Environmental Product Declaration

In accordance with ISO14025:2006 and EN15804:2012+A2:2019

TRILITE® RMS Standard Boards
TRILITE® RMS Sanded Boards
TRILITE® RMS PREMIUM boards

EPD-Global

Owner of the declaration:
TRIPLE LITE INCORPORATED

Product name:
TRILITE® RMS Standard Boards,
TRILITE® RMS Sanded Boards,
TRILITE® RMS PREMIUM boards

Declared unit:
1 m2

Product category /PCR:
CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR PART A: Construction products and services Version: 2.0 (2021)

Program holder and publisher:
The Norwegian EPD foundation

Declaration number:
NEPD-14970-15760

Registration number:
NEPD-14970-15760

Issue date:
25.02.2026

Valid to:
25.02.2031

General information

Product:
TRILITE® RMS Standard Boards,

TRILITE® RMS Sanded Boards,

TRILITE® RMS PREMIUM boards.

Program operator:
EPD-Global
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Declaration number:
NEPD-14970-15760

This declaration is based on Product Category Rules:
CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR PART A: Construction products and services Version: 2.0 (2021)

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

Declared unit:
1 m2

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

internal ☐ external ☑

Sign

Joanna Zhuravlova
Independent verifier approved by EPD-Global

Owner of the declaration:
TRIPLE LITE INCORPORATED
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Manufacturer:
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No. 99 Gaoxin Avenue, Dujiang Economic Development Zone, Wuhu city, Anhui province,
China

Place of production:
Wuhu City, China

Issue date:
25.02.2026

Valid to:
25.02.2031

Year of study:
Jan 2025- Dec 2025

Comparability:
EPD of construction products may not be able to compare if they do not comply with EN 15804 and are seen in a building context.

The EPD has been worked out by:
Sarah Curpen, EPD Clarity s.r.o.

Approved

Manager of EPD-Global

Product

Product description:

TRILITE® RMS – reinforced magnesium silicate board is a multipurpose, non-combustible, Euroclass A1 fire-resistant building material. It is moisture resistant, unaffected by termites, and immune to fungus, mildew, and mould. The board offers superior insulation properties, excellent dimensional stability, and high performance across a wide range of interior and exterior applications.

The board is produced primarily from magnesium oxide powder. Magnesium is abundant on Earth, ranking as the eighth most abundant natural mineral and the third most common element in seawater. Thanks to this plentiful availability, global magnesium reserves are sufficient to last for centuries. Magnesium oxide is widely used in numerous industrial applications, including the manufacture of refractories, crucibles, cement, heating elements, animal feed, vitamins and supplements, pharmaceuticals, and fire retardants. In the construction industry, it is used to produce boards for a variety of building applications and is particularly valued for its excellent fire resistance, making it ideal for fire protection solutions.

Our boards are 100% free from asbestos, formaldehyde, ammonia, silica, and benzene. They are non-toxic, non-carcinogenic, free from VOCs and TVOCs, contain no heavy metals, and are classified as M1 low-emission building materials. TRILITE® RMS contributes to healthier indoor air quality and environments. The boards are also free from chloride ions and therefore do not corrode metal structures.

This is an EPD based on representative product (TRILITE® RMS Standard Boards) as it has the highest production volume. The variation of GWP-fossil between TRILITE® RMS Sanded Boards and TRILITE® RMS PREMIUM boards is less than 10%. The variation between premium boards and standard boards for indicators GWP-biogenic and ODP exceeds 10%. This is due to their different composition. Premium boards contain less wood fibre and more perlite. Therefore, it is expected that the GWP-biogenic of premium boards would be lower and ODP higher due to the higher ODP impact value of the production of perlite.

Product specification:

Materials	Value	%
Magnesium oxide	3.18	33
Magnesium sulfate	1.79	18
Glass fibre Mesh	1.17	12
Non-woven cloth	0.63	6.5
Perlite	0.49	5
Wood fibre	0.49	5
Water	1.97	20
TOTAL	9.72	100

Packaging	Value	%
Wood pallet	0.018	0.2
Packaging film	0.004	0.004
Cardboard	0.001	0.01
Packaging PET	0.002	0.03
TOTAL Packaging	**0.022**	**100**

Technical data:

Technical Properties Table

Property	**Typical Value/ Description**	**Standard**
Bending Strength	12.1 -17.1 N/mm2	BS EN 310
Compressive Strength	8.3 N/mm2	BS EN 12390-3
Thermal Conductivity	0.21 W/mK	EN 12664
Water Vapour Permeability	0.142 kg/m2	BS EN 15148
VOC, TVOC emission	0.012 mg/(m2 h)	EN ISO 16516 +A1/2, ISO 16000-6
Density	1080 kg /m3	-
Sound insulation	12 mm Rw=48 dB	BS EN ISO 717-1
	9mm Rw=45 dB	BS EN ISO 717-1

Market:

Global

Reference service life, product:

60 years

Reference service life, building:

Typically, 60 years is assumed for buildings

LCA: Calculation rules

Declared unit:

1 m2 covering surface of installed building board, including waste treatment at end-of-life.

