epddanmark

ECO PLATFORM EPD VERIFIED

Owner:	BurntWood ApS
No.:	MD-22057-EN_rev1
Issued:	18-01-2023
Revision:	03-09-2024
Valid to:	18-01-2028

3rd PARTY **VERIFIED**

EPD

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | **ISO 14025 & EN 15804**

Owner of declaration
BurntWood ApS
Mondrupsvej 8, Stavtrup
VAT no.: 41275634

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

Declared product(s)
BurntWood surface treatment

Number of declared datasets/product variations: 1

Production site
Buggesgårdvej 66, 8260 Viby J, Danmark

Product(s) use
The BurntWood surface treatment is used on wood which is used as façade cladding.

Declared/ functional unit
1 m2 surface treated with the BurntWood method

Year of production site data (A3)
2022-2023

EPD version
Second edition

Changes in ingredients and packaging.

Issued: 18-01-2023
Valid to: 18-01-2028

Basis of calculation
This EPD is developed in accordance with the European standard EN 15804+A2.

Comparability
EPDs of construction products may not be comparable if they do not comply with the requirements in EN 15804. EPD data may not be comparable if the datasets used are not developed in accordance with EN 15804 and if the background systems are not based on the same database.

Validity
This EPD has been verified in accordance with ISO 14025 and is valid for 5 years from the date of issue.

Use
The intended use of an EPD is to communicate scientifically based environmental information for construction products, for the purpose of assessing the environmental performance of buildings.

EPD type
☒Cradle-to-gate with modules C1-C4 and D
☐Cradle-to-gate with options, modules C1-C4 and D
☐Cradle-to-grave and module D
☐Cradle-to-gate
☐Cradle-to-gate with options

CEN standard EN 15804 serves as the core PCR

Independent verification of the declaration and data, according to EN ISO 14025

☐ internal ☒ external

Third party verifier:

Kim Christiansen

Martha Katrine Sørensen
EPD Danmark

Life cycle stages and modules (MND = module not declared)																
Product			Construction process		Use							End of life				Beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Re-use, recovery and recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

Product information

Product description

The main product components are shown in the table below.

Material	Weight-% of declared product
Additive	100%

Important notice

This EPD only covers the surface treated with the BurntWood method. To obtain environmental impacts of a total m^2 surface wood, **this** EPD must be combined with the EPD of the wood product.

Product packaging:

The composition of the sales- and transport packaging of the product is shown in the table below.

Material	Weight-% of packaging
Joints	96%
PET strap	4%

Representativity

This declaration, including data collection and the modeled foreground system including results, represents the production from a single producer and a single production site. The production site is located at Viby J in Denmark. The end-of-life represents disposal in Danmark. Background data are based on Ecoinvent 3.9 database and are less than 10 years old. Generally, the used background datasets are of high quality, and the majority of the datasets are only a couple of years old.

Hazardous substances

BurntWood surface treatment does not contain substances listed on the "Candidate List of Substances of Very High Concern for authorisation"

(http://echa.europa.eu/candidate-list-table)

Essential characteristics

BurntWood are covered by harmonised technical specification EN 350:2016

Further technical information can be obtained by contacting the manufacturer or on the manufacturers website:

https://www.burntwood.dk/data/

Reference Service Life (RSL)

No RSL is declared. This EPD is based on a cradle to gate with modules C1-4 and D, and does not include the use stage.

Picture of product

LCA background

Declared unit

The LCI and LCIA results in this EPD relates to 1 m^2 surface treated with the BurntWood method

Name	Value	Unit
Declared unit	1	m^2
Density	0,19	kg/m^2
Conversion factor to 1 kg.	5,35	-

Functional unit

Not defined

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804+A2.

