

Owner: Dinesen Floors A/S
No.: MD-23194-EN
Issued: 04-07-2024
Valid to: 04-07-2029

3rd PARTY VERIFIED

EPD

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | ISO 14025 & EN 15804



Owner of declaration
 Dinesen Floors A/S
 Klovtoftvej 2
 6630 Rødding, Denmark
 CVR-nr: 33920717



Issued:
04-07-2024

Valid to:
04-07-2029

Programme
 EPD Danmark
www.epddanmark.dk



- Industry EPD
- Product EPD

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.

Declared product(s)

- Dinesen Douglas 28/35 mm thickness (Untreated)
- Dinesen Oak 20/22/30 mm thickness (Untreated)
- Dinesen Pine 35 mm thickness (Untreated)
- Dinesen Ash 22 mm thickness (Untreated)

The EPD covers two hardwood species – oak and ash. In addition to two softwood species – douglas and pine. The moisture content of douglas, oak, ash, and pine is 8% ±1%

Number of declared datasets/products: 4

Production site

Finnmarken 6, 6630 Rødding, Denmark
 Finnmarken 2, 6630 Rødding, Denmark

Green Electricity has been utilized for A3, with GO certificates guaranteeing energy generated from wind.

Product(s) use

Solid wood floors (Untreated) which are ready to be installed in accordance with the instructions of Dinesen Floors A/S.

The floors are intended for indoor use.

Declared/ functional unit

1 m² of solid floor in douglas, oak, ash, or pine.

Year of production site data (A3)

2022

EPD version

[1] July 2024

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 <input type="checkbox"/> internal <input checked="" type="checkbox"/> external
Third party verifier: Linda Høiby, Life Cycle Assessment Consulting

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 products assessed in this study are untreated solid wood floors, which are ready to be installed in accordance with the instructions of Dinesen Floors A/S.

Datasheets for the declared products can be found here:

- [Douglas 28 mm \(Untreated\)](#)
- [Douglas 35 mm \(Untreated\)](#)
- [Oak 22 mm \(Untreated\)](#)
- [Oak 30 mm \(Untreated\)](#)
- [Ash 22 mm \(Untreated\)](#)
- [Pine 35 mm \(Untreated\)](#)

The main product components are shown in the table below. Materials account for 100% of the mass of the declared product.

Material	Weight-% of declared product
Wood (Untreated)	99.79 – 99.99%
Adhesive*	0.21 – 0.01%
Total	100%

Table 1: Mass distribution of the declared products. *Adhesive is utilized for repairs.

Product Packaging:

The composition of the sales- and transport packaging of the product is shown in the table below. Materials account for 100% of the mass of the declared product packaging.

Material	Weight-% of packaging
Plastic wrapping (PE)	7.21%
Buckle strap (PP)	0.11
Wood	92.32%
Pallet	0.35%
Total	100%

Table 2: Mass distribution of product packaging.

Representativity:

This declaration, including data collection and the modelled foreground system including results, represents the production of Dinesen Floors A/S at two production sites in Jels, Denmark. The geographical area covered is Europe. Product specific data have been collected at the production site for the year 2022. Background data is based on Ecoinvent 3.9.1 (published 01-

2023) and complies with EN 15804:2012 + A2:2019, section 6.3.8.2, by being less than 10 years old. Almost all datasets are locally and/or regionally representative (e.g., Denmark, Germany, or Europe), and electricity is country-specific, reflecting GO certification practices for A3. Generally, the datasets utilized are of good quality, with a reference year of 2022 in line with the publication of the Ecoinvent database.

Hazardous Substances

The solid wooden floors by Dinesen Floors A/S do not contain substances listed on the "Candidate List of Substances of Very High Concern for Authorization"

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

Essential Characteristics

Dinesen Floors A/S products are CE cf. EC declaration regarding wooden floors for indoor usage EN 14342:2013. In addition to being FSC, and PESC certified, ensuring sustainable forestry.

<https://www.dinesen.com/da/certificeringer/>

Thermal conductivity, [W/m²K]:

Douglas and Pine: 0.13
Oak and Ash: 0.17

Thermal resistance, [m²°K/W]:

Douglas 28 mm 0.22
Douglas 35 mm 0.27
Oak 20 mm 0.12
Oak 22 mm 0.13
Oak 30 mm 0.18
Pine 35 mm 0.27
Ash 22 mm 0.13

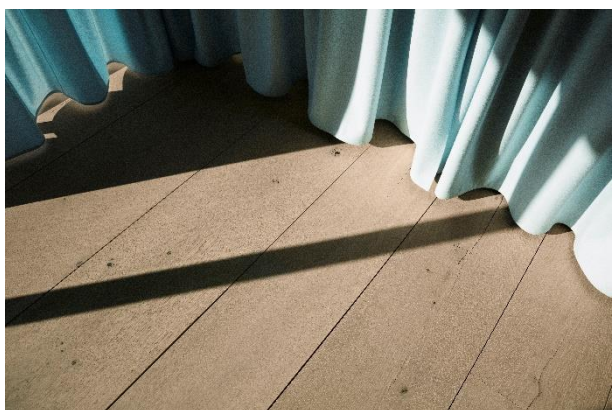
Further technical information can be obtained by contacting the manufacturer, Dinesen Floors A/S, or on the manufacturers' website:

<https://www.dinesen.com>

Reference Service Life (RSL)

No reference service life (RSL) has been declared since the scope of this EPD is cradle-to-gate with modules C1-C4 and D. The use stage (B1-B7) of the declared product is not included.

