ventilation ducts, and supply lines can be routed freely and adapted at any time. Each panel can be individually removed, allowing quick and easy access for maintenance or layout modifications. This combination of flexibility, accessibility, and technical functionality makes raised access flooring a key component in modern, high-performance interior environments.

Production process



Product specification

Name of ingredient	Share of total weight	Country of origin
Metals and alloys	10 - 30 %	Germany
Plastics	0 - 2 %	Germany
Wood-based boards	70 - 90 %	Germany

Technical data

	Unit	Value
Finished Floor System Height (low)	mm	60
Finished Floor System Height (high)	mm	840
Base Layer Thickness (low)	mm	38
Base Layer Thickness (high)	mm	38.5
Substructure Height (low)	mm	22
Substructure Height (high)	mm	800
Mass	kg	35.6
Base Course Density	kg / m^3	680
Break load Statics (min)	kN	6
Point load Statics	kN	3
Deflection	mm	3
Fire protection building material class	-	B -s2, do schwerentflammbar
Fire protection Fire resistance	-	F30 / REI30
Electrostatic (min)	Ω	1000000000
Thermal conductivity	W / (mK)	0.13

Market

Germany

Recipients

B2B

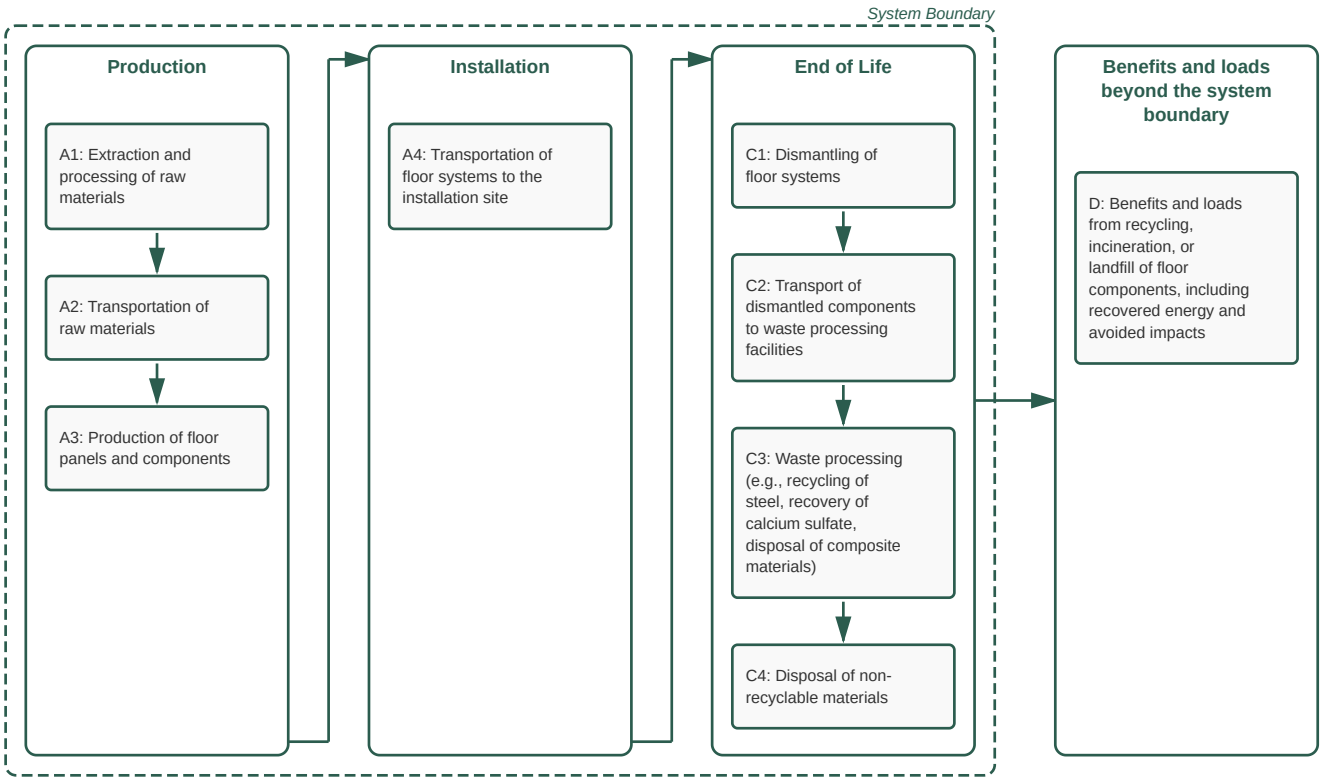
LCA: Calculation rules

Declared unit
1 m²

Product lifetime
Not declared

Reference service life
Not declared

System boundary



Data quality
The foreground data are based on extensive and detailed data collection at the production site of the manufacturer, covering key processes such as raw material sourcing, formulation, and manufacturing. These foreground data are fully linked with corresponding datasets from the background database (ecoinvent 3.10) or with EN15804+A2-compliant EPDs, ensuring consistency, reliability, and maintaining alignment with the latest industry standards.

The following EN15804+A2-compliant EPDs are used as datasets in this EPD:

Element	Year
Wood-based boards	2025

The overall data representativeness is rated as good with an overall score of 4.00/5 , in accordance with EN 15804+A2 Annex E guidance on data quality assessment, considering geographical, technical, and temporal representativeness.

The following table discloses all processes or activities assessed with very poor or poor data representativeness according to EN 15804+A2, as well as those assessed as fair that contribute more than 30 % to any core impact indicator in A1–A3:

Element	Minimal Representativeness	Source	Year
Recycling	Very poor	ecoinvent 3.10	2023
Electricity from grid	Poor	ecoinvent 3.10	2023
Manufacturing fuels	Poor	ecoinvent 3.10	2023
Metals and alloys	Poor	ecoinvent 3.10	2023

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

	Production			Installation		Use stage							End-of-Life				Next product system
	Raw material supply	Transport	Manufacturing	Transport	Installation Process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational Water Use	Demolition	Transport	Waste Processing	Disposal	Benefits and loads beyond the system boundary
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x
Geography			DE	DE	MND	MND	MND	MND	MND	MND	MND	MND	DE	DE	DE	DE	DE

For the geographies modeled in A1 and A2, refer to *Product specification*.

Type of EPD: Cradle to gate with options, modules A4, C1-C4 + D

Stage of Material Production and Construction

Module A1: Extraction and processing of raw materials

Module A2: Transportation of raw materials

Module A3: Production of floor panels and components

Module A4: Transportation of floor systems to the installation site

Disposal Stage

Module C1: Dismantling of floor systems

Module C2: Transport of dismantled components to waste processing facilities

Module C3: Waste processing (e.g., recycling of steel, recovery of calcium sulfate, disposal of composite materials)

Module C4: Disposal of non-recyclable materials

Credits and burdens outside the system boundaries

Module D: Benefits and loads from recycling, incineration, or landfill of floor components, including recovered energy and avoided impacts

Cut-off criteria

No cut-offs were applied.

Allocation

Foreground inventory data (energy and fuels, ancillary materials, emissions and waste) was collected at the production process level. Mass-based allocation was applied to allocate the total output of the production process in 2024 to the reference product.

Key assumptions and estimates

Production process flows are allocated to the reference product, as described under allocation. The mass-based allocation assumes a uniform distribution of production impacts across co-products. Foreground inventory data is checked for consistency of production process, to ensure the validity of the allocated results.