Guarantee of Origin – certificates

Foreground system:

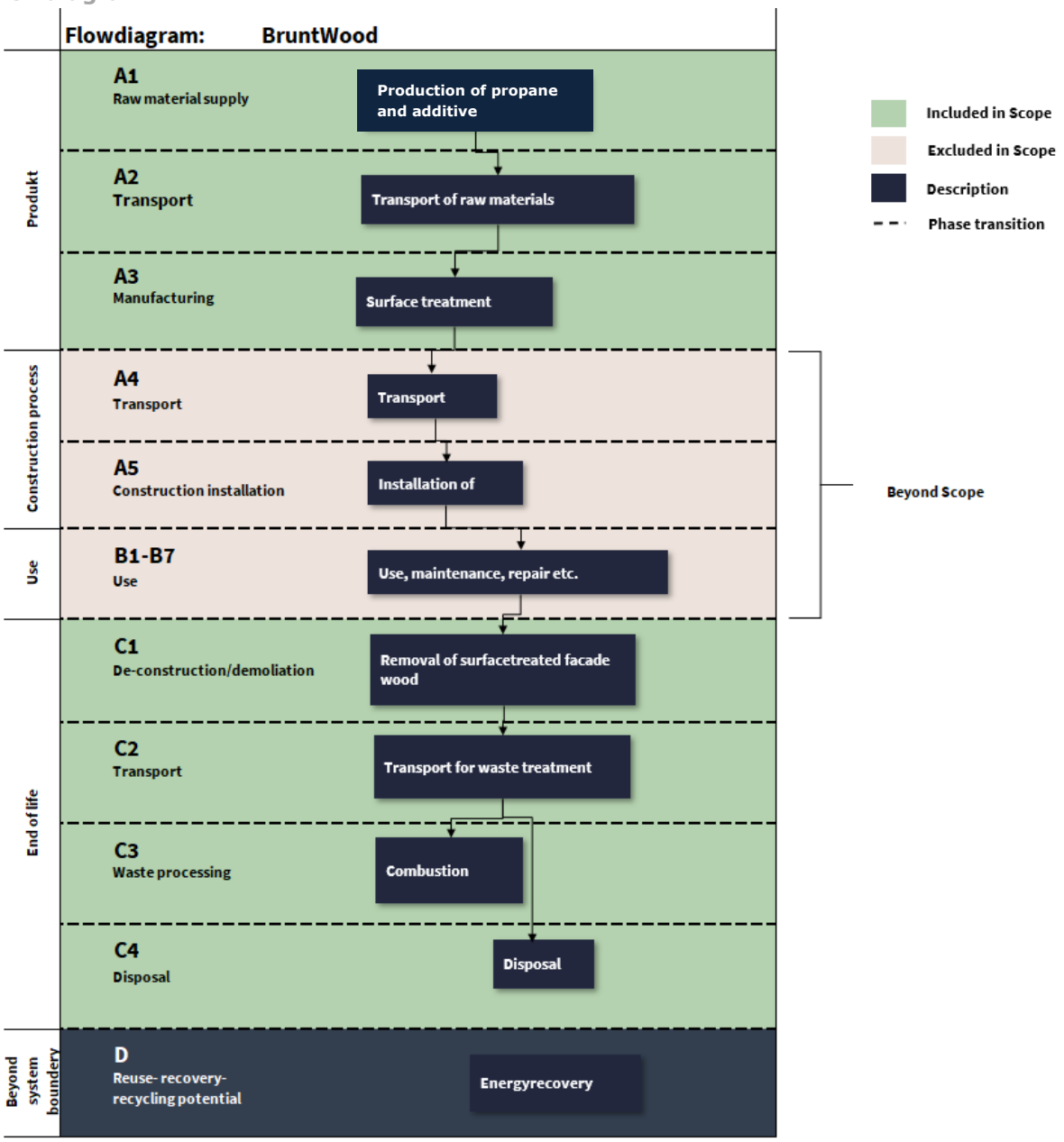
No use of certified green energy. Average energy mix from Denmark is used in production.

Background system:

No use of certified green energy.

Upstream processes are modelled using national residual energy mix. Downstream processes are modelled using national energy mix.

Flowdiagram



This EPD is based on a cradle-to-gate LCA, in which 100 weight-% has been accounted for.

The general rules for the exclusion of inputs and outputs follows the requirements in EN 15804, 6.3.5, where the total of neglected input flows per module shall be a maximum of 5 % of energy usage and mass and 1 % of energy usage and mass for unit processes.