Picture of product(s)



LCA background

Declared unit

The LCI and LCIA results in this EPD relate to 1 m² of solid untreated wooden floors in softwood (douglas & pine) and hardwood (oak & ash).

Name	Thickness [mm]	Density [kg/m ³]	Moisture content [%]	Total weight [kg]	Scaling factor	Conversion factor to 1 kg
Douglas	28	470	8% ±1%	13.20	1.00	0.076
	35			16.50	1.25	0.061
Oak	20	650	8% ±1%	13.03	0.90	0.077
	22			14.32	1.00	0.070
	30			19.54	1.36	0.051
Ash	22	650	8% ±1%	15.62	1.00	0.064
Pine	35	490	8% ±1%	17.17	1.00	0.058

Table 3: Product properties and scaling factor for each declared product.

The scaling factor can be applied to the results to account for alternative thickness. The total weight per declared unit (1 m²) is calculated based on the thickness and density of each floor type. The specific density and moisture content of each floor type is stated in Table 3.

Product Category Rules (PCR)

This EPD is developed according to the core rules for the product category of construction products in EN 15804:2012 + A2:2019, and cPCR EN 16485:2014 concerning wood and wood-based products for use in construction.

Guarantee of Origin - Certificates

The declared products are produced using GO-certificates issued in accordance with the Directive 2009/28 / EC of the European Parliament. The GO guarantees energy generated through Norwegian wind farms, covering the entire energy consumption for the two production sites in Jels, Denmark, and a warehouse located in Vamdrup, Denmark.

Foreground system

The production at Dinesen Floors A/S (A3) is modelled based on site-specific data for the year 2022. The electricity consumption is modeled with green electricity supplied exclusively by wind, as stated per Dinesen Floors A/S contractual GO certificates.

Background system

The database, Ecoinvent 3.9.1 (published 01-2023) is utilized for the background system. As the results both upstream- and downstream activities are based on average supply mixes for the specific country or region depending on the given dataset.

Flow diagram:

The declared products in this EPD are presented by two flow diagrams. Figure 1 pertains to solid wooden floors in pine, whereas Figure 2 pertains to solid wooden floors in oak, ash and douglas, accounting for a substantial fraction of wood waste generated in Dinesen Floors A/S production being sent for re-processing in Northern Jutland. Each flow diagram presents the life cycle modules included in the study cf. the system boundary.

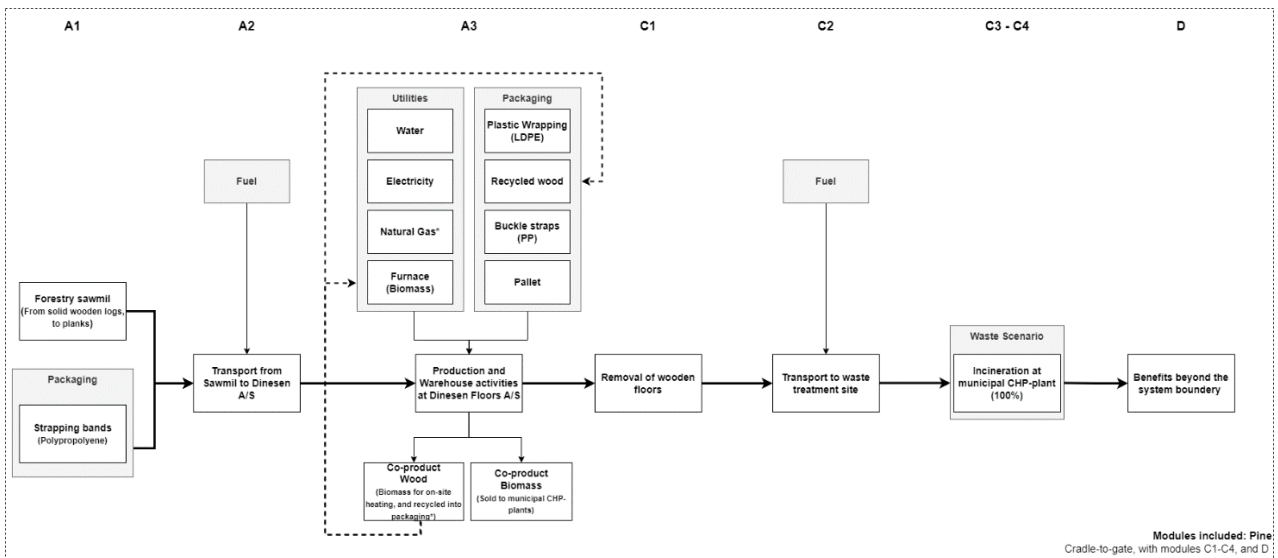


Figure 1: Flow diagram of solid wooden floors in pine.

