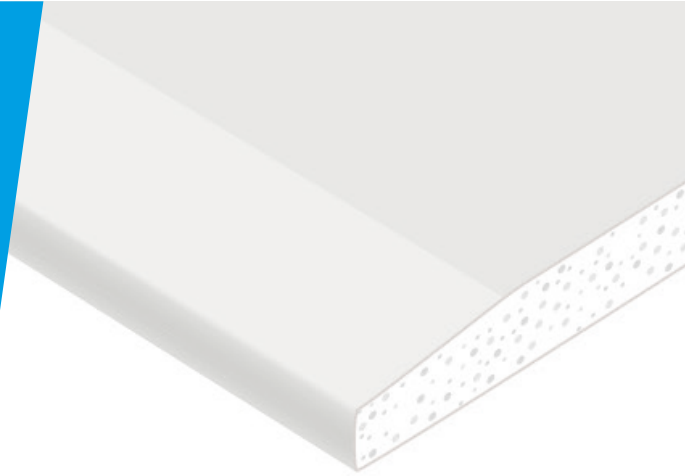


KNAUF

Knauf Solid Board



NEPD-12969-14202
Valid until 04.11.2030

Build on us.

Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Knauf Solid Board



KNAUF
SOLID BOARD



KNAUF

EPD-Global

Owner of the declaration:

Knauf Sverige GmbH

Product:

Knauf Solid Board

Declared unit:

1 m²

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR

NPCR 010:2022 Part B for building boards

Program operator:

EPD-Global

Declaration number:

NEPD-12969-14202

Issue date:

04.11.2025

Valid to:

04.11.2030

EPD software:

LCAno EPD generator ID: 189871

General information

Product

Knauf Solid Board

Program operator:

EPD-Global
Post Box 5250 Majorstuen, 0303 Oslo, Norway
Phone: +47 977 22 020
web: www.epd-global.com

Declaration number:

NEPD-12969-14202

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 010:2022 Part B for building boards

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 information, life cycle assessment data and evidences.

Declared unit:

1 m2 Knauf Solid Board

Declared unit with option:

A1-A3, A4, A5, C1, C2, C3, C4, D

Functional unit:

1 m2 Knauf Solid Board including packaging

General information on verification of EPD from EPD tools:

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 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 of EPD tool:

Independent third party 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:

Elisabet Amat, GREENIZE projects

(no signature required)

Owner of the declaration:

Knauf Sverige GmbH
Contact person: Camilla Lidgren
Phone: 044 – 28 78 00
e-mail: info-se@knauf.com

Manufacturer:

Knauf Sverige GmbH

Place of production:

Knauf Sverige GmbH
Fyrgatan
29680 Åhus, Sweden

Management system:

ISO 9001:2015, ISO 14001:2015 och ISO 45001:2018
Certifikatsnummer: CKMA-14909/2024

Organisation no:

516402-4431

Issue date:

04.11.2025

Valid to:

04.11.2030

Year of study:

2024

Comparability:

EPD of construction products may not be comparable if they not comply with EN 15804 and seen in a building context.

Development and verification of EPD:

The declaration is created using EPD tool lca.tools ver EPD2022.03, developed by LCA.no. The EPD tool is integrated in the company's management system, and has been approved by EPD-Global. NEPDT96 Knauf

Developer of EPD: Camilla Lidgren

Reviewer of company-specific input data and EPD: Sara Ervasti

Approved:



Håkon Hauan, CEO EPD-Global

Product

Product description:

Knauf Solid Board is a construction product used as a plasterboard and primarily for drywall construction of interior walls. Applicable for simple room-separating structures as well as fire-rated and sound insulated constructions. The plasterboard is made of industrial gypsum, with additions of recycled gypsum, cardboard and glass fiber. The product is recyclable and is available in various lengths.

Product specification

Weight nominal: 11,4 kg/m²

Thickness: 12,5 mm

Width: 900 mm

Length: See www.knauf.se

Knauf Solid Board is available in different lengths, but with the same thickness. Therefore, there are no variation of the product per square meter and this EPD covers all available lengths.

Materials	kg	%
Additives	0.00153	0.01367
Adhesive	0.0024	0.02145
Auxiliary materials	0.0021	0.01877
Chemical	0.02942	0.2629
Emissions and waste streams	0.0167	0.1492
Gypsum	7.66	68.47
Recycled cardboard	0.3956	3.54
Recycled gypsum	1.76	15.73
Water	1.32	11.80
Total	11.19	100.00

Packaging	kg	%
Packaging - Plastic	0.00	2.92
Packaging - Polyethylene	0.00	4.35
Packaging - Wood	0.06	92.74
Total incl. packaging	11.26	100.00

Technical data:

Standard SS-EN 520:2004+A1:2009

Gypsum plasterboard Type I

Reaction to fire: A2-s1,d0

Further information on www.knauf.se

Market:

Knauf Solid Board is manufactured and sold in Sweden. It can also be distributed to, and sold in, other countries.

