Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

Painted and natural wooden mouldings -

Pine, oak and MDF

from

OÜ Eesti Höövelliist

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
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An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

EHL HÖÖVELLIIST

General information

Programme information

Programme:	The International EPD® System
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CEN standard EN 15804 serves as the Core Product Category Rules (PCR), specifically the version EN 15804:2012+A2:2019 (henceforth EN 15804:A2)
Product category rules (PCR): PCR *Construction Products* (2019:14), version 1.1 and c-PCR-006 *Wood and wood based products for use in construction (EN16485:2014)*, version 2019-12-20, UN CPC 031, 311-316, 319
PCR review was conducted by: Claudia A. Peña. The review panel may be contacted via info@environdec.com.
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☐ EPD process certification ☒ EPD verification
LCA study conducted by: *Marcus Eriksson, WSP Sweden*
Third party verifier: *Martin Erlandsson, IVL Svenska Miljöinstitutet* Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD:
OÜ Eesti Höövelliist

Contact:
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Põhja-Sakala vald, Viljandi maakond, 71502, Estonia
Contact: E-mail: info@hoovelliist.ee | Phone: +372 435 1050

Description of the organisation:
OÜ Eesti Höövelliist was established in 1993 and is a manufacturer of natural and painted wooden mouldings. The product range includes mouldings in various profiles, sizes and finishing. OÜ Eesti Höövelliist is owned by the Swedish company Pomona-gruppen AB. The company owns production facilities in Estonia and Sweden and has its primary sales markets in Scandinavia and Central Europe.

The daughter companies EHL Prolist AB and Rindalslist AS work as sales- and distribution units towards the building markets in Sweden and Norway.

Product-related or management system-related certifications:
Eesti Höövelliist OÜ is not certified according to ISO 9001 or ISO 14001. All production sites are certified according to FSC and PEFC.

Name and location of production site(s):
This EPD covers lists manufactured at the following production sites:

- OÜ Eesti Höövelliist, Estonia
- Liistuvabrik OÜ, Estonia
- Prolist Nordic AB, Sweden (Bräkne-Hoby)

For more information or explanatory materials, see
https://www.hoovelliist.ee/
https://www.ehlprolist.se/
https://www.rindalslist.no/

Product information

Product name:

Painted and natural wooden mouldings (pine, oak and MDF)

Product identification:

The products are identified using Intrastat (Intra EC Trade Statistics):

Moulding	Intrastat code
Natural pine	44 09 10 18
Painted pine	44 09 10 18
Natural oak	44 09 29 99
Lacquered oak	44 09 29 99
Painted MDF	44 11 92 90

Product description:

Mouldings in pine, oak and MDF are mainly used for ceiling, floor and frame applications.

The mouldings are produced from solid pine wood, solid oak wood and from already processed MDF-boards. All raw wood material is cut into planks before arrival at the factories. At the factories, the mouldings are cut and shaped into the desired shapes, and either surface treated with paint or lacquer, or left natural.

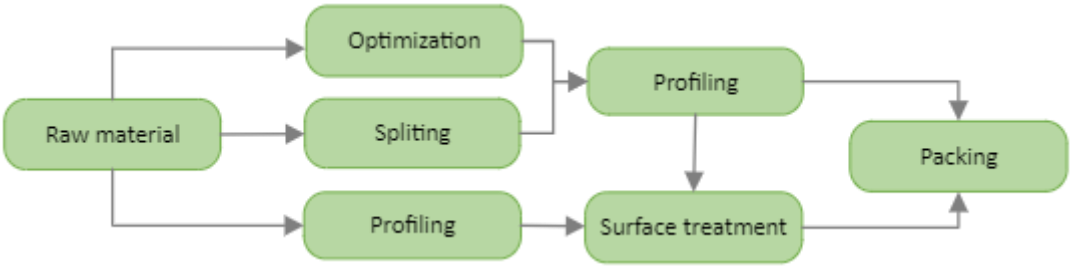


Figure 1. Overview of production steps

All purchased wood is assumed to be harvested sustainably in their countries of origin (as all countries account for article 3.4 of the Kyoto Protocol), and the wood in the studied system thereby fulfills the criterium of biogenic carbon neutrality over its life cycle. Thus, the biogenic carbon in the purchased wood enters the product system in A1.

The mouldings are produced at three factories, two in Estonia and one in Sweden. All production sites are certified according to FSC and PEFC.

The wooden mouldings consist of raw wood material, inherent water in the wood as well as paint/lacquer for three of the moulding types: painted pine mouldings, natural pine mouldings and MDF mouldings. The MDF planks that are the raw material for the MDF mouldings is a processed product, consisting of around 82 % wood chips (both softwood and hardwood), 9 % glue and 1 % paraffin wax based on its weight excluding paint. The rest of the MDF weight is water.

The products are stacked and shipped with protective plastic and cardboard packaging.

