epddanmark

ECO PLATFORM EPD VERIFIED

Owner: DEKO p|s
No.: MD-25103-EN
Issued: 03-10-2025
Valid to: 03-10-2030

3rd PARTY **VERIFIED**

EPD

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

Owner of declaration
DEKO p|s
Mårkærvej 11, DK-2630 Taastrup
66674517
www.deko.dk

Programme
EPD Danmark
www.epddanmark.dk

☐ Industry EPD
☒ Product EPD

☐ Product specific
☐ Average
☒ Worst Case

Declared product(s)
TRÉ Wall EI30
TRÉ Wall EI60

The EPD covers declared products above with the wooden profiles in the species; douglas fir, white oak and european ash. The EPD is modelled with douglas fir as a worst-case scenario representing all three species of wood. Dependent on the impact category, the LCIA results will vary between the softwood and hardwood species. For the majority of impact categories the variation is below +/- 1%.

Number of declared datasets/product variations: 2

Production site
Mårkærvej 11, DK-2630 Taastrup

Use of Guarantees of Origin
☒ No certificates used
☐ Electricity covered by GoO
☐ Biogas covered by GoO

Functional unit
1 m^2 of soundproofed and fireproofed glazed wall partition system, including associated fixing components with a reference service life of 30 years.

Year of production site data (A3)
2023

EPD version
[Vers. 1], [October 2025]

Issued: 03-10-2025
Valid to: 03-10-2030

Basis of calculation
This EPD is developed and verified in accordance with the European standard EN 15804+A2 and the cPCRs EN17074:2019 and EN16485:2014.

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:
Linda Høibye
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	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Product information

Product description

The main product components are shown in the table below.

Material	Weight-% of declared products
Fire-resistant glass	94-95.5
Varnished wood profiles[1]	4.2-4.8
Fire-resistant materials	0.18-0.2
Silicone	0.1
Steel	<0.1
Plastic	<0.1

Product packaging:

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

Material	Weight of packaging material (kg)	Weight-% of packaging
Plastic (LDPE, PP)	0.19	4
Wood (pallet, masonite, cork)	4.29	91
Cardboard	0.18	4
Steel straps	0.07	1
Total	**4.73**	**100**

Representativity

This declaration, including data collection and the modelled foreground system including results, represents the production of 1 m² glazed wall system at the production site located in Taastrup, DK. Product specific data are based on average values collected for 2023. Background data are based on 'LCA for Experts' (MLC Professional Database, 2024) and EcoInvent (v3.10) 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. The representativity of the datasets has been assessed using the table E.1 described in EN15804+A2, Annex E.

Hazardous substances

The wall systems in the series of TRÉ does not contain substances listed on the "Candidate List of Substances of Very High Concern for authorisation"

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

Product(s) use

The function of the product is division of indoor spaces and fire protection.

Essential characteristics

TRÈ Wall EI30 & EI60 compose of fire-resistant glass, varnished wood profiles and minor fractions of fire-resistant materials, plastic and steel.

The systems offer sound insulation and fireproofing according to the standards; (DS/EN ISO 10140-2) and (DS/EN 13501-2).

TRÉ Wall	Fire performance
EI30	EI30
EI60	EI60

The wood used in TRÉ wall EI30 and EI60 is FSC certified.

Test reports, as well as other technical information and certificates can be obtained by contacting DEKO.

Reference Service Life (RSL)

The reference service life is 30 years which is determined according to the guarantee DEKO p|s provides on their systems.

Geographical scope

The geographical scope of this study is Europe.

[1] Douglas fir, white oak or european ash

Picture of product(s)[2]

[2] TRÉ Wall EI30 & EI60 look identical meaning that only one picture of the products is included.

LCA background

Declared unit

The LCI and LCIA results in this EPD relates to 1 m² glazed wall system.

TRÉ Wall	EI30	EI60	Unit
Declared unit	1 m² glazed wall		-
Density	68.5	78.5	kg/m²
Conversion factor to 1 kg	0.015	0.013	m²/kg

Functional unit

1 m² of fireproofing glazed wall partition system, including associated fixing components with a reference service life of 30 years.

