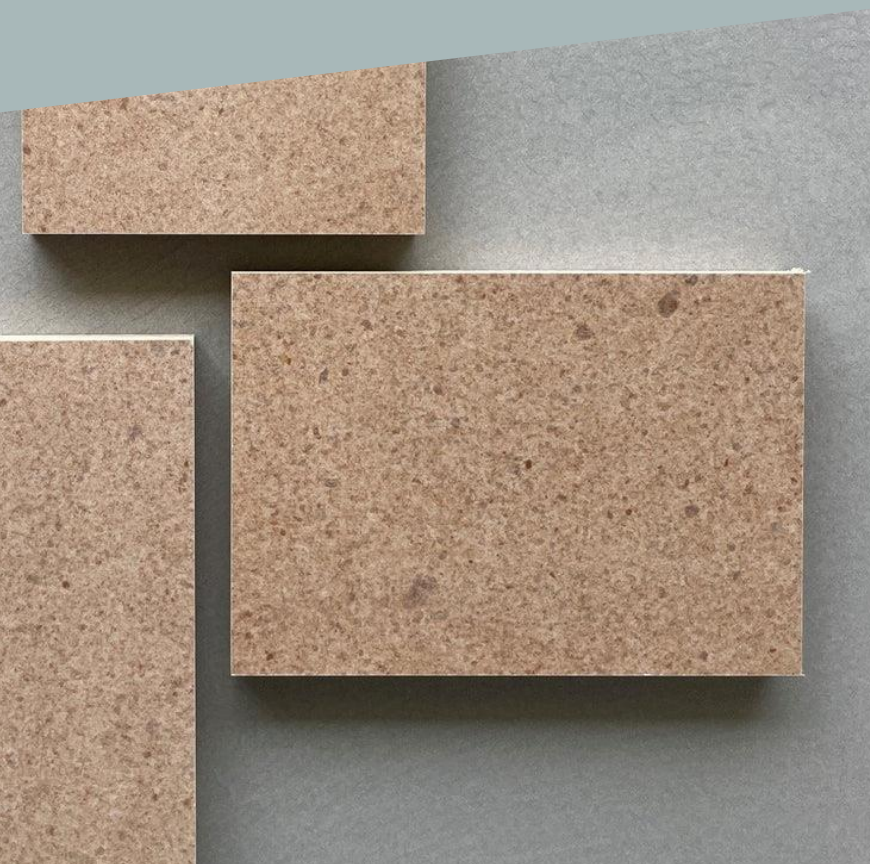


Owner: Convert A/S
No.: MD-24180-EN
Issued: 26-02-2025
Valid to: 26-02-2030

3rd PARTY VERIFIED

EPD

VERIFIED ENVIRONMENTAL PRODUCT DECLARATION | ISO 14025 & EN 15804



Owner of declaration

Convert A/S
 Håndværkervej 3-7
 DK-7700 Thisted
 CVR: 39159090



Issued:
26-02-2025

Valid to:
26-02-2030

Programme

EPD Danmark
www.epddanmark.dk



- Industry EPD
- Product EPD

Declared product(s)

8/10/16/18/22 mm MDF Remade with resistant surface.

Number of declared datasets/product variations: 5

Production site

Håndværkervej 3-7
 7700 Thisted
 Denmark

Use of Guarantees of Origin

- No certificates used
- Electricity covered by GoO
- Biogas covered by GoO

Declared unit

1 m² of product

Year of production site data (A3)

2022-2024

EPD version

Version 1.0

Basis of calculation

This EPD is developed and verified 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:



David Althoff Palm, Dalemarken AB



Martha Kathrine 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	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X	

Product information

Product description

The main product components are shown in the tables below.

1 m² 8 mm MDF Remade with resistant surface

Material	Amount [kg]	Weight-%
MDF	4.03	63.31
Plastic binder fiber	1.97	31.03
Melamine sheet	0.36	5.66
Sum	6.36	100

1 m² 10 mm MDF Remade with resistant surface

Material	Amount [kg]	Weight-%
MDF	6.04	64.52
Plastic binder fiber	2.96	31.63
Melamine sheet	0.36	3.85
Sum	9.36	100

1 m² 16 mm MDF Remade with resistant surface

Material	Amount [kg]	Weight-%
MDF	8.05	65.15
Plastic binder fiber	3.95	31.94
Melamine sheet	0.36	2.91
Sum	12.36	100

1 m² 18 mm MDF Remade with resistant surface

Material	Amount [kg]	Weight-%
MDF	10.07	65.53
Plastic binder fiber	4.93	32.12
Melamine sheet	0.36	2.34
Sum	15.36	100

1 m² 22 mm MDF Remade with resistant surface

Material	Amount [kg]	Weight-%
MDF	12.08	65.79
Plastic binder fiber	5.92	32.25
Melamine sheet	0.36	1.96
Sum	18.36	100

Product packaging:

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

1 m² 8 mm MDF Remade with resistant surface

Material	Amount [kg]	Weight-%
Flat pallet	0.40	96.18
Packaging film	0.01	1.91
Protective corners	0.01	1.91
Sum	0.42	100

1 m² 10 mm MDF Remade with resistant surface

Material	Amount [kg]	Weight-%
Flat pallet	0.59	96.18
Packaging film	0.01	1.91
Protective corners	0.01	1.91
Sum	0.61	100

1 m² 16 mm MDF Remade with resistant surface

Material	Amount [kg]	Weight-%
Flat pallet	0.78	96.18
Packaging film	0.02	1.91
Protective corners	0.02	1.91
Sum	0.81	100

1 m² 18 mm MDF Remade with resistant surface

Material	Amount [kg]	Weight-%
Flat pallet	0.97	96.18
Packaging film	0.02	1.91
Protective corners	0.02	1.91
Sum	1.01	100

1 m² 22 mm MDF Remade with resistant surface

Material	Amount [kg]	Weight-%
Flat pallet	1.16	96.18
Packaging film	0.02	1.91
Protective corners	0.02	1.91
Sum	1.20	100

Representativity

This declaration, including data collection and the modeled foreground system including results, represents the production of MDF Remade with resistant surface on the production site located in Thisted, Denmark. Product specific data are based on average values collected in the period August 2022 to August 2024. Background data are based on Ecoinvent 3.10 EN 15804 database and are less than 10 years old. The majority of the datasets are only a couple of years old. The market this EPD is made for is Denmark, as MDF Remade is produced, used and undergo end of life treatment in Denmark.

Hazardous substances

MDF Remade does not contain substances listed on the "Candidate List of Substances of Very High Concern for authorization" at levels above 0,1%.

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

Product(s) use

MDF Remade with a resistant surface is well-suited for use in the furniture industry. It is made of recycled MDF and a plastic binder with a melamine surface coating. The surface provides durability against liquids and scratches while preserving the visible history of the recycled wood for a unique visual expression. For a more natural look, MDF Remade is also available in a raw, untreated version (which is covered in a separate EPD).

Product advantages:

- First industrial initiative to use recycled MDF
- Saving MDF scrap from being incinerated
- Production process is 100% dry with no water and no formaldehyde containing glue added to the process
- Electricity used in the production is 100% renewable
- Sourcing of MDF and production are 100% local in Denmark

Essential characteristics

Further technical information can be obtained by contacting the manufacturer or on the manufacturer's website: <https://convert.as>

Reference Service Life (RSL)

15 years

Picture of product(s)



LCA background

Declared unit

The LCI and LCIA results in this EPD relates to 1 m² MDF Remade with resistant surface (8/10/16/18/22 mm).

1 m² 8 mm MDF Remade with resistant surface

Name	Value	Unit
Declared unit	1	m ²
Density	6.36	kg/m ²
Conversion factor to 1 kg.	0.1572	-

1 m² 10 mm MDF Remade with resistant surface

Name	Value	Unit
Declared unit	1	m ²
Density	9.36	kg/m ²
Conversion factor to 1 kg.	0.1068	-

1 m² 16 mm MDF Remade with resistant surface

Name	Value	Unit
Declared unit	1	m ²
Density	12.36	kg/m ²
Conversion factor to 1 kg.	0.0809	-

1 m² 18 mm MDF Remade with resistant surface

Name	Value	Unit
Declared unit	1	m ²
Density	15.36	kg/m ²
Conversion factor to 1 kg.	0.0651	-

1 m² 22 mm MDF Remade with resistant surface

Name	Value	Unit
Declared unit	1	m ²
Density	18.36	kg/m ²
Conversion factor to 1 kg.	0.0545	-

Declared unit

Production of 1 m² of 8/10/16/18/22 mm medium density fiberboard (MDF) and plastic composite board with melamine coating, including the life cycle from raw materials to end-of-life treatment (excluding the use phase).

PCR

This EPD is developed according to the core rules for the product category of construction products in EN 15804 and EN 16485:2014 – "Round and sawn timber – Environmental Product Declarations – Product category rules for wood and wood-based products for use in construction"

Energy modelling principles

Foreground system:

The product is produced using energy covered by GOs in the production.

