General information

Product

weber V+ Fine plaster (weber V+ Hienotasoite)

Program operator:

Post Box 5250 Majorstuen, 0303 Oslo, Norway
The Norwegian EPD Foundation
Phone: +47 23 08 80 00
web: post@epd-norge.no

Declaration number:

NEPD-3886-2842-EN

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
NPCR 009:2018 Part B for Technical - Chemical products in the building and construction industry

Statement of liability:

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

Declared unit:

1 kg weber V+ Fine plaster (weber V+ Hienotasoite)

Declared unit with option:

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

Functional Unit

Not relevant

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. Individualthird party verification of each EPD is not required when the EPD tool is i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPDNorway, and iii)the proccess is reviewed annualy. See Appendix G of EPD-Norway'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 EPDNorway's procedures and guidelines for verification and approval of EPD tools.

Third party verifier:

Anne Rønning, Norsus AS
(no signature required)

Owner of the declaration:

Saint-Gobain Finland Oy
Contact person: Anne Kaiser
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e-mail: anne.kaiser@saint-gobain.com

Manufacturer:

Saint-Gobain Finland Oy
P.O. Box 70 , Fi-00381 Helsinki
Finland

Place of production:

Saint-Gobain Weber Parainen
Parainen Premix plant, Kalkkitehtaantie , 21600 Parainen
Finland

Management system:

ISO 9001:2015, ISO 14001:2015 and OHSAS 18001:2007

Organisation no:

FI09515553

Issue date: 10.11.2022

Valid to: 10.11.2027

Year of study:

2021

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 Norway.

Developer of EPD:

Päivi Pesu

Reviewer of company-specific input data and EPD:

Helene Løvkvist Andersen

Approved:

Håkon Hauan
Managing Director of EPD-Norway

Product

Product description:

weber V+ Fine plaster is cement-bonded moisture-resistant base and surface levelling plaster for levelling interior walls and ceilings. It can be used in levelling of wall and ceiling surfaces in dry and humid spaces. Suitable substrates are stone material surfaces such as concrete and e.g. surfaces levelled with weber TT+ Filling plaster or weber 410 Thin render. The product gives smooth painting surface and a wear-resistance surface. It can be applied by hand or by spraying. Delivered in 20 kg bags. GTIN 06415910020903.

Product specification

The composition of the product is described in the following table:

Materials	
Binder	20-40%
Aggregate	50-80%
Additives	1-3%
Packaging, PE	0,005 kg
Packaging, pallet	0,021 kg

Technical data:

weber V+ Fine plaster is produced according to the requirements of EN 998-1:2010 (General purpose rendering/plastering mortar (GP)).

Material consumption: approx. 1.2 kg/m²/1 mm layer
Recommended layer thickness: Partial levelling: maximum 5 mm, complete levelling: 1-3 mm/time.
Recommended water content: approx. 5.6-6.4 l/20 kg.

More information: www.fi.weber/sisapinnat/hienot-seinatasoitteet/weber-v-hienotasoite

Market:

Nordic and Baltic countries

Reference service life, product

The reference service life of the product is similar to the service life of the building.

Reference service life, building

60 years

LCA: Calculation rules

Declared unit:

1 kg weber V+ Fine plaster (weber V+ Hienotasoite)

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. 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.

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 3.6	Database	2019
Aggregate	ecoinvent 3.6	Database	2019
Filler	ecoinvent 3.6	Database	2019
Packaging	ecoinvent 3.6	Database	2019
Additives	LCA.no	Database	2021
Cement	Supplier	EPD	2021