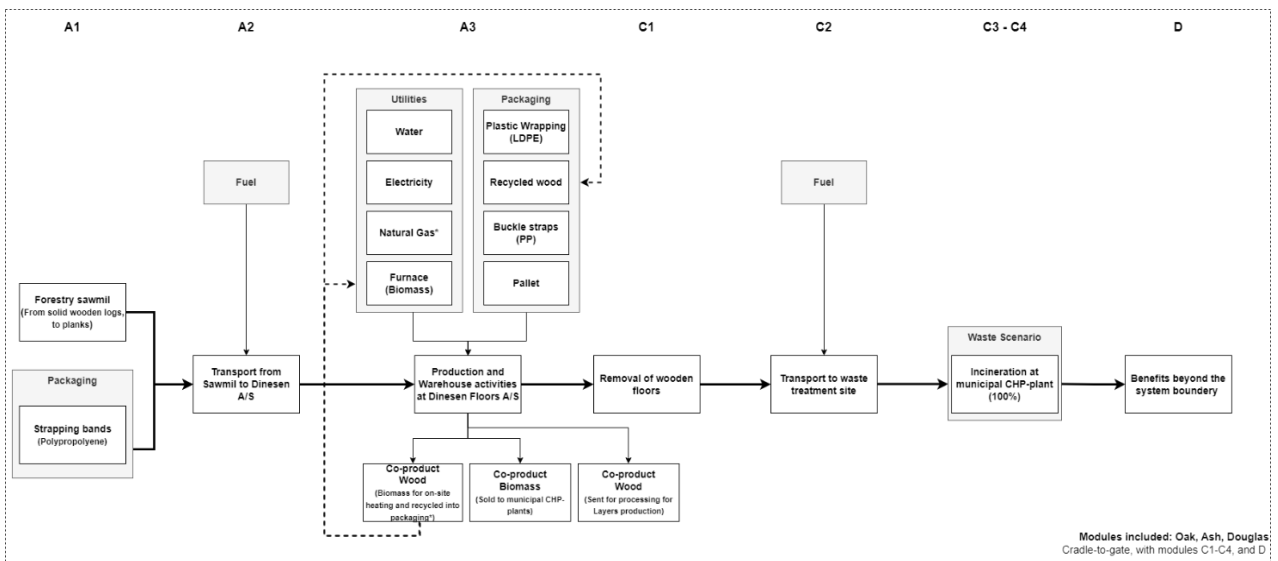


Figure 2: Flow diagram of solid wood floors in oak, ash, and douglas.

System Boundary:

This EPD is based on a cradle-to-gate with modules C1-C4 and D, in which 100 weight-% has been accounted for. The general rules for 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. And 1 % of renewable and non-renewable primary energy usage.

Product Stage (A1-A3) includes:

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 modules A1, A2, and A3 are declared as one module A1-A3. The solid wooden floors declared in this study are made from either douglas, oak, ash, or pine and sourced from the Schwarzwald region in Germany. As prescribed by 15804:2012 + A2:2019 biogenic carbon has been calculated cf. the methodology stated in EN 16449 to ensure the biogenic carbon balance is maintained. Consequently, upstream co-products (e.g., bark, biomass, and sawdust) remain unchanged from the applied generic datasets, which utilize economic allocation.

Electricity and natural gas are utilized at the warehouse located in Jels, Denmark. Heating at the production sites is utilized for drying planks and maintaining temperature through local incineration in kilns, utilizing waste wood generated in the production. Dinesen Floors A/S utilizes water to maintain humidity in its intermediate storage facilities and warehouses. Dinesen Floors A/S' production facilities process wood through sawing and planing to produce wooden floors in fixed and curated lengths. Repairs of damaged parts, or replacement of unwanted natural knots identified in the production (A3), are performed utilizing larch wood and adhesive, noting that the average utilization of larch wood per square meter floor is negligible (<0.5%). Wood waste generated in production is either sold off as biomass to be utilized for fuel in local municipal waste incinerators, reprocessed into secondary material used in Dinesen Layers (Available in Ash, Douglas, and Oak) or used on Dinesen Floors A/S production site to heat the facility.

End of Life (C1-C4 includes):

The deconstruction/removal of the products covered in this study are assumed to be done manually, without electric tools and are therefore not covered by any processes contributing to the environmental impact of the life cycle. 100% of the wood is sent for energy recovery cf. EN 16485, with 97% being collected separately, and 3% being collected as mixed waste. The wood is transported to a waste energy recovery facility by truck, with an applied distance of 30 km. The energy recovery is achieved through municipal incineration with fly ash extraction. The default attribution of end-of-life of wood and wood-based products does not include landfilling (C4) after energy recovery and is therefore not contributing to module C4.