LCA: Scenarios and additional technical information

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

Transport to the building site (A4)	Value	Unit
Transported mass: Product and packaging	38.02	kg
Truck: Distance	650.00	km
Truck: Energy demand	1.58	MJ / t*km
Truck: Activity	transport, freight, lorry >32 metric ton, EURO6	-
Truck: Capacity utilization	53.30	%
Ship: Distance	8000.00	km
Ship: Energy demand	0.13	MJ / t*km
Ship: Activity	transport, freight, sea, container ship	-
Ship: Capacity utilization	70.00	%

Transport to the waste facility (C2)	Value	Unit
Mass to landfill	1.18	kg
Mass to recycling	20.31	kg
Mass to incineration	14.11	kg
Distance to landfill	50.00	km
Distance to recycling	50.00	km
Distance to incineration	50.00	km
Truck: Activity	transport, freight, lorry >32 metric ton, EURO6	-
Truck: Capacity utilization	53.30	%
Truck: Distance	50.00	km
Truck: Energy demand	1.58	MJ / t*km

Module C2 includes the impact of transportation of material after deconstruction, during the End-of-Life stage.

Waste processing (C3)	Value	Unit
Material for incineration	14.11	kg
Material for recycling	20.31	kg

Disposal (C4)	Value	Unit
Material for landfill	1.18	kg

Reuse, recovery and/or recycling potentials (D)	Value	Unit
Amount of secondary material that the system takes in	0	kg
Installation: Material eligible for recycling/reuse credits	0	kg
End-of-life: Material eligible for recycling/reuse credits	20.31	kg
Substitution of plastics	0.04	kg
Substitution of wood	12.22	kg
Substitution of metals	8.05	kg
Production: Exported energy eligible for credits	2.12	MJ
End-of-life: Exported energy eligible for credits	74.15	MJ
Substitution of electricity production, grid mix	25.32	MJ
Substitution of heat production from natural gas	50.95	MJ

Calculation of loads and benefits per EN 15804+A2. Materials that entered the product system as secondary materials in A1 do not yield credits in module D.

LCA: Results

The following results are based on the market-based electricity approach applied to the foreground system (A3). Further details on electricity data are provided in the Additional Requirements section.

Core environmental impact indicators

Indicator	Unit	A1-A3	A4	C1	C2	C3	C4	D
GWP-total	kg CO_2-eq.	-1.30e+01	5.68e+00	0.00e+00	1.84e-01	4.16e+01	4.23e-01	-2.14e+01
GWP-fossil	kg CO_2-eq.	2.89e+01	5.67e+00	0.00e+00	1.84e-01	6.36e-01	8.58e-03	-2.11e+01
GWP-biogenic	kg CO_2-eq.	-4.19e+01	2.46e-04	0.00e+00	9.25e-05	4.10e+01	4.14e-01	-2.92e-01
GWP-luluc	kg CO_2-eq.	4.00e-02	2.54e-03	0.00e+00	6.55e-05	5.07e-04	3.48e-06	-1.59e-02
ODP	kg CFC-11-Eq	1.73e-07	9.80e-08	0.00e+00	3.84e-09	7.57e-09	2.57e-10	-2.70e-07
AP	mol H+-Eq	1.15e-01	9.76e-02	0.00e+00	4.35e-04	4.06e-03	5.93e-05	-5.64e-02
EP-freshwater	kg P-Eq	1.06e-02	2.79e-04	0.00e+00	1.30e-05	2.43e-04	2.97e-06	-1.07e-02
EP-marine	kg N-Eq	3.29e-02	2.44e-02	0.00e+00	1.14e-04	1.77e-03	1.12e-04	-1.45e-02
EP-terrestrial	mol N-Eq	3.41e-01	2.70e-01	0.00e+00	1.23e-03	1.67e-02	2.50e-04	-1.48e-01
POCP	kg NMVOC-Eq	9.96e-02	7.91e-02	0.00e+00	7.56e-04	4.57e-03	9.71e-05	-5.65e-02
ADPE	kg Sb-Eq	3.03e-04	1.03e-05	0.00e+00	5.27e-07	4.32e-06	1.52e-08	-1.50e-05
ADPF	MJ, net calorific value	3.55e+02	7.65e+01	0.00e+00	2.77e+00	7.06e+00	2.04e-01	-2.55e+02
WDP	m^3 world Eq deprived	8.60e+00	2.97e-01	0.00e+00	1.39e-02	5.64e-01	8.07e-04	-4.47e+00