Reference service life, product

Equal to RSL building: 50 years

Reference service life, building or construction works

50 years

LCA: Calculation rules

Declared unit:

1 m² Knauf Solid Board

Cut-off criteria:

All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) are not included when specific information are missing. These cut-off criteria do not apply for hazardous materials and substances.

Allocation:

The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis. Polluter-Pays (PP) allocation is used. This implies that credit for e.g. recycling or energy recover is given to those who use recycled resources rather than those who produce recyclable resources. Guidelines ISO 14040/14044

Data quality:

Specific data for the product composition are provided by the manufacturer. The data represent the production of the declared product and were 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 of the raw materials in A1 is presented in the table below.

Materials	Source	Data quality	Year
Additives	ecoinvent 3.10.1	Database	2023
Additives	ecoinvent 3.6	Database	2019
Adhesive	ecoinvent 3.6	Database	2019
Auxiliary materials	ecoinvent 3.6	Database	2019
Chemical	ecoinvent 3.11	Database	2024
Chemical	ecoinvent 3.6	Database	2019
Emissions and waste streams	LCA.no	Database	2024
Gypsum	Supplier	Specific	2019
Packaging - Plastic	ecoinvent 3.6	Database	2019
Packaging - Polyethylene	ecoinvent 3.10.1	Database	2023
Packaging - Wood	ecoinvent 3.6	Database	2019
Recycled cardboard	Modified ecoinvent 3.11	Database	2024
Recycled gypsum	LCA.no	Database	2024
Water	ecoinvent 3.6	Database	2019

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

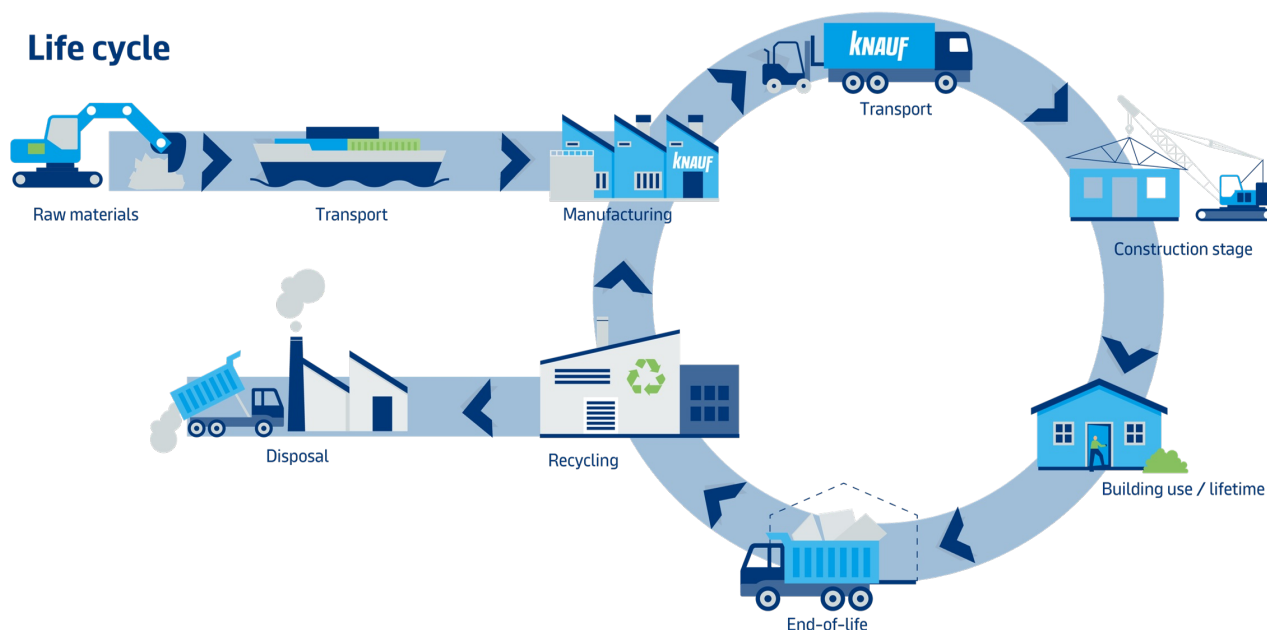
Product stage			Construction installation stage		Use stage								End of life stage				Beyond the system boundaries
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use		De-construction demolition	Transport	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	MNR	MNR	MNR	MNR	MNR	MNR	MNR		X	X	X	X	X