Cut-off criteria:

The study does not exclude any modules or processes which are stated mandatory in the EN 15804:2012+A2:2019 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, 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. Additives are not included in this study as their mass is less than 5% of total inputs. The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

Allocation:

As a general allocation rule the production of 1 m2 of product was chosen. Allocation of materials, electricity, and waste is based on the mass of products produced within one year in the production plant. This LCA study is conducted in accordance with all methodological considerations, such as performance, system boundaries, data quality, allocation procedures, and decision rules to evaluate inputs and outputs. All estimations and assumptions are given below. The study was performed according to CEN Standard EN 15804:2012+A2:2019 serves as core PCR. The allocations in the Ecoinvent 3.11 datasets used in this study follow the Ecoinvent system model 'Allocation, cut-off, EN15804'. This EPD covers magnesium board products sanded and not sanded. The results are based on a weighted average approach, reflecting percentage production of sanded and non-sanded boards.

Basis of allocation: Allocation is avoided wherever possible. As no multi-output or co-products exist within the system boundaries, no allocation within plants is required. The weighted average is applied consistently across all life cycle stages.

- Mass-based approach: Allocation between manufacturers is carried out according to annual production mass sourced by the manufacturer, ensuring transparency and compliance with EN 15804 and ISO 14044.

- Downstream processes: Transport, storage, and handling managed by the manufacturer are treated uniformly for all product types.

- No co-products or multi-input processes: Since none are present, no co-product or economic allocation has been applied.

- Mass and energy balance: Input and output balances are preserved, avoiding double counting or omissions.

Data quality:

Specific data for the product composition are provided by the manufacturers. The data represents the production of the declared product and was collected for EPD development in the year of study. Background data is based on EPDs according to EN 15804 and different LCA databases. The data quality assessment was carried out in accordance with EN 15941.

Materials	Source	Data Quality	Year
Magnesium Oxide	Ecoinvent 3.11	Very Good	2024
Magnesium sulfate	Ecoinvent 3.11	Good	2024
Glass fibre Mesh	Ecoinvent 3.11	Good	2024
Non-woven cloth	Ecoinvent 3.11	Very Good	2024
Perlite	Ecoinvent 3.11	Good	2024
Wood fibre	Ecoinvent 3.11	Good	2024
Water	Ecoinvent 3.11	Good	2024

The summary of data quality of the raw materials in A1 is presented in the table below.

Geographical rating	Technology Rating	Time-related rating
1.9 Very Good	1.8 Very Good	1.5 Very Good