Table 1. Technical specifications

Specifications	Painted pine mouldings	Natural pine mouldings	Lacquered oak mouldings	Natural oak mouldings	Painted MDF mouldings
Dimensions	12 x 56 mm	12 x 56 mm	12 x 56 mm	12 x 56 mm	12 x 58 mm
Wood density	450 kg/m^3	450 kg/m^3	800 kg/m^3	800 kg/m^3	745 kg/m^3
Average moist content	12 %	12 %	10 %	10 %	8 %
Weight per product, with packaging (kg/m)	0,33	0,30	0,55	0,54	0,57
Conversion factor, meter per kg	3,07	3,29	1,82	1,85	1,76

Table 2. Product content, per declared unit [m^{-1}]. The total weights may deviate from the sum of all sub-components due to rounding errors

Product components	Painted pine mouldings, weight		Natural pine mouldings, weight		Lacquered oak mouldings, weight		Natural oak mouldings, weight		Painted MDF mouldings, weight	
	kg	%	kg	%	kg	%	kg	%	Kg	%
Wood raw material (dry weight)	0,27	81,59%	0,27	87,53%	0,48	87,80%	0,48	89,60%	0,45	78,54%
Water in wood	0,04	11,13%	0,04	11,94%	0,05	9,76%	0,05	9,96%	0,04	7,66%
Paint (primer, white paint, solvent	0,02	6,75%	-	0,00%	0,01	1,99%	-	0,00%	0,02	3,88%
Resin glue	-	0%	-	0 %	-	0%	-	0%	0,05	8,62%
Paraffin wax	-	0 %	-	0 %	-	0 %	-	0 %	0,01	0,96%
Plastic	0,001	0,42%	0,001	0,42%	0,002	0,35%	0,002	0,35%	0,002	0,26%
Cardboard	0,0004	0,11%	0,0003	0,11%	0,0005	0,10%	0,0005	0,10%	0,0006	0,07%
TOTAL incl. packaging	**0,326**	**100,00%**	**0,304**	**100,00%**	**0,551**	**100,00%**	**0,540**	**100,00%**	**0,568**	**100,00%**
TOTAL excl. packaging	0,324		0,302		0,549		0,538		0,565	

None of the mouldings contain hazardous substances of very high concern (SVHC) as defined by the European Chemicals Agency of more than 0,1 % of the product weight.

Information on biogenic carbon content

Table 3. Biogenic carbon

Results per declared unit						
BIOGENIC CARBON CONTENT	**Unit**	**Painted pine mouldings**	**Natural pine mouldings**	**Lacquered oak mouldings**	**Natural oak mouldings**	**Painted MDF mouldings**
Biogenic carbon content in product	kg C	0,13	0,13	0,27	0,27	0,22
Biogenic carbon content in packaging	kg C	0	0	0	0	0

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO_2.

LCA information

Declared unit:

1 meter of wood moulding, with standard dimensions.

Reference service life:

The reference service life of the mouldings is generally the same as the technical life for the buildings in which they are placed, but is considered to be 60 years.

Time representativeness:

The raw material inputs are based on the production year 2019. The product content does not change much over time and this year is considered representative. The data covering resource and material use (A3) is based on a three-year average (2017-2019).

Database(s) and LCA software used:

Specific data on the production statistics, raw material use, transportation distances and resource use have been gathered from the production facilities. Environmental data has been gathered from Ecoinvent 3.6, and the environmental impact has been modelled in the LCA-software Simapro 9.1.0.11, using the following methodologies:

For environmental impact assessment:

- EN 15804+A2 Method as implemented in SimaPro as V1.00 / EF 3.0 normalization and weighting set
- GHG-GWP indicator as implemented in SimaPro as EPD (2018) V1.01

For resource use and waste generation assessment:

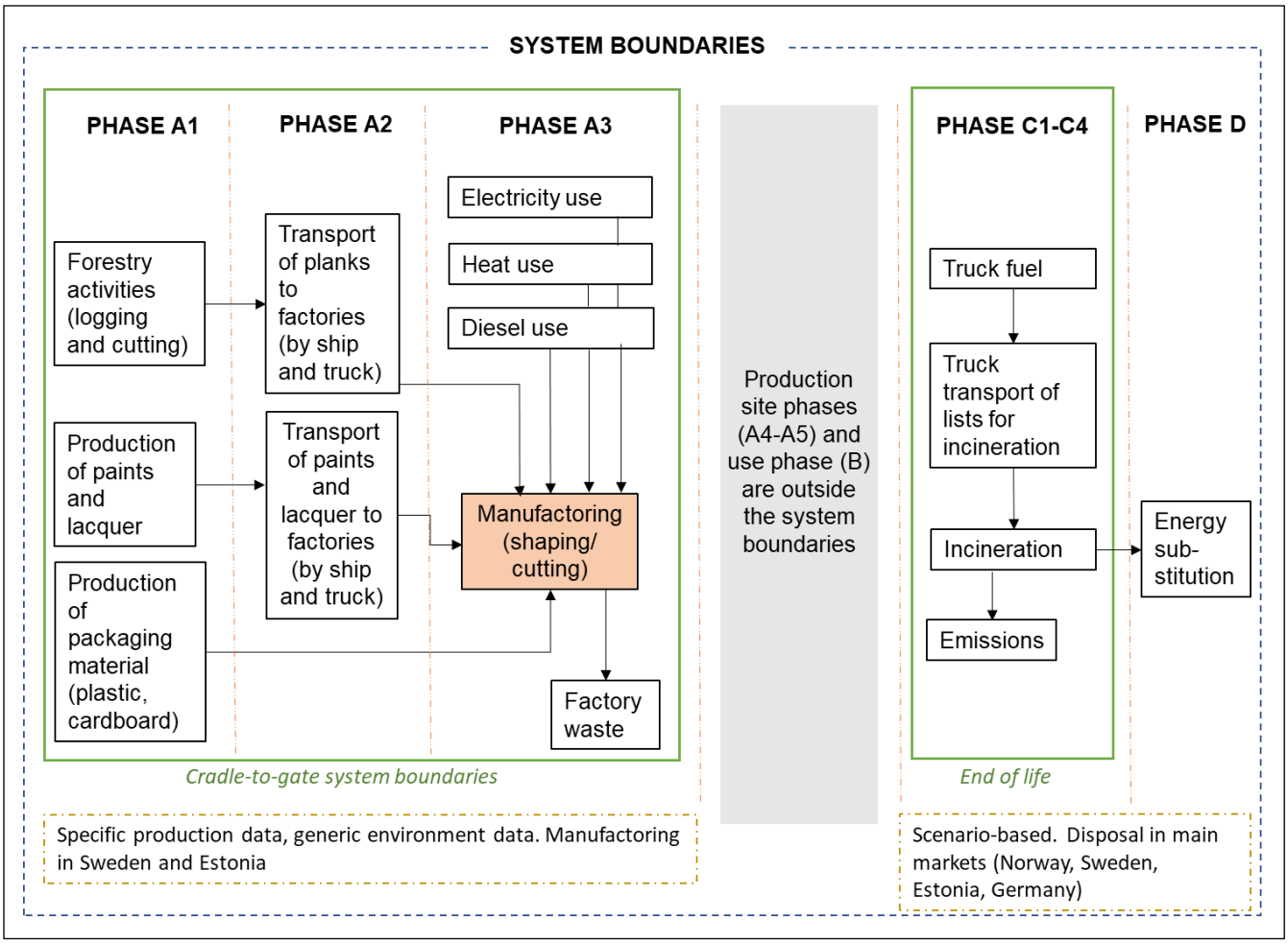
- Cumulative Energy Demand V1.11
- EDIP 2003 V1.07
- AWARE V1.03

Description of system boundaries:

Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D).

Construction and use stages (A5 and B) are not associated with any major energy or material use, and the environmental impact is considered negligible. These stages are therefore omitted.

System diagram:



More information:

All known inputs and outputs are included in the study. According to EN 15804:A2, no less than 95 % of all inflows (mass and energy) to the upstream and core modules shall be included. The assessment is that this criterion is met.

Regarding the raw materials (wood, paint and packaging materials), only generic environmental data from Ecoinvent 3.6 have been used or impact assessment, primarily due to the fact that EPD:s based on EN 15804:A1 are incompatible as input data for EPDs based on EN 15804:A2 due to differences in impact categories and categorization factors. The absence of specific data reduces the accuracy of the results.

In accordance with EN 15804:A2, biogenic CO_2 is considered as part of GWP, where the uptake of 1 kg biogenic CO_2 is characterized with negative GWP of -1 kg CO_2-eq and the emission of 1 kg biogenic CO_2 is characterized with positive GWP of 1 kg CO_2-eq.

Production process

A1-A3

The products are manufactured in two factories in Estonia and one factory in Sweden. The raw materials (A1) used for each product is largely similar between factories. In case of minor deviations, this EPD represents the average use of raw of raw materials across factories, weighed by production volumes in each factory. The A1 stage includes extraction and processing of wood to standardized planks, as well as the manufacturing of paint, glue and other supplementary materials and substances.

The raw material origins vary between the factories. The data used for LCA-modelling covering transportation distances and vehicle modes for each product (A2) represent the average transportation distances to the factories where they are produced.

The electricity mix used at each factory is not known, and no guarantees of origin thus exist. Therefore, an average electricity mix for Estonia and Sweden is used. Table 4 shows the carbon intensity of the electricity mixes used, as defined by Ecoinvent 3.6.

Table 4. Electricity mix at production facilities

Country mix	CO2 intensity of electricity
Sweden	55,9 g CO_2-e/kWh
Estonia	932 g CO_2-e/kWh

C + D End of life

The mouldings are sold in various countries, the largest four of which comprise of approximately 91 % of the sales. The end-of life for each type of moulding represents an average waste management scenario in accordance with the sales distribution.

A scenario has been developed for the end of life stage (C1–C4 & D). 100 % of the mouldings are assumed to be incinerated at end of life, with energy recovery. The end-of-life scenario is based on assumptions about waste management in the main markets where the mouldings are sold, which are Norway, Sweden, Germany and Estonia, together accounting for 91 % of the sales. The last 9 % is allocated to a scenario which is an average of Europe, as a proxy for the remaining countries.