System boundary:

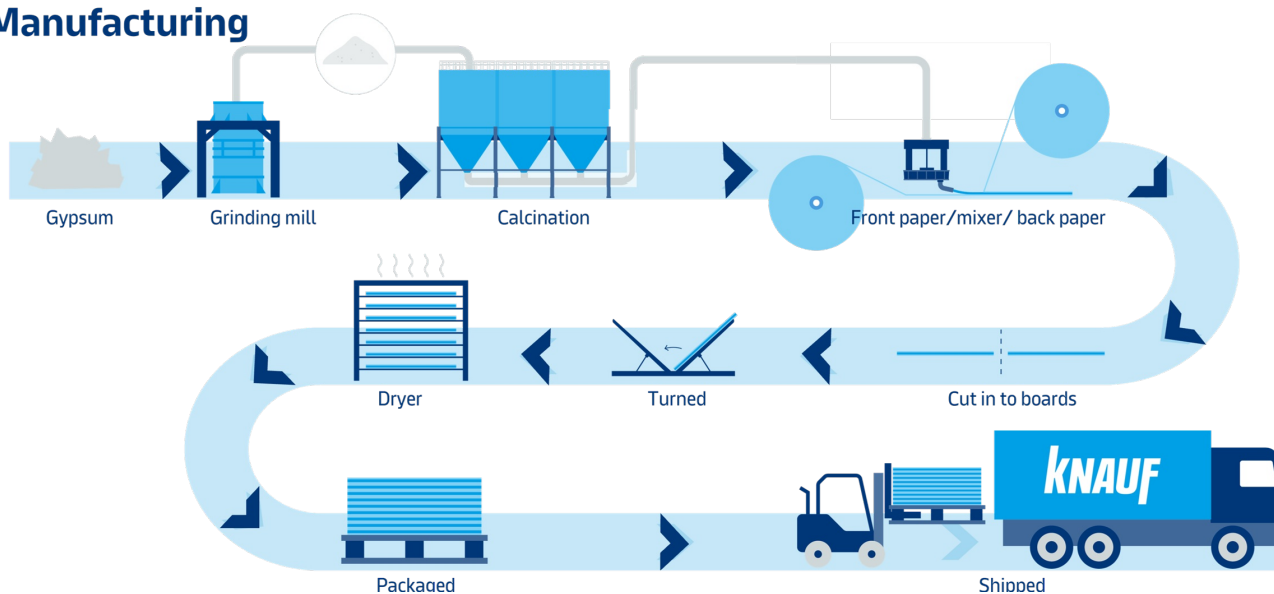
Cradle-to-grave; A1-A3, A4-A5, B1-B7, C1-C4 and D.

Modules B1-B7 are not relevant as the product need neither maintenance, repair, replacement, refurbishment nor use energy or water.

Life cycle



Manufacturing



Additional technical information:

First, the gypsum is milled and calcinated to create stucco. The stucco is then mixed with water and additives to form a gypsum slurry poured on cardboard sheets. This is then covered by a second cardboard sheet and cut to board lengths. Finally, the boards are transported on a hoop to the oven, where they are dried. The boards are then packaged and stored on site in Åhus before distributed with truck to the Swedish market for construction.

LCA: Scenarios and additional technical information












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

Module A5 do not include all materials and activities connected to the installation. Currently, no primary data is available on installation, which is why no information is available here, for example on the fuel, electricity, etc. required, and this is not taken into account in the calculation. The installation phase therefore only includes the environmental impact of disposal of the product packaging.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, over 32 tonnes, HVO, EURO 6 (kgkm) - Europe	53.3 %	300.00	0.023	l/tkm	6.90
Assembly (A5)	Unit	Value			
Waste, packaging, wood beam, softwood, raw, dried, u=20%, average treatment (kg)	kg	0.064			
Waste, packaging, plastic film (LDPE), to average treatment (kg)	kg	0.002012			
Waste, packaging, plastic, mixture, to average treatment (kg)	kg	0.003			
De-construction demolition (C1)	Unit	Value			
Paper liner sent to waste treatment (kg)	kg	0.3956			
Primary gypsum sent to waste treatment (kg)	kg	9.03			
Recycled gypsum sent to waste treatment (kg)	kg	1.76			
Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, over 32 tonnes, EURO 6 (kgkm) - Europe	53.3 %	149.00	0.023	l/tkm	3.43
Waste processing (C3)	Unit	Value			
Waste treatment per kg Paperboard, incineration with fly ash extraction - C3 (kg)	kg	0.1978			
Sorting of waste gypsum plasterboard at sorting plant (kg)	kg	11.19			
Gypsum to recycling	kg	5.40			
Disposal (C4)	Unit	Value			
Landfilling of ashes from incineration of Paperboard, process per kg ashes and residues - C4 (kg)	kg	0.003534			
Waste, municipal solid waste, to landfill (kg) - C4	kg	0.1978			
Landfilling of gypsum	kg	5.40			
Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of electricity (MJ)	MJ	0.2063			
Substitution of thermal energy, district heating (MJ)	MJ	3.12			
Substitution of natural Gypsum (kg)	kg	4.52			