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

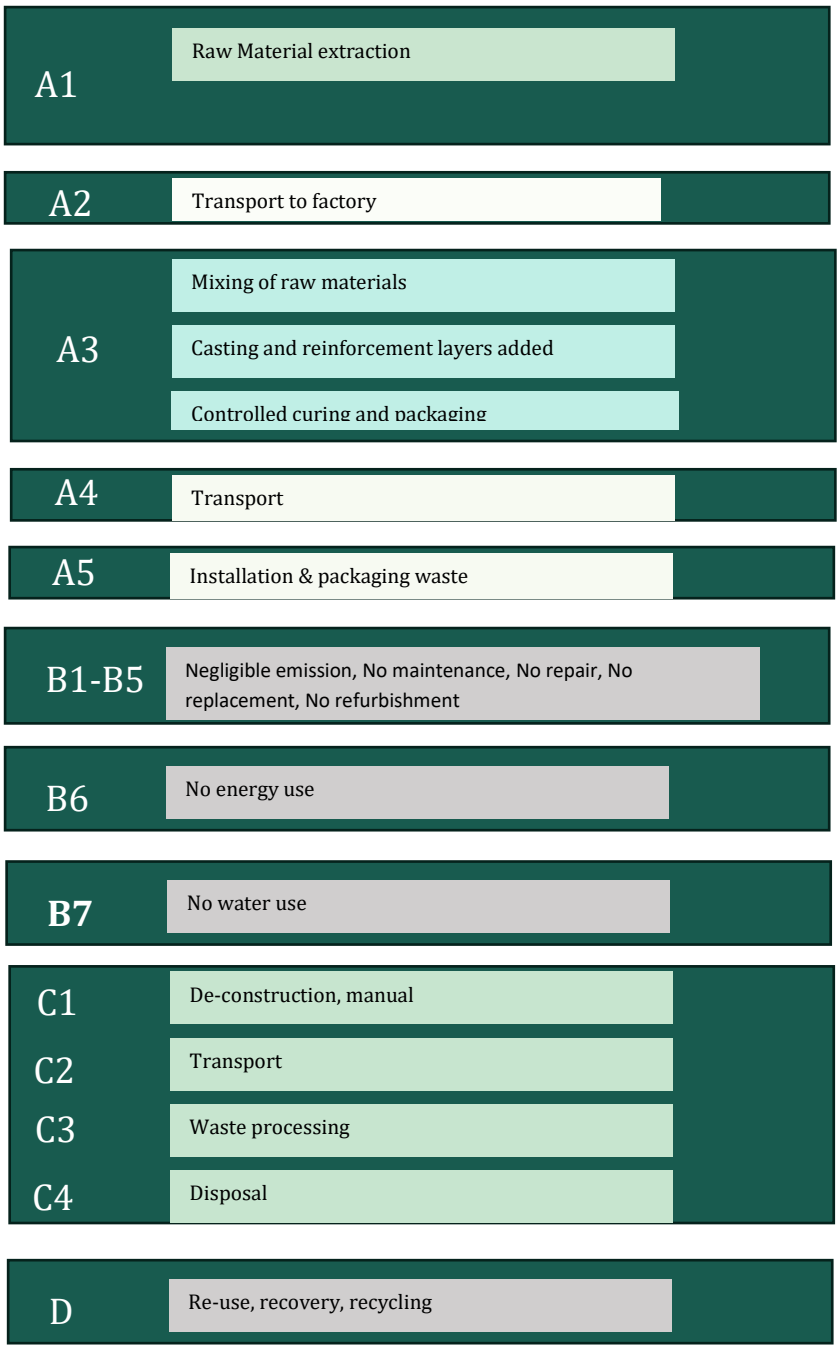
Product stage			Assembly stage		Use stage							End of life stage				Benefits & loads beyond system boundary
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste 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	X	X	X	X	X	X	X	X	X	X	X	X

The scope of the EPD is cradle to gate with modules A4, C1-C4 and module D with optional modules A5, B1-B7

System boundary:

Modules A1 to A3 related to the in-house production process are included in this analysis. Modules A1 to A3 cover the production of magnesium boards, transportation of raw materials and packaging, and Module A4 accounts for the transportation of the products to the customers. The sanding process is a minor finishing operation accounting for approximately 1–3% of total manufacturing energy. Due to its negligible influence on overall environmental impacts, sanded and unsanded boards are modelled using the same production inventory. Given the enduring nature of magnesium boards, the end-of-life stages (Modules C1–C4 and D) are modeled using generic assumptions and based on published EPDs. In this scenario, it is estimated that 20% of the boards is recycled, while the remaining 80% is sent to landfill. The product is manufactured in China, sold worldwide. The end of life of the product is also worldwide.

Manufacturing process: Magnesium boards are manufactured bypreparation of an aqueous brine solution by dissolving magnesium or sulfate in water. This solution is then mixed with magnesium oxide powder to initiate a chemical reaction that forms magnesium oxysulfate cement. Water is essential at this stage as it enables the reaction, ensures proper mixing, and gives the slurry the required workability for casting. Fillers and additives are incorporated into the wet mixture to improve mechanical strength, fire resistance, and dimensional stability. The resulting slurry is poured into moulds or onto a moving forming line where reinforcing mesh is embedded between layers. The boards are then levelled and left to cure. During curing, the cementitious reaction continues. Curing can occur under controlled ambient conditions or in curing chambers to ensure consistent quality and strength development. After sufficient hardening, the boards are demoulded, cut to size, and transferred to a drying stage where remaining moisture is reduced to achieve the required product performance. The boards are finally sanded, finished, and packaged.