Biogenic carbon of wood is calculated according to EN 16449. Half of the dry mass of wood is carbon. Each kg of stored biogenic carbon is equal to ~3.67 (44/12) kg of CO_2. Biogenic carbon enters the product system in module A1 and leaves the product system in the end-of-life stage at incineration (module C3). This assumption can be made as the wood is assumed to be sourced from sustainably managed forest.

C1 - Deconstruction/Demolition

Deconstruction or demolition, which in the case of mouldings refers to disassembling the mouldings from the wall, is assumed to be associated with minimal energy consumption, and is not included in the LCA. The mouldings are assumed to be disassembled, sorted and then transported to an incineration plant.

C2 - Transport to waste processing

The average transport distance of wood to incineration in Norway was 85 kilometers in 2007 (Raadal, Modahl, & Lyng, 2009). This is assumed as proxy for the transport distances to the incineration location from the construction site for all countries, and is thus assumed for all products. The mouldings are assumed to be transported by truck.

Table 5. Transport to waste processing

	Painted pine mouldings	Natural pine mouldings	Lacquered oak mouldings	Natural oak mouldings	Painted MDF mouldings
Transport per product (kgkm)	27,5	25,7	46,7	45,7	48,0

C3 – Waste processing

100 % of the mouldings are assumed to be incinerated at end of life, with electric energy recovery. As previously described, we assume that the wood is harvested from sustainable sources. In accordance with EN 16485:2014, the carbon balance over the entire life cycle of the wood should thus be zero.

The energy content per product is based on an assumption of 19,2 $MJ_{net\ calorific\ value}$/kg dry wood (Strömberg & Herstad Svärd, 2012). We assume combined heat electricity generation for waste where 70 % of the combustion heat is recovered. As per EN 16485:2014, the efficiency rate of the energy recovery needs to be higher than 60 % for the materials to be considered as materials for energy recovery. This criterion is thus met.

The thermal electricity generation efficiency at waste-to-energy plants generally varies between 15-25 % depending on the plant. As the geographical boundaries for the end-of-life of the products are wide, the energy recovery occurs at many plants, all of which are unknown. A conservative assumption of 15 % thermal energy efficiency is therefore made.

The energy content and exported heat and electric energy of each product in accordance with these assumptions are shown in Table 6.

Table 6. Energy content and exported energy from incineration

	Painted pine mouldings	Natural pine mouldings	Lacquered oak mouldings	Natural oak mouldings	Painted MDF mouldings
Energy content per product (MJ)	5,10	5,10	9,30	9,30	8,55
Exported thermal energy (MJ)	3,57	3,57	6,51	6,51	5,99
Exported electric energy (MJ)	0,77	0,77	1,40	1,40	1,28

C4 - Disposal

No disposal of the mouldings is assumed to occur after the incineration.

D - Energy substitution

The combustion of the mouldings is assumed to substitute electricity production in the countries they are sold. The exported electric energy that substitutes electricity production amounts to the value displayed in table 6 above, and is modelled based on the electricity mixes in the main markets.

The electricity substitution is distributed in five different electricity markets, in accordance the sales shares as previously defined. The market shares and accompanying electricity mixes that are substituted in each country are displayed in Table 7. 40 % of the exported electric energy is thus assumed to replace electricity in Sweden, 36 % of the exported electric energy in Norway, and so forth. The carbon intensity is derived from Ecoinvent 3.6.

Table 7. Electricity substitution

Country mix	Market share	CO2 intensity of electricity
Sweden	40 %	55,9 g CO_2-e/kWh
Norway	36 %	24,6 g CO_2-e/kWh
Germany	8 %	623 g CO_2-e/kWh
Estonia	7 %	932 g CO_2-e/kWh
European average	9 %	443 g CO_2-e/kWh

Modules declared, geographical scope, share of specific data (in GWP-GHG indicator) and data variation:

	Product phase			Construction process phase		Use phase							End of life phase					Resource recovery phase
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal		Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**		**D**
Modules declared	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X		X
Geography	SE, EE, LV, DE PL, US, FI	SE, EE, LV, DE, PL, US, FI	SE, EE	-	-	-	-	-	-	-	-	-	NO, SE, EE, DE	NO, SE, EE, DE	NO, SE, EE, DE	NO, SE, EE, DE		NO, SE, EE,DE
Specific data	Between 40-90 % of GWP-GHG comes from specific LCA-data, depending on product					-	-	-	-	-	-	-	-	-	-	-		-
Variation – products	Not relevant, all five products included in this EPD are declared separately					-	-	-	-	-	-	-	-	-	-	-		-
Variation – sites	GWP-GHG from A3 phase as follows (kg CO2e / ton produced): OÜ Eesti Höövelliist: 4,63E+02 Liistuvabrik OÜ: 3,83E+02 Prolist Nordic AB: 6,98E+01					-	-	-	-	-	-	-	-	-	-	-		-