Allocation

Allocation is made in accordance with EN 15804 + A2 and EN 16485. Waste in module A3 is allocated to the system based on the total amount of bought glass panes (m²). Energy consumption for production in A3 is allocated to the system based on the total amount of energy used at DEKO and the total amount of bought glass panes (m²) at DEKO. Since the declared products are not yet at full scale production, the allocation of energy consumption in A3 is based on an extrapolation of the existing production data of a reference product manufactured by DEKO[3]. This extrapolation is deemed acceptable as the production flow for TRÉ wall is very similar to this wall system.

All the materials are modelled as primary materials.

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804. In addition to this it follows the cPCR for glass in buildings EN 17074:2019 and the cPCR EN16485:2014 for wood and wood-based products for use in construction.

Energy modelling principles

Foreground system:

The products are produced without purchase of green certificates (GoO). Therefore, the energy consumption in module A3 is modelled using residual electricity mix (DK). Remaining energy processes are modelled using consumption mix (grid mix).

Information about the energy mix in the foreground system:

Energy mix	EF	Unit
Electricity grid mix, DK, 2020	0.156	kg CO_2-eq/kWh
Electricity grid mix, Europe, 2020	0.289	kg CO_2-eq/kWh
Residual grid mix, DK, 2023	0.647	kg CO_2-eq/kWh
Thermal energy from natural gas, DK, 2020	0.062	kg CO_2-eq/MJ

Background system:

Upstream and downstream processes are modelled using datasets representing average supply mixes (grid mix) for the specific country or region.

[3] DEKO FG Fire (EPD no.: MD-24115-EN)

Flowdiagram

System boundary

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

The general rules apply for the exclusion of inputs and outputs in the LCA, which is in compliance with the rules in EN 15804:2012+A2:2019, 6.3.6, in case of insufficient input data gaps for unit process, the cut-off criteria shall be 1% of renewable and non-renewable primary energy usage and 1% of the total mass input of that unit process. The total of neglected input flows per module, e.g. per module A1-A3, A4-A5, B1-B5, B6-B7, C1-C4 and module D shall be a maximum of 5% of energy usage and mass.

Excluded processes in the system include energy use of electric screwdriver during installation and disassembly in module A5 and C1, respectively. In addition to this, the energy use for adjustment of wooden profiles in module A5 is excluded as this is deemed negligible.

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, losses from production, 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.

The TRÉ Wall system compose of fire-resistant glass, varnished wood profiles, fire-resistant materials, steel and plastic.

The fire-resistant glass panes are customised in specific measurement before arriving at DEKO, hence no adjustment is needed.

The wood arrives at DEKO as pre-manufactured profiles. At DEKO the wood profiles are varnished, and minor adjustments are done as the profiles are delivered in standard length at DEKO. The transport and treatment of wood cut-offs are handled in module A3 but are not credited in module D.

The TRÉ Wall system is produced, stored, and packed in Taastrup DK. The energy used for production and storage is included in module A3.

Construction process stage (A4-A5) includes:

The installation of the system is done using electric screw drivers and a glass vacuum lifter. The energy use of the glass vacuum lifter is included.

At the installation site, the wooden profiles are adjusted for the wall system. The wood cut-off is assumed to be incinerated and the energy recovery is credited in module D.

Regarding the packaging, the steel straps are assumed recycled in A5 and credited in module D.

The plastic fraction of the packaging is assumed incinerated with energy recovery and credited in module D. The modified wooden pallet[4] used for transporting the glass panes is assumed reused 10 times. Therefore, 1/10 of the pallet is assumed incinerated and the energy recovery is credited in module D. Cardboard and other wooden packaging components are assumed incinerated together with the pallet.

[4] This is not a standard EUR-pallet, but rather a modified pallet used for transporting glass. This type of pallet is used 10 times, not 25 times like a standard EUR-pallet.

Use stage (B1-B7) includes:

The environmental impacts occurring in the use stage can exclusively be attributed to the cleaning of the glass panes. No replacements are expected during the RSL. It is assumed that the glass panes are cleaned three times per year with the use of 0.2 l water and 0.001 kg cleaning agent per m² throughout the 30 years (RSL). Subsequently, the used cleaning water and cleaning agent is treated as wastewater.