Re-use, Recovery, & Recycling potential (D)

Module D is a continuation of the 100% incineration scenario, as instructed in cPCR 16485:2014. The combined heat-and-power plant generates energy in a 75/25% split of thermal energy, and electric energy. The plant is modeled with an efficiency of 75%, meaning a 25% average energy loss is assumed to occur in the energy recovery process. The energy recovered is based on an average lower heating value (LHV) for hardwood, and softwood. The EET replaces the heating from an average European natural gas market mix cf. EN16485, while EEE replaces an average European electricity mix. Note that the input [kg/m²] is wood, excluding adhesive due to its low material contribution (0.01% – 0.21%), and based on a conservative approach.

LCA results

The declared products covered in this EPD are presented in individual datasets. The datasets for each of the declared products can be found on the following pages:

Page 8-9: **Dinesen Douglas 28 mm**

Page 10-11: **Dinesen Oak 22 mm**

Page 12 – 13: **Dinesen Pine 35 mm**

Page 14-15: **Dinesen Ash 22 mm**

Dinesen Douglas 28 mm

ENVIRONMENTAL IMPACTS PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ eq.]	-1.23E+01	0.00E+00	1.46E-01	2.32E+01	0.00E+00	-4.76E+00
GWP-fossil	[kg CO ₂ eq.]	1.05E+01	0.00E+00	7.21E-02	2.82E-01	0.00E+00	-6.18E+00
GWP-biogenic	[kg CO ₂ eq.]	-2.29E+01	0.00E+00	1.34E-04	2.29E+01	0.00E+00	-2.22E-01
GWP-luluc	[kg CO ₂ eq.]	7.68E-02	0.00E+00	3.56E-05	5.91E-03	0.00E+00	-1.10E-02
ODP	[kg CFC 11 eq.]	2.04E-07	0.00E+00	1.57E-09	4.58E-08	0.00E+00	-5.18E-07
AP	[mol H ⁺ eq.]	4.38E-02	0.00E+00	1.58E-04	1.05E-02	0.00E+00	-2.83E-02
EP-freshwater	[kg P eq.]	4.47E-03	0.00E+00	5.12E-06	1.12E-04	0.00E+00	-4.02E-03
EP-marine	[kg N eq.]	1.48E-02	0.00E+00	3.97E-05	3.10E-03	0.00E+00	-5.24E-03
EP-terrestrial	[mol N eq.]	1.56E-01	0.00E+00	4.04E-04	5.16E-02	0.00E+00	-5.00E-02
POCP	[kg NMVOC eq.]	7.09E-02	0.00E+00	2.45E-04	9.75E-03	0.00E+00	-2.50E-02
ADPm ¹	[kg Sb eq.]	5.66E-05	0.00E+00	2.36E-07	7.56E-07	0.00E+00	-5.18E-05
ADPf ¹	[MJ]	1.50E+02	0.00E+00	1.02E+00	3.21E+00	0.00E+00	-2.33E+02
WDP ¹	[m ³ world eq. deprived]	1.05E+00	0.00E+00	4.22E-03	2.22E-02	0.00E+00	-1.20E+00
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 = Acidification; 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 depletion potential						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						
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.						

Table 4: Core environmental impact indicators for 1 m² of Dinesen Douglas 28 mm

ADDITIONAL ENVIRONMENTAL IMPACTS PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	2.50E-06	0.00E+00	5.37E-09	1.46E-07	0.00E+00	-1.15E-07
IRP ²	[kBq U235 eq.]	6.53E-01	0.00E+00	1.39E-03	8.77E-03	0.00E+00	-2.66E+00
ETP-fw ¹	[CTUe]	1.70E+02	0.00E+00	1.01E+00	8.72E+00	0.00E+00	-4.32E+01
HTP-c ¹	[CTUh]	2.31E-08	0.00E+00	6.57E-11	2.20E-09	0.00E+00	-5.83E-09
HTP-nc ¹	[CTUh]	3.02E-07	0.00E+00	1.45E-09	6.99E-08	0.00E+00	-1.72E-07
SQP ¹	-	2.97E+03	0.00E+00	6.19E-01	1.48E+02	0.00E+00	-2.00E+01
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 (dimensionless)						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						
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.						

Table 5: Additional environmental impact indicators 1 m² of Dinesen Douglas 28 mm

RESOURCE USE PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	7.31E+02	0.00E+00	1.61E-02	7.73E+01	0.00E+00	-2.14E+01
PERM	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	[MJ]	7.31E+02	0.00E+00	1.61E-02	7.73E+01	0.00E+00	-2.14E+01
PENRE	[MJ]	1.25E+01	0.00E+00	2.27E-02	1.42E-01	0.00E+00	-4.66E+01
PENRM	[MJ]	1.38E+02	0.00E+00	1.00E+00	3.08E+00	0.00E+00	-1.86E+02
PENRT	[MJ]	1.50E+02	0.00E+00	1.02E+00	3.22E+00	0.00E+00	-2.33E+02
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]	1.03E+00	0.00E+00	4.20E-03	2.13E-02	0.00E+00	-1.20E+00
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 The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Table 6: Parameters describing resource use for 1 m² of Dinesen Douglas 28 mm

