epddanmark

ECO PLATFORM EPD VERIFIED

Owner: ØkoTømerer.dk ApS
No.: MD-22122-EN
Issued: 24-02-2023
Valid to: 24-02-2028

3rd PARTY **VERIFIED**

EPD

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

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

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

Declared product(s)
BurntWood ReUse with or without surface treatment

Number of declared datasets/product variations: 2

Production site
Sylbækvej 2, 8230 Aarhus, Denmark

Product(s) use
Façade cladding for buildings

Declared/ functional unit
1 m2 BurntWood ReUse with surface treatment
1m2 BurntWood ReUse without surface treatment

Year of production site data (A3)
Period for data collection 01/04-2022 – 30/09-2022

EPD version
1st version.

Issued: 24-02-2023
Valid to: 24-02-2028

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:

Ninkie Bendtsen

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.

Table 1 BurntWood ReUse with surface treatment

Material	Weight-% of declared product
Linseed Oil Varnish	7,3%
Conventional Wood	15,2%
Reused Wood	75,5%
Nails	2,0%

Table 2 BurntWood ReUse without surface treatment

Material	Weight-% of declared product
Conventional Wood	16,4%
Reused Wood	81,4%
Nails	2,2%

Product packaging:

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

Hazardous substances

Both the BurntWood ReUse with or without surface treatment does not contain substances listed on the "Candidate List of Substances of Very High Concern for 3armonized3on"

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

Essential characteristics

BurntWood are covered by 3armonized 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/

Table 3 BurntWood ReUse with surface treatment

Material	Weight-% of packaging
Kraft paper	3,0%
Euro pallet	96,6%
PET strap	0,4%

Table 4 BurntWood ReUse without surface treatment

Material	Weight-% of packaging
Euro pallet	99,6%
PET strap	0,4%

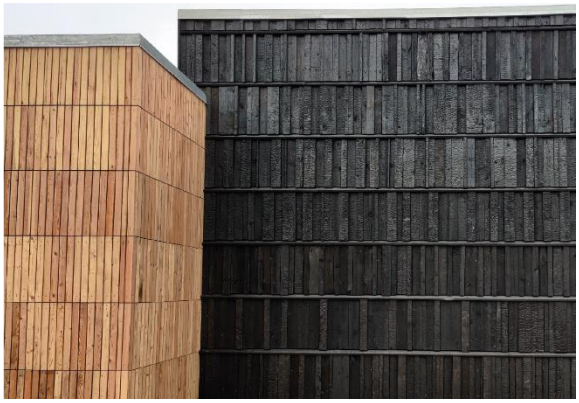
Representativity

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 in Aarhus, Denmark. The end-of-life represents disposal in Danmark. Background data are based on Ecoinvent 3.8 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.

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 BurntWood ReUse with or without surface treatment.

Tabel 5 BurntWood ReUse with surface treatment

Name	Value	Unit
Declared unit	1	m^2
Weight per declared unit	20,01	kg/m^2
Density (pinewood)	430	Kg/M3
Conversion factor to 1 kg.	0,05	-

Not defined

Table 6 BurntWood ReUse without surface treatment

Name	Value	Unit
Declared unit	1	m^2
Weight per declared unit	18,5	kg/m^2
Density (pinewood)	430	Kg/m3
Conversion factor to 1 kg.	0,054	-

Guarantee of Origin – certificates

Foreground system:

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

Background system:

No use of certified green energy.