A1
Raw Material extraction
A2
Transport to factory
A3
Mixing of raw materials
Casting and reinforcement layers added
Controlled curing and packaging
A4
Transport
A5
Installation & packaging waste
B1-B5
Negligible emission, No maintenance, No repair, No replacement, No refurbishment
B6
No energy use
B7
No water use
C1
De-construction, manual
C2
Transport
C3
Waste processing
C4
Disposal
D
Re-use, recovery, recycling

LCA: Scenarios and additional technical information

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

The scenarios included are currently in use and are representative for one of the most likely scenario alternatives.

A weighted average distance of 6097 km is considered for the distance from manufacturer to customer. This is based on sales records. A distance of 146 km is considered from the manufacturer to the departing port as well as a distance of 300 km from the arrival port to the customer site.

Transport from production place to assembly/user (A4)

Transport from production place to assembly/user (A4)	Capacity utilisation (incl. return) [%]	Distance [km]	Fuel/Energy consumption	Unit	Value [L/ton]
Sea transport	70	6097	0.018	tkm	0.0018
Truck (from manufacturer to departing port)	50	146	0.023	L/tkm	0.48
Truck (from arrival port to customer)	50	300	0.023	L/tkm	0.48

Assembly (A5)

	Unit	Value
Waste, packaging, wood	kg	0.018
Waste, packaging, plastic film	kg	0.00040
Waste, packaging, PET	kg	0.0024
Waste, packaging, paper	kg	0.0012

Use (B1)

	Unit	Value
VOC emissions	kg	0

Maintenance (B2)/Repair (B3)

	Unit	Value
Water consumption	m^3	0
Electricity consumption	kWh	0

Replacement (B4)/Refurbishment(B5)

	Unit	Value
Water consumption	m^3	0
Electricity consumption	kWh	0

Operational energy (B6) and water consumption (B7)

	Unit	Value
Water consumption	m^3	0
Electricity consumption	kWh	0

End of Life (C1, C3, C4)

	Unit	Value
Hazardous waste disposed	kg	-
Collected as mixed construction waste	kg	9.7
Reuse	kg	-
Recycling	kg	1.9
Energy recovery	kg	-
To landfill	kg	7.8

Transport to waste processing (C2)

Transport from production place to assembly/user (C2)	Capacity utilisation (incl. return) [%]	Distance [km]	Fuel/Energy consumption	Unit	Value
Truck	50	100	0.023	L/tkm	0.48

Magnesium boards, in the context of a building, is typically removed manually. The recycling and landfilling rates are based on the typical end-of-life scenarios for magnesium board products published in previously verified EPDs. As a result, it is collected as mixed waste. After sorting, 20% of the material is recycled, while the remaining 80% is landfilled as mixed waste.

A distance of 100 km is considered from construction site to disposal facility and landfill.

Benefits and loads beyond the system boundaries (D)

The benefits and loads associated with recycling 20% of the product is considered.

Benefits and loads beyond the system boundaries (D)	Unit	Value
Substitution of primary concrete additive with net recycled magnesium board	kg	-1.9
Loads from recycling magnesium board	kg	1.9
Paper Packaging		
Carbon dioxide released	kg	0.0011
Substitution of primary paper by recycled paper	kg	0.00083
Electricity benefit exported due to incineration of paper	MJ	0.00018
Energy benefit exported due to incineration of paper	MJ	0.00025
Loads from recycling paper	kg	0.00083
Packaging film		
Electricity benefit exported due to incineration of plastic	MJ	0.00017
Energy benefit exported due to incineration of plastic	MJ	0.00023
Loads from recycling plastic	kg	0.000020
Benefits from primary plastic by recycled plastic	kg	-0.000020
Packaging PET		
Electricity benefit exported due to incineration of plastic	MJ	0.00027
Energy benefit exported due to incineration of plastic	MJ	0.00037
Loads from recycling plastic	kg	0.000032
Benefits from primary plastic substitution by recycled plastic	kg	-0.000032
Wood pallet		
Carbon dioxide released	kg	0.00060
Diesel fuel consumption load from recycling (grinding)	MJ	0.0000084
Benefits from primary wood substitution by recycled wood	kg	-0.00042

LCA: Results

The result tables are given using a location-based approach for foreground system (A3)
More information about transparent reporting of electricity in the additional requirements section.