Product stage (A1-A3) includes:

A1 – Extraction and processing of raw materials

A2 – Transport to the production site

A3 – Manufacturing processes

The product stage comprises the acquisition of all raw materials, products and energy, transport to the production site, packaging and waste processing up to the "end-of-waste" state or final disposal. The LCA results are declared in aggregated form for the product stage, which means, that the sub-modules A1, A2 and A3 are declared as one module A1-A3.

End of Life (C1-C4) includes:

End-of-life includes a Danish scenario for waste processing of surface treated wood. According to the Danish Environment Agency, oiledand surface treated wood is treated as combustible waste, which means that the material is incinerated as waste.

C1 – Deconstruction demolition

C2 – Transport to waste processing

C3 – Waste processing

C4 – Disposal

The surface treatment has no influence on the deconstruction or demolition of the surface treated wood.
As this EPD only covers the surface treatment of the wood, the wood isn't included in the end-of-life state. Only the remaining additive in the surface treated wood is included in the waste processing.

Re-use, recovery and recycling potential (D) includes:

As the materials gets incinerated, electricity and heat will be produced, which replaces electricity in the Danish grid mix, and heat produced by natural gas.

LCA results

ENVIRONMENTAL IMPACTS PER m^2							
Indicator	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	kg CO_2 eq.	3,63E-01	0,00E+00	2,96E-03	9,89E-02	0,00E+00	-5,13E-02
GWP-fossil	kg CO_2 eq.	4,83E-01	0,00E+00	2,96E-03	9,89E-02	0,00E+00	-5,13E-02
GWP-biogenic	kg CO_2 eq.	-1,20E-01	0,00E+00	2,71E-06	0,00E+00	0,00E+00	-5,06E-06
GWP-luluc	kg CO_2 eq.	1,89E-04	0,00E+00	1,46E-06	2,07E-06	0,00E+00	-2,75E-06
ODP	kg CFC 11 eq.	1,03E-08	0,00E+00	6,44E-11	2,85E-10	0,00E+00	-4,46E-09
AP	mol H^+ eq.	2,00E-03	0,00E+00	6,46E-06	5,66E-05	0,00E+00	-3,99E-05
EP-freshwater	kg P eq.	1,16E-04	0,00E+00	2,10E-07	7,29E-06	0,00E+00	-6,33E-07
EP-marine	kg N eq.	3,82E-04	0,00E+00	1,63E-06	3,05E-05	0,00E+00	-1,74E-05
EP-terrestrial	mol N eq.	4,46E-03	0,00E+00	1,66E-05	2,60E-04	0,00E+00	-1,89E-04
POCP	kg NMVOC eq.	1,45E-03	0,00E+00	1,00E-05	6,83E-05	0,00E+00	-6,67E-05
ADPm[1]	kg Sb eq.	5,18E-06	0,00E+00	9,66E-09	1,22E-08	0,00E+00	-3,18E-08
ADPf[1]	MJ	7,40E+00	0,00E+00	4,20E-02	6,23E-02	0,00E+00	-8,67E-01
WDP[1]	m^3 world eq. deprived	1,30E-01	0,00E+00	1,73E-04	1,23E-02	0,00E+00	-7,44E-03
Caption	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 = Ozone Depletion; AP = Acidifcation; EP-freshwater = Eutrophication – aquatic freshwater; EP-marine = Eutrophication – aquatic marine; EP-terrestrial = Eutrophication – terrestrial; POCP = Photochemical zone formation; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water use						
Disclaimer	[1] The results of this environmental indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.						

