Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Wall&Water

from

Berry Alloc AS

Programme:	The International EPD® System, www.environdec.com
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General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	info@environdec.com

Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): *PCR 2019:14 Construction products (EN 15804:A2) (1.3.4) (2024-04-30)* *PCR 2019:14- c-PCR-006 Wood and wood-based products for use in construction (EN 16485) (2019-12-20)*
PCR review was conducted by: *Technical Committee of the International EPD® System. The review panel may be contacted via info@environdec.com.*
Life Cycle Assessment (LCA)
LCA accountability: *Asplan Viak AS, Norway* T. (+47) 417 99 417 asplanviak@asplanviak.no
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by individual verifier Third-party verifier: Elisabet Amat, GREENIZE projects Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation

factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD: Alloc AS

Contact:

Contact person	Bruno D'Argent
Telephone and email	+47 38 34 22 00 Alloc.Reception@berryalloc.com

Description of the organisation:
Alloc AS stands as Norway's premier manufacturer of laminate flooring, alongside the production of wall panels tailored for kitchen and bathroom applications. A proud member of the esteemed Beaulieu International Group, headquartered in Belgium, Alloc AS embodies a commitment to excellence and innovation. At Alloc, our unwavering commitment extends beyond mere transactions; it is our steadfast vision to continually exceed customer expectations, delivering unparalleled satisfaction and fostering enduring relationships

Product-related or management system-related certifications:
ISO 9001, ISO 14001 and ISO 45001

Name and location of production site(s):
Alloc AS, Fiboveien 26, 4580 Lyngdal, Norway

Product information

Product name: Wall&Water

Product description:
BerryAlloc Wall&Water is a watertight wall panel system based on plywood panels coated with high-pressure laminate. The product can be used on walls in sanitary rooms as a waterproof lining or in other rooms, e.g. cloakrooms, washrooms, etc.

Product specification:
Panel thickness: 10 mm. Standard dimensions are 2400 mm x 600 mm. Product weight excluding packaging is 8.507 kg/m2.

Technical data:
The panel consists of 7 sheets of wood, glued with waterproof adhesive according to NS-EN 636-3. The front of the panels is covered with 1.10 mm high-pressure laminate, and the backside is covered with a 0.20 mm thick transverse balancing layer.

Reference service life, product: 20 years

UN CPC code: 314 – Board and Panels

Geographical scope:
For A1 and A2, the raw materials are supplied from Norway and Europe. The manufacturing process (A3) is done in Norway. For A4 and A5, the product is distributed mainly to Norway. Module C take place in the same country where the final product is sold. Module D takes place in the same country where the waste is originated.

LCA information

Declared unit: 1 m^2 of produced Wall&Water laminate panel.

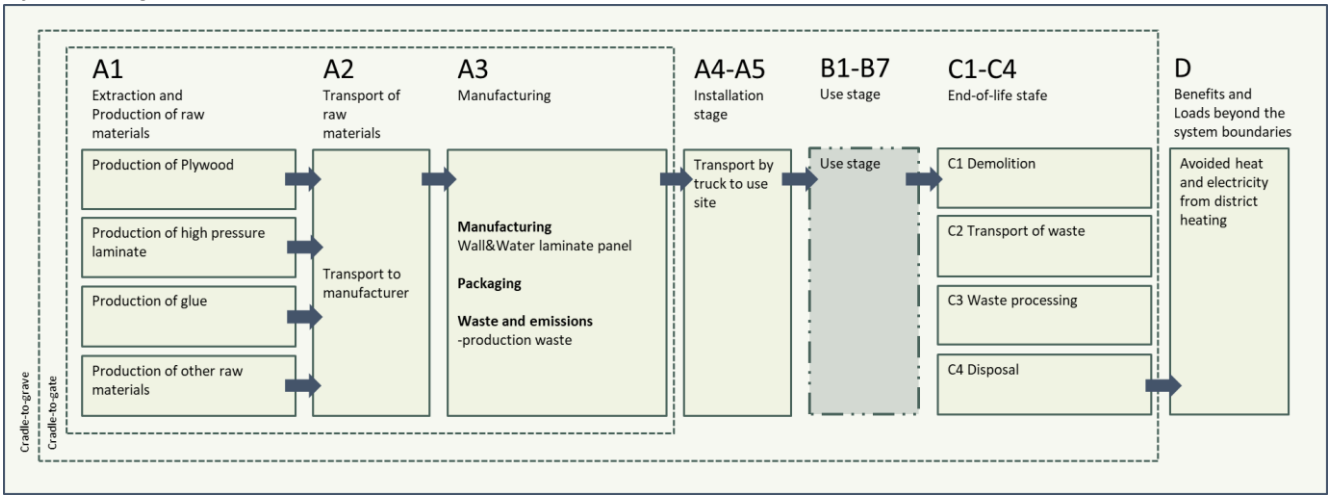
Reference service life: 20 years

Time representativeness: Data for the production process (A3) is based on average data for the production year 2023.