The LCA results are presented below per declared unit (1 m^2). Estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

Core environmental impact indicators – EF 3.1

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP - total	kg CO2 eq	1.3E+01	1.5E+00	3.5E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.7E-01	1.7E-01	8.5E-01	1.8E-02
GWP - fossil	kg CO2 eq	1.4E+01	1.5E+00	2.2E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.7E-01	7.0E-03	2.2E-01	1.8E-02
GWP - biogenic	kg CO2 eq	-8.2E-01	0.0E+00	3.3E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.6E-01	6.3E-01	0.0E+00
GWP - luluc	kg CO2 eq	8.7E-03	7.2E-04	8.0E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.7E-05	7.2E-07	3.3E-04	2.1E-05
ODP	kg CFC11 eq	2.6E-06	2.0E-08	1.5E-11	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.4E-09	1.0E-10	4.2E-09	1.4E-10
AP	molc H+ eq	6.0E-02	2.0E-02	4.2E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	5.8E-04	6.3E-05	7.6E-02	1.1E-04
EP-freshwater	kg P eq	4.8E-03	1.1E-04	2.2E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.3E-05	2.3E-07	2.2E-05	5.6E-06
EP -marine	kg N eq	1.2E-02	4.9E-03	7.7E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.9E-04	2.9E-05	5.8E-04	2.6E-05
EP - terrestrial	molc N eq	1.2E-01	5.5E-02	1.6E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.0E-03	3.2E-04	5.4E-03	3.1E-04
POCP	kg NMVOC eq	4.4E-02	1.6E-02	6.2E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.1E-04	9.6E-05	6.4E-03	8.7E-05
ADP-M&M[2]	kg Sb-Eq	4.5E-04	3.5E-06	2.7E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	5.6E-07	2.5E-09	5.5E-07	1.1E-07
ADP-fossil[2]	MJ	1.5E+02	1.9E+01	1.4E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.4E+00	9.2E-02	3.5E+00	2.2E-01
WDP[2]	m^3	2.1E+00	8.5E-02	1.2E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.1E-02	2.4E-04	9.1E-02	2.9E-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 Norwegian requirements" for indicator given as PO4 eq.* ***EP-marine:*** *Eutrophication potential, fraction of nutrients reaching freshwater end compartment;* ***EP-terrestrial:*** *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 consumption*

Reading example: 9.0 E-03 = $9.0*10^{-3} = 9.0*\frac{1}{10}*\frac{1}{10}*\frac{1}{10}=0.009$ 9.0 E+03 = $9.0*10^{3} = 9.0*10*10*10=9000$

Additional environmental impact indicators

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PM	Disease incidence	1.6E-06	8.1E-08	9.9E-11	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.4E-08	1.6E-08	1.4E-07	1.7E-09
IRP[1]	kBq U235 eq.	4.2E-01	1.3E-02	2.2E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.0E-03	3.9E-05	4.7E-03	1.8E-03
ETP-fw[2]	CTUe	5.9E+02	1.4E+01	6.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.8E-01	5.2E-02	7.4E+03	5.4E-01
HTP-c[2]	CTUh	1.5E-08	2.7E-10	2.9E-13	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.9E-11	7.2E-13	1.2E-10	5.0E-12
HTP-nc[2]	CTUh	3.9E-07	9.3E-09	1.6E-11	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.5E-09	1.1E-11	8.4E-09	1.5E-10
SQP[2]	Dimensionless	4.6E+01	7.7E+00	1.9E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.6E+00	6.1E-03	4.2E+00	1.0E-01

***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*

[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.

[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-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	8.5E+00	2.2E-01	-3.2E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.3E-02	5.7E-04	6.3E-02	9.3E-03
PERM	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.7E-02
PERT	MJ	8.5E+00	2.2E-01	-3.2E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.3E-02	5.7E-04	6.3E-02	2.7E-02
PENRE	MJ	1.3E+02	1.9E+01	-9.7E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.4E+00	9.2E-02	3.5E+00	2.2E-01
PENRM	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
PENRT	MJ	1.3E+02	1.9E+01	-9.7E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.4E+00	9.2E-02	3.5E+00	2.2E-01
SM	kg	2.9E-02	8.9E-03	7.5E-06	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.1E-03	3.8E-05	1.3E-03	9.1E-04
RSF	MJ	9.5E-03	7.7E-05	9.5E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.4E-05	9.9E-08	1.7E-05	-7.6E-06
NRSF	MJ	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
FW	m^3	5.2E-02	2.2E-03	-6.6E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.3E-04	5.9E-06	-6.1E-03	6.5E-04