End of Life (C1-C4) includes:

It is assumed that 100% of the wall system is collected at the demolition site and sent to waste treatment.

The waste is transported to waste treatment facilities. For recycling the distance is set to 230-550 km depending on the material whereas the waste going to incineration is transported 50 km and waste to landfill is transported 70 km.

The waste treatment for the specific material fractions follows the guidelines in cPCR EN17074:2019 and literature. The following waste treatment rates are applied: 15% loss ending up on landfill is assumed for waste treatment of steel. 100% of the plastic and silicone is incinerated. The fire-resistant glass is assumed to be landfilled. 100% of the varnished wood profiles are assumed incinerated. The fire-resistant materials are assumed to be landfilled.

Materials	Recycling (%)	Incineration (%)	Landfill (%)
Fire-resistant glass	0	0	100
Varnished wood profiles	0	100	0
Fire-resistant materials[5]	0	0	100
Silicone	0	100	0
Steel	85	0	15
Plastic	0	100	0

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

In module D the potential benefits from recovery and recycling of materials from the product and packaging is modelled.

[5] Graphite based material, ammonium phosphate, calcium magnesium silicate & Inorganic oxides

LCA results

ENVIRONMENTAL IMPACTS PER 1 m² TRÉ Wall EI30												
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	1.07E+02	2.61E+00	8.62E+00	0.00E+00	3.13E-01	0.00E+00	3.36E-01	5.17E-01	5.52E+00	9.74E-01	-2.26E+00
GWP-fossil	[kg CO_2 eq.]	1.25E+02	2.57E+00	7.92E-01	0.00E+00	2.92E-01	0.00E+00	3.33E-01	5.08E-01	2.55E-01	9.75E-01	-2.24E+00
GWP-biogenic	[kg CO_2 eq.]	-1.24E+01	0.00E+00*	7.61E+00	0.00E+00	0.00E+00*	0.00E+00	2.99E-03	0.00E+00*	4.79E+00	0.00E+00*	-1.52E-02
GWP-luluc	[kg CO_2 eq.]	2.57E-01	4.23E-02	1.20E-03	0.00E+00	2.12E-02	0.00E+00	5.06E-05	8.45E-03	5.43E-05	5.85E-03	-3.94E-04
ODP	[kg CFC 11 eq.]	1.07E-05	3.73E-13	5.27E-12	0.00E+00	2.42E-08	0.00E+00	7.55E-12	7.40E-14	6.71E-13	2.63E-12	-2.11E-11
AP	[mol H^+ eq.]	9.92E-01	1.11E-02	1.21E-03	0.00E+00	2.06E-03	0.00E+00	6.41E-04	2.70E-03	9.18E-04	6.93E-03	-4.07E-03
EP-freshwater	[kg P eq.]	4.13E-02	1.07E-05	1.27E-06	0.00E+00	1.14E-04	0.00E+00	1.39E-06	2.15E-06	1.69E-07	2.22E-06	-1.07E-05
EP-marine	[kg N eq.]	1.70E-01	5.01E-03	4.18E-04	0.00E+00	6.90E-04	0.00E+00	1.60E-04	1.31E-03	2.70E-04	1.78E-03	-1.17E-03
EP-terrestrial	[mol N eq.]	1.92E+00	5.61E-02	4.96E-03	0.00E+00	4.37E-03	0.00E+00	1.68E-03	1.46E-02	3.86E-03	1.96E-02	-1.21E-02
POCP	[kg NMVOC eq.]	5.06E-01	1.03E-02	9.84E-04	0.00E+00	1.23E-03	0.00E+00	4.24E-04	2.65E-03	7.43E-04	5.46E-03	-3.10E-03
ADPm[1]	[kg Sb eq.]	1.02E-03	2.20E-07	4.99E-08	0.00E+00	3.21E-06	0.00E+00	6.22E-08	4.38E-08	6.99E-09	6.32E-08	-2.01E-07
ADPf[1]	[MJ]	1.53E+03	3.35E+01	6.12E+00	0.00E+00	5.34E+00	0.00E+00	6.97E+00	6.62E+00	1.40E+00	1.29E+01	-3.34E+01
WDP[1]	[m^3 world eq. deprived]	3.71E+01	3.90E-02	3.10E-01	0.00E+00	4.16E-01	0.00E+00	9.06E-02	7.78E-03	6.05E-01	1.12E-01	-3.84E-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 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.											