WASTE CATEGORIES AND OUTPUT FLOWS PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	4.00E-02	0.00E+00	1.91E-05	2.45E-02	0.00E+00	-4.78E-03
NHWD	[kg]	5.54E+00	0.00E+00	5.08E-02	1.05E-01	0.00E+00	-5.60E-01
RWD	[kg]	1.83E-04	0.00E+00	3.36E-07	2.04E-06	0.00E+00	-6.82E-04
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	[kg]	6.53E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	[kg]	1.88E+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	4.19E+01	0.00E+00	0.00E+00
EET	[MJ]	0.00E+00	0.00E+00	0.00E+00	1.26E+02	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 = Exported electrical energy; EET = Exported thermal energy The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Table 7: End-of-life (waste categories and output flows) for 1 m² of Dinesen Douglas 28 mm

BIOGENIC CARBON CONTENT PER [m ²]		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	6.25
Biogenic carbon content in accompanying packaging	[kg C]	0.21
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

Table 8: Biogenic carbon content at factory gate for 1 m² of Dinesen Douglas 28 mm

Dinesen Oak 22 mm

ENVIRONMENTAL IMPACTS PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ eq.]	-7.42E+00	0.00E+00	1.59E-01	3.02E+01	0.00E+00	-5.49E+00
GWP-fossil	[kg CO ₂ eq.]	1.73E+01	0.00E+00	7.94E-02	3.25E-01	0.00E+00	-7.14E+00
GWP-biogenic	[kg CO ₂ eq.]	-2.49E+01	0.00E+00	1.46E-04	2.99E+01	0.00E+00	-2.56E-01
GWP-Juluc	[kg CO ₂ eq.]	1.09E-01	0.00E+00	3.92E-05	6.82E-03	0.00E+00	-1.27E-02
ODP	[kg CFC 11 eq.]	3.28E-07	0.00E+00	1.73E-09	5.29E-08	0.00E+00	-5.98E-07
AP	[mol H ⁺ eq.]	7.43E-02	0.00E+00	1.74E-04	1.22E-02	0.00E+00	-3.27E-02
EP-freshwater	[kg P eq.]	7.13E-03	0.00E+00	5.65E-06	1.29E-04	0.00E+00	-4.64E-03
EP-marine	[kg N eq.]	2.67E-02	0.00E+00	4.38E-05	3.58E-03	0.00E+00	-6.06E-03
EP-terrestrial	[mol N eq.]	2.83E-01	0.00E+00	4.45E-04	5.96E-02	0.00E+00	-5.78E-02
POCP	[kg NMVOC eq.]	1.20E-01	0.00E+00	2.70E-04	1.13E-02	0.00E+00	-2.89E-02
ADPm ¹	[kg Sb eq.]	6.58E-05	0.00E+00	2.60E-07	8.73E-07	0.00E+00	-5.99E-05
ADPf ¹	[MJ]	2.47E+02	0.00E+00	1.13E+00	3.71E+00	0.00E+00	-2.69E+02
WDP ¹	[m ³ world eq. deprived]	1.48E+00	0.00E+00	4.65E-03	2.56E-02	0.00E+00	-1.39E+00
Caption	GWP-total = Global Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-Juluc = Global Warming Potential - land use and 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; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						
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.						

Table 9: Core environmental impact indicators for 1 m² of Dinesen Oak 22 mm

ADDITIONAL ENVIRONMENTAL IMPACTS PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	4.98E-06	0.00E+00	5.92E-09	1.68E-07	0.00E+00	-1.33E-07
IRP ²	[kBq U235 eq.]	1.12E+00	0.00E+00	1.53E-03	1.01E-02	0.00E+00	-3.08E+00
ETP-fw ¹	[CTUe]	2.50E+02	0.00E+00	1.12E+00	1.01E+01	0.00E+00	-4.99E+01
HTP-c ¹	[CTUh]	3.05E-08	0.00E+00	7.24E-11	2.55E-09	0.00E+00	-6.74E-09
HTP-nc ¹	[CTUh]	4.77E-07	0.00E+00	1.60E-09	8.08E-08	0.00E+00	-1.99E-07
SQP ¹	-	7.36E+03	0.00E+00	6.82E-01	1.71E+02	0.00E+00	-2.31E+01
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 (dimensionless)						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						
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.						