***PERE** Renewable primary energy resources used as energy carrier; **PERM** Renewable primary energy resources used as raw materials; **PERT** Total use of renewable primary energy resources; **PENRE** Nonrenewable primary energy resources used as energy carrier; **PENRM** Nonrenewable primary energy resources used as materials; **PENRT** 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;* ***FW*** *Use of net fresh water.*

End of life – Waste

Parameter	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	kg	6.8E-01	3.7E-02	4.4E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.2E-03	1.0E-04	1.2E-02	1.8E-03
NHWD	kg	3.2E+01	6.6E-01	9.2E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.9E-02	1.5E-03	8.2E+00	3.2E-02
RWD	kg	1.0E-04	3.2E-06	5.6E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.9E-07	9.6E-09	1.2E-06	4.3E-07

HWD *Hazardous waste disposed;* ***NHWD*** *Non-hazardous waste disposed;* ***RWD*** *Radioactive waste disposed.*

End of life – output flow

Parameter	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
CRU	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
MFR	kg	2.0E-01	0.0E+00	4.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.9E+00	0.0E+00	0.0E+00
MER	kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
EEE	MJ	0.0E+00	0.0E+00	5.5E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
EET	MJ	0.0E+00	0.0E+00	1.2E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

CRU *Components for reuse;* ***MFR*** *Materials for recycling;* ***MER*** *Materials for energy recovery;* ***EEE*** *Exported electric energy;* ***EET*** *Exported thermal energy.*

Information describing the biogenic carbon content at the factory gate

Biogenic carbon content	Unit	Value
Biogenic carbon content in product	kg C	0.25
Biogenic carbon content in the accompanying packaging	kg C	0.009

Note: 1 kg biogenic carbon is equivalent to 44/12 (approx. 3.67) kg CO_2

Additional requirements

Transparent reporting of energy

The EPD provides in the main result tables environmental impact categories based on a location based. The information below is provided so EPD users are able to understand the effect of these methodological choices.

The table below shows calculation of GWP-total for energy resources used in the manufacturing process (A3) for each approach.

Energy source	Data source	Unit	GWP_{total} [kg CO_2 -eq/kWh]	SUM [kg CO_2 -eq]
Location based approach				
Electricity, high voltage, productionl mix (Reference product: electricity, high voltage) - China	Ecoinvent 3.11	kWh	0.75	0.062
Electricity production, photovoltaic, 3kWp slanted-roof installation, single-Si, panel, mounted (Reference product: electricity, low voltage)	Ecoinvent 3.11	kWh	0.089	0.0043

The residual mix is calculated using the the actual physical grid mix in the country. The national grid data is reported to ENTSO-E and modelled in ecoinvent. Additional environmental impact indicators required 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.

Parameter	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-IOBC	kg CO_2-eq.	1.4E+01	1.5E+00	4.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.7E-01	7.0E-03	2.2E-01	1.8E-02

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

Indoor environment

The declared product has been VOC emission tested and has been M1 classified.

Carbon footprint

While a carbon footprint analysis has not been conducted for the product separately, the results section does include an evaluation of Global Warming Potential (GWP) with such an analysis. The GWP total results presented in this EPD document represents the carbon footprint of the product studied

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Annex A

The declared environmental results presented in this EPD refer to a magnesium board with a nominal thickness of 9 mm. As the manufacturing process, material composition, and production technology remain the same for boards of different thicknesses, the environmental impacts are primarily driven by the quantity of material used per square metre of product.

For magnesium boards of other thicknesses, the environmental impacts can therefore be linearly extrapolated based on mass per unit area. This means that the results for thicker or thinner boards may be estimated by applying a proportional scaling factor relative to the 9 mm reference board, assuming identical raw materials, formulation, density, and production conditions. This approach is considered valid because no additional processing steps or changes in material composition occur with varying thickness; only the amount of material per square metre changes. Consequently, the life cycle impacts (GWP-fossil, GWP total) per square metre are directly proportional to the board thickness.

Product (thickness)	Weight [kg/m^2]	GWP-fossil [kg CO_2eq./m^2]	GWP-total [kg CO_2eq./m^2]
3 mm	3.24	4.3	4.3
4 mm	4.32	5.8	5.8
6 mm	6.48	8.7	8.7
8 mm	8.64	11.6	11.6
9mm (declared)	9.72	13.0	13.0
10 mm	10.8	14.4	14.4
12 mm	12.96	17.3	17.3
15 mm	16.2	21.7	21.7
18 mm	19.4	26.0	26.0
20 mm	21.6	28.9	28.9
25 mm	27.0	36.1	36.1
30 mm	32.4	43.3	43.3