Environmental Information

Potential environmental impact – mandatory indicators according to EN 15804

PAINTED PINE MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	1,25E-01	5,67E-02	1,50E-01	**3,31E-01**	0,00E+00	5,55E-03	5,01E-03	0,00E+00	-3,80E-02
GWP-biogenic	kg CO_2 eq.	-5,26E-01	3,03E-05	5,39E-03	**-5,20E-01**	0,00E+00	2,77E-06	5,66E-01	0,00E+00	-1,38E-03
GWP-luluc	kg CO_2 eq.	3,72E-02	2,01E-05	1,33E-04	**3,73E-02**	0,00E+00	2,41E-06	1,61E-06	0,00E+00	-3,31E-04
GWP-total	kg CO_2 eq.	-3,64E-01	5,68E-02	1,55E-01	**-1,52E-01**	0,00E+00	5,56E-03	5,71E-01	0,00E+00	-3,97E-02
ODP	kg CFC 11 eq.	1,53E-08	1,30E-08	2,79E-08	**5,61E-08**	0,00E+00	1,24E-09	7,92E-10	0,00E+00	-5,94E-09
AP	mol H^+ eq.	1,63E-03	2,92E-04	1,39E-03	**3,32E-03**	0,00E+00	2,72E-05	1,29E-04	0,00E+00	-2,47E-04
EP-freshwater	kg P eq	4,52E-05	4,18E-06	1,46E-05	**6,39E-05**	0,00E+00	4,78E-07	2,55E-06	0,00E+00	-2,83E-05
EP-marine	kg N eq.	2,66E-04	9,97E-05	2,18E-04	**5,83E-04**	0,00E+00	9,02E-06	6,24E-05	0,00E+00	-4,15E-05
EP-terrestrial	mol N eq.	1,73E-03	1,09E-03	2,38E-03	**5,20E-03**	0,00E+00	9,86E-05	6,74E-04	0,00E+00	-4,29E-04
POCP	kg NMVOC eq.	6,31E-04	3,11E-04	7,24E-04	**1,67E-03**	0,00E+00	2,83E-05	1,77E-04	0,00E+00	-1,14E-04
ADP-minerals&metals*	kg Sb eq.	1,86E+00	8,62E-01	2,09E+00	**4,81E+00**	0,00E+00	8,33E-02	5,92E-02	0,00E+00	-1,03E+00
ADP-fossil*	MJ	2,53E-06	1,55E-06	4,09E-07	**4,49E-06**	0,00E+00	2,01E-07	7,86E-08	0,00E+00	-4,87E-07
WDP*	m^3	9,40E-02	2,40E-03	1,32E-02	**1,10E-01**	0,00E+00	2,55E-04	1,32E-03	0,00E+00	-1,16E-02
Acronyms	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 = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption									

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

NATURAL PINE MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	2,89E-02	2,12E-02	1,30E-01	**1,80E-01**	0,00E+00	5,98E-03	3,73E-03	0,00E+00	-3,80E-02
GWP-biogenic	kg CO_2 eq.	-5,05E-01	1,12E-05	5,28E-03	**-5,00E-01**	0,00E+00	2,98E-06	5,22E-01	0,00E+00	-1,38E-03
GWP-luluc	kg CO_2 eq.	1,96E-04	7,56E-06	1,17E-04	**3,20E-04**	0,00E+00	2,59E-06	1,10E-06	0,00E+00	-3,31E-04
GWP-total	kg CO_2 eq.	-4,76E-01	2,12E-02	1,35E-01	**-3,20E-01**	0,00E+00	5,99E-03	5,26E-01	0,00E+00	-3,97E-02
ODP	kg CFC 11 eq.	5,31E-09	4,84E-09	2,41E-08	**3,43E-08**	0,00E+00	1,33E-09	5,33E-10	0,00E+00	-5,94E-09
AP	mol H^+ eq.	1,57E-04	1,12E-04	1,21E-03	**1,48E-03**	0,00E+00	2,93E-05	1,14E-04	0,00E+00	-2,47E-04
EP-freshwater	kg P eq	5,13E-06	1,56E-06	1,27E-05	**1,94E-05**	0,00E+00	5,14E-07	2,28E-06	0,00E+00	-2,83E-05
EP-marine	kg N eq.	5,34E-05	3,79E-05	1,90E-04	**2,81E-04**	0,00E+00	9,71E-06	5,61E-05	0,00E+00	-4,15E-05
EP-terrestrial	mol N eq.	5,71E-04	4,15E-04	2,08E-03	**3,06E-03**	0,00E+00	1,06E-04	6,06E-04	0,00E+00	-4,29E-04
POCP	kg NMVOC eq.	1,95E-04	1,18E-04	6,31E-04	**9,44E-04**	0,00E+00	3,05E-05	1,59E-04	0,00E+00	-1,14E-04
ADP-minerals&metals*	kg Sb eq.	4,77E-01	3,21E-01	1,81E+00	**2,61E+00**	0,00E+00	8,97E-02	4,13E-02	0,00E+00	-1,03E+00
ADP-fossil*	MJ	5,91E-07	5,75E-07	3,56E-07	**1,52E-06**	0,00E+00	2,16E-07	4,04E-08	0,00E+00	-4,87E-07
WDP*	m^3	4,90E-03	8,93E-04	1,17E-02	**1,75E-02**	0,00E+00	2,75E-04	1,17E-03	0,00E+00	-1,16E-02
Acronyms	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 = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption									