* According to EN15804, the uptake of biogenic carbon from datasets describing transport, energy, detergent and water in module A2, A3, A4, B2, C2 and C4 is balanced out as it represents less than 5 weight% of the biogenic carbon in the declared product.

ADDITIONAL ENVIRONMENTAL IMPACTS PER 1 m² TRÉ Wall EI30												
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	9.82E-06	8.51E-08	8.14E-09	0.00E+00	2.04E-08	0.00E+00	5.36E-09	1.50E-08	6.16E-09	8.69E-08	-3.54E-08
IRP[2]	[kBq U235 eq.]	6.45E+00	8.81E-03	1.25E-01	0.00E+00	2.14E-02	0.00E+00	1.83E-01	1.75E-03	1.30E-02	1.56E-02	-4.95E-01
ETP-fw[1]	[CTUe]	1.02E+02	2.49E+01	2.32E+00	0.00E+00	5.42E+00	0.00E+00	2.02E+00	4.91E+00	5.95E-01	7.41E+00	-9.54E+00
HTP-c[1]	[CTUh]	7.94E-08	5.02E-10	1.14E-10	0.00E+00	3.72E-10	0.00E+00	1.13E-10	9.94E-11	5.84E-11	1.75E-10	-4.96E-10
HTP-nc[1]	[CTUh]	1.51E-06	2.24E-08	3.32E-09	0.00E+00	1.04E-08	0.00E+00	1.74E-09	4.46E-09	3.02E-09	6.76E-09	-1.40E-08
SQP[1]	-	2.62E+03	1.63E+01	2.57E+00	0.00E+00	3.97E+00	0.00E+00	2.95E+00	3.26E+00	4.50E-01	3.54E+00	-3.81E+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.											

RESOURCE USE PER 1 m² TRÉ Wall EI30												
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	2.72E+02	2.86E+00	3.57E+00	0.00E+00	1.78E+00	0.00E+00	5.04E+00	5.70E-01	4.51E+01	2.24E+00	-2.43E+01
PERM	[MJ]	1.15E+02	0.00E+00	-7.06E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.47E+01	0.00E+00	0.00E+00
PERT	[MJ]	3.87E+02	2.86E+00	3.57E+00	0.00E+00	1.78E+00	0.00E+00	5.04E+00	5.70E-01	4.22E-01	2.24E+00	-2.43E+01
PENRE	[MJ]	1.53E+03	3.35E+01	1.37E+01	0.00E+00	5.34E+00	0.00E+00	6.97E+00	6.62E+00	1.60E+01	1.29E+01	-3.34E+01
PENRM	[MJ]	6.89E+01	0.00E+00	-7.60E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.46E+01	0.00E+00	0.00E+00
PENRT	[MJ]	1.60E+03	3.35E+01	6.12E+00	0.00E+00	5.34E+00	0.00E+00	6.97E+00	6.62E+00	1.40E+00	1.29E+01	-3.34E+01
SM	[kg]	4.02E+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
RSF	[MJ]	5.15E-04	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
FW	[m³]	1.50E+00	3.18E-03	8.48E-03	0.00E+00	9.69E-03	0.00E+00	3.84E-03	6.35E-04	1.42E-02	3.41E-03	-2.61E-02
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.											

WASTE CATEGORIES AND OUTPUT FLOWS PER 1 m² TRÉ Wall EI30												
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3-B7**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	2.22E-01	1.28E-09	7.03E-09	0.00E+00	1.08E-10	0.00E+00	1.01E-08	2.53E-10	8.73E-10	3.20E-09	-2.74E-08
NHWD	[kg]	6.42E-01	5.45E-03	8.50E-02	0.00E+00	1.75E-02	0.00E+00	5.76E-03	1.08E-03	1.10E-01	6.52E+01	-7.02E-02
RWD	[kg]	1.99E-03	6.08E-05	7.63E-04	0.00E+00	1.05E-05	0.00E+00	1.11E-03	1.21E-05	8.16E-05	1.35E-04	-3.02E-03
CRU	[kg]	0.00E+00	0.00E+00	3.80E+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]	2.29E+00	0.00E+00	8.50E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-01	0.00E+00	0.00E+00
MER	[kg]	3.80E-03	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]	3.43E+00	0.00E+00	3.44E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.72E+00	0.00E+00	0.00E+00
EET	[MJ]	6.42E+00	0.00E+00	6.19E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E+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 = 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.											