ADDITIONAL ENVIRONMENTAL IMPACTS PER m^2							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	2,11E-08	0,00E+00	2,20E-10	4,99E-10	0,00E+00	-1,33E-10
IRP[2]	[kBq U235 eq.]	3,41E-02	0,00E+00	5,68E-05	1,51E-04	0,00E+00	-8,24E-05
ETP-fw[1]	[CTUe]	7,19E+00	0,00E+00	4,15E-02	8,08E-01	0,00E+00	-2,98E-02
HTP-c[1]	[CTUh]	4,64E-10	0,00E+00	2,70E-12	5,42E-11	0,00E+00	-8,85E-12
HTP-nc[1]	[CTUh]	1,20E-08	0,00E+00	5,96E-11	1,91E-09	0,00E+00	-1,33E-10
SQP[1]	-	1,95E+00	0,00E+00	2,54E-02	3,47E-02	0,00E+00	-1,47E-02
Caption	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						
Disclaimers	[1] The results of this environmental 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 PER m^2							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	3,86E-01	0,00E+00	6,61E-04	2,13E-03	0,00E+00	-3,28E-03
PERM	[MJ]	9,50E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	1,34E+00	0,00E+00	6,61E-04	2,13E-03	0,00E+00	-3,28E-03
PENRE	[MJ]	7,40E+00	0,00E+00	4,20E-02	6,23E-02	0,00E+00	-8,67E-01
PENRM	[MJ]	1,17E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	8,57E+00	0,00E+00	4,20E-02	6,23E-02	0,00E+00	-8,67E-01
SM	[kg]	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
NRSF	[MJ]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m^3]	4,41E-03	0,00E+00	6,05E-06	2,13E-04	0,00E+00	-9,66E-05
Caption	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 material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water						

WASTE CATEGORIES AND OUTPUT FLOWS PER m^2							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	2,17E-05	0,00E+00	2,67E-07	3,83E-07	0,00E+00	-3,39E-06
NHWD	[kg]	6,95E-02	0,00E+00	2,09E-03	1,05E-02	0,00E+00	-7,09E-04
RWD	[kg]	8,63E-06	0,00E+00	1,38E-08	3,80E-08	0,00E+00	-1,99E-08
CRU	[kg]	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[kg]	3,14E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	[kg]	0,00E+00	0,00E+00	0,00E+00	1,90E-01	0,00E+00	0,00E+00
EEE	[MJ]	0,00E+00	0,00E+00	0,00E+00	2,64E-01	0,00E+00	0,00E+00
EET	[MJ]	0,00E+00	0,00E+00	0,00E+00	5,42E-01	0,00E+00	0,00E+00
Caption	HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Eksporteret elektrisk energi; EET = Eksporteret termisk energi						

BIOGENIC CARBON CONTENT PER m^2		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	0
Biogenic carbon content in accompanying packagaing	[kg C]	0,033
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

Additional information

LCA interpretation

The raw material which are of most importance is the Additive, as the sourcing of the different components contributes and the energy used to due so are the most contributing factors in this study.

Technical information on scenarios

End of life (C1-C4)

Scenario information	Value	Unit
Collected separately	0	kg
Collected with mixed waste	0	kg
For reuse	0	kg
For recycling	0	kg
For energy recovery	0,19	kg
For final disposal	0	kg
Assumptions for scenario development	0	As appropriate

Re-use, recovery and recycling potential (D)

Scenario information/Materiel	Value	Unit
Electricity from incineration	0,245	MJ
Heat from incineration	0,542	MJ

Indoor air

The EPD does not give information on release of dangerous substances to indoor air because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A1 chapter 7.4.1.

Soil and water

The EPD does not give information on release of dangerous substances to soil and water because the horizontal standards on the relevant measurements are not available. Read more in EN15804+A1 chapter 7.4.2.

References

Publisher	www.epddanmark.dk
Programme operator	Danish Technological Institute Buildings & Environment Gregersensvej DK-2630 Taastrup www.teknologisk.dk
LCA-practitioner	Lasse Langstrup Hägerstrand Transition ApS Mariane Thomsens Gade 2F 8000 Aarhus C e-mail: Lasse@transition.nu
LCA software /background data	SimaPro 9.5.0. / Ecoinvent v.3.9 Database
3rd party verifier	Kim Christiansen *kimconsult.dk* *Marienborg Alle 91C* *2860 Søborg*

General programme instructions
General Programme Instructions, version 2.0, spring 2020
www.epddanmark.dk

EN 15804
DS/EN 15804 + A2:2019 - "Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products"

EN 15942
DS/EN 15942:2011 – " Sustainability of construction works – Environmental product declarations – Communication format business-to-business"

ISO 14025
DS/EN ISO 14025:2010 – " Environmental labels and declarations – Type III environmental declarations – Principles and procedures"

ISO 14040
DS/EN ISO 14040:2008 – " Environmental management – Life cycle assessment – Principles and framework"

ISO 14044
DS/EN ISO 14044:2008 – " Environmental management – Life cycle assessment – Requirements and guidelines"