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

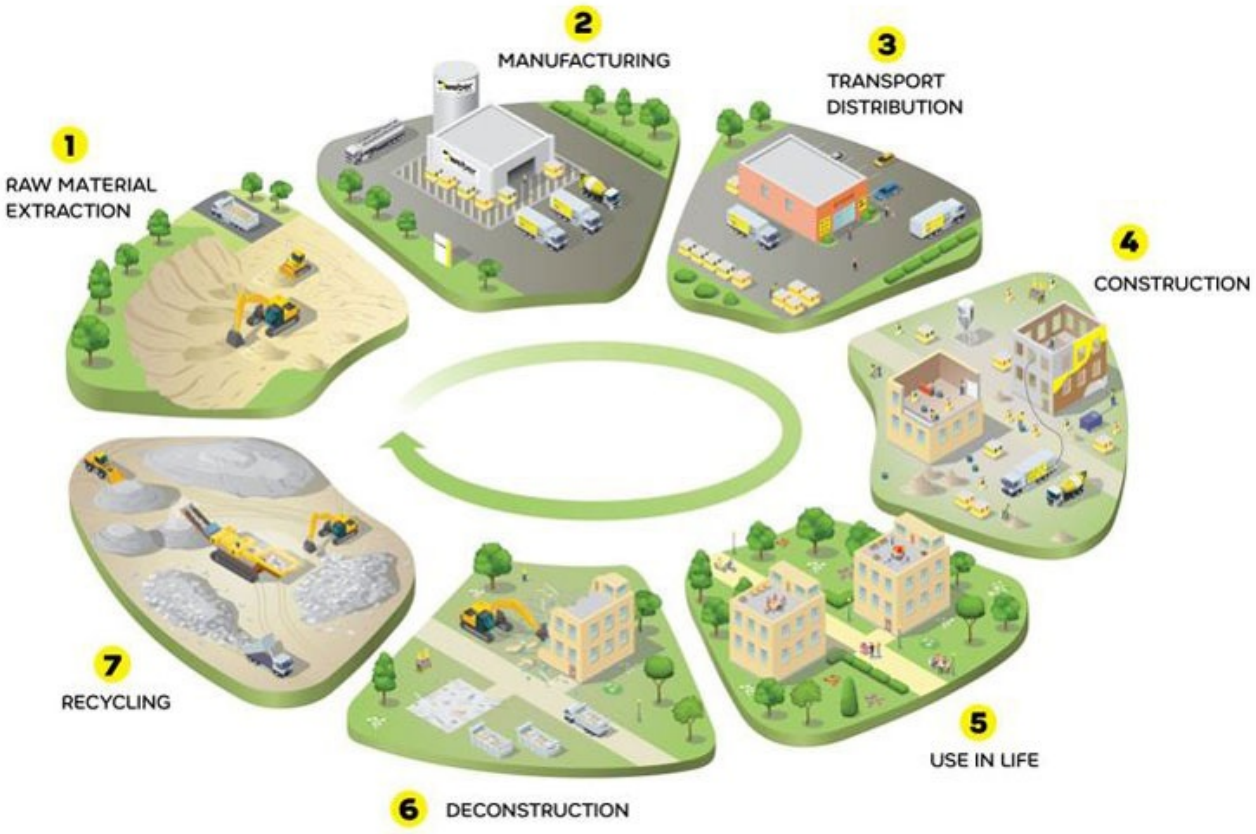
Product stage			Construction installation stage		Use stage							End of life stage				Beyond the system boundaries
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport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

System boundary:

All processes from raw materials extraction to product transportation to the building site, assembly as well as end of life stage and phases beyond the system boundary (A1-A5, C1-C4, D) are included in the analysis.

The basic production process comprises of mixing raw materials together. Ready mixed product is then packed into bags for delivery. At assembly phase, water is added according to the instructions and it is mixed. Stage B is not considered. Default waste treatment scenario from NPCR Part B Technical - Chemical products for building and construction industry is assumed: When building is demolished at the end-of-life 10% of the product is collected for material recycling, and remaining 90% is disposed to landfill.

System boundaries (cradle-to-grave with D module) are illustrated in the picture below.



Additional technical information:

The LCA calculation has been made taking into account the fact that during the manufacturing process 100% renewable electricity is used. This 100% renewable electricity bought is evidenced by Guarantee of Origin certificates (GOs) from LOS, valid for the study year (2021).

LCA: Scenarios and additional technical information

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

The results of stage A4 (transportation of product) in the table of this EPD refer to transportation in Finland (average distance 2021). This product may also be delivered to the countries in the table "Additional A4 information". In order to adapt the impact of transportation to these countries, A4 figures from this EPD shall be multiplied by the multiplication factors below.
At assembly stage, it is assumed that mixing is done by electric mixer. Electricity mix used is that of Finland. Material loss is considered to be 0.
At end of life stage, it is assumed that 10% of demolition waste is collected and recycled, and 90% is disposed to landfill. Transport distance to processing is estimated to be 30 km.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonn)
Truck, over 32 tonnes, EURO 5 (km)	53,3 %	206	0,023	l/tkm	4,74