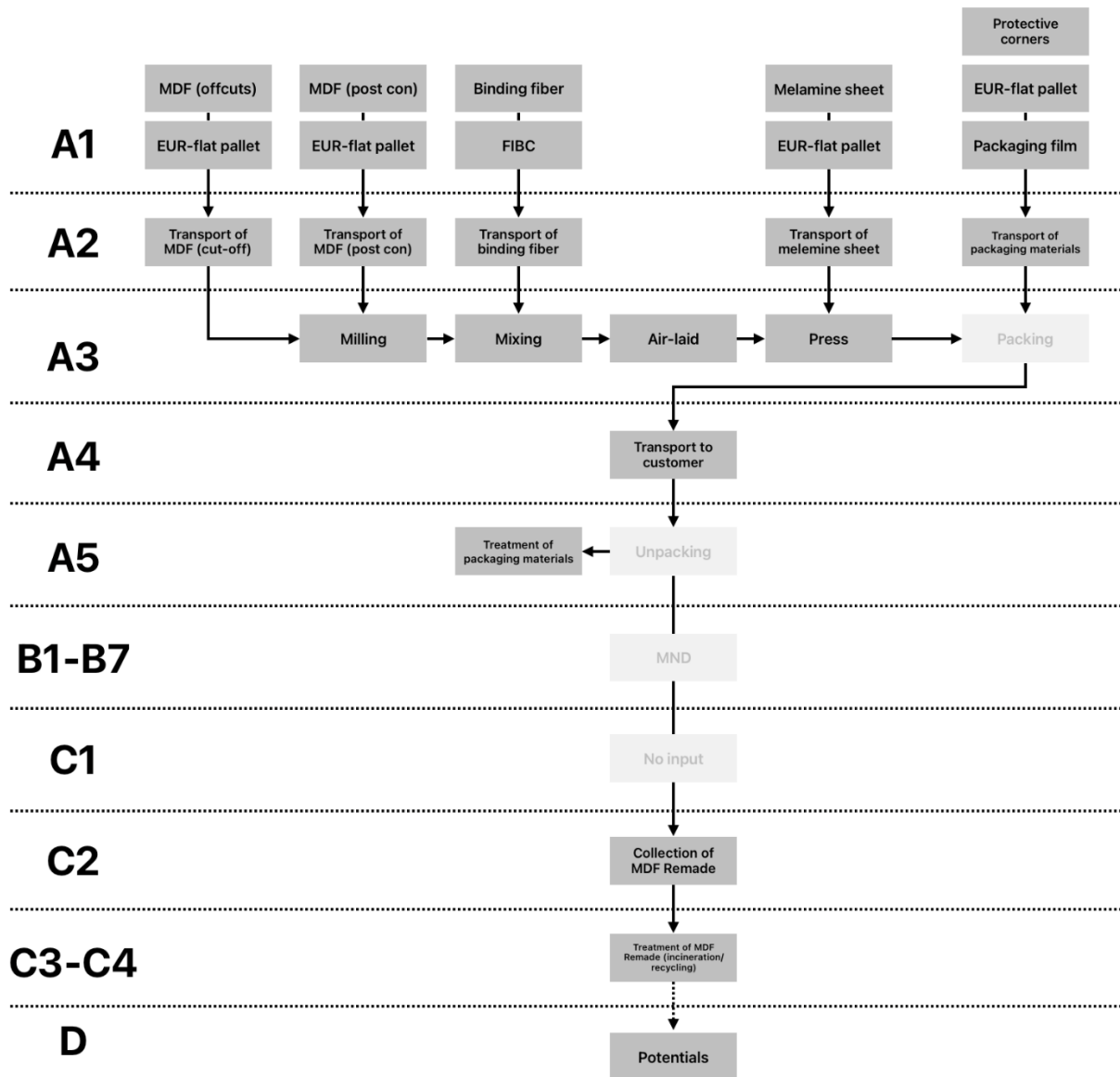
Information about the energy mix in the foreground system:

Dataset	EF	Unit
Renewable electricity prod. wind, DK, ref. year 2023	0,014	kg CO ₂ e/kWh
Natural gas mix, DK, ref. year 2021	0,517	kg CO ₂ e/m ³

Background system:

No energy input in upstream and downstream processes.

Flowdiagram



System boundary

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

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

Product stage (A1-A3) includes:

A1 – Extraction and processing of raw materials

A2 – Transport to the production site

A3 – Manufacturing processes

The product stage comprises the acquisition of all raw materials, products and energy, transport to the production site, packaging and waste processing up to the “end-of-waste” state.

MDF Remade with resistant surface is made from locally sources production offcuts from Denmark and old MDF tabletops mainly from Greater Copenhagen, Denmark, as well as second-grade binder fiber and melamine sheets from Europe. MDF Remade is produced in four steps; milling, mixing, airlaid and pressing, and packaged in Thisted, Denmark.

Construction process stage (A4-A5) includes:

The construction phase includes transport from the factory gate to the customer, as well as installation. There are no inputs associated with the installation of MDF Remade, and therefore no emissions. Additionally, the waste treatment of packaging from the products is also included in this phase.

Use stage (B1-B7) includes:

B1 – Use

No emissions to surrounding environment occur during the products lifetime, thus impact of this module is assumed to be zero.

B2-B5 – Maintenance, repair, replacement, and refurbishment

The installed product is not intended to require repair, maintenance, replacement, or refurbishment over the lifetime of MDF Remade, thus impacts of these modules are assumed to be zero.

B6-B7 – Operational energy and water use

There is no energy or water use involved in the use of MDF Remade, thus impacts of these modules are assumed to be zero.

End of Life (C1-C4) includes:

C1-C4 involves the handling of the products at the end-of-life stage by the end-customer.

C1 – Disassembling

It is assumed that the end-customer disassembles the product and sorts it as residual waste or for recycling. It is assumed that there are no inputs or outputs in the disassembly process, thus impacts of this module are assumed to be zero.

C2 – Transport to end-of-life treatment

This module includes the transport of MDF Remade to the end-of-life treatment.

C3 – Waste processing

Incineration scenario: It is assumed that MDF Remade is incinerated with heat and electricity recovery.

Recycling scenario: EOW is defined as entire MDF Remade boards without any treatment processes, meaning there is no waste processing in C3. The recycling process is assumed to be the same as Convert’s.

C4 – Disposal

Disposal of incineration residue is included in C3.

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

Incineration scenario: As it is assumed that the product is incinerated the module include the benefits of the energy recovery.

Recycling scenario: As it is assumed that the product is recycled the module include the loads of recycling.

LCA results

8 mm

ENVIRONMENTAL IMPACTS PER 1 M2 8 MM MDF REMADE WITH RESISTANT SURFACE														
Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
GWP-total	[kg CO ₂ eq.]	3.18E+00	3.93E-01	1.67E+00	2.98E-01	6.32E-01	0.00E+00	2.74E-02	2.79E-01	1.40E+01	6.07E+00	0.00E+00	-8.07E-01	4.26E+00
GWP-fossil	[kg CO ₂ eq.]	4.47E+00	3.93E-01	6.74E-01	2.98E-01	3.11E-02	0.00E+00	2.74E-02	2.79E-01	7.95E+00	0.00E+00	0.00E+00	-7.75E-01	3.00E-02
GWP-biogenic	[kg CO ₂ eq.]	7.66E+00	2.10E-04	9.97E-01	1.59E-04	6.01E-01	0.00E+00	1.46E-05	1.49E-04	6.08E+00	6.07E+00	0.00E+00	-3.02E-02	4.23E+00
GWP-luluc	[kg CO ₂ eq.]	3.38E-03	1.39E-04	1.88E-04	1.05E-04	1.65E-06	0.00E+00	9.70E-06	9.90E-05	4.84E-05	0.00E+00	0.00E+00	-2.12E-03	-7.39E-04
ODP	[kg CFC 11 eq.]	1.82E-07	8.19E-09	1.32E-07	6.20E-09	7.69E-11	0.00E+00	5.70E-10	5.82E-09	3.30E-09	0.00E+00	0.00E+00	-1.07E-07	-5.53E-09
AP	[mol H ⁺ eq.]	1.67E-02	9.29E-04	1.48E-03	7.03E-04	7.00E-05	0.00E+00	6.46E-05	6.60E-04	3.09E-03	0.00E+00	0.00E+00	-3.33E-03	3.31E-04
EP-freshwater	[kg P eq.]	1.05E-03	2.77E-05	6.87E-05	2.10E-05	2.76E-06	0.00E+00	1.93E-06	1.97E-05	4.27E-05	0.00E+00	0.00E+00	-3.66E-04	3.45E-05
EP-marine	[kg N eq.]	3.35E-03	2.44E-04	4.92E-04	1.84E-04	3.70E-05	0.00E+00	1.70E-05	1.73E-04	2.04E-03	0.00E+00	0.00E+00	-8.86E-04	2.16E-05
EP-terrestrial	[mol N eq.]	3.91E-02	2.63E-03	4.57E-03	1.99E-03	3.56E-04	0.00E+00	1.83E-04	1.87E-03	1.63E-02	0.00E+00	0.00E+00	-7.90E-03	4.74E-04
POCP	[kg NMVOC eq.]	2.28E-02	1.61E-03	2.96E-03	1.22E-03	8.94E-05	0.00E+00	1.12E-04	1.15E-03	4.01E-03	0.00E+00	0.00E+00	-3.23E-03	-3.60E-04
ADPm ¹	[kg Sb eq.]	3.80E-05	1.13E-06	3.55E-06	8.52E-07	1.43E-08	0.00E+00	7.83E-08	8.00E-07	5.04E-07	0.00E+00	0.00E+00	-1.53E-05	2.97E-06
ADPf ¹	[MJ]	1.22E+02	5.90E+00	3.29E+01	4.47E+00	5.95E-02	0.00E+00	4.11E-01	4.19E+00	2.24E+00	0.00E+00	0.00E+00	3.09E+01	-9.28E-01
WDP ¹	[m ³ world eq. deprived]	2.43E+00	2.96E-02	1.23E-01	2.24E-02	1.42E-02	0.00E+00	2.06E-03	2.11E-02	4.05E-01	0.00E+00	0.00E+00	-8.95E-01	1.52E-01
Caption	GWP-total = Global Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = 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.													