GWP-total: Global Warming Potential - total , **GWP-fossil**: Global warming potential - fossil , **GWP-biogenic**: Global Warming Potential - biogenic , **GWP-luluc**: Global Warming Potential - luluc , **ODP**: Depletion potential of the stratospheric ozone layer , **AP**: Acidification potential, Accumulated Exceedance , **EP-freshwater**: Eutrophication potential - freshwater , **EP-marine**: Eutrophication potential - marine , **EP-terrestrial**: Eutrophication potential - terrestrial , **POCP**: Photochemical Ozone Creation Potential , **ADPE**: Abiotic depletion potential - non-fossil resources , **ADPF**: Abiotic depletion potential - fossil resources , **WDP**: Water (user) deprivation potential

Additional indicators

Indicator	Unit	A1-A3	A4	C1	C2	C3	C4	D
PM	disease incidence	1.87e-06	3.41e-07	0.00e+00	1.80e-08	5.12e-08	1.37e-09	-1.01e-06
IRP	kBq U235-Eq	1.25e+00	6.40e-02	0.00e+00	3.36e-03	8.02e-02	1.85e-04	-1.16e+00
ETP-fw	CTUe	1.31e+03	1.56e+01	0.00e+00	6.56e-01	5.43e+00	3.36e-02	-1.06e+03
HTP-c	CTUh	4.55e-06	2.95e-08	0.00e+00	1.18e-09	7.23e-09	4.25e-11	-3.98e-06
HTP-nc	CTUh	3.67e-07	3.51e-08	0.00e+00	1.82e-09	3.41e-08	7.89e-11	-1.52e-07
SQP	dimensionless	1.41e+02	4.16e+01	0.00e+00	2.78e+00	9.14e+00	4.33e-01	-1.53e+02

PM: Potential incidence of disease due to PM 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 - cancer effects , **HTP-nc**: Potential Comparative Toxic Unit for humans - non-cancer effects , **SQP**: Potential Soil quality index . **IRP**: 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. **ETP-fw**, **HTP-c**, **HTP-nc** and **SQP**: 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 experienced with these indicators.

Use of resources

Indicator	Unit	A1-A3	A4	C1	C2	C3	C4	D
PERE	MJ	4.12e+01	8.91e-01	0.00e+00	4.39e-02	8.14e-01	3.06e-03	5.87e+01
PERM	MJ	2.13e+02	0.00e+00	0.00e+00	0.00e+00	-2.11e+02	0.00e+00	-1.33e+02
PERT	MJ	2.54e+02	8.91e-01	0.00e+00	4.39e-02	-2.10e+02	3.06e-03	-7.38e+01
PENRE	MJ	3.52e+02	7.65e+01	0.00e+00	2.77e+00	7.06e+00	2.04e-01	-2.54e+02
PENRM	MJ	3.44e+01	0.00e+00	0.00e+00	0.00e+00	-3.34e+01	0.00e+00	-1.51e+00
PENRT	MJ	3.86e+02	7.65e+01	0.00e+00	2.77e+00	-2.63e+01	2.04e-01	-2.55e+02
SM	kg	1.19e+01	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	2.03e+01
RSF	MJ	9.22e+01	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
NRSF	MJ	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
FW	m^3	2.13e-01	8.12e-03	0.00e+00	4.02e-04	5.66e-03	-1.11e-03	-1.06e-01

PERE: Primary energy resources - renewable: use as energy carrier , **PERM**: Primary energy resources - renewable: used as raw materials , **PERT**: Primary energy resources - renewable: total , **PENRE**: Primary energy resources - non-renewable: use as energy carrier , **PENRM**: Primary energy resources - non-renewable: used as raw materials , **PENRT**: Primary energy resources - non-renewable: total , **SM**: Use of secondary material , **RSF**: Renewable secondary fuels , **NRSF**: Non-renewable secondary fuels , **FW**: Net use of fresh water