Database(s) and LCA software used: The background data are based on ecoinvent 3.9 (system model: cut-off by classification), released in 2023. The system has been modelled in SimaPro version 9.5.0.1.

Description of system boundaries:
The system boundaries of this EPD are cradle-to-gate with options, modules C1–C4, module D and with optional modules (A1–A3 + C + D and additional modules). The additional modules are A4 and A5.

System diagram:



Allocation: The allocation is made in accordance with the provisions of EN 15804:2012+A2:2019. Incoming energy and water and waste production inhouse is allocated equally among all products through allocation based on production volume (m2).

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%) can be excluded. This cut-off rule does not apply for hazardous materials and substances.

Product life cycle

A1 – Raw material supply
This module represents the extraction and processing of raw materials used in the product

A2 – Transport to production site

A3 – Manufacturing
This stage includes the manufacturing processes of the panels. Total annual inputs (packaging, energy, and water) and outputs (products and wastes) have been allocated according to volume produced. Regarding the electricity use, it is fully sourced from the national grid. Norwegian residual mix (from ecoinvent v3.9) is used for the electricity consumption, which has a GWP-GHG factor of 0,493 kg CO2-equivalents per kWh.

A4 – Transport
This module includes transport from the production facility to the building site. The product is sent to a Nordic market, and transport is calculated on the basis of a scenario with the parameters described in the following table and the distances are weighted to different destinations of customers according to sales volumes in the analyzed period.

Additonal transport to a European market is presented as additional results in the end of the EPD-document.

Transport from production place to assembly/user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy consumption	Unit
Truck, 16-36 ton EURO6	37 %	600	0,04	l/tkm

A5 – Installation
For the assembly at the building site this scenario includes a 10 % loss in the installation stage and waste treatment of the packaging materials. Auxiliary inputs are electricity for power tools, steel screws (0.032 kg), an aluminium profile (1 m profile per m2 Wall&Water = 0.28 kg) and a sealant (0.065 kg). Wall&Water can be installed on various surfaces (e.g. tile, concrete and timber framework) and in various rooms (including wet areas). Packaging materials (plastic and wood pallets) are sent to a local waste treatment for energy recovery.

	Unit	Value
Auxilary	kg	0,377
Water consumption	m3	
Electricity consumption	kWh	0,001
Other energy carriers	MJ	
Material loss	Kg	0,851
Output materials from waste treatment	Kg	

C1, C2, C3, C4 – End of life
Wall&Water can be landfilled, energy recycled or material recycled. In this scenario 100 % of the product and 100 % of the sealant goes to incineration with energy recovery. Ancillaries that are not possible to separate from the product (e.g. sealant) are included in C1-C4. The waste is transported 85 km by truck to waste processing.

	Unit	Value
Hazardous waste disposed	kg	0
Collected as mixed construction waste	kg	0
Reuse	kg	0
Recycling	kg	0
Energy recovery	kg	8,507
To landfill	kg	0

D - Reuse, recovery, or recycling potential
This module includes the benefits and loads of packaging recycling and incineration of the product with energy recovery.

Benefits and loads beyond the system boundaries (D)	Unit	Value
Substitution of electricity, in Norway	MJ	-3,32
Substitution of thermal energy, district heating, in Norway	MJ	-101,20

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	EU27	EU27	NO	Nordic / EU27	Nordic / EU27	-	-	-	-	-	-	-	NO	NO	NO	NO	NO
Specific data used	17%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Plywood	7,27	0%	50% and 3,64
High-pressure laminate	1,08	0%	50% and 0,54
Glue	0,16	0%	0% and 0
TOTAL PRODUCT	8,51	0%	50% and 4,18
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**	**Weight biogenic carbon, kg C/kg**
Pallet, wood	0,28	3,3%	50% and 0,14
Plastic	0,06	0,7%	0% and 0
TOTAL PACKAGING	0,34	4%	41% and 0,14

- 1 kg biogenic carbon is equivalent to 44/12 kg CO2

The product does not contain any REACH SVHC substances in amounts greater than 0,1% (1000 ppm.

Results of the environmental performance indicators

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. Usage of results from A1-A3 without considering the results of module C is not encouraged.