ADDITIONAL ENVIRONMENTAL IMPACTS PER 1 M2 8 MM MDF REMADE WITH RESISTANT SURFACE														
Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
PM	[Disease incidence]	1.96E-07	3.83E-08	1.70E-08	2.90E-08	7.56E-10	0.00E+00	2.66E-09	2.72E-08	1.59E-08	0.00E+00	0.00E+00	-2.32E-08	9.55E-10
IRP ²	[kBq U235 eq.]	3.23E-01	7.17E-03	8.51E-03	5.43E-03	7.01E-05	0.00E+00	4.99E-04	5.09E-03	2.29E-03	0.00E+00	0.00E+00	-1.74E-01	1.93E-02
ETP-fw ¹	[CTUe]	2.21E+01	1.40E+00	3.75E+00	1.06E+00	9.27E-02	0.00E+00	9.72E-02	9.93E-01	6.99E+00	0.00E+00	0.00E+00	4.14E+00	2.90E-01
HTP-c ¹	[CTUh]	4.00E-08	2.52E-09	8.37E-09	1.90E-09	1.19E-10	0.00E+00	1.75E-10	1.79E-09	2.52E-09	0.00E+00	0.00E+00	-4.23E-09	-3.21E-11
HTP-nc ¹	[CTUh]	3.99E-08	3.89E-09	7.05E-09	2.95E-09	8.46E-10	0.00E+00	2.71E-10	2.77E-09	2.17E-08	0.00E+00	0.00E+00	-1.72E-08	2.81E-09
SQP ¹	-	1.29E+02	5.94E+00	3.87E+00	4.49E+00	1.67E-02	0.00E+00	4.13E-01	4.22E+00	4.60E-01	0.00E+00	0.00E+00	1.37E+01	2.06E+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 8 MM MDF REMADE WITH RESISTANT SURFACE

Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
PERE	[MJ]	2.51E+01	9.37E-02	4.38E+01	7.09E-02	6.32E+00	0.00E+00	6.52E-03	6.66E-02	6.40E+01	6.40E+01	0.00E+00	1.20E+01	8.53E+00
PERM	[MJ]	8.08E+01	0.00E+00	1.05E+01	0.00E+00	6.32E+00	0.00E+00	0.00E+00	0.00E+00	6.40E+01	6.40E+01	0.00E+00	0.00E+00	0.00E+00
PERT	[MJ]	1.06E+02	9.37E-02	3.33E+01	7.09E-02	0.00E+00	0.00E+00	6.52E-03	6.66E-02	0.00E+00	0.00E+00	0.00E+00	1.20E+01	8.53E+00
PENRE	[MJ]	3.11E+01	5.35E+00	3.09E+01	4.05E+00	3.40E-01	0.00E+00	3.72E-01	3.80E+00	9.01E+01	9.01E+01	0.00E+00	2.92E+01	-8.08E-01
PENRM	[MJ]	9.10E+01	5.49E-01	1.83E+00	4.16E-01	-3.40E-01	0.00E+00	3.82E-02	3.90E-01	9.01E+01	9.01E+01	0.00E+00	1.71E+00	-1.21E-01
PENRT	[MJ]	1.22E+02	5.90E+00	3.28E+01	4.47E+00	0.00E+00	0.00E+00	4.11E-01	4.19E+00	0.00E+00	0.00E+00	0.00E+00	3.09E+01	-9.29E-01
SM	[kg]	4.41E+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	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	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	0.00E+00
FW	[m³]	5.86E-02	8.58E-04	2.56E-03	6.49E-04	9.39E-05	0.00E+00	5.97E-05	6.09E-04	4.76E-03	0.00E+00	0.00E+00	-2.90E-02	5.09E-03
Caption	<p>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 used as raw materials; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water</p>													
	<p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>													

WASTE CATEGORIES AND OUTPUT FLOWS PER 1 M2 8 MM MDF REMADE WITH RESISTANT SURFACE

Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
HWD	[kg]	1.39E-01	5.85E-03	4.62E-02	4.43E-03	2.53E-03	0.00E+00	4.07E-04	4.16E-03	9.70E-02	0.00E+00	0.00E+00	-2.06E-02	1.18E-03
NHWD	[kg]	2.39E+01	5.68E-02	8.97E-01	4.30E-02	4.24E-01	0.00E+00	3.95E-03	4.03E-02	6.59E+00	0.00E+00	0.00E+00	-1.95E-01	-3.95E-03
RWD	[kg]	8.22E-05	1.77E-06	1.96E-06	1.34E-06	1.75E-08	0.00E+00	1.23E-07	1.26E-06	5.75E-07	0.00E+00	0.00E+00	-3.96E-05	4.03E-06
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	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	6.36E+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	0.00E+00
EEE	[MJ]	0.00E+00	0.00E+00	1.32E+00	0.00E+00	7.53E-01	0.00E+00	0.00E+00	0.00E+00	1.88E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	[MJ]	0.00E+00	0.00E+00	2.65E+00	0.00E+00	1.51E+00	0.00E+00	0.00E+00	0.00E+00	3.65E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Caption	<p>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</p>													
	<p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>													

BIOGENIC CARBON CONTENT PER 1 M2 8 MM MDF REMADE WITH RESISTANT SURFACE		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	1.65
Biogenic carbon content in accompanying packaging	[kg C]	0.16
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

10 mm

ENVIRONMENTAL IMPACTS PER 1 M2 10 MM MDF REMADE WITH RESISTANT SURFACE														
Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
GWP-total	[kg CO ₂ eq.]	5.33E+00	5.76E-01	2.49E+00	4.38E-01	9.29E-01	0.00E+00	4.03E-02	4.11E-01	2.06E+01	9.02E+00	0.00E+00	1.17E+00	6.00E+00
GWP-fossil	[kg CO ₂ eq.]	6.04E+00	5.76E-01	1.01E+00	4.38E-01	4.58E-02	0.00E+00	4.03E-02	4.11E-01	1.16E+01	0.00E+00	0.00E+00	1.12E+00	-1.55E-02
GWP-biogenic	[kg CO ₂ eq.]	1.14E+01	3.08E-04	1.48E+00	2.34E-04	8.85E-01	0.00E+00	2.15E-05	2.20E-04	9.04E+00	9.02E+00	0.00E+00	-4.36E-02	6.02E+00
GWP-luluc	[kg CO ₂ eq.]	4.60E-03	2.04E-04	2.82E-04	1.55E-04	2.43E-06	0.00E+00	1.43E-05	1.46E-04	6.89E-05	0.00E+00	0.00E+00	-3.06E-03	-1.29E-03
ODP	[kg CFC 11 eq.]	2.51E-07	1.20E-08	1.99E-07	9.12E-09	1.13E-10	0.00E+00	8.39E-10	8.56E-09	4.64E-09	0.00E+00	0.00E+00	-1.55E-07	-9.41E-09
AP	[mol H ⁺ eq.]	2.17E-02	1.36E-03	2.21E-03	1.03E-03	1.03E-04	0.00E+00	9.51E-05	9.71E-04	4.34E-03	0.00E+00	0.00E+00	-4.82E-03	1.26E-04
EP-freshwater	[kg P eq.]	1.36E-03	4.05E-05	1.02E-04	3.08E-05	4.07E-06	0.00E+00	2.83E-06	2.89E-05	6.18E-05	0.00E+00	0.00E+00	-5.29E-04	7.10E-06
EP-marine	[kg N eq.]	4.39E-03	3.57E-04	7.36E-04	2.71E-04	5.44E-05	0.00E+00	2.49E-05	2.55E-04	2.83E-03	0.00E+00	0.00E+00	-9.92E-04	-3.16E-05
EP-terrestrial	[mol N eq.]	4.99E-02	3.86E-03	6.83E-03	2.94E-03	5.23E-04	0.00E+00	2.70E-04	2.75E-03	2.28E-02	0.00E+00	0.00E+00	-1.14E-02	-7.46E-05
POCP	[kg NMVOC eq.]	3.15E-02	2.36E-03	4.43E-03	1.80E-03	1.32E-04	0.00E+00	1.65E-04	1.69E-03	5.62E-03	0.00E+00	0.00E+00	-4.68E-03	-7.03E-04
ADPm ¹	[kg Sb eq.]	5.17E-05	1.65E-06	5.28E-06	1.25E-06	2.11E-08	0.00E+00	1.15E-07	1.18E-06	7.14E-07	0.00E+00	0.00E+00	-2.22E-05	2.42E-06
ADPf ¹	[MJ]	1.70E+02	8.64E+00	4.94E+01	6.57E+00	8.76E-02	0.00E+00	6.04E-01	6.17E+00	3.16E+00	0.00E+00	0.00E+00	4.47E+01	2.32E+00
WDP ¹	[m ³ world eq. deprived]	2.86E+00	4.34E-02	1.84E-01	3.30E-02	2.09E-02	0.00E+00	3.04E-03	3.10E-02	5.81E-01	0.00E+00	0.00E+00	1.29E+00	1.13E-01
Caption	GWP-total = Global Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = 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.													