Additional A4 information	Unit/Range	Value			
Tullinge, Sweden (truck 60 km / ferry 324 km)	Multiplication factor GWP/A4	2,20			
Lillestrøm, Norway (truck 547 km / ferry 324 km)	Multiplication factor GWP/A4	4,57			
Karlslunde, Denmark (truck 709 km / ferry 324 km)	Multiplication factor GWP/A4	5,13			
Tallinn, Estonia (truck 183 km / ferry 88 km)	Multiplication factor GWP/A4	1,41			
Riga, Latvia (truck 491 km / ferry 88 km)	Multiplication factor GWP/A4	2,90			
Kaunas, Lithuania (truck 760 km / ferry 88 km)	Multiplication factor GWP/A4	4,21			

Assembly (A5)	Unit	Value			
Waste, plastic packaging, mixture, to average treatment (kg)	kg	0,00			
Waste, wood packaging, average treatment (kg)	kg	0,02			
Water, tap water (L)	kg/DU	0,32			
Electricity, Finland (kWh)	kWh/DU	0,00			

End of Life (C1, C3, C4)	Unit	Value			
Demolition of building per kg product (kg)	kg/DU	1,00			

Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonn)
Truck, over 32 tonnes, EURO 5 (km)	53,3 %	30	0,023	l/tkm	0,69

Waste processing (C3)	Unit	Value			
Waste treatment of product after demolition (kg)	kg/DU	0,10			

Disposal (C4)	Unit	Value			
Disposal of product in landfill (kg)	kg/DU	0,90			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of primary aggregates with crushed recycled inert products (kg)	kg/DU	0,10			

LCA: Results

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

Environmental impact										
	Parameter	**Unit**	A1-A3	A4	A5	C1	C2	C3	C4	D
	GWP-total	kg CO_2 -eq	2,29E-01	1,87E-02	1,60E-03	4,00E-03	2,73E-03	7,20E-05	7,39E-03	-2,34E-04
	GWP-fossil	kg CO_2 -eq	2,62E-01	1,87E-02	1,58E-03	4,00E-03	2,73E-03	7,10E-05	7,38E-03	-2,29E-04
	GWP-biogenic	kg CO_2 -eq	-3,33E-02	7,68E-06	6,34E-06	7,50E-07	1,12E-06	6,13E-07	8,62E-06	-4,57E-06
	GWP-luluc	kg CO_2 -eq	9,10E-05	5,47E-06	6,15E-06	3,15E-07	7,96E-07	9,83E-08	1,81E-06	-1,55E-07
	ODP	kg CFC11 -eq	1,19E-08	4,33E-09	1,96E-10	8,64E-10	6,30E-10	1,40E-11	2,80E-09	-4,20E-11
	AP	mol H+ -eq	7,58E-04	7,87E-05	7,98E-06	4,19E-05	1,15E-05	5,75E-07	6,57E-05	-2,06E-06
	EP-FreshWater	kg P -eq	9,03E-06	1,43E-07	3,96E-08	1,46E-08	2,08E-08	4,49E-09	8,37E-08	-6,09E-09
	EP-Marine	kg N -eq	9,05E-05	2,37E-05	2,85E-06	1,85E-05	3,45E-06	1,68E-07	2,44E-05	-7,15E-07
	EP-Terrestial	mol N eq	2,61E-03	2,62E-04	2,84E-05	2,00E-04	3,81E-05	1,94E-06	2,69E-04	-8,40E-06
	POCP	kg NMVOC -eq	7,14E-04	8,41E-05	7,47E-06	5,57E-05	1,23E-05	5,20E-07	7,71E-05	-2,22E-06
	ADP-minerals&metals[1]	Kg Sb-eq	9,71E-07	3,20E-07	1,85E-08	6,14E-09	4,66E-08	9,01E-10	6,65E-08	-2,03E-08
	ADP-fossil[1]	MJ	2,26E+00	2,91E-01	2,61E-02	5,51E-02	4,24E-02	2,21E-03	2,03E-01	-3,87E-03
	WDP[1]	m^3	-2,97E-01	2,23E-01	9,38E-01	1,17E-02	3,25E-02	2,43E-01	1,25E+00	-1,82E-01