Mandatory impact category indicators according to EN 15804 and EF 3.1

Results per declared unit (1 m^2)

Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	1,01E+01	9,81E-01	2,66E+00	3,35E-05	1,07E-01	3,62E-01	0,00E+00	-7,80E-01
GWP-biogenic	kg CO_2 eq.	-1,47E+01	3,16E-04	6,09E-01	5,41E-07	3,56E-05	1,59E+01	0,00E+00	-1,44E-02
GWP-luluc	kg CO_2 eq.	3,13E-02	4,84E-04	2,34E-02	2,26E-07	5,25E-05	4,62E-05	0,00E+00	-5,90E-03
GWP-total	kg CO_2 eq.	-4,63E+00	9,82E-01	3,29E+00	3,43E-05	1,08E-01	1,63E+01	0,00E+00	-8,00E-01
ODP	kg CFC 11 eq.	2,50E-07	2,14E-08	5,45E-08	9,89E-13	2,36E-09	3,34E-09	0,00E+00	-2,23E-08
AP	mol H^+ eq.	2,06E-01	2,14E-03	2,75E-02	3,60E-07	5,02E-04	3,32E-03	0,00E+00	-3,26E-03
EP-freshwater	kg P eq.	8,96E-04	7,97E-06	1,44E-04	2,29E-09	8,83E-07	3,37E-05	0,00E+00	-3,40E-05
EP-marine	kg N eq.	6,96E-02	5,28E-04	8,00E-03	3,37E-08	1,98E-04	2,22E-03	0,00E+00	-6,30E-04
EP-terrestrial	mol N eq.	3,29E-01	5,50E-03	4,37E-02	4,36E-07	2,13E-03	1,72E-02	0,00E+00	-7,66E-03
POCP	kg NMVOC eq.	1,98E-01	3,33E-03	2,42E-02	1,29E-07	7,45E-04	5,72E-03	0,00E+00	-2,27E-03
ADP-minerals&metals*	kg Sb eq.	6,91E-05	3,21E-06	1,29E-05	3,77E-09	3,35E-07	1,77E-07	0,00E+00	-1,44E-05
ADP-fossil*	MJ	2,08E+02	1,39E+01	3,62E+01	6,54E-04	1,55E+00	7,97E-01	0,00E+00	-1,62E+01
WDP*	m^3	7,10E+00	5,75E-02	9,33E-01	2,90E-05	6,76E-03	2,25E-02	0,00E+00	-6,76E-01

Acronyms	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

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

Additional mandatory and voluntary impact category indicators

Results per declared unit (1 m^2)									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[1]	kg CO_2 eq.	1,01E+01	9,82E-01	2,68E+00	3,37E-05	1,07E-01	3,63E-01	0,00E+00	-7,86E-01
PM	[Disease Incidence]	1,36E-06	5,78E-08	2,17E-07	2,01E-12	8,63E-09	2,36E-07	0,00E+00	-4,22E-08
IRP	kBq. U235-Eq.	7,86E-01	7,06E-03	1,52E-01	1,32E-05	8,03E-04	7,54E-04	0,00E+00	-3,50E-01
ETP-fw	CTUe	8,31E+01	7,38E+00	1,50E+01	4,02E-04	8,20E-01	2,37E+01	0,00E+00	-5,74E+00
HTP-c	CTUh	6,99E-08	4,47E-10	1,10E-08	8,71E-14	5,78E-11	7,40E-09	0,00E+00	-1,00E-09
HTTP-nc	CTUh	2,26E-07	1,26E-08	7,23E-08	4,10E-12	1,54E-09	5,18E-08	0,00E+00	-2,20E-08
SQP	[-]	1,69E+03	8,42E+00	1,72E+02	3,10E-04	1,16E+00	7,27E-01	0,00E+00	-1,25E+01

Resource use indicators

Results per declared unit (1 m^2)									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	1,86E+02	2,19E-01	2,56E+01	4,03E-03	2,45E-02	3,17E-02	0,00E+00	-1,09E+02
PERM	MJ	1,70E+02	0,00E+00	1,70E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	3,56E+02	2,19E-01	4,26E+01	4,03E-03	2,45E-02	3,17E-02	0,00E+00	-1,09E+02

[1] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

PENRE	MJ	2,05E+02	1,39E+01	3,59E+01	6,53E-04	1,55E+00	7,97E-01	0,00E+00	-1,62E+01
PENRM	MJ	3,20E+00	0,00E+00	3,20E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	2,08E+02	1,39E+01	3,62E+01	6,53E-04	1,55E+00	7,97E-01	0,00E+00	-1,62E+01
SM	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
RSF	MJ	0,00E+00	0,00E+00	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	0,00E+00
FW	m^3	2,14E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Acronyms	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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