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

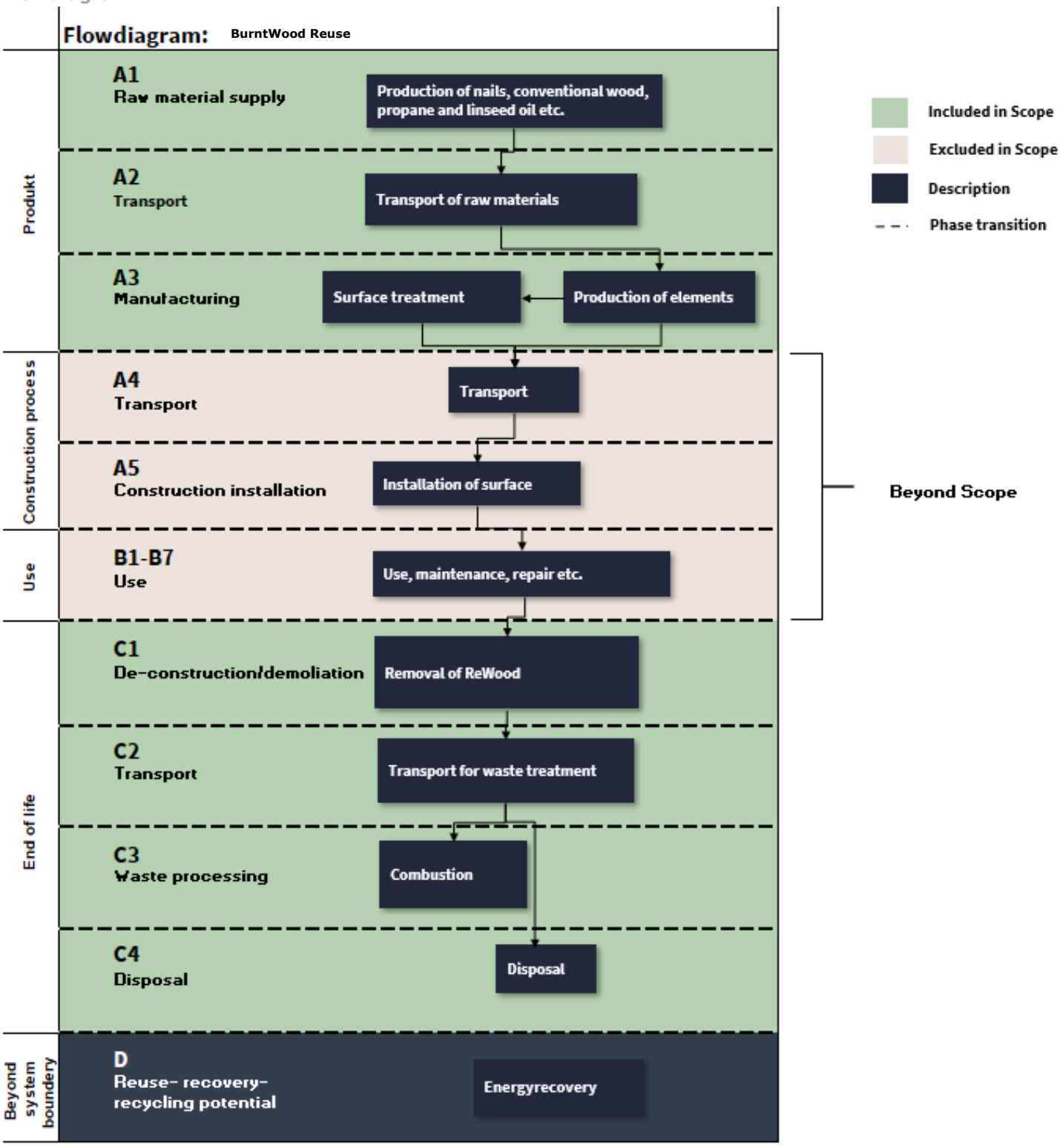
Functional unit

No defined

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804+A2 and the cPCR 16485.

Flowdiagram



This EPD is based on a cradle-to-gate LCA with modules C1-C4 and D, 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 oiled and waste wood and scrap steel for nails. According to the Danish Environment Agency, oiled and waste wood is treated as combustible waste, which means that the material is incinerated as waste. Since the nails are embedded in the elements they are sent to incineration as well.

C1 – Deconstruction demolition

C2 – Transport to waste processing

C3 – Waste processing

C4 – Disposal

For the BurntWood ReUse with surface treatment, it has no influence on the deconstruction or demolition of the wood, and none of the materials is disposed as part of C4 module of in either products. All material components are treated in the C3 module.

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

As the materials gets incinerated, electricity and heat will be produced, which replaces electricity and heat. The produced electricity replaces the Danish electricity mix and the heat produced is replacing natural gas. The energy and heat potential from the reused wood in both products is included according to cPCR 16485.