ADDITIONAL ENVIRONMENTAL IMPACTS PER 1 M2 10 MM MDF REMADE WITH RESISTANT SURFACE														
Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
PM	[Disease incidence]	2.41E-07	5.61E-08	2.53E-08	4.27E-08	1.11E-09	0.00E+00	3.92E-09	4.00E-08	2.28E-08	0.00E+00	0.00E+00	-3.36E-08	-9.09E-10
IRP ²	[kBq U235 eq.]	4.47E-01	1.05E-02	1.27E-02	7.99E-03	1.03E-04	0.00E+00	7.34E-04	7.50E-03	3.25E-03	0.00E+00	0.00E+00	-2.52E-01	7.12E-03
ETP-fw ¹	[CTUe]	2.83E+01	2.05E+00	5.59E+00	1.56E+00	1.36E-01	0.00E+00	1.43E-01	1.46E+00	9.65E+00	0.00E+00	0.00E+00	5.99E+00	1.95E-02
HTP-c ¹	[CTUh]	4.76E-08	3.68E-09	1.25E-08	2.80E-09	1.75E-10	0.00E+00	2.58E-10	2.63E-09	3.64E-09	0.00E+00	0.00E+00	-6.11E-09	-3.18E-10
HTP-nc ¹	[CTUh]	5.37E-08	5.70E-09	1.05E-08	4.34E-09	1.25E-09	0.00E+00	3.99E-10	4.07E-09	3.14E-08	0.00E+00	0.00E+00	-2.49E-08	2.08E-09
SQP ¹	-	1.76E+02	8.69E+00	5.76E+00	6.61E+00	2.46E-02	0.00E+00	6.08E-01	6.21E+00	6.57E-01	0.00E+00	0.00E+00	1.98E+01	3.09E+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 10 MM MDF REMADE WITH RESISTANT SURFACE														
Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
PERE	[MJ]	3.42E+01	1.37E-01	6.52E+01	1.04E-01	9.30E+00	0.00E+00	9.59E-03	9.80E-02	9.52E+01	9.52E+01	0.00E+00	1.73E+01	1.36E+01
PERM	[MJ]	1.20E+02	0.00E+00	1.56E+01	0.00E+00	9.30E+00	0.00E+00	0.00E+00	0.00E+00	9.52E+01	9.52E+01	0.00E+00	0.00E+00	0.00E+00
PERT	[MJ]	1.54E+02	1.37E-01	4.96E+01	1.04E-01	0.00E+00	0.00E+00	9.59E-03	9.80E-02	0.00E+00	0.00E+00	0.00E+00	1.73E+01	1.36E+01
PENRE	[MJ]	3.54E+01	7.84E+00	4.64E+01	5.96E+00	5.01E-01	0.00E+00	5.48E-01	5.60E+00	1.34E+02	1.34E+02	0.00E+00	4.22E+01	2.12E+00
PENRM	[MJ]	1.35E+02	8.05E-01	2.75E+00	6.12E-01	-5.01E-01	0.00E+00	5.63E-02	5.74E-01	1.34E+02	1.34E+02	0.00E+00	2.47E+00	-1.96E-01
PENRT	[MJ]	1.70E+02	8.64E+00	4.91E+01	6.57E+00	0.00E+00	0.00E+00	6.04E-01	6.17E+00	0.00E+00	0.00E+00	0.00E+00	4.47E+01	2.32E+00
SM	[kg]	6.61E+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	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	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	0.00E+00
FW	[m ³]	6.97E-02	1.26E-03	3.83E-03	9.56E-04	1.38E-04	0.00E+00	8.78E-05	8.97E-04	6.64E-03	0.00E+00	0.00E+00	-4.20E-02	3.88E-03
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 10 MM MDF REMADE WITH RESISTANT SURFACE														
Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
HWD	[kg]	1.82E-01	8.58E-03	6.88E-02	6.52E-03	3.73E-03	0.00E+00	6.00E-04	6.12E-03	1.38E-01	0.00E+00	0.00E+00	-2.97E-02	-9.49E-05
NHWD	[kg]	3.57E+01	8.32E-02	1.33E+00	6.33E-02	6.24E-01	0.00E+00	5.82E-03	5.94E-02	9.68E+00	0.00E+00	0.00E+00	-2.83E-01	-2.45E-02
RWD	[kg]	1.14E-04	2.60E-06	2.92E-06	1.98E-06	2.57E-08	0.00E+00	1.82E-07	1.85E-06	8.14E-07	0.00E+00	0.00E+00	-5.73E-05	1.09E-06

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	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	9.36E+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	0.00E+00
EEE	[MJ]	0.00E+00	0.00E+00	1.96E+00	0.00E+00	1.11E+00	0.00E+00	0.00E+00	0.00E+00	2.73E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	[MJ]	0.00E+00	0.00E+00	3.93E+00	0.00E+00	2.22E+00	0.00E+00	0.00E+00	0.00E+00	5.36E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Caption	<p>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</p> <p>The numbers are declared in scientific notation, fx 1.95E+02. This number can also be written as: 1.95*10² or 195, while 1.12E-11 is the same as 1,12*10⁻¹¹ or 0.0000000000112.</p>													

BIOGENIC CARBON CONTENT PER 1 M2 10 MM MDF REMADE WITH RESISTANT SURFACE		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	2.46
Biogenic carbon content in accompanying packaging	[kg C]	0.24
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

16 mm

ENVIRONMENTAL IMPACTS PER 1 M2 16 MM MDF REMADE WITH RESISTANT SURFACE														
Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
GWP-total	[kg CO ₂ eq.]	7.47E+00	7.59E-01	3.31E+00	5.79E-01	1.23E+00	0.00E+00	5.32E-02	5.43E-01	2.72E+01	1.20E+01	0.00E+00	1.53E+00	7.75E+00
GWP-fossil	[kg CO ₂ eq.]	7.61E+00	7.59E-01	1.35E+00	5.78E-01	6.05E-02	0.00E+00	5.32E-02	5.43E-01	1.53E+01	0.00E+00	0.00E+00	1.47E+00	-6.10E-02
GWP-biogenic	[kg CO ₂ eq.]	1.51E+01	4.06E-04	1.96E+00	3.09E-04	1.17E+00	0.00E+00	2.84E-05	2.90E-04	1.20E+01	1.20E+01	0.00E+00	-5.71E-02	7.81E+00
GWP-luluc	[kg CO ₂ eq.]	5.82E-03	2.69E-04	3.75E-04	2.05E-04	3.21E-06	0.00E+00	1.88E-05	1.92E-04	8.94E-05	0.00E+00	0.00E+00	-4.01E-03	-1.85E-03
ODP	[kg CFC 11 eq.]	3.20E-07	1.58E-08	2.65E-07	1.20E-08	1.49E-10	0.00E+00	1.11E-09	1.13E-08	5.97E-09	0.00E+00	0.00E+00	-2.03E-07	-1.33E-08
AP	[mol H ⁺ eq.]	2.67E-02	1.79E-03	2.94E-03	1.37E-03	1.36E-04	0.00E+00	1.26E-04	1.28E-03	5.59E-03	0.00E+00	0.00E+00	-6.31E-03	-7.85E-05
EP-freshwater	[kg P eq.]	1.67E-03	5.34E-05	1.36E-04	4.07E-05	5.37E-06	0.00E+00	3.74E-06	3.82E-05	8.10E-05	0.00E+00	0.00E+00	-6.92E-04	-2.03E-05
EP-marine	[kg N eq.]	5.43E-03	4.70E-04	9.80E-04	3.58E-04	7.19E-05	0.00E+00	3.29E-05	3.36E-04	3.63E-03	0.00E+00	0.00E+00	-1.30E-03	-8.48E-05
EP-terrestrial	[mol N eq.]	6.07E-02	5.08E-03	9.09E-03	3.88E-03	6.91E-04	0.00E+00	3.56E-04	3.64E-03	2.94E-02	0.00E+00	0.00E+00	-1.50E-02	-6.23E-04
POCP	[kg NMVOC eq.]	4.03E-02	3.11E-03	5.90E-03	2.37E-03	1.74E-04	0.00E+00	2.18E-04	2.23E-03	7.24E-03	0.00E+00	0.00E+00	-6.12E-03	-1.05E-03
ADPm ¹	[kg Sb eq.]	6.53E-05	2.17E-06	7.02E-06	1.66E-06	2.78E-08	0.00E+00	1.52E-07	1.55E-06	9.25E-07	0.00E+00	0.00E+00	-2.90E-05	1.88E-06
ADP ¹	[MJ]	2.18E+02	1.14E+01	6.58E+01	8.68E+00	1.16E-01	0.00E+00	7.98E-01	8.15E+00	4.08E+00	0.00E+00	0.00E+00	5.85E+01	3.71E+00
WDP ¹	[m ³ world eq. deprived]	3.29E+00	5.72E-02	2.45E-01	4.36E-02	2.76E-02	0.00E+00	4.01E-03	4.09E-02	7.58E-01	0.00E+00	0.00E+00	1.69E+00	7.37E-02
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; ADP ¹ = 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.													