Waste flows

Indicator	Unit	A1-A3	A4	C1	C2	C3	C4	D
HWD	kg	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
NHWD	kg	7.14e-01	0.00e+00	0.00e+00	0.00e+00	1.41e+01	1.18e+00	0.00e+00
RWD	kg	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00

HWD: Hazardous waste disposed , **NHWD**: Non hazardous waste disposed , **RWD**: Radioactive waste disposed

Output flows

Indicator	Unit	A1-A3	A4	C1	C2	C3	C4	D
CRU	kg	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
MFR	kg	4.76e-01	0.00e+00	0.00e+00	0.00e+00	2.03e+01	0.00e+00	0.00e+00
MER	kg	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00	0.00e+00
EEE	MJ	6.94e-01	0.00e+00	0.00e+00	0.00e+00	2.46e+01	0.00e+00	0.00e+00
EET	MJ	1.42e+00	0.00e+00	0.00e+00	0.00e+00	4.95e+01	0.00e+00	0.00e+00

CRU: Components for re-use , **MFR**: Materials for recycling , **MER**: Materials for energy recovery , **EEE**: Exported electrical energy , **EET**: Exported thermal energy

Name	Value	Unit
Biogenic carbon content in product	1.13e+01	kg C
Biogenic carbon content in accompanying packaging	1.97e-02	kg C

Additional requirements

Greenhouse gas emissions from the use of electricity in the manufacturing phase

Electricity consumption in the manufacturing phase is composed from the sources below. This EPD follows the market-based approach.

Approach	Electricity	Quantity [kWh]	Emission Factor [kg CO_2e/kWh]
market-based	ecoinvent: electricity production, photovoltaic, 570kWp open ground installation, multi-Si (DE)	0.02	0.10
market-based	ecoinvent: electricity production, wind, >3MW turbine, onshore (DE)	0.07	0.03
market-based	ecoinvent: electricity production, hydro, pumped storage (DE)	0.38	0.72
market-based	ecoinvent: electricity production, deep geothermal (DE)	0.07	0.07
market-based	ecoinvent: electricity production, wood, future (GLO)	0.04	0.05
market-based	ecoinvent: electricity production, hard coal (DE)	0.10	1.06
(location-based)	(ecoinvent: market for electricity, low voltage (DE))	(0.68)	(0.43)

Rows marked with () are provided for reference and not used in the assessment.

Dangerous substances

The product contains no hazardous substances given by the REACH Candidate List or the Norwegian Priority List.

Additional environmental information

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

Indicator	Unit	A1-A3	A4	C1	C2	C3	C4	D
GWP-IOBC	kg CO_2-eq.	2.89e+01	5.68e+00	0.00e+00	1.84e-01	6.95e-01	2.48e-02	-2.11e+01

GWP-IOBC: Global Warming Potential - Instantaneous oxidation of biogenic carbon

Bibliography

CEN/TR 15941:2010	Sustainability of construction works - Environmental product declarations - Methodology for selection and use of generic data
EN 15804:2012+A2:2019	Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
EN 15942:2022-04	Sustainability of construction works - Environmental product declarations - Communication format business-to-business
ISO 14025:2011-10	Environmental labels and declarations - Type III environmental declarations - Principles and procedures
ISO 14040:2021-02	Environmental management - Life cycle assessment - Principles and framework
ISO 14044:2021-02	Environmental management - Life cycle assessment - Requirements and guidelines
EF 3.1	Environmental Footprint (EF) Life Cycle Impact Assessment method - Characterisation Factors version 3.1, European Commission, Joint Research Centre (JRC)
ecoinvent 3.10	ecoinvent, Zurich, Switzerland, database version 3.10
NPCR Part A:2021	Construction products and services, Version 2.0. Issue date: 24.03.2021; validity extended to 24.03.2026.

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