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NATURAL OAK MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	4,70E-02	1,44E-01	2,59E-01	**4,50E-01**	0,00E+00	9,82E-03	7,76E-03	0,00E+00	-6,59E-02
GWP-biogenic	kg CO_2 eq.	-9,20E-01	5,73E-05	8,72E-03	**-9,12E-01**	0,00E+00	4,90E-06	9,50E-01	0,00E+00	-2,39E-03
GWP-luluc	kg CO_2 eq.	6,21E-04	6,07E-05	2,31E-04	**9,12E-04**	0,00E+00	4,26E-06	2,43E-06	0,00E+00	-5,75E-04
GWP-total	kg CO_2 eq.	-8,73E-01	1,44E-01	2,68E-01	**-4,60E-01**	0,00E+00	9,83E-03	9,57E-01	0,00E+00	-6,89E-02
ODP	kg CFC 11 eq.	9,13E-09	3,24E-08	4,84E-08	**8,99E-08**	0,00E+00	2,19E-09	1,19E-09	0,00E+00	-1,03E-08
AP	mol H^+ eq.	2,54E-04	1,21E-03	2,41E-03	**3,88E-03**	0,00E+00	4,82E-05	2,13E-04	0,00E+00	-4,28E-04
EP-freshwater	kg P eq	9,85E-06	1,01E-05	2,52E-05	**4,51E-05**	0,00E+00	8,45E-07	4,23E-06	0,00E+00	-4,90E-05
EP-marine	kg N eq.	8,78E-05	3,46E-04	3,77E-04	**8,11E-04**	0,00E+00	1,60E-05	1,04E-04	0,00E+00	-7,19E-05
EP-terrestrial	mol N eq.	9,31E-04	3,82E-03	4,12E-03	**8,87E-03**	0,00E+00	1,75E-04	1,12E-03	0,00E+00	-7,44E-04
POCP	kg NMVOC eq.	4,02E-04	1,06E-03	1,25E-03	**2,71E-03**	0,00E+00	5,01E-05	2,94E-04	0,00E+00	-1,97E-04
ADP-minerals&metals*	kg Sb eq.	7,43E-01	2,14E+00	3,63E+00	**6,51E+00**	0,00E+00	1,47E-01	8,97E-02	0,00E+00	-1,79E+00
ADP-fossil*	MJ	1,06E-06	3,58E-06	7,07E-07	**5,35E-06**	0,00E+00	3,55E-07	1,09E-07	0,00E+00	-8,45E-07
WDP*	m^3	7,11E-03	5,72E-03	2,27E-02	**3,56E-02**	0,00E+00	4,52E-04	2,18E-03	0,00E+00	-2,01E-02
Acronyms	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 = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption									

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

LACQUERED OAK MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	4,71E-02	1,92E-01	2,65E-01	**5,04E-01**	0,00E+00	1,00E-02	7,96E-03	0,00E+00	-6,59E-02
GWP-biogenic	kg CO_2 eq.	-9,20E-01	-1,03E-02	8,90E-03	**-9,22E-01**	0,00E+00	5,00E-06	9,71E-01	0,00E+00	-2,39E-03
GWP-luluc	kg CO_2 eq.	6,21E-04	1,86E-02	2,36E-04	**1,95E-02**	0,00E+00	4,35E-06	2,49E-06	0,00E+00	-5,75E-04
GWP-total	kg CO_2 eq.	-8,73E-01	2,01E-01	2,74E-01	**-3,98E-01**	0,00E+00	1,00E-02	9,79E-01	0,00E+00	-6,89E-02
ODP	kg CFC 11 eq.	9,13E-09	3,74E-08	4,94E-08	**9,60E-08**	0,00E+00	2,23E-09	1,22E-09	0,00E+00	-1,03E-08
AP	mol H^+ eq.	2,55E-04	1,95E-03	2,47E-03	**4,67E-03**	0,00E+00	4,92E-05	2,18E-04	0,00E+00	-4,28E-04
EP-freshwater	kg P eq	9,89E-06	3,01E-05	2,57E-05	**6,58E-05**	0,00E+00	8,63E-07	4,32E-06	0,00E+00	-4,90E-05
EP-marine	kg N eq.	8,79E-05	4,53E-04	3,85E-04	**9,26E-04**	0,00E+00	1,63E-05	1,06E-04	0,00E+00	-7,19E-05
EP-terrestrial	mol N eq.	9,32E-04	4,40E-03	4,21E-03	**9,54E-03**	0,00E+00	1,78E-04	1,15E-03	0,00E+00	-7,44E-04
POCP	kg NMVOC eq.	4,03E-04	1,28E-03	1,28E-03	**2,96E-03**	0,00E+00	5,12E-05	3,00E-04	0,00E+00	-1,97E-04
ADP-minerals&metals*	kg Sb eq.	7,46E-01	2,83E+00	3,71E+00	**7,29E+00**	0,00E+00	1,51E-01	9,21E-02	0,00E+00	-1,79E+00
ADP-fossil*	MJ	1,06E-06	4,55E-06	7,22E-07	**6,34E-06**	0,00E+00	3,63E-07	1,12E-07	0,00E+00	-8,45E-07
WDP*	m^3	7,18E-03	5,03E-02	2,32E-02	**8,07E-02**	0,00E+00	4,62E-04	2,23E-03	0,00E+00	-2,01E-02
Acronyms	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 = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption									

