ENVIRONMENTAL PRODUCT DECLARATION

ISO 14025 ISO 21930 EN 15804

epd-norge.no
The Norwegian EPD Foundation

Owner of the declaration	Saint-Gobain Byggevarer as
Program holder	The Norwegian EPD Foundation
Declaration number	NEPD00289E
Issue date	01.12.2014
Valid to	01.12.2019

weber.base KC 35/65, dry mortar

Product

Saint-Gobain Byggevarer as

Owner of the declaration

General information

Product:
weber.base KC 35/65, dry mortar

Program holder:
The Norwegian EPD Foundation
P.O.Box 5250 Majorstuen
0303 Oslo
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Declaration number: NEPD00289E

This declaration is based on Product Category Rules:
EN 15804:2012+A1:2013 serve as core PCR
Req. on the EPD for Mineral factory-made mortar

Declared unit:
1 kg weber.base KC 35/65, dry mortar

Declared unit with option:
A1,A2,A3,A4

Functional unit:

The EPD has been worked out by:
The declaration has been developed using EPDGen-version 1.0, Approval: NEPDT02
Company specific data are collected and registry by:
Line Holaker
Company specific data are audited by:
Stian Gravnås

Verification:
Independent verification of data, other environmental information and EPD has been carried out in accordance with ISO14025, 8.1.3 and 8.1.4

externally

Senior Researcher Anne Rønning
(Independent verifier approved by EPD-Norway)

Owner of the declaration:
Saint-Gobain Byggevarer as
Contact person: Line Holaker
Phone: +47 22 88 77 00
e-mail: info(at)weber-norge.no

Manufacturer:
Saint-Gobain Byggevarer as

Place of production:
Weber Leca Ski, Norway

Management system:
ISO 9001, ISO 14001

Org. No:
940 198 178

Issue date: 01.12.2014

Valid to: 01.12.2019

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

Year of study:
2014

Approved:

Dagfinn Malnes
Managing Director of EPD-Norway

Declared unit:
1 kg weber.base KC 35/65, dry mortar

Key environmental indicators	Unit	Cradle to gate A1 - A3	Transport A4
Global warming	kg CO2 eqv	0,171672	0,00369
Energy use	MJ	1,33597249	0,0482830
Dangerous substances		*	*

*The product contains no substances from the REACH Candidate list or the Norwegian priority list

Product

Product description:
weber.base KC 35/65 is a dry mortar based on cement and lime. When mixed with water, it is a ready to use mortar for indoor and outdoor use. weber.base KC 35/65 can be used as render on substrates of concrete, bricks, Leca® and other previously rendered surfaces or mineral based substances. The mortar can be applied as a thin slurry, applied as a base coat on Leca®, bricks and detached Leca-wall, and applied as a final coat on concrete, bricks and Leca®. weber.base KC 35/65 can also be used as repair mortar on lime-cement based rendered surfaces and as masonry mortar.

Technical data:
Mortar category: CS III (EN 998-1). Composition: KC 35/65/520. For further information see www.weber-norge.no

Reference service life:
As for the building

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

Materials	Percent
Cement	10,16
Aggregate	78,52
Filler	8,98
Packaging	2,34
Chemicals	0,00

Market:
Norway

LCA: Calculation rules

Declared unit:
1 kg weber.base KC 35/65, dry mortar

Cut-off criteria:
All major raw materials and all the essential energy is included. The production process for raw materials and energy flows that are included with very small amounts (<1%) are not included.

Allocation:
The allocation is made in accordance with provisions in EN 15804. Incoming energy and water, and in-house waste from the production, is allocated equally among all products through mass allocation. Effects of primary production of recycled materials are 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:

Materials	Data quality	Source	Year
Cement	EPD	NEPD00023N	2013
Filler	Database	Østfoldforskning	2013
Aggregate	Supplier data	Østfoldforskning	2013
Filler	Supplier data	Østfoldforskning	2013
Chemicals			
Packaging			
Packaging	European Average	APME	
Packaging			

System boundary:
All processes from raw material extraction to product from the factory gate are included in the analysis (A1-A3). In addition, transportation to a central warehouse placed in accordance with guidelines issued by the EPD Norway (A4) is included.

FlowChart:

LCA: Scenarios and additional technical information

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

Transport from production site to user (A4)

Type	Capacity utilisation (incl. return) %	Type of vehicle	Distance km	Fuel/Energy consumption	Unit	Value (l/t)
Truck	75 %	Lorry to market	50	0,015594	l/tkm	0,78
Railway	.	.	.	.	.	.
Boat	.	.	.	.	.	.
Other	.	.	.	.	.	.

Installation in the building (A5)

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

Label

Maintenance (B2)/Repair (B3)

.	Unit	Value
Maintenance cycle	.	0
Auxiliary	kg	0
Other resources	kg	0
Water consumption	M3	0
Electricity consumption	kWh	0
Other energy carriers	MJ	0
Material loss	kg	0

Use (B1):

.	Unit	Value
No effect	0	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	0

Transport to waste processing (C2)

Type	Capacity utilisation (incl. return) %	Type of vehicle	Distance km	Fuel/Energy consumption	Unit	Value (l/t)
Truck	0 %		0	0	l/tkm	0
Railway	.	.	.	.	.	.
Boat	.	.	.	.	.	.
Other	.	.	.	.	.	.