LCA results

ENVIRONMENTAL IMPACTS PER m^2													
		BurntWood ReUse without surface treatment						BurntWood ReUse with surface treatment					
Indicator	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	kg CO_2 eq.	-3,09E+01	0,00E+00	2,55E-01	3,36E+01	0,00E+00	-4,28E+00	-3,15E+01	0,00E+00	2,75E-01	3,77E+01	0,00E+00	-4,63E+00
GWP-fossil	kg CO_2 eq.	2,39E+00	0,00E+00	2,54E-01	2,83E-01	0,00E+00	-4,15E+00	5,83E+00	0,00E+00	2,74E-01	3,05E-01	0,00E+00	-4,49E+00
GWP-biogenic	kg CO_2 eq.	--3,33+E01	0,00E+00	2,20E-04	3,33E+01	0,00E+00	-1,25E-01	-3,74E+01	0,00E+00	2,37E-04	3,74E+01	0,00E+00	-1,35E-01
GWP-luluc	kg CO_2 eq.	1,04E-02	0,00E+00	1,02E-04	9,43E-05	0,00E+00	-5,22E-03	1,90E-02	0,00E+00	1,10E-04	1,02E-04	0,00E+00	-5,64E-03
ODP	kg CFC 11 eq.	5,41E-07	0,00E+00	5,89E-08	2,02E-08	0,00E+00	-1,65E-07	8,29E-07	0,00E+00	6,35E-08	2,18E-08	0,00E+00	-1,78E-07
AP	mol H^+ eq.	1,18E-02	0,00E+00	7,23E-04	3,00E-03	0,00E+00	-1,04E-02	7,82E-02	0,00E+00	7,79E-04	3,24E-03	0,00E+00	-1,13E-02
EP-freshwater	kg P eq.	7,35E-04	0,00E+00	1,67E-05	1,28E-04	0,00E+00	-1,89E-03	1,57E-03	0,00E+00	1,80E-05	1,38E-04	0,00E+00	-2,05E-03
EP-marine	kg N eq.	3,28E-03	0,00E+00	1,47E-04	1,57E-03	0,00E+00	-2,75E-03	4,35E-02	0,00E+00	1,58E-04	1,70E-03	0,00E+00	-2,97E-03
EP-terrestrial	mol N eq.	3,57E-02	0,00E+00	1,60E-03	1,51E-02	0,00E+00	-3,02E-02	3,14E-01	0,00E+00	1,73E-03	1,63E-02	0,00E+00	-3,26E-02
POCP	kg NMVOC eq.	1,26E-02	0,00E+00	6,15E-04	3,72E-03	0,00E+00	-7,11E-03	2,69E-02	0,00E+00	6,63E-04	4,02E-03	0,00E+00	-7,68E-03
ADPm[1]	kg Sb eq.	1,20E-05	0,00E+00	9,02E-07	7,04E-07	0,00E+00	-1,23E-05	3,54E-05	0,00E+00	9,72E-07	7,60E-07	0,00E+00	-1,32E-05
ADPf[1]	MJ	3,80E+01	0,00E+00	3,86E+00	2,47E+00	0,00E+00	-6,54E+01	6,65E+01	0,00E+00	4,16E+00	2,66E+00	0,00E+00	-7,07E+01
WDP[1]	m^3 world eq. Deprived	5,98E-01	0,00E+00	1,17E-02	-2,07E-01	0,00E+00	-6,39E-01	8,10E+00	0,00E+00	1,27E-02	-2,23E-01	0,00E+00	-6,90E-01
Caption	GWP-total = Globale 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 m²													
		BurntWood ReUse without surface treatment						BurntWood ReUse with surface treatment					
Parameter	Unit	A1-A3	C1	C2	C3	C4	D	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	3,17E-07	0,00E+00	2,05E-08	3,29E-08	0,00E+00	-5,79E-08	7,77E-07	0,00E+00	2,21E-08	3,54E-08	0,00E+00	-6,25E-08
IRP[2]	[kBq U235 eq.]	3,25E-01	0,00E+00	1,99E-02	5,50E-03	0,00E+00	-6,40E-01	4,42E-01	0,00E+00	2,14E-02	5,92E-03	0,00E+00	-6,91E-01
ETP-fw[1]	[CTUe]	4,46E+01	0,00E+00	3,03E+00	4,50E+00	0,00E+00	-5,56E+01	2,14E+02	0,00E+00	3,26E+00	4,85E+00	0,00E+00	-6,01E+01
HTP-c[1]	[CTUh]	6,01E-09	0,00E+00	9,74E-11	8,08E-10	0,00E+00	-1,07E-09	7,08E-09	0,00E+00	1,05E-10	8,73E-10	0,00E+00	-1,16E-09
HTP-nc[1]	[CTUh]	4,25E-08	0,00E+00	3,07E-09	3,82E-08	0,00E+00	-3,09E-08	1,41E-07	0,00E+00	3,31E-09	4,12E-08	0,00E+00	-3,34E-08
SQP[1]	-	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
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 m²													
		BurntWood ReUse without surface treatment						BurntWood ReUse with surface treatment					
Parameter	Unit	A1-A3	C1	C2	C3	C4	D	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	1,91E+02	0,00E+00	1,39E-02	1,91E-02	0,00E+00	-9,75E+00	2,21E+02	0,00E+00	1,50E-02	2,06E-02	0,00E+00	-1,05E+01
PERM	[MJ]	2,85E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,44E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	[MJ]	4,76E+02	0,00E+00	1,39E-02	1,91E-02	0,00E+00	-9,75E+00	5,65E+02	0,00E+00	1,50E-02	2,06E-02	0,00E+00	-1,05E+01
PENRE	[MJ]	3,80E+01	0,00E+00	3,86E+00	2,47E+00	0,00E+00	-6,54E+01	6,64E+01	0,00E+00	4,16E+00	2,66E+00	0,00E+00	-7,07E+01
PENRM	[MJ]	4,81E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,37E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	[MJ]	3,85E+01	0,00E+00	3,86E+00	2,47E+00	0,00E+00	-6,54E+01	6,71E+01	0,00E+00	4,16E+00	2,66E+00	0,00E+00	-7,07E+01
SM	[kg]	1,51E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,51E+01	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	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	[m³]	2,79E-02	0,00E+00	4,37E-04	-3,88E-03	0,00E+00	-9,84E-02	3,11E-01	0,00E+00	4,71E-04	-4,19E-03	0,00E+00	-1,06E-01
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 m²													
		BurntWood ReUse without surface treatment						BurntWood ReUse with surface treatment					
Parameter	Unit	A1-A3	C1	C2	C3	C4	D	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	8,47E-05	0,00E+00	1,01E-05	5,66E-06	0,00E+00	-5,14E-05	2,22E-04	0,00E+00	1,09E-05	6,10E-06	0,00E+00	-5,56E-05
NHWD	[kg]	1,09E+00	0,00E+00	2,02E-01	2,16E-01	0,00E+00	-2,42E-01	1,85E+00	0,00E+00	2,18E-01	2,33E-01	0,00E+00	-2,61E-01
RWD	[kg]	2,07E-04	0,00E+00	2,61E-05	4,79E-06	0,00E+00	-1,61E-04	3,11E-04	0,00E+00	2,81E-05	5,15E-06	0,00E+00	-1,74E-04
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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	[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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	[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	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	[MJ]	0,00E+00	0,00E+00	0,00E+00	3,18E+01	0,00E+00	0,00E+00	9,54E-02	0,00E+00	0,00E+00	3,43E+01	0,00E+00	0,00E+00
EET	[MJ]	0,00E+00	0,00E+00	0,00E+00	6,34E+01	0,00E+00	0,00E+00	1,86E-01	0,00E+00	0,00E+00	6,85E+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; EE = Exported energy												