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

PAINTED MDF MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	4,77E-01	1,04E-01	2,85E-01	**8,65E-01**	0,00E+00	1,03E-02	6,18E-03	0,00E+00	-6,37E-02
GWP-biogenic	kg CO_2 eq.	-8,08E-01	5,56E-05	1,36E-02	**-7,94E-01**	0,00E+00	5,11E-06	8,91E-01	0,00E+00	-2,31E-03
GWP-luluc	kg CO_2 eq.	3,77E-02	3,65E-05	1,18E-03	**3,90E-02**	0,00E+00	4,45E-06	1,80E-06	0,00E+00	-5,55E-04
GWP-total	kg CO_2 eq.	-2,93E-01	1,04E-01	3,00E-01	**1,10E-01**	0,00E+00	1,03E-02	8,97E-01	0,00E+00	-6,65E-02
ODP	kg CFC 11 eq.	6,36E-08	2,37E-08	5,31E-08	**1,40E-07**	0,00E+00	2,28E-09	8,67E-10	0,00E+00	-9,95E-09
AP	mol H^+ eq.	3,85E-03	5,29E-04	2,46E-03	**6,84E-03**	0,00E+00	5,03E-05	1,94E-04	0,00E+00	-4,14E-04
EP-freshwater	kg P eq	1,74E-04	7,64E-06	6,35E-05	**2,45E-04**	0,00E+00	8,82E-07	3,87E-06	0,00E+00	-4,73E-05
EP-marine	kg N eq.	5,47E-04	1,81E-04	4,08E-04	**1,14E-03**	0,00E+00	1,66E-05	9,54E-05	0,00E+00	-6,95E-05
EP-terrestrial	mol N eq.	7,39E-03	1,98E-03	4,39E-03	**1,38E-02**	0,00E+00	1,82E-04	1,03E-03	0,00E+00	-5,00E-04
POCP	kg NMVOC eq.	1,48E-03	5,65E-04	1,55E-03	**3,60E-03**	0,00E+00	5,23E-05	2,70E-04	0,00E+00	-1,33E-04
ADP-minerals&metals*	kg Sb eq.	8,36E+00	1,57E+00	5,71E+00	**1,56E+01**	0,00E+00	3,71E-07	2,21E-01	0,00E+00	-1,20E+00
ADP-fossil*	MJ	7,89E-06	2,82E-06	1,27E-06	**1,20E-05**	0,00E+00	1,54E-01	-1,54E-01	0,00E+00	-5,68E-07
WDP*	m^3	5,49E-01	4,38E-03	4,59E-02	**5,99E-01**	0,00E+00	4,71E-04	1,99E-03	0,00E+00	-1,35E-02
Acronyms	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 = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption									

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Potential environmental impact – additional mandatory and voluntary indicators

GWP-GHG[1]	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Painted pine mouldings	kg CO_2 eq.	1,58E-01	5,62E-02	1,48E-01	**3,63E-01**	0,00E+00	5,92E-03	4,50E-03	0,00E+00	-3,80E-02
Natural pine mouldings	kg CO_2 eq.	2,86E-02	2,10E-02	1,29E-01	**1,78E-01**	0,00E+00	5,50E-03	4,09E-03	0,00E+00	-3,80E-02
Natural oak mouldings	kg CO_2 eq.	4,65E-02	1,43E-01	2,57E-01	**4,46E-01**	0,00E+00	9,73E-03	7,63E-03	0,00E+00	-6,92E-02
Lacuered oak mouldings	kg CO_2 eq.	4,66E-02	2,08E-01	2,63E-01	**5,17E-01**	0,00E+00	9,94E-03	7,82E-03	0,00E+00	-6,92E-02
MDF mouldings	kg CO_2 eq.	5,03E-01	1,03E-01	2,81E-01	**8,86E-01**	0,00E+00	1,02E-02	6,06E-03	0,00E+00	-6,36E-02

Use of resources

PAINTED PINE MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
PERE	MJ	6,00E-02	8,31E-03	9,38E-02	**1,62E-01**	0,00E+00	1,02E-03	1,42E-03	0,00E+00	-5,72E-01
PERM	MJ	6,15E+00	3,84E-03	5,01E-01	**6,66E+00**	0,00E+00	5,02E-04	4,48E-04	0,00E+00	-7,83E-02
PERT	MJ	6,21E+00	1,22E-02	5,95E-01	**6,82E+00**	0,00E+00	1,52E-03	1,87E-03	0,00E+00	-6,50E-01
PENRE	MJ	1,99E+00	9,15E-01	2,20E+00	**5,11E+00**	0,00E+00	9,52E-02	5,66E-02	0,00E+00	-1,06E+00
PENRM	MJ.	5,62E-02	1,84E-05	2,97E-05	**5,63E-02**	0,00E+00	2,50E-06	7,91E-07	0,00E+00	-6,28E-06
PENRT	MJ	2,05E+00	9,15E-01	2,20E+00	**5,17E+00**	0,00E+00	9,52E-02	5,66E-02	0,00E+00	-1,06E+00
SM	kg	-	-	-	-	-	-	-	-	-
RSF	MJ	-	-	-	-	-	-	-	-	-
NRSF	MJ	-	-	-	-	-	-	-	-	-
FW	m^3	9,05E-02	2,43E-03	1,29E-02	**1,06E-01**	0,00E+00	2,78E-04	1,21E-03	0,00E+00	-1,13E-02
Acronyms	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 re-									