BIOGENIC CARBON CONTENT PER 1 m² TRÉ Wall EI30		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	1.54
Biogenic carbon content in accompanying packagaing	[kg C]	1.96
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

ENVIRONMENTAL IMPACTS PER 1 m² TRÉ Wall EI60												
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	[kg CO_2 eq.]	1.24E+02	2.97E+00	8.66E+00	0.00E+00	3.13E-01	0.00E+00	3.36E-01	5.87E-01	5.52E+00	1.12E+00	-2.23E+00
GWP-fossil	[kg CO_2 eq.]	1.42E+02	2.92E+00	7.94E-01	0.00E+00	2.92E-01	0.00E+00	3.33E-01	5.78E-01	2.55E-01	1.12E+00	-2.22E+00
GWP-biogenic	[kg CO_2 eq.]	-1.25E+01	0.00E+00*	7.64E+00	0.00E+00	0.00E+00*	0.00E+00	2.99E-03	0.00E+00*	4.86E+00	0.00E+00*	-1.50E-02
GWP-luluc	[kg CO_2 eq.]	2.94E-01	4.80E-02	1.20E-03	0.00E+00	2.12E-02	0.00E+00	5.06E-05	9.60E-03	5.43E-05	6.75E-03	-3.89E-04
ODP	[kg CFC 11 eq.]	6.20E-08	2.47E-13	5.26E-12	0.00E+00	2.42E-08	0.00E+00	7.57E-12	1.30E-13	4.61E-12	1.41E-12	-4.58E-11
AP	[mol H^+ eq.]	4.92E-01	7.37E-03	1.20E-03	0.00E+00	2.06E-03	0.00E+00	6.43E-04	5.30E-03	2.51E-03	3.62E-03	-7.70E-02
EP-freshwater	[kg P eq.]	1.52E-03	7.11E-06	1.27E-06	0.00E+00	1.14E-04	0.00E+00	1.39E-06	3.76E-06	2.90E-06	1.99E-05	-1.67E-05
EP-marine	[kg N eq.]	1.11E-01	3.31E-03	4.14E-04	0.00E+00	6.90E-04	0.00E+00	1.61E-04	2.59E-03	1.06E-03	9.22E-04	-2.29E-02
EP-terrestrial	[mol N eq.]	1.26E+00	3.71E-02	4.91E-03	0.00E+00	4.37E-03	0.00E+00	1.68E-03	2.88E-02	1.29E-02	1.02E-02	-2.60E-01
POCP	[kg NMVOC eq.]	2.35E-01	6.81E-03	9.74E-04	0.00E+00	1.23E-03	0.00E+00	4.25E-04	5.17E-03	2.27E-03	2.83E-03	-4.66E-02
ADPm[1]	[kg Sb eq.]	2.33E-05	1.45E-07	4.97E-08	0.00E+00	3.21E-06	0.00E+00	6.24E-08	7.67E-08	6.99E-08	3.34E-08	-7.20E-07
ADPf[1]	[MJ]	1.67E+03	2.22E+01	6.09E+00	0.00E+00	5.34E+00	0.00E+00	6.99E+00	1.16E+01	8.11E+00	6.90E+00	-2.00E+02
WDP[1]	[m^3 world eq. deprived]	1.11E+01	2.58E-02	3.06E-01	0.00E+00	4.16E-01	0.00E+00	9.09E-02	1.36E-02	7.73E-01	5.93E-02	-1.14E+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 = 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 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.											

* According to EN15804, the uptake of biogenic carbon from datasets describing transport, energy, detergent and water in module A2, A3, A4, B2, C2 and C4 is balanced out as it represents less than 5 weight% of the biogenic carbon in the declared product.