ADDITIONAL ENVIRONMENTAL IMPACTS PER 1 M2 16 MM MDF REMADE WITH RESISTANT SURFACE														
Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
PM	[Disease incidence]	2.85E-07	7.39E-08	3.37E-08	5.63E-08	1.47E-09	0.00E+00	5.18E-09	5.29E-08	2.97E-08	0.00E+00	0.00E+00	-4.39E-08	-2.77E-09
IRP ²	[kBq U235 eq.]	5.71E-01	1.38E-02	1.69E-02	1.05E-02	1.38E-04	0.00E+00	9.69E-04	9.90E-03	4.20E-03	0.00E+00	0.00E+00	-3.29E-01	-5.10E-03
ETP-fw ¹	[CTUe]	3.44E+01	2.70E+00	7.44E+00	2.06E+00	1.80E-01	0.00E+00	1.89E-01	1.93E+00	1.23E+01	0.00E+00	0.00E+00	7.83E+00	-2.51E-01
HTP-c ¹	[CTUh]	5.51E-08	4.85E-09	1.66E-08	3.70E-09	2.31E-10	0.00E+00	3.40E-10	3.47E-09	4.76E-09	0.00E+00	0.00E+00	-8.00E-09	-6.05E-10
HTP-nc ¹	[CTUh]	6.76E-08	7.51E-09	1.40E-08	5.73E-09	1.64E-09	0.00E+00	5.27E-10	5.38E-09	4.10E-08	0.00E+00	0.00E+00	-3.26E-08	1.35E-09
SQP ¹	-	2.24E+02	1.15E+01	7.65E+00	8.73E+00	3.25E-02	0.00E+00	8.03E-01	8.20E+00	8.54E-01	0.00E+00	0.00E+00	2.59E+01	4.11E+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 16 MM MDF REMADE WITH RESISTANT SURFACE

Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (l)	C2 (R)	C3 (l)	C3 (R)	C4	D (l)	D (R)
PERE	[MJ]	4.34E+01	1.81E-01	8.65E+01	1.38E-01	1.23E+01	0.00E+00	1.27E-02	1.29E-01	1.26E+02	1.26E+02	0.00E+00	2.27E+01	1.86E+01
PERM	[MJ]	1.59E+02	0.00E+00	2.07E+01	0.00E+00	1.23E+01	0.00E+00	0.00E+00	0.00E+00	1.26E+02	1.26E+02	0.00E+00	0.00E+00	0.00E+00
PERT	[MJ]	2.03E+02	1.81E-01	6.58E+01	1.38E-01	0.00E+00	0.00E+00	1.27E-02	1.29E-01	0.00E+00	0.00E+00	0.00E+00	2.27E+01	1.86E+01
PENRE	[MJ]	3.97E+01	1.03E+01	6.18E+01	7.87E+00	6.61E-01	0.00E+00	7.24E-01	7.39E+00	1.77E+02	1.77E+02	0.00E+00	5.53E+01	3.44E+00
PENRM	[MJ]	1.79E+02	1.06E+00	3.67E+00	8.08E-01	-6.61E-01	0.00E+00	7.43E-02	7.59E-01	1.77E+02	1.77E+02	0.00E+00	3.23E+00	-2.71E-01
PENRT	[MJ]	2.18E+02	1.14E+01	6.55E+01	8.68E+00	0.00E+00	0.00E+00	7.98E-01	8.15E+00	0.00E+00	0.00E+00	0.00E+00	5.85E+01	3.71E+00
SM	[kg]	8.81E+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	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	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	0.00E+00
FW	[m³]	8.08E-02	1.66E-03	5.09E-03	1.26E-03	1.83E-04	0.00E+00	1.16E-04	1.18E-03	8.52E-03	0.00E+00	0.00E+00	-5.49E-02	2.66E-03
Caption	<p>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 used as raw materials; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>													

WASTE CATEGORIES AND OUTPUT FLOWS PER 1 M2 16 MM MDF REMADE WITH RESISTANT SURFACE

Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (l)	C2 (R)	C3 (l)	C3 (R)	C4	D (l)	D (R)
HWD	[kg]	2.25E-01	1.13E-02	9.15E-02	8.61E-03	4.92E-03	0.00E+00	7.92E-04	8.08E-03	1.80E-01	0.00E+00	0.00E+00	-3.89E-02	-1.37E-03
NHWD	[kg]	4.75E+01	1.10E-01	1.77E+00	8.35E-02	8.24E-01	0.00E+00	7.68E-03	7.84E-02	1.28E+01	0.00E+00	0.00E+00	-3.70E-01	-4.51E-02
RWD	[kg]	1.45E-04	3.42E-06	3.89E-06	2.61E-06	3.39E-08	0.00E+00	2.40E-07	2.45E-06	1.05E-06	0.00E+00	0.00E+00	-7.50E-05	-1.86E-06
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	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	1.24E+01	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	0.00E+00
EEE	[MJ]	0.00E+00	0.00E+00	2.60E+00	0.00E+00	1.46E+00	0.00E+00	0.00E+00	0.00E+00	3.61E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	[MJ]	0.00E+00	0.00E+00	5.21E+00	0.00E+00	2.94E+00	0.00E+00	0.00E+00	0.00E+00	7.08E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Caption	<p>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</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>													

BIOGENIC CARBON CONTENT PER 1 M2 16 MM MDF REMADE WITH RESISTANT SURFACE		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	3.26
Biogenic carbon content in accompanying packaging	[kg C]	0.32
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