BIOGENIC CARBON CONTENT PER m²			
Parameter	Unit	At the factory gate	
		BurntWood ReUse without surface treatment	BurntWood ReUse with surface treatment
Biogenic carbon content in product	[kg C]	9,08	10,2
Biogenic carbon content in accompanying packagaing	[kg C]	1,09	1,12
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2		

Additional information

LCA interpretation

For the BurntWood ReUse without surface treatment the process and raw materials which are of most important are the conventional wood due to harvesting in forrest and proesses from the sawnmill also the EUR pallet due to its composition of wood, nails and glue. For the BurntWood ReUse with surface treatment the process and raw material of most important is mainly the linseed oil due to harvesting of seed, use of fertilizer, water and obtains land.

Technical information on scenarios

BurntWood ReUse with BurntWood surface treatment 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	20,01	kg
For final disposal	0	kg
Assumptions for scenario development	0	As appropriate

BurntWood ReUse without BurntWood surface treatment 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	18,5	kg
For final disposal	0	kg
Assumptions for scenario development	0	As appropriate

BurntWood ReUse without Burntwood surface treatment Re-use, recovery and recycling potential (D)

Scenario information/Materiel	Value	Unit
Electricity from incineration	31,78	MJ
Heat from incineration	63,37	MJ

BurntWood ReUse with Burntwood surface treatment Re-use, recovery and recycling potential (D)

Scenario information/Materiel	Value	Unit
Electricity from incineration	34,33	MJ
Heat from incineration	68,47	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 Vester Farimagsgade 6, 4. sal 1606 København V e-mail: lasse@transition.nu
LCA software /background data	SimaPro 9.4.0.2. / Ecoinvent v.3.8 Database
3rd party verifier	Ninkie Bendtsen NIRAS A/S Sortemosevej 19 3450 Allerød

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"

ISO 16485
DS/EN 16485 Round and sawn timber – Environmental Product Declarations – Product category rules for wood and wood-based products for use in contructions