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

Environmental impact										
Indicator		Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
	GWP-total	kg CO ₂ -eq	2.04E+00	8.28E-02	1.04E-01	0.00E+00	1.46E-01	6.23E-01	2.05E-01	-2.87E-02
	GWP-fossil	kg CO ₂ -eq	2.76E+00	8.26E-02	6.08E-03	0.00E+00	1.46E-01	1.67E-02	5.47E-02	-2.80E-02
	GWP-biogenic	kg CO ₂ -eq	-7.33E-01	1.23E-04	9.78E-02	0.00E+00	6.26E-05	6.06E-01	1.50E-01	-5.00E-05
	GWP-luluc	kg CO ₂ -eq	8.60E-03	9.39E-05	4.88E-07	0.00E+00	4.45E-05	1.24E-05	1.18E-05	-6.27E-04
	ODP	kg CFC11 -eq	4.98E-05	2.03E-08	2.87E-10	0.00E+00	3.52E-08	2.80E-09	1.74E-08	-1.32E-03
	AP	mol H+ -eq	1.40E-02	5.98E-04	1.51E-05	0.00E+00	4.70E-04	1.50E-04	4.21E-04	-3.90E-04
	EP-FreshWater	kg P -eq	2.81E-04	2.55E-06	3.43E-08	0.00E+00	1.16E-06	5.78E-07	1.50E-06	-1.73E-06
	EP-Marine	kg N -eq	3.98E-03	1.71E-04	7.39E-06	0.00E+00	1.03E-04	5.64E-05	3.96E-04	-1.33E-04
	EP-Terrestrial	mol N -eq	3.85E-02	1.90E-03	6.94E-05	0.00E+00	1.15E-03	6.15E-04	1.70E-03	-1.71E-03
	POCP	kg NMVOC -eq	1.15E-02	7.25E-04	1.80E-05	0.00E+00	4.51E-04	1.61E-04	5.27E-04	-3.95E-04
	ADP-minerals&metals ¹	kg Sb-eq	8.91E-06	5.61E-06	2.92E-08	0.00E+00	2.60E-06	1.34E-07	4.20E-07	-2.68E-07
	ADP-fossil ¹	MJ	3.96E+01	1.86E+00	2.23E-02	0.00E+00	2.37E+00	3.26E-01	1.27E+00	-3.95E-01
	WDP ¹	m ³	3.14E+01	3.74E+00	3.38E-02	0.00E+00	1.82E+00	2.75E+01	8.93E+00	-5.91E+00







GWP-total = Global Warming Potential total; GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

"Reading example: 9.0 E-03 = 9.0*10⁻³ = 0.009"

1. 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

Remarks to environmental impacts


Additional environmental impact indicators

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
 PM	Disease incidence	4.60E-06	2.36E-08	1.81E-10	0.00E+00	1.34E-08	4.66E-08	8.74E-09	-1.34E-08
 IRP ²	kgBq U235 -eq	3.32E-01	6.53E-03	7.96E-05	0.00E+00	1.04E-02	4.42E-03	5.94E-03	-2.51E-03
 ETP-fw ¹	CTUe	2.34E+01	2.37E+00	3.26E-02	0.00E+00	1.74E+00	6.07E-01	1.25E+00	-1.14E+01
 HTP-c ¹	CTUh	8.92E-10	0.00E+00	3.00E-12	0.00E+00	0.00E+00	2.30E-11	3.40E-11	-3.10E-11
 HTP-nc ¹	CTUh	3.02E-08	3.38E-09	1.34E-10	0.00E+00	1.68E-09	7.38E-10	5.75E-10	-1.48E-09
 SQP ¹	dimensionless	2.79E+01	5.10E+00	1.32E-02	0.00E+00	2.72E+00	1.51E-01	4.87E+00	-2.19E+00

PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Potential Soil Quality Index (dimensionless)




"Reading example: 9.0 E-03 = 9.0*10⁻³ = 0.009"

1. 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
2. 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.