18 mm

ENVIRONMENTAL IMPACTS PER 1 M2 18 MM MDF REMADE WITH RESISTANT SURFACE														
Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
GWP-total	[kg CO ₂ eq.]	9.61E+00	9.42E-01	4.12E+00	7.19E-01	1.53E+00	0.00E+00	6.61E-02	6.75E-01	3.38E+01	1.49E+01	0.00E+00	1.89E+00	9.49E+00
GWP-fossil	[kg CO ₂ eq.]	9.18E+00	9.41E-01	1.68E+00	7.19E-01	7.52E-02	0.00E+00	6.61E-02	6.74E-01	1.89E+01	0.00E+00	0.00E+00	1.81E+00	-1.06E-01
GWP-biogenic	[kg CO ₂ eq.]	1.88E+01	5.04E-04	2.44E+00	3.84E-04	1.45E+00	0.00E+00	3.53E-05	3.61E-04	1.49E+01	1.49E+01	0.00E+00	-7.05E-02	9.60E+00
GWP-luluc	[kg CO ₂ eq.]	7.04E-03	3.34E-04	4.68E-04	2.55E-04	3.99E-06	0.00E+00	2.34E-05	2.39E-04	1.10E-04	0.00E+00	0.00E+00	-4.95E-03	-2.40E-03
ODP	[kg CFC 11 eq.]	3.89E-07	1.96E-08	3.31E-07	1.50E-08	1.86E-10	0.00E+00	1.38E-09	1.41E-08	7.30E-09	0.00E+00	0.00E+00	-2.50E-07	-1.72E-08
AP	[mol H ⁺ eq.]	3.17E-02	2.22E-03	3.67E-03	1.70E-03	1.69E-04	0.00E+00	1.56E-04	1.59E-03	6.84E-03	0.00E+00	0.00E+00	-7.80E-03	-2.83E-04
EP-freshwater	[kg P eq.]	1.97E-03	6.63E-05	1.70E-04	5.06E-05	6.68E-06	0.00E+00	4.65E-06	4.75E-05	1.00E-04	0.00E+00	0.00E+00	-8.55E-04	-4.77E-05
EP-marine	[kg N eq.]	6.48E-03	5.83E-04	1.22E-03	4.45E-04	8.93E-05	0.00E+00	4.09E-05	4.18E-04	4.42E-03	0.00E+00	0.00E+00	-1.60E-03	-1.38E-04
EP-terrestrial	[mol N eq.]	7.16E-02	6.31E-03	1.13E-02	4.82E-03	6.59E-04	0.00E+00	4.43E-04	4.52E-03	3.59E-02	0.00E+00	0.00E+00	-1.85E-02	-1.17E-03
POCP	[kg NMVOC eq.]	4.90E-02	3.86E-03	7.37E-03	2.95E-03	2.16E-04	0.00E+00	2.71E-04	2.77E-03	8.86E-03	0.00E+00	0.00E+00	-7.56E-03	-1.39E-03
ADPm ¹	[kg Sb eq.]	7.90E-05	2.70E-06	8.75E-06	2.06E-06	3.46E-08	0.00E+00	1.88E-07	1.93E-06	1.14E-06	0.00E+00	0.00E+00	-3.59E-05	1.34E-06
ADP ¹	[MJ]	2.67E+02	1.41E+01	8.23E+01	1.08E+01	1.44E-01	0.00E+00	9.92E-01	1.01E+01	4.99E+00	0.00E+00	0.00E+00	7.23E+01	5.10E+00
WDP ¹	[m ³ world eq. deprived]	3.72E+00	7.10E-02	3.06E-01	5.42E-02	3.43E-02	0.00E+00	4.98E-03	5.08E-02	9.34E-01	0.00E+00	0.00E+00	2.09E+00	3.47E-02
Caption	GWP-total = Global Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = 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; ADP ¹ = 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.													

ADDITIONAL ENVIRONMENTAL IMPACTS PER 1 M2 18 MM MDF REMADE WITH RESISTANT SURFACE														
Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
PM	[Disease incidence]	3.30E-07	9.17E-08	4.21E-08	7.00E-08	1.83E-09	0.00E+00	6.44E-09	6.57E-08	3.65E-08	0.00E+00	0.00E+00	-5.43E-08	-4.64E-09
IRP ²	[kBq U235 eq.]	6.94E+01	1.72E-02	2.11E-02	1.31E-02	1.69E-04	0.00E+00	1.20E-03	1.23E-02	5.16E-03	0.00E+00	0.00E+00	-4.07E-01	-1.73E-02
ETP-fw ¹	[CTUe]	4.05E+01	3.35E+00	9.29E+00	2.55E+00	2.24E-01	0.00E+00	2.35E-01	2.40E+00	1.50E+01	0.00E+00	0.00E+00	-	-5.21E-01
HTP-c ¹	[CTUh]	6.27E-08	6.02E-09	2.07E-08	4.60E-09	2.87E-10	0.00E+00	4.23E-10	4.32E-09	5.88E-09	0.00E+00	0.00E+00	-9.89E-09	-8.91E-10
HTP-nc ¹	[CTUh]	8.14E-08	9.32E-09	1.74E-08	7.12E-09	2.04E-09	0.00E+00	6.54E-10	6.68E-09	5.07E-08	0.00E+00	0.00E+00	-4.03E-08	6.22E-10
SQP ¹	-	2.71E+02	1.42E+01	9.54E+00	1.09E+01	4.04E-02	0.00E+00	9.98E-01	1.02E+01	1.05E+00	0.00E+00	0.00E+00	3.21E+01	5.14E+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 18 MM MDF REMADE WITH RESISTANT SURFACE														
Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
PERE	[MJ]	5.26E+01	2.24E-01	1.08E+02	1.71E-01	1.53E+01	0.00E+00	1.57E-02	1.61E-01	1.58E+02	1.58E+02	0.00E+00	2.80E+01	2.36E+01
PERM	[MJ]	1.99E+02	0.00E+00	2.58E+01	0.00E+00	1.53E+01	0.00E+00	0.00E+00	0.00E+00	1.58E+02	1.58E+02	0.00E+00	0.00E+00	0.00E+00
PERT	[MJ]	2.51E+02	2.24E-01	8.21E+01	1.71E-01	0.00E+00	0.00E+00	1.57E-02	1.61E-01	0.00E+00	0.00E+00	0.00E+00	2.80E+01	2.36E+01
PENRE	[MJ]	4.39E+01	1.28E+01	7.73E+01	9.78E+00	8.22E-01	0.00E+00	8.99E-01	9.18E+00	2.21E+02	2.21E+02	0.00E+00	6.83E+01	4.76E+00
PENRM	[MJ]	2.23E+02	1.32E+00	4.58E+00	1.00E+00	-8.22E-01	0.00E+00	9.23E-02	9.43E-01	2.21E+02	2.21E+02	0.00E+00	4.00E+00	-3.47E-01
PENRT	[MJ]	2.67E+02	1.41E+01	8.19E+01	1.08E+01	0.00E+00	0.00E+00	9.92E-01	1.01E+01	0.00E+00	0.00E+00	0.00E+00	7.23E+01	5.10E+00
SM	[kg]	1.10E+01	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
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	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	0.00E+00
FW	[m ³]	9.20E-02	2.05E-03	6.36E-03	1.57E-03	2.27E-04	0.00E+00	1.44E-04	1.47E-03	1.04E-02	0.00E+00	0.00E+00	-6.78E-02	1.45E-03
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 18 MM MDF REMADE WITH RESISTANT SURFACE														
Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
HWD	[kg]	2.68E-01	1.40E-02	1.14E-01	1.07E-02	6.11E-03	0.00E+00	9.84E-04	1.00E-02	2.21E-01	0.00E+00	0.00E+00	-4.81E-02	-2.65E-03
NHWD	[kg]	5.92E+01	1.36E-01	2.20E+00	1.04E-01	1.02E+00	0.00E+00	9.54E-03	9.74E-02	1.59E+01	0.00E+00	0.00E+00	-4.57E-01	-6.57E-02
RWD	[kg]	1.77E-04	4.25E-06	4.86E-06	3.24E-06	4.22E-08	0.00E+00	2.98E-07	3.04E-06	1.29E-06	0.00E+00	0.00E+00	-9.27E-05	-4.80E-06

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	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	1.54E+01	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	0.00E+00
EEE	[MJ]	0.00E+00	0.00E+00	3.25E+00	0.00E+00	1.82E+00	0.00E+00	0.00E+00	0.00E+00	4.48E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	[MJ]	0.00E+00	0.00E+00	6.49E+00	0.00E+00	3.65E+00	0.00E+00	0.00E+00	0.00E+00	8.79E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Caption	<p>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</p> <p>The numbers are declared in scientific notation, fx 1.95E+02. This number can also be written as: 1.95*10² or 195, while 1.12E-11 is the same as 1,12*10⁻¹¹ or 0.00000000000112.</p>													

BIOGENIC CARBON CONTENT PER 1 M2 18 MM MDF REMADE WITH RESISTANT SURFACE		
Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	4.07
Biogenic carbon content in accompanying packaging	[kg C]	0.40
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