Table 10: Additional environmental impact indicators 1 m² of Dinesen Oak 22 mm

RESOURCE USE PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	1.46E+03	0.00E+00	1.77E-02	8.93E+01	0.00E+00	-2.47E+01
PERM	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	[MJ]	1.46E+03	0.00E+00	1.77E-02	8.93E+01	0.00E+00	-2.47E+01
PENRE	[MJ]	2.11E+01	0.00E+00	2.50E-02	1.64E-01	0.00E+00	-5.38E+01
PENRM	[MJ]	2.26E+02	0.00E+00	1.10E+00	3.55E+00	0.00E+00	-2.15E+02
PENRT	[MJ]	2.47E+02	0.00E+00	1.13E+00	3.72E+00	0.00E+00	-2.69E+02
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]	1.46E+00	0.00E+00	4.63E-03	2.46E-02	0.00E+00	-1.39E+00
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						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Table 11: Parameters describing resource use for 1 m² of Dinesen Oak 22 mm

WASTE CATEGORIES AND OUTPUT FLOWS PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	4.76E-02	0.00E+00	2.11E-05	2.83E-02	0.00E+00	-5.52E-03
NHWD	[kg]	9.15E+00	0.00E+00	5.61E-02	1.21E-01	0.00E+00	-6.47E-01
RWD	[kg]	3.13E-04	0.00E+00	3.71E-07	2.36E-06	0.00E+00	-7.88E-04
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	[kg]	1.20E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	[kg]	2.14E+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	4.84E+01	0.00E+00	0.00E+00
EET	[MJ]	0.00E+00	0.00E+00	0.00E+00	1.45E+02	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 = Exported electrical energy; EET = Exported thermal energy						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Table 12: End-of-life (waste categories and output flows) for 1 m² of Dinesen Oak 22 mm

BIOGENIC CARBON CONTENT PER [m ²]		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	6.79
Biogenic carbon content in accompanying packaging	[kg C]	0.29
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

Table 13: Biogenic carbon content at factory gate for 1 m² of Dinesen Oak 22 mm

Dinesen Pine 35 mm

ENVIRONMENTAL IMPACTS PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ eq.]	-1.63E+01	0.00E+00	1.91E-01	3.06E+01	0.00E+00	-6.20E+00
GWP-fossil	[kg CO ₂ eq.]	1.32E+01	0.00E+00	9.42E-02	7.19E-01	0.00E+00	-1.05E+01
GWP-biogenic	[kg CO ₂ eq.]	-2.96E+01	0.00E+00	1.74E-04	2.99E+01	0.00E+00	-2.89E-01
GWP-luluc	[kg CO ₂ eq.]	9.49E-02	0.00E+00	4.65E-05	1.51E-02	0.00E+00	-1.87E-02
ODP	[kg CFC 11 eq.]	2.47E-07	0.00E+00	2.05E-09	1.17E-07	0.00E+00	-8.82E-07
AP	[mol H ⁺ eq.]	5.92E-02	0.00E+00	2.06E-04	2.69E-02	0.00E+00	-4.82E-02
EP-freshwater	[kg P eq.]	5.47E-03	0.00E+00	6.70E-06	2.86E-04	0.00E+00	-6.84E-03
EP-marine	[kg N eq.]	2.12E-02	0.00E+00	5.20E-05	7.91E-03	0.00E+00	-8.93E-03
EP-terrestrial	[mol N eq.]	2.28E-01	0.00E+00	5.28E-04	1.32E-01	0.00E+00	-8.51E-02
POCP	[kg NMVOC eq.]	9.86E-02	0.00E+00	3.20E-04	2.49E-02	0.00E+00	-4.26E-02
ADPm ¹	[kg Sb eq.]	4.98E-05	0.00E+00	3.08E-07	1.93E-06	0.00E+00	-8.82E-05
ADPf ¹	[MJ]	1.88E+02	0.00E+00	1.34E+00	8.20E+00	0.00E+00	-3.96E+02
WDP ¹	[m ³ world eq. deprived]	1.24E+00	0.00E+00	5.52E-03	5.66E-02	0.00E+00	-2.05E+00
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 = Acidification; 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 depletion potential						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,000000000112.						
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.						

Table 14: Core environmental impact indicators for 1 m² of Dinesen Pine 35 mm

ADDITIONAL ENVIRONMENTAL IMPACTS PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	3.98E-06	0.00E+00	7.02E-09	3.72E-07	0.00E+00	-1.96E-07
IRP ²	[kBq U235 eq.]	8.54E-01	0.00E+00	1.81E-03	2.24E-02	0.00E+00	-4.54E+00
ETP-fw ¹	[CTUe]	1.92E+02	0.00E+00	1.32E+00	2.23E+01	0.00E+00	-7.36E+01
HTP-c ¹	[CTUh]	2.61E-08	0.00E+00	8.59E-11	5.62E-09	0.00E+00	-9.93E-09
HTP-nc ¹	[CTUh]	4.00E-07	0.00E+00	1.90E-09	1.78E-07	0.00E+00	-2.93E-07
SQP ¹	-	5.63E+03	0.00E+00	8.09E-01	3.77E+02	0.00E+00	-3.40E+01
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 (dimensionless)						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,000000000112.						
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.						