Resource use										
Indicator		Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
	PERE	MJ	6.66E+00	6.33E-02	4.85E-04	0.00E+00	2.99E-02	1.29E-01	5.06E-02	-1.61E+00
	PERM	MJ	5.99E+00	0.00E+00	-8.95E-01	0.00E+00	0.00E+00	-5.10E+00	0.00E+00	0.00E+00
	PERT	MJ	1.27E+01	6.33E-02	-8.95E-01	0.00E+00	2.99E-02	-4.97E+00	5.06E-02	-1.61E+00
	PENRE	MJ	3.93E+01	1.86E+00	2.23E-02	0.00E+00	2.37E+00	3.26E-01	1.27E+00	-3.95E-01
	PENRM	MJ	3.23E-01	0.00E+00	-2.16E-01	0.00E+00	0.00E+00	-1.10E-01	0.00E+00	0.00E+00
	PENRT	MJ	3.96E+01	1.86E+00	-1.94E-01	0.00E+00	2.37E+00	2.15E-01	1.27E+00	-3.95E-01
	SM	kg	1.09E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	RSF	MJ	4.05E-02	2.00E-03	1.26E-05	0.00E+00	1.04E-03	2.67E-03	1.05E-03	-2.80E-04
	NRSF	MJ	6.47E-02	6.41E-03	1.39E-04	0.00E+00	3.50E-03	0.00E+00	2.72E-03	-9.48E-02
	FW	m ³	2.14E-02	6.71E-04	1.99E-05	0.00E+00	2.70E-04	6.62E-04	1.57E-03	-1.99E-03






PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9.0 E-03 = 9.0*10⁻³ = 0.009"

End of life - Waste										
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D	
 HWD	kg	2.32E-02	2.40E-04	5.30E-05	0.00E+00	1.30E-04	0.00E+00	2.93E-03	-2.33E-05	
 NHWD	kg	3.29E-01	4.19E-01	7.00E-02	0.00E+00	2.06E-01	0.00E+00	5.60E+00	-6.55E-03	
 RWD	kg	2.58E-04	8.68E-06	2.20E-10	0.00E+00	1.62E-05	0.00E+00	3.99E-07	-2.33E-06	

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

"Reading example: 9.0 E-03 = 9.0×10^{-3} = 0.009"

End of life - Output flow										
Indicator	Unit	A1-A3	A4	A5	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	0.00E+00	
 MFR	kg	6.67E-02	0.00E+00	1.97E-03	0.00E+00	0.00E+00	5.40E+00	0.00E+00	0.00E+00	
 MER	kg	1.16E-02	0.00E+00	6.40E-02	0.00E+00	0.00E+00	1.14E+01	0.00E+00	0.00E+00	
 EEE	MJ	9.47E-03	0.00E+00	4.45E-02	0.00E+00	0.00E+00	1.62E-01	0.00E+00	0.00E+00	
 EET	MJ	1.43E-01	0.00E+00	6.73E-01	0.00E+00	0.00E+00	2.45E+00	0.00E+00	0.00E+00	

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

"Reading example: 9.0 E-03 = 9.0×10^{-3} = 0.009"

Biogenic Carbon Content		
Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	1.71E-01
Biogenic carbon content in accompanying packaging	kg C	2.67E-02

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂

Additional requirements

Greenhouse gas emissions 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).

Electricity mix	Source	Amount	Unit
Electricity, share of 64% nuclear and 36% hydro, for 2024 (kWh) - SE	ecoinvent 3.10.1	15.50	g CO ₂ -eq/kWh

Dangerous substances

The product contains no substances given by the REACH Candidate list.

Indoor environment

Emissions to indoor air are tested by Eurofins and according to EN 16516 and ISO 16000-9.

The test results of Knauf Solid Board are in compliance with the emission requirements of M1.




Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products									
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWPIOBC	kg CO ₂ -eq	2.78E+00	8.28E-02	6.09E-03	0.00E+00	1.46E-01	1.68E-02	2.05E-01	-2.84E-02

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

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 EN 15804:2012+A2:2019 Environmental product declaration - Core rules for the product category of construction products.
 ISO 21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products.
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 NPCR Part A: Construction products and services. Ver. 2.0. April 2021, EPD-Norge.
 NPCR 010 Part B for Building Boards. Ver. 4.0, March 2022, EPD-Norge.

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