22 mm

ENVIRONMENTAL IMPACTS PER 1 M2 22 MM MDF REMADE WITH RESISTANT SURFACE														
Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
GWP-total	[kg CO ₂ eq.]	1.18E+01	1.12E+00	4.94E+00	8.60E-01	1.82E+00	0.00E+00	7.90E-02	8.07E-01	4.04E+01	1.79E+01	0.00E+00	2.25E+00	1.12E+01
GWP-fossil	[kg CO ₂ eq.]	1.07E+01	1.12E+00	2.02E+00	8.59E-01	8.99E-02	0.00E+00	7.90E-02	8.06E-01	2.26E+01	0.00E+00	0.00E+00	2.16E+00	-1.52E-01
GWP-biogenic	[kg CO ₂ eq.]	2.25E+01	6.01E-04	2.92E+00	4.60E-04	1.74E+00	0.00E+00	4.22E-05	4.31E-04	1.79E+01	1.79E+01	0.00E+00	-8.40E-02	1.14E+01
GWP-luluc	[kg CO ₂ eq.]	8.26E-03	3.98E-04	5.61E-04	3.05E-04	4.77E-06	0.00E+00	2.80E-05	2.86E-04	1.30E-04	0.00E+00	0.00E+00	-5.90E-03	-2.96E-03
ODP	[kg CFC 11 eq.]	4.58E-07	2.34E-08	3.97E-07	1.79E-08	2.22E-10	0.00E+00	1.65E-09	1.68E-08	8.63E-09	0.00E+00	0.00E+00	-2.98E-07	-2.11E-08
AP	[mol H ⁺ eq.]	3.67E-02	2.66E-03	4.41E-03	2.03E-03	2.02E-04	0.00E+00	1.87E-04	1.90E-03	8.09E-03	0.00E+00	0.00E+00	-9.29E-03	-4.88E-04
EP-freshwater	[kg P eq.]	2.28E-03	7.91E-05	2.04E-04	6.05E-05	7.98E-06	0.00E+00	5.56E-06	5.68E-05	1.19E-04	0.00E+00	0.00E+00	-1.02E-03	-7.52E-05
EP-marine	[kg N eq.]	7.52E-03	6.97E-04	1.47E-03	5.32E-04	1.07E-04	0.00E+00	4.89E-05	5.00E-04	5.22E-03	0.00E+00	0.00E+00	-1.91E-03	-1.91E-04
EP-terrestrial	[mol N eq.]	8.24E-02	7.53E-03	1.36E-02	5.76E-03	1.03E-03	0.00E+00	5.29E-04	5.40E-03	4.25E-02	0.00E+00	0.00E+00	-2.20E-02	-1.72E-03
POCP	[kg NMVOC eq.]	5.78E-02	4.61E-03	8.84E-03	3.52E-03	2.58E-04	0.00E+00	3.24E-04	3.31E-03	1.05E-02	0.00E+00	0.00E+00	-9.00E-03	-1.73E-03
ADPm ¹	[kg Sb eq.]	9.27E-05	3.22E-06	1.05E-05	2.46E-06	4.13E-08	0.00E+00	2.26E-07	2.31E-06	1.35E-06	0.00E+00	0.00E+00	-4.27E-05	7.93E-07
ADP ¹	[MJ]	3.15E+02	1.69E+01	9.87E+01	1.29E+01	1.72E-01	0.00E+00	1.19E+00	1.21E+01	5.91E+00	0.00E+00	0.00E+00	8.61E+01	6.49E+00
WDP ¹	[m ³ world eq. deprived]	4.15E+00	8.47E-02	3.66E-01	6.48E-02	4.10E-02	0.00E+00	5.95E-03	6.08E-02	1.11E+00	0.00E+00	0.00E+00	2.49E+00	-4.34E-03
Caption	GWP-total = Global Warming Potential - total; GWP-fossil = Global Warming Potential - fossil fuels; GWP-biogenic = Global Warming Potential - biogenic; GWP-luluc = Global Warming Potential - land use and land use change; ODP = Ozone Depletion; AP = 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; ADP = 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.													

ADDITIONAL ENVIRONMENTAL IMPACTS PER 1 M2 22 MM MDF REMADE WITH RESISTANT SURFACE														
Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (I)	C2 (R)	C3 (I)	C3 (R)	C4	D (I)	D (R)
PM	[Disease incidence]	3.74E-07	1.10E-07	5.04E-08	8.37E-08	2.18E-09	0.00E+00	7.69E-09	7.85E-08	4.34E-08	0.00E+00	0.00E+00	-6.47E-08	-6.50E-09
IRP ²	[kBq U235 eq.]	8.18E-01	2.05E-02	2.53E-02	1.57E-02	2.02E-04	0.00E+00	1.44E-03	1.47E-02	6.12E-03	0.00E+00	0.00E+00	-4.85E-01	-2.96E-02
ETP-fw ¹	[CTUe]	4.66E+01	4.00E+00	1.11E+01	3.05E+00	2.68E-01	0.00E+00	2.81E-01	2.87E+00	1.76E+01	0.00E+00	0.00E+00	1.15E+01	-7.91E-01
HTP-c ¹	[CTUh]	7.03E-08	7.19E-09	2.48E-08	5.50E-09	3.43E-10	0.00E+00	5.05E-10	5.16E-09	7.00E-09	0.00E+00	0.00E+00	-1.18E-08	-1.18E-09
HTP-nc ¹	[CTUh]	9.52E-08	1.11E-08	2.09E-08	8.51E-09	2.44E-09	0.00E+00	7.82E-10	7.99E-09	6.03E-08	0.00E+00	0.00E+00	-4.79E-08	-1.07E-10
SQP ¹	-	3.18E+02	1.70E+01	1.14E+01	1.30E+01	4.83E-02	0.00E+00	1.19E+00	1.22E+01	1.25E+00	0.00E+00	0.00E+00	3.82E+01	6.17E+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 22 MM MDF REMADE WITH RESISTANT SURFACE

Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (l)	C2 (R)	C3 (l)	C3 (R)	C4	D (l)	D (R)
PERE	[MJ]	6.17E+01	2.68E-01	1.29E+02	2.05E-01	1.82E+01	0.00E+00	1.88E-02	1.92E-01	1.89E+02	1.89E+02	0.00E+00	3.34E+01	2.86E+01
PERM	[MJ]	2.38E+02	0.00E+00	3.09E+01	0.00E+00	1.82E+01	0.00E+00	0.00E+00	0.00E+00	1.89E+02	1.89E+02	0.00E+00	0.00E+00	0.00E+00
PERT	[MJ]	3.00E+02	2.68E-01	9.84E+01	2.05E-01	0.00E+00	0.00E+00	1.88E-02	1.92E-01	0.00E+00	0.00E+00	0.00E+00	3.34E+01	2.86E+01
PENRE	[MJ]	4.82E+01	1.53E+01	9.27E+01	1.17E+01	9.82E-01	0.00E+00	1.08E+00	1.10E+01	2.64E+02	2.64E+02	0.00E+00	8.13E+01	6.07E+00
PENRM	[MJ]	2.67E+02	1.57E+00	5.50E+00	1.20E+00	-9.82E-01	0.00E+00	1.10E-01	1.13E+00	2.64E+02	2.64E+02	0.00E+00	4.76E+00	-4.22E-01
PENRT	[MJ]	3.15E+02	1.69E+01	9.82E+01	1.29E+01	0.00E+00	0.00E+00	1.19E+00	1.21E+01	0.00E+00	0.00E+00	0.00E+00	8.61E+01	6.49E+00
SM	[kg]	1.32E+01	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
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	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	0.00E+00
FW	[m³]	1.03E-01	2.45E-03	7.62E-03	1.87E-03	2.71E-04	0.00E+00	1.72E-04	1.76E-03	1.23E-02	0.00E+00	0.00E+00	-8.08E-02	2.36E-04
Caption	<p>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 used as raw materials; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>													

WASTE CATEGORIES AND OUTPUT FLOWS PER 1 M2 22 MM MDF REMADE WITH RESISTANT SURFACE

Parameter	Unit	A1	A2	A3	A4	A5	C1	C2 (l)	C2 (R)	C3 (l)	C3 (R)	C4	D (l)	D (R)
HWD	[kg]	3.11E-01	1.67E-02	1.37E-01	1.28E-02	7.31E-03	0.00E+00	1.18E-03	1.20E-02	2.62E-01	0.00E+00	0.00E+00	-5.72E-02	-3.92E-03
NHWD	[kg]	7.10E+01	1.62E-01	2.64E+00	1.24E-01	1.22E+00	0.00E+00	1.14E-02	1.16E-01	1.90E+01	0.00E+00	0.00E+00	-5.44E-01	-8.63E-02
RWD	[kg]	2.08E-04	5.07E-06	5.82E-06	3.88E-06	5.04E-08	0.00E+00	3.56E-07	3.64E-06	1.53E-06	0.00E+00	0.00E+00	-1.10E-04	-7.74E-06
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	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	1.84E+01	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	0.00E+00
EEE	[MJ]	0.00E+00	0.00E+00	3.89E+00	0.00E+00	2.17E+00	0.00E+00	0.00E+00	0.00E+00	5.35E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	[MJ]	0.00E+00	0.00E+00	7.78E+00	0.00E+00	4.36E+00	0.00E+00	0.00E+00	0.00E+00	1.05E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Caption	<p>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</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*10² or 195, while 1,12E-11 is the same as 1,12*10⁻¹¹ or 0,0000000000112.</p>													

BIOGENIC CARBON CONTENT PER 1 M2 22 MM MDF REMADE WITH RESISTANT SURFACE

Parameter	Unit	At the factory gate
Biogenic carbon content in product	[kg C]	4.87
Biogenic carbon content in accompanying packaging	[kg C]	0.47
Note	1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

Additional information

LCA interpretation

The results indicate that the most significant contributors are the incineration of polyethylene waste, followed by the production of binding fiber. Other notable impacts come from the incineration of polypropylene and MDF-binder components and the production of melamine sheets. The airlaid process also contributes moderately. Transport processes, while individually lower in impact, collectively contribute to the overall emissions. These findings highlight that addressing waste management and reducing emissions from binding fiber and melamine sheet production are critical for minimizing environmental impacts.