Table 15: Additional environmental impact indicators 1 m² of Dinesen Pine 35 mm

RESOURCE USE PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	1.02E+03	0.00E+00	2.10E-02	1.97E+02	0.00E+00	-3.64E+01
PERM	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	[MJ]	1.02E+03	0.00E+00	2.10E-02	1.97E+02	0.00E+00	-3.64E+01
PENRE	[MJ]	1.60E+01	0.00E+00	2.97E-02	3.63E-01	0.00E+00	-7.93E+01
PENRM	[MJ]	1.72E+02	0.00E+00	1.31E+00	7.85E+00	0.00E+00	-3.17E+02
PENRT	[MJ]	1.88E+02	0.00E+00	1.34E+00	8.22E+00	0.00E+00	-3.96E+02
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]	1.21E+00	0.00E+00	5.49E-03	5.44E-02	0.00E+00	-2.04E+00
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						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Table 16: Parameters describing resource use for 1 m² of Dinesen Pine 35 mm

WASTE CATEGORIES AND OUTPUT FLOWS PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	5.21E-02	0.00E+00	2.50E-05	6.24E-02	0.00E+00	-8.13E-03
NHWD	[kg]	6.89E+00	0.00E+00	6.65E-02	2.68E-01	0.00E+00	-9.53E-01
RWD	[kg]	2.38E-04	0.00E+00	4.40E-07	5.21E-06	0.00E+00	-1.16E-03
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	[kg]	4.55E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	[kg]	6.34E+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	5.46E+01	0.00E+00	0.00E+00
EET	[MJ]	0.00E+00	0.00E+00	0.00E+00	1.64E+02	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 = Exported electrical energy; EET = Exported thermal energy						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Table 17: End-of-life (waste categories and output flows) for 1 m² of Dinesen Pine 35 mm

BIOGENIC CARBON CONTENT PER [m ²]		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	8.14
Biogenic carbon content in accompanying packaging	[kg C]	0.22
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

Table 18: Biogenic carbon content at factory gate for 1 m² of Dinesen Pine 35 mm

Dinesen Ash 22 mm

ENVIRONMENTAL IMPACTS PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
GWP-total	[kg CO ₂ eq.]	-5.99E+00	0.00E+00	1.74E-01	2.52E+01	0.00E+00	-6.00E+00
GWP-fossil	[kg CO ₂ eq.]	1.88E+01	0.00E+00	8.68E-02	3.25E-01	0.00E+00	-7.14E+00
GWP-biogenic	[kg CO ₂ eq.]	-2.48E+01	0.00E+00	1.59E-04	2.49E+01	0.00E+00	-2.80E-01
GWP-Juluc	[kg CO ₂ eq.]	9.65E-02	0.00E+00	4.29E-05	6.82E-03	0.00E+00	-1.27E-02
ODP	[kg CFC 11 eq.]	3.59E-07	0.00E+00	1.89E-09	5.29E-08	0.00E+00	-5.98E-07
AP	[mol H ⁺ eq.]	7.91E-02	0.00E+00	1.90E-04	1.22E-02	0.00E+00	-3.27E-02
EP-freshwater	[kg P eq.]	7.18E-03	0.00E+00	6.17E-06	1.29E-04	0.00E+00	-4.64E-03
EP-marine	[kg N eq.]	2.77E-02	0.00E+00	4.79E-05	3.58E-03	0.00E+00	-6.06E-03
EP-terrestrial	[mol N eq.]	2.94E-01	0.00E+00	4.87E-04	5.95E-02	0.00E+00	-5.78E-02
POCP	[kg NMVOC eq.]	1.22E-01	0.00E+00	2.95E-04	1.13E-02	0.00E+00	-2.89E-02
ADPm ¹	[kg Sb eq.]	8.62E-05	0.00E+00	2.84E-07	8.72E-07	0.00E+00	-5.99E-05
ADPf ¹	[MJ]	2.66E+02	0.00E+00	1.23E+00	3.71E+00	0.00E+00	-2.69E+02
WDP ¹	[m ³ world eq. deprived]	1.59E+00	0.00E+00	5.08E-03	2.56E-02	0.00E+00	-1.39E+00
Caption	GWP-total = Globale Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-Juluc = Global Warming Potential - land use and 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; ADPm = Abiotic Depletion Potential – minerals and metals; ADPf = Abiotic Depletion Potential – fossil fuels; WDP = water depletion potential						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						
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.						

Table 19: Core environmental impact indicators for 1 m² of Dinesen Ash 22 mm

ADDITIONAL ENVIRONMENTAL IMPACTS PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PM	[Disease incidence]	5.14E-06	0.00E+00	6.47E-09	1.68E-07	0.00E+00	-1.33E-07
IRP ²	[kBq U235 eq.]	1.15E+00	0.00E+00	1.67E-03	1.01E-02	0.00E+00	-3.08E+00
ETP-fw ¹	[CTUe]	2.68E+02	0.00E+00	1.22E+00	1.01E+01	0.00E+00	-4.99E+01
HTP-c ¹	[CTUh]	3.21E-08	0.00E+00	7.92E-11	2.54E-09	0.00E+00	-6.74E-09
HTP-nc ¹	[CTUh]	5.42E-07	0.00E+00	1.75E-09	8.07E-08	0.00E+00	-1.99E-07
SQP ¹	-	7.25E+03	0.00E+00	7.46E-01	1.71E+02	0.00E+00	-2.31E+01
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 (dimensionless)						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						
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.						