Waste indicators

Results per declared unit (1 m^2)									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	2,45E-02	3,49E-04	2,52E-01	1,37E-07	4,03E-05	5,49E-02	0,00E+00	-1,18E-03
Non-hazardous waste disposed	kg	1,58E+00	6,92E-01	7,41E-01	2,84E-05	9,81E-02	4,54E-02	0,00E+00	-5,06E-01
Radioactive waste disposed	kg	6,08E-04	4,58E-06	1,19E-04	6,04E-09	5,22E-07	4,81E-07	0,00E+00	-1,60E-04

Output flow indicators

Results per declared unit (1 m^2)									
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	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
Material for recycling	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
Materials for energy recovery	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
Exported energy, electricity	MJ	0,00E+00	0,00E+00	3,98E-01	0,00E+00	0,00E+00	2,93E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	0,00E+00	0,00E+00	1,21E+01	0,00E+00	0,00E+00	8,91E+01	0,00E+00	0,00E+00

Additional transport and installation scenario

The Wall&Water product is also provided to a European market, and this section offers the EPD results for modules A4 and A5 if the product is transported 1200 km by ship to Belgium and 46 km by truck to the capital. Since two markets are presented in A4, two scenarios are developed for A5 since the loss includes A1-A3 and A4.

Results per declared unit (1 m^2)			
Indicator	**Unit**	**A4**	**A5**
GWP-fossil	kg CO_2 eq.	1,15E+00	2,68E+00
GWP-biogenic	kg CO_2 eq.	2,38E-04	6,09E-01
GWP-luluc	kg CO_2 eq.	8,70E-04	2,35E-02
GWP-total	kg CO_2 eq.	1,15E+00	3,31E+00
ODP	kg CFC 11 eq.	1,80E-08	5,42E-08
AP	mol H^+ eq.	3,23E-02	3,05E-02
EP-freshwater	kg P eq.	4,88E-06	1,43E-04
EP-marine	kg N eq.	8,06E-03	8,76E-03
EP-terrestrial	mol N eq.	8,92E-02	5,21E-02
POCP	kg NMVOC eq.	2,42E-02	2,63E-02
ADP-minerals&metals*	kg Sb eq.	1,29E-06	1,27E-05
ADP-fossil*	MJ	1,43E+01	3,63E+01
WDP*	m^3	3,41E-02	9,30E-01

Additional GWP results with location-based electricity mix from the use of electricity in manufacturing

The Wall&Water product is manufactured in Norway. The results are here summarized with 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 (foreground/core) per declared unit.

Results per declared unit (1 m^2)		
Indicator	**Unit**	**A1-A3**
GWP-fossil	kg CO_2 eq.	8,55E+00
GWP-biogenic	kg CO_2 eq.	-1,47E+01
GWP-luluc	kg CO_2 eq.	3,17E-02
GWP-total	kg CO_2 eq.	-6,15E+00
ODP	kg CFC 11 eq.	2,15E-07
AP	mol H^+ eq.	2,01E-01
EP-freshwater	kg P eq.	8,37E-04
EP-marine	kg N eq.	6,86E-02
EP-terrestrial	mol N eq.	3,18E-01
POCP	kg NMVOC eq.	1,95E-01
ADP-minerals&metals*	kg Sb eq.	6,77E-05
ADP-fossil*	MJ	1,80E+02
WDP*	m^3	7,05E+00

Differences versus previous versions

The first EPD for this product was developed according to EN15804:2012+A1:2013 and published at EPD Norway in 2017. This is the first EPD for Wall&Water published at Environdec and following EN15804:2012+A2:2019.

References

General Programme Instructions of the International EPD® System. Version 4.0.

PCR 2019:14. Construction products (EN 15804:A2) (1.3.4)

PCR 2019:14- c-PCR-006 Wood and wood-based products for use in construction (EN 16485) (2019-12-20)

EN 15804:2012+A2:2019, Sustainability of construction works - Environmental Product Declarations – Core rules for the product category of construction products

ISO 14025:2009: Environmental labels and declarations - Type III environmental product declarations

ISO 14040:2006, Environmental management - Life cycle assessment - Principles

ISO 14044:2006, Environmental management - Life cycle assessment - Requirements and guidelines

EN 16449:2014 ISO 14025:2010 Wood and wood-based products - Calculation of the biogenic carbon content of wood and conversion to carbon dioxide

Bjordal, Kristine Life cycle assessment (LCA) report Wall&Water, Asplan Viak AS, Report no v03 2024-07-11

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