ADDITIONAL ENVIRONMENTAL IMPACTS PER 1 m² TRÉ Wall EI60												
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PM	[Disease incidence]	3.57E-06	5.63E-08	8.06E-09	0.00E+00	2.04E-08	0.00E+00	5.38E-09	2.47E-08	1.24E-08	4.49E-08	-5.27E-07
IRP[2]	[kBq U235 eq.]	2.37E+00	5.83E-03	1.25E-01	0.00E+00	2.14E-02	0.00E+00	1.84E-01	3.06E-03	9.92E-02	8.77E-03	-1.10E+00
ETP-fw[1]	[CTUe]	9.70E+02	1.64E+01	2.30E+00	0.00E+00	5.42E+00	0.00E+00	2.03E+00	8.61E+00	6.97E+00	4.86E+00	-1.68E+02
HTP-c[1]	[CTUh]	1.63E-06	3.32E-10	1.13E-10	0.00E+00	3.72E-10	0.00E+00	1.14E-10	1.74E-10	-4.64E-12	1.04E-10	-1.68E-09
HTP-nc[1]	[CTUh]	4.14E-07	1.48E-08	3.29E-09	0.00E+00	1.04E-08	0.00E+00	1.74E-09	7.81E-09	9.97E-09	3.71E-09	-9.12E-08
SQP[1]	-	1.50E+03	1.08E+01	2.56E+00	0.00E+00	3.97E+00	0.00E+00	2.96E+00	5.70E+00	5.09E+00	1.84E+00	-4.76E+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.											

RESOURCE USE PER 1 m² TRÉ Wall EI60												
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	[MJ]	3.17E+02	3.24E+00	3.60E+00	0.00E+00	1.78E+00	0.00E+00	5.04E+00	6.48E-01	4.59E+01	2.59E+00	-2.41E+01
PERM	[MJ]	1.16E+02	0.00E+00	-7.06E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-4.55E+01	0.00E+00	0.00E+00
PERT	[MJ]	3.24E+02	3.24E+00	3.60E+00	0.00E+00	1.78E+00	0.00E+00	5.04E+00	6.48E-01	4.16E-01	2.59E+00	-2.41E+01
PENRE	[MJ]	1.74E+03	3.81E+01	1.38E+01	0.00E+00	5.34E+00	0.00E+00	6.97E+00	7.52E+00	8.99E+00	1.48E+01	-3.31E+01
PENRM	[MJ]	6.98E+01	0.00E+00	-7.60E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-7.60E+00	0.00E+00	0.00E+00
PENRT	[MJ]	1.81E+03	3.81E+01	6.16E+00	0.00E+00	5.34E+00	0.00E+00	6.97E+00	7.52E+00	1.39E+00	1.48E+01	-3.31E+01
SM	[kg]	4.05E+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
RSF	[MJ]	5.15E-04	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
FW	[m^3]	1.71E+00	3.61E-03	8.58E-03	0.00E+00	9.70E-03	0.00E+00	3.84E-03	7.22E-04	1.42E-02	3.93E-03	-2.60E-02
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.											

WASTE CATEGORIES AND OUTPUT FLOWS PER 1 m² TRÉ Wall EI60												
Parameter	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3-B7**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	[kg]	2.17E-01	8.46E-10	7.01E-09	0.00E+00	1.08E-10	0.00E+00	1.01E-08	4.44E-10	6.15E-09	1.72E-09	-6.44E-08
NHWD	[kg]	6.28E+00	3.60E-03	7.94E-02	0.00E+00	1.75E-02	0.00E+00	5.78E-03	1.89E-03	5.09E-01	3.33E+01	-2.75E+00
RWD	[kg]	1.20E-02	4.02E-05	7.61E-04	0.00E+00	1.04E-05	0.00E+00	1.12E-03	2.11E-05	5.88E-04	7.44E-05	-6.75E-03
CRU	[kg]	0.00E+00	0.00E+00	3.80E+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]	2.08E+00	0.00E+00	8.50E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E+01	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
EEE	[MJ]	3.43E+00	0.00E+00	3.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.31E+00	0.00E+00	0.00E+00
EET	[MJ]	6.42E+00	0.00E+00	6.11E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.32E+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 = 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.											