Table 20: Additional environmental impact indicators 1 m² of Dinesen Ash 22 mm

RESOURCE USE PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
PERE	[MJ]	1.48E+03	0.00E+00	1.94E-02	8.92E+01	0.00E+00	-2.47E+01
PERM	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	[MJ]	1.48E+03	0.00E+00	1.94E-02	8.92E+01	0.00E+00	-2.47E+01
PENRE	[MJ]	2.17E+01	0.00E+00	2.74E-02	1.64E-01	0.00E+00	-5.38E+01
PENRM	[MJ]	2.45E+02	0.00E+00	1.21E+00	3.55E+00	0.00E+00	-2.15E+02
PENRT	[MJ]	2.66E+02	0.00E+00	1.23E+00	3.71E+00	0.00E+00	-2.69E+02
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]	1.57E+00	0.00E+00	5.06E-03	2.46E-02	0.00E+00	-1.39E+00
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						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Table 21: Parameters describing resource use for 1 m² of Dinesen Ash 22 mm

WASTE CATEGORIES AND OUTPUT FLOWS PER [m ²]							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
HWD	[kg]	5.06E-02	0.00E+00	2.30E-05	2.82E-02	0.00E+00	-5.52E-03
NHWD	[kg]	1.02E+01	0.00E+00	6.13E-02	1.21E-01	0.00E+00	-6.47E-01
RWD	[kg]	3.22E-04	0.00E+00	4.05E-07	2.36E-06	0.00E+00	-7.88E-04
CRU	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	[kg]	1.59E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	[kg]	2.84E+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	4.83E+01	0.00E+00	0.00E+00
EET	[MJ]	0.00E+00	0.00E+00	0.00E+00	1.45E+02	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 = Exported electrical energy; EET = Exported thermal energy						
	The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10 ² or 195, while 1,12E-11 is the same as 1,12*10 ⁻¹¹ or 0,0000000000112.						

Table 22: End-of-life (waste categories and output flows) for 1 m² of Dinesen Ash 22 mm

BIOGENIC CARBON CONTENT PER [m ²]		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	6.91
Biogenic carbon content in accompanying packaging	[kg C]	0.31
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

Table 23: Biogenic carbon content at factory gate for 1 m² of Dinesen Ash 22 mm

Additional information

LCA Interpretation:

The LCA results for the declared products included in this EPD indicate that the majority of environmental impacts are associated with the significant transport activity needed in supplying raw materials from Schwarzwald, Germany, to Jels, Denmark. The significant waste generated at Dinesen Floors A/S increases the demand for raw materials and necessitates more transportation to produce 1 m² of finished product.

Reference service life (RSL):

No reference service life (RSL) has been declared since the scope of this EPD is cradle-to-gate with modules C1-C4 and D. As a result, the use stage (B1-B7) of the declared product is not included.

End of life (C1-C4)

Scenario information	Unit	Douglas	Oak	Ash	Pine
Collected separately	kg	12.76	13.87	13.86	16.64
Collected with mixed waste	kg	0.43	0.45	0.44	0.52
For reuse	kg	0	0	0	0
For recycling	kg	0	0	0	0
For energy recovery	kg	13.19	14.32	14.30	17.17
For final disposal	kg	0	0	0	0

Table 24: Waste collected at end-of-life for 1 m² of wood.

Re-use, recovery and recycling potential (D)

Scenario information/Materiel	Unit	Douglas	Oak	Ash	Pine
Energy recovery from waste incineration	MJ	167.52	193.37	193.53	218.44

Table 25: Recovered energy from C3, applied in Module D for 1 m² of wood.

Applied Electricity Mix

The electricity applied in A3 is certified GO-electricity, sourced from Norwegian wind, covering 100% of the production.

Source of electricity	Unit	Amount
Norwegian wind	CO2/kWh	0.0367



Indoor air

The EPD does not give information on release of dangerous substances to indoor air because the horizontal standards on measurement of release of regulated dangerous substances from construction products using harmonized test methods according to the provisions of the respective technical committees for European product standards are not available.

Soil and water

The EPD does not give information on the release of dangerous substances to soil and water because the horizontal standards on measurement of the release of regulated dangerous substances from construction products using harmonized test methods according to the provisions of the respective technical committees for European product standards are not available.

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Programme operator	Danish Technological Institute Buildings & Environment Gregersensvej DK-2630 Taastrup www.teknologisk.dk
LCA-practitioner	 EnergySolution A/S Jesper Kokborg Lassen True Møllevej 1, 8381 Tilst
LCA software / background data	SimaPro 9.5/Ecoinvent 3.9.1 (2023) EN 15804 reference package 3.1
3rd party verifier	Linda Højbye Life Cycle Assessment Consulting

General programme instructions

General Programme Instructions, version 2.0, spring 2020

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