GWP total Global Warming Potential total; GWP fossil Global Warming Potential fossil fuels ; GWP biogenic Global Warming Potential biogenic; GWP luluc Global W Potential land use change; ODP Ozone Depletion; AP Acidification; EP freshwater Eutrophication aquatic freshwater; EP marine Eutrophication aquatic marine; EP terrestrial Eutrophication terrestrial ;POCP Photochemical zone formation; ADPE Abiotic Depletion Potential minerals and metals; ADPf Abiotic Depletion Potential fossil fuels; WDP Water Depletion Potential

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

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
3. Eutrophication aquatic freshwater shall be in kg P-eq., there is a typo in EN 15804:2012+A2:2019 regarding this unit. Eutrophication calculated as PO4-eq is presented on page 11

Remarks to environmental impacts

Unused product powder is classified as hazardous waste. Product hardens after adding water in 5 to 6 hours and can then be disposed as mixed construction waste.

Additional environmental impact indicators

Parameter		Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
	PM	Disease incidence	7,88E-09	1,65E-09	8,00E-11	5,07E-09	2,40E-10	9,00E-12	1,40E-09	-4,40E-11
	IRP[2]	kgBq U235 eq.	9,50E+00	1,27E-03	4,38E-04	2,40E-04	1,85E-04	3,70E-05	9,27E-04	-3,55E-05
	ETP-fw[1]	CTUe	2,58E+00	2,13E-01	2,24E-02	3,01E-02	3,10E-02	1,56E-03	1,11E-01	-3,99E-03
	HTP-c[1]	CTUh	3,42E-10	0,00E+00	1,00E-12	1,00E-12	0,00E+00	0,00E+00	5,00E-12	0,00E+00
	HTP-nc[1]	CTUh	7,57E-09	2,06E-10	5,50E-11	2,80E-11	3,00E-11	1,00E-12	8,00E-11	-5,00E-12
	SQP[1]	Pt	5,15E+00	3,34E-01	1,67E-02	6,69E-03	4,86E-02	1,25E-03	7,82E-01	8,79E-03

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 Soil Quality (dimensionless)

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

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

Parameter		Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
	PERE	MJ	8,09E-01	3,67E-03	5,41E-03	3,00E-04	5,34E-04	1,14E-03	7,27E-03	-9,07E-04
	PERM	MJ	2,91E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	PERT	MJ	1,10E+00	3,67E-03	5,41E-03	3,00E-04	5,34E-04	1,14E-03	7,27E-03	-9,07E-04
	PENRE	MJ	1,84E+00	2,91E-01	2,67E-02	5,51E-02	4,24E-02	2,21E-03	2,03E-01	-4,09E-03
	PENRM	MJ	6,65E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
	PENRT	MJ	2,51E+00	2,91E-01	2,67E-02	5,51E-02	4,24E-02	2,21E-03	2,03E-01	-4,09E-03
	SM	kg	1,84E-02	0,00E+00	6,64E-06	2,70E-05	0,00E+00	1,90E-06	8,81E-05	-7,83E-06
	RSF	MJ	7,94E-02	1,28E-04	8,35E-05	7,33E-06	1,87E-05	2,30E-05	1,51E-04	-1,85E-05
	NRSF	MJ	1,16E-01	4,30E-04	2,54E-04	-1,10E-04	6,26E-05	-1,42E-06	3,26E-04	-1,91E-05
	FW	m^3	1,43E-03	3,32E-05	3,43E-04	2,83E-06	4,83E-06	3,78E-06	2,50E-04	-1,42E-04

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 Use of net fresh water

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

End of life - Waste

Parameter		Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
	HWD	kg	2,36E-03	1,59E-05	2,19E-04	1,62E-06	2,32E-06	2,20E-07	1,43E-05	-9,34E-07
	NHWD	kg	1,33E-02	2,53E-02	2,81E-03	6,52E-05	3,69E-03	6,96E-06	9,01E-01	-2,83E-05
	RWD	kg	3,06E-06	1,99E-06	2,38E-07	3,82E-07	2,90E-07	2,33E-08	1,32E-06	-3,07E-08

HWD Hazardous waste disposed; NHWDNon-hazardous waste disposed; RWD Radioactive waste disposed;