Benefits and loads beyond the system boundaries (D)

LCA: Results

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

Product stage			Construction installation stage		User stage							End of life stage					Beyond the system bondaries
Raw materials	Transport	Manufacturing	Transport	Construction/ Installation stage	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	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND		MND

Environmental impact

Parameter	Unit	A1	A2	A3	A4	A5	C1	C2
GWP	kg CO_2 -eqv	1,57E-001	1,45E-002	1,72E-004	3,69E-003			
ODP	kg CFC11 -eqv	4,29E-009	0,00E+000	2,10E-011	0,00E+000			
POCP	kg C_2H_4-eqv	1,56E-004	3,60E-005	1,28E-006	1,00E-005			
AP	kg SO_2 -eqv	1,80E-004	1,50E-005	6,30E-007	2,00E-006			
EP	kg PO_4^{3-} -eqv	4,13E-005	7,00E-006	5,42E-008	2,00E-006			
ADPM	kg Sb -eqv	2,02E-007	0,00E+000	4,00E-012	0,00E+000			
ADPE	MJ	7,02E-001	1,91E-001	1,49E-003	4,84E-002			

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

Resource use

Parameter	Unit	A1	A2	A3	A4	A5	C1	C2
RPEE	MJ	1,06E-001	2,50E-004	2,49E-006	8,30E-005			
RPEM	MJ	3,05E-001	8,20E-005	4,76E-005	0,00E+000			
TRPE	MJ	4,10E-001	3,33E-004	5,01E-005	8,30E-005			
NRPEE	MJ	6,70E-001	1,90E-001	1,72E-003	4,82E-002			
NRPEM	MJ	0,00E+000	0,00E+000	0,00E+000	0,00E+000			
TNRPE	MJ	6,70E-001	1,90E-001	1,72E-003	4,82E-002			
SM	kg	1,87E-003	0,00E+000	0,00E+000	0,00E+000			
RSF	MJ	0,00E+000	0,00E+000	0,00E+000	0,00E+000			
NRSF	MJ	3,68E-001	0,00E+000	0,00E+000	0,00E+000			
W	m^3	1,73E-001	1,72E-003	1,23E-005	4,31E-004			

RPEE Renewable primary energy resources used as energy carrier; **RPEM** Renewable primary energy resources used as raw materials; **TRPE** Total use of renewable primary energy resources; **NRPEE** Non renewable primary energy resources used as energy carrier; **NRPEM** Non renewable primary energy resources used as materials; **TNRPE** Total use of virgin, non-renewable resources with energy content; **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	A4	A5	C1	C2
HW	kg	1,04E-004	0,00E+000	8,41E-009	0,00E+000			
NHW	kg	8,38E-003	3,90E-005	2,50E-004	9,00E-006			
RW	kg	0,00E+000	0,00E+000	0,00E+000	0,00E+000			

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

End of life - Output flow

Parameter	Unit	A1	A2	A3	A4	A5	C1	C2
CR	kg	0,00E+000	0,00E+000	5,00E-003	0,00E+000			
MR	kg	1,35E-004	0,00E+000	0,00E+000	0,00E+000			
MER	kg	0,00E+000	0,00E+000	0,00E+000	0,00E+000			
EEE	MJ	0,00E+000	0,00E+000	0,00E+000	0,00E+000			
ETE	MJ	0,00E+000	0,00E+000	0,00E+000	0,00E+000			

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

Additional Norwegian requirements

Electricity
The following data from ecoinvent v3 (June 2012) for Norwegian production mix included import, low voltage is used; Energy/Electricity country mix/Low voltage/Market: Electricity, low voltage {NO}| market for | Alloc Def, U. Production of transmission lines, in addition to direct emissions and loss in grid are included. Characterisation factors stated in EN 15804:2012+A1:2013 are used. This gives following greenhouse gas emissions: 24 g CO2-eqv/kWh

Hazardous substances
None of the following substances have been added to the product: Substances on the REACH Candidate list of substances of very high concern (checked 25.11.2014) substances on the Norwegian Priority list (checked 25.11.2014) and substances that lead to the product being classified as hazardous waste. The chemical content of the product complies with regulatory levels as given in the Norwegian Product Regulations

Indoor air
The product meets the requirements for low pollutant (M1) by EN 15251: 2007 Appendix E. The product has no impact on the indoor environment.

Bibliography

NS-EN ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures
NS-EN ISO 14044:2006 Environmental management - Life cycle assessment - Requirements and guidelines
NS-EN 15804:2012+A1:2013 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

Product Category Rules for Environmental Product Declarations: Institut Bauen und Umwelt e.V. (IBU): Requirements on the EPD for Mineral factory-made mortar. Vold, M and Edvardsen, T, 2013: Weber EPD Generator Background information, Østfoldforskning AS, Fredrikstad, Norge, Nov 2013

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