Technical information on scenarios

Transport to the building site (A4)

Scenario information	Value	Unit
Fuel type	Diesel	-
Vehicle type	transport, freight, lorry 16-32 metric ton, EURO6	-
Transport distance	424	km
Capacity utilisation (including empty runs)	24.67	%
Gross density of products transported	795.00/936.00/772.50/853.33/834.55	kg/m ³
Capacity utilisation volume factor	-	-

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	kWh
Waste materials	0.41/0.62/0.81/1.01/1.20	kg
Output materials	0	kg
Direct emissions to air, soil or water	0	kg

Reference service life

RSL information		Unit
Reference service Life	15	Years
Declared product properties	MDF Remade with resistant surface consists of MDF cut off from manufacturing and post-consumer waste MDF from offices, binder fiber and melamine	As appropriate
Design application parameters	MDF Remade can be used for the same purposes as standard MDF. The version with a resistant surface is particularly suitable for surfaces exposed to liquids, such as tabletops, etc.	As appropriate
Assumed quality of work	-	As appropriate
Outdoor environment	No	As appropriate
Indoor environment	Yes	As appropriate
Usage conditions	Surface properties: resistant to liquids for 24 hours, heat resistant (70°C for 20 mins), N5 scratch resistance	As appropriate
Maintenance	Does not require maintenance	As appropriate

End of life (C1-C4) (incineration)

Scenario information	Value	Unit
Collected separately	0	kg
Collected with mixed waste	6.36/9.36/12.36/15.36/18.36	kg
For reuse	0	kg
For recycling	0	kg
For energy recovery	6.36/9.36/12.36/15.36/18.36	kg
For final disposal	0	kg
Assumptions for scenario development	100% incineration	As appropriate

End of life (C1-C4) (recycling)

Scenario information	Value	Unit
Collected separately	6.36/9.36/12.36/15.36/18.36	kg
Collected with mixed waste	0	kg
For reuse	0	kg
For recycling	6.36/9.36/12.36/15.36/18.36	kg
For energy recovery	0	kg
For final disposal	0	kg
Assumptions for scenario development	100% recycling	As appropriate

Re-use, recovery and recycling potential (D) (incineration)

Scenario information/Material	Value	Unit
Displaced electricity, modelled as DK market mix	11.16/16.14/21.11/26.09/31.07	MJ
Displaced thermal energy, modelled as natural gas	21.66/31.31/40.97/50.62/60.27	MJ

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

Scenario information/Material	Value	Unit
Wood chips production, softwood, at sawmill - Europe without Switzerland	2.33/3.32/4.31/5.29/6.28	kg
Displaced electricity, modelled as DK market mix	0.75/1.11/1.46/1.82/2.17	MJ
Displaced thermal energy, modelled as natural gas	1.51/1.22/2.94/3.65/4.36	MJ

Indoor air

The products have been tested in accordance with EN 16516:2017+A1:2020, *Construction Products – Assessment of Release of Dangerous Substances – Determination of Emissions into Indoor Air*. The testing was conducted by the Danish Technological Institute in December 2024, Report Number 273903-1-VOC-AgBB. Below are the results of the tests performed.

ISO 16000-6 - Volatile organic compounds (VOC), Emissions of VOC according to EN 16516

CAS-no.	Compound	Conc. 3d [µg/m³]	Conc. 28d [µg/m³]	SER 3d [µg/(m²h)]	SER 28d [µg/(m²h)]	AgBB-LCI	Info
000067-64-1	Acetone	67	33	67	33	120000	VOC
000067-63-0	2-Propanol	10	6	10	6	NA	VOC
000079-20-9	Methyl acetate	< 5	< 5	< 5	< 5	NA	VOC
000078-84-2	Isobutyraldehyde	< 5	< 5	< 5	< 5	NA	VOC
000078-94-4	3-Butene-2-one	< 5	< 5	< 5	< 5	NA	VOC
000123-72-8	Butanal	< 5	< 5	< 5	< 5	650	VOC
000064-19-7	Acetic acid	11	9	11	9	1200	VOC
000071-36-3	n-Butanol	< 5	< 5	< 5	< 5	3000	VOC
000107-98-2	1-Methoxy-2-propanol	< 5	< 5	< 5	< 5	7900	VOC
000110-62-3	Pentanal	20	17	20	17	800	VOC
000142-82-5	C7 (Heptane)	< 5	< 5	< 5	< 5	15000	VOC
000079-31-2	Isobutyric acid	< 5	< 5	< 5	< 5	1800	VOC
000071-41-0	n-Pentanol	7	8	7	8	730	VOC
000066-25-1	n-Hexanal	48	34	48	34	900	VOC
000109-52-4	Pentanoic acid	< 5	< 5	< 5	< 5	2100	VOC
000110-43-0	2-Heptanone	< 5	< 5	< 5	< 5	NA	VOC
	Nitrogenous substance (Toluene)	< 5	< 5	< 5	< 5	NA	VOC
000111-71-7	n-Heptanal	< 5	< 5	< 5	< 5	900	VOC
000100-52-7	Benzaldehyde	< 5	< 5	< 5	< 5	90	VOC
000142-62-1	Hexanoic acid	8	5	8	5	2100	VOC
003777-69-3	2-n-Pentylfuran	< 5	< 5	< 5	< 5	NA	VOC
034590-94-8	DPGMME (mixture of isomers)	< 5	< 5	< 5	< 5	3100	VOC
000124-13-0	Octanal	< 5	< 5	< 5	< 5	900	VOC
000124-19-6	n-Nonanal	< 5	< 5	< 5	< 5	900	VOC
000122-99-6	2-Phenoxyethanol	< 5	< 5	< 5	< 5	60	VOC
(013475-82-6)	Sum other iso/cyclo-alkanes:	< 5	< 5	< 5	< 5	NA	VOC
(000108-88-3)	Sum other iso-alcohols:	< 5	< 5	< 5	< 5	NA	VOC
	Sum VVOC (< C6)	77	39	77	39		
	Sum VOC (C6-C16)	93	72	93	72		
	Sum SVOC (C16-C22)	< 5	< 5	< 5	< 5		
	Sum of identified target VVOC	77	39	77	39		
	Sum of non-target and unidentified VVOC	< 5	< 5	< 5	< 5		
	Sum of identified target VOC	93	72	93	72		
	Sum of non-target and unidentified VOC	< 5	< 5	< 5	< 5		
	Sum of identified target SVOC	< 5	< 5	< 5	< 5		
	Sum of non-target SVOC	< 5	< 5	< 5	< 5		
	Sum of VOC (C6-C16,non-LCI)	< 5	< 5	< 5	< 5		
	Carcinogens (Cat 1A,1B)	< 1	< 1	< 1	< 1		
	TVOC (C6-C16)	30	24	30	24		
	TSVOC (C16-C22)	< 5	< 5	< 5	< 5		
	TSVOC (EN 16516) with LCI	< 5	< 5	< 5	< 5		
	Sum TVOC + TSVOC (LCI)	30	24	30	24		

ISO 16000-3 - VOC aldehydes, Emissions of formaldehyde and carbonyls

CAS-no.	Compound	Conc. 3d [µg/m ³]	Conc. 28d [µg/m ³]	SER 3d [µg/(m ² h)]	SER 28d [µg/(m ² h)]	AgBB-LCI
000050-00-0	Formaldehyde	8	10	8	10	100
000075-07-0	Acetaldehyde	25	19	25	19	300
000123-38-6	Propanal	7	< 5	7	< 5	750
000123-72-8	Butanal	< 5	< 5	< 5	< 5	650
000107-02-8	Acrolein	< 5	< 5	< 5	< 5	14

Calculation of risk index (R), Evaluation of emissions of volatile compounds

Parameter	Result	AgBB criteria
TVOC _{spez3} ² [mg/m ³]	0.093	≤ 10
TVOC _{spez28} ² [mg/m ³]	0.072	≤ 1.0
Carcinogens ₃ ³ [mg/m ³]	< 0.001	≤ 0.01
Carcinogens ₂₈ ³ [mg/m ³]	< 0.001	≤ 0.001
TSVOC ₂₈ [mg/m ³]	< 0.005	≤ 0.1
ΣVOC ₂₈ (Non-LCI) [mg/m ³]	< 0.001	≤ 0.1
R-value ₂₈	0.24	≤ 1

Further information on how the tests are conducted, as well as more details about the results, can be provided by Convert A/S upon request.

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 <small>Template version 2024.1</small>
Programme operator	Danish Technological Institute Gregersensvej DK-2630 Taastrup www.teknologisk.dk
LCA-practitioner	<i>Jonas Bak Christensen & Simon Mayall</i> <i>Quantified Impacts ApS</i> <i>Gammel Køge Landevej 55</i> <i>DK-2500 Valby</i> www.quantifiedimpacts.com
LCA software /background data	<i>openLCA 2.0.4</i> <i>Ecoinvent v3.10 EN 15804</i> <i>EN 15804 reference package 3.1</i>
3rd party verifier	<i>David Althoff Palm</i> <i>Dalemarken AB</i> <i>david@dalemarken.dk</i> www.dalemarken.dk

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 16485

DS/EN 16485:2014 – "Round and sawn timber – Environmental Product Declarations – Product category rules for wood and wood-based products for use in construction"