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

End of life - Output flow

Parameter		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	2,07E-03	0,00E+00	2,47E-03	2,66E-05	0,00E+00	1,00E-01	8,03E-05	-1,83E-07
	MER	kg	1,31E-04	0,00E+00	6,33E-07	8,23E-08	0,00E+00	2,30E-07	1,51E-06	-6,86E-06
	EEE	MJ	6,96E-03	0,00E+00	1,46E-02	2,82E-07	0,00E+00	3,95E-07	1,25E-04	-1,66E-06
	EET	MJ	1,20E-01	0,00E+00	2,21E-01	4,27E-06	0,00E+00	5,97E-06	1,89E-03	-2,50E-05

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

"Reading example: 9,0 E-03 = 9,0*10-3 = 0,009"
*INA Indicator Not Assessed

Biogenic Carbon Content

Parameter	Unit	At the factory gate
Biogenic carbon content in product	kg C	0,00E+00
Biogenic carbon content in accompanying packaging	kg C	8,68E-03

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

Additional Norwegian 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	Data source	Amount	Unit
Renewable electricity Saint-Gobain, based on 100% hydro power, with Guarantee of Origin from LOS 2021 (kWh)	ecoinvent 3.6	4,26	g CO2-eq/kWh

Dangerous substances

The product contains no substances given by the REACH Candidate list or the Norwegian priority list. The product is classified as hazardous waste (Avfallsforskriften, Annex III), see table.

Name	CASNo	Amount
Portland cement	65997-15-1	10-25%

Indoor environment

The product has M1 indoor air emission classification granted by The Finnish Building Information Foundation RTS (https://cer.rts.fi/en/m1-emission-class-for-building-material/).

Additional Environmental Information

Environmental impact indicators EN 15804+A1 and NPCR Part A v2.0									
Parameter	**Unit**	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP	kg CO_2 -eq	2,66E-01	1,85E-02	1,68E-03	3,95E-03	2,70E-03	7,00E-05	7,23E-03	-2,45E-04
ODP	kg CFC11 -eq	1,23E-08	3,50E-09	2,12E-10	6,86E-10	5,10E-10	1,70E-11	2,25E-09	-3,80E-11
POCP	kg C_2H_4-eq	3,86E-05	2,42E-06	2,88E-07	6,09E-07	3,52E-07	1,56E-08	1,70E-06	-5,11E-08
AP	kg SO_2 -eq	6,01E-04	3,74E-05	5,42E-06	5,84E-06	5,44E-06	2,63E-07	2,01E-05	-5,99E-07
EP	kg PO_4^{3-} -eq	8,40E-05	4,08E-06	1,29E-06	6,50E-07	5,94E-07	3,48E-08	2,37E-06	-7,02E-08
ADPM	kg Sb -eq	1,38E-05	3,20E-07	1,85E-08	6,14E-09	4,66E-08	9,01E-10	6,65E-08	-2,03E-08
ADPE	MJ	2,69E+00	2,86E-01	2,60E-02	5,47E-02	4,16E-02	8,47E-04	1,95E-01	-3,87E-03
GWPIOBC	kg CO_2 -eq	7,35E-02	1,87E-02	8,14E-04	5,37E+00	2,73E-03	0,00E+00	0,00E+00	-2,45E-04

GWP Global warming potential; ODP Depletion potential of the stratospheric ozone layer; POCP Formation potential of tropospheric photochemical oxidants; AP Acidification potential of land and water; EP Eutrophication potential; ADPM Abiotic depletion potential for non fossil resources; ADPE Abiotic depletion potential for fossil resources; GWP-IOBC/GHG Global warming potential calculated according to the principle of instantanious oxidation (except emissions and uptake of biogenic carbon)

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 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.
ecoinvent v3, Allocation, cut-off by classification, Swiss Centre of Life Cycle Inventories.
Iversen et al., (2021) eEPD v2021.09 Background information for EPD generator tool system verification, LCA.no Report number: 07.21
Iversen et al., (2019) EPD generator for Saint-Gobain Weber and Scanspac - Background information and LCA data, LCA.no report number 05.18
Iversen et al., (2020) EPD generator for Saint-Gobain Weber Nordics and Scanspac Background information for customer application, and LCA data – Supplementary report for modules A5, C and D, LCA.no report number 04.20
NPCR Part A: Construction products and services. Ver. 2.0, 24.03.2021 EPD Norway.
NPCR 009 Part B for technical-chemical products. Ver. 2.0 October 2021, EPD-Norge.

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