BIOGENIC CARBON CONTENT PER 1 m² TRÉ Wall EI60		
Parameter	**Unit**	**At the factory gate**
Biogenic carbon content in product	[kg C]	1.58
Biogenic carbon content in accompanying packagaing	[kg C]	1.96
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO_2	

Additional information

LCA interpretation

The results of this EPD are calculated based on 1 m^2 TRÉ Wall EI30 & EI60. The calculated results reflect that the production of glass panes entails the greatest environmental impacts for the system. This can be expected as glass accounts for 94-95.5% of the weight. In addition to this, the production of glass is very energy and material intensive.

Technical information on scenarios

Transport to the building site (A4)

Scenario information	**Truck**	**Ship**	Unit
Fuel type	Diesel	Heavy fuel oil	-
Vehicle type	Truck, Euro 5, 26 - 28t gross weight / 18.4t payload capacity	Container ship, 5.000 to 200.000 dwt payload capacity, deep sea	-
Transport distance[6]	265	23	km
Capacity utilisation (including empty runs)	42.5	42.5	%
Gross density of products transported	68.5-78.5		kg/m^2

Installation of the product in the building (A5)

Scenario information	Value	Unit
Ancillary materials	0	kg
Water use	0	m^3
Other resource use	0	kg
Energy type and consumption	0.76	kWh (electricity)
Waste materials	5.33-5.35	kg
Output materials	68.5-78.5	kg
Direct emissions to air, soil or water	0	kg

Reference service life

RSL information		Unit
Reference service Life	30	Years
Maintenance (cleaning)	Cleaning 3 times a year during the RSL	-

[6] Distances are based on a weighted average of the market share of a consumer and the distance to the consumer.

Use (B1-B7) – B2 Maintenance

Scenario information	Value	Unit
B2 - Maintenance		
Maintenance process	The partition systems are assumed cleaned 3 times a year with mild cleaning agent.	-
Maintenance cycle	3	/year
Ancillary materials for maintenance (cleaning agent)	0.001	kg/cycle
Waste materials resulting from maintenance (water and cleaning agent)	0.201	kg/cycle
Net freshwater consumption during maintenance	0.2	l/cycle
Energy input during maintenance	0	kWh

End of life (C1-C4)

Scenario information	EI30	EI60	Unit
Collected separately	68.5	78.5	kg
Collected with mixed waste	0	0	kg
For reuse	0	0	kg
For recycling with credit in module D	0.01	0.01	kg
For recycling without credit in module D	0	0	kg
For energy recovery	3.3	3.4	kg
For final disposal (landfilling)	65.1	75.1	kg

Re-use, recovery and recycling potential (D)

Module	Scenario information/Material	Value	Unit
A5 (Packaging)	Materials sent for recycling	0.01	kg
	Energy recovery from waste incineration (electricity)	2.5	MJ
	Energy recovery from waste incineration (thermal)	4.4	MJ
A5 (Wood cut-off)	Energy recovery from waste incineration (electricity)	1.4	MJ
	Energy recovery from waste incineration (thermal)	2.5 - 2.6	MJ
C3 (declared product)	Materials sent for recycling	0.01	kg
	Energy recovery from waste incineration (electricity)	7.7 - 7.8	MJ
	Energy recovery from waste incineration (thermal)	13.8 - 14.1	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

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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 17074
DS/EN 17074:2019 – ”Glass in building – Environmental product declaration – Product category rules for flat glass products”

EN 16485
EN16485:2014 “Round and sawn timber - Environmental Product Declarations - Product category rules for wood and wood-based products for use in construction”

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

DEKO FG Fire
EPD no.: MD-24115-EN

DS/EN ISO 10140-2
Acoustics – Laboratory measurement of sound insulation of building elements – Part 2: Measurement of airborne sound insulation (ISO 10140-2:2021)

DS/EN 13501-2
Fire classification of construction products and building elements – Part 2: Classification using data from fire resistance and/or smoke control tests, excluding ventilation services

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”