[1] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

	sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

NATURAL PINE MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
PERE	MJ	8,14E-03	3,09E-03	8,12E-02	**9,25E-02**	0,00E+00	9,50E-04	1,30E-03	0,00E+00	-5,72E-01
PERM	MJ	5,70E+00	1,43E-03	4,66E-01	**6,17E+00**	0,00E+00	4,66E-04	4,07E-04	0,00E+00	-7,83E-02
PERT	MJ	5,71E+00	4,52E-03	5,47E-01	**6,26E+00**	0,00E+00	1,42E-03	1,70E-03	0,00E+00	-6,50E-01
PENRE	MJ	5,07E-01	3,41E-01	1,91E+00	**2,76E+00**	0,00E+00	8,84E-02	5,11E-02	0,00E+00	-1,06E+00
PENRM	MJ.	2,64E-04	7,00E-06	2,72E-05	**2,98E-04**	0,00E+00	2,32E-06	7,02E-07	0,00E+00	-6,28E-06
PENRT	MJ	5,07E-01	3,41E-01	1,91E+00	**2,76E+00**	0,00E+00	8,84E-02	5,11E-02	0,00E+00	-1,06E+00
SM	kg	-	-	-	-	-	-	-	-	-
RSF	MJ	-	-	-	-	-	-	-	-	-
NRSF	MJ	-	-	-	-	-	-	-	-	-
FW	m^3	4,85E-03	9,06E-04	1,14E-02	**1,71E-02**	0,00E+00	2,58E-04	1,11E-03	0,00E+00	-1,13E-02
Acronyms	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 = Use of net fresh water									

NATURAL OAK MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
PERE	MJ	1,26E-02	1,95E-02	1,63E-01	**1,95E-01**	0,00E+00	1,68E-03	2,39E-03	0,00E+00	-9,91E-01
PERM	MJ	9,98E+00	9,17E-03	8,40E-01	**1,08E+01**	0,00E+00	8,25E-04	7,58E-04	0,00E+00	-1,36E-01
PERT	MJ	9,99E+00	2,87E-02	1,00E+00	**1,10E+01**	0,00E+00	2,50E-03	3,15E-03	0,00E+00	-1,13E+00
PENRE	MJ	7,90E-01	2,28E+00	3,82E+00	**6,89E+00**	0,00E+00	1,56E-01	9,61E-02	0,00E+00	-1,85E+00
PENRM	MJ.	8,55E-04	6,39E-05	5,03E-05	**9,69E-04**	0,00E+00	4,10E-06	1,36E-06	0,00E+00	-1,09E-05

PENRT	MJ	7,91E-01	2,28E+00	3,82E+00	**6,89E+00**	0,00E+00	1,56E-01	9,61E-02	0,00E+00	-1,85E+00
SM	kg	-	-	-	-	-	-	-	-	-
RSF	MJ	-	-	-	-	-	-	-	-	-
NRSF	MJ	-	-	-	-	-	-	-	-	-
FW	m^3	7,05E-03	5,81E-03	2,22E-02	**3,50E-02**	0,00E+00	4,57E-04	2,03E-03	0,00E+00	-1,95E-02
Acronyms	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 = Use of net fresh water									

LACQUERED OAK MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
PERE	MJ	1,27E-02	4,54E-02	1,66E-01	**2,24E-01**	0,00E+00	1,72E-03	2,45E-03	0,00E+00	-9,91E-01
PERM	MJ	9,98E+00	2,35E-01	8,58E-01	**1,11E+01**	0,00E+00	8,43E-04	7,77E-04	0,00E+00	-1,36E-01
PERT	MJ	9,99E+00	2,81E-01	1,02E+00	**1,13E+01**	0,00E+00	2,56E-03	3,22E-03	0,00E+00	-1,13E+00
PENRE	MJ	7,93E-01	3,02E+00	3,91E+00	**7,72E+00**	0,00E+00	1,60E-01	9,87E-02	0,00E+00	-1,85E+00
PENRM	MJ.	8,55E-04	2,82E-02	5,14E-05	**2,91E-02**	0,00E+00	4,19E-06	1,40E-06	0,00E+00	-1,09E-05
PENRT	MJ	7,94E-01	3,04E+00	3,91E+00	**7,75E+00**	0,00E+00	1,60E-01	9,87E-02	0,00E+00	-1,85E+00
SM	kg	-	-	-	-	-	-	-	-	-
RSF	MJ	-	-	-	-	-	-	-	-	-
NRSF	MJ	-	-	-	-	-	-	-	-	-
FW	m^3	7,12E-03	4,87E-02	2,26E-02	**7,85E-02**	0,00E+00	4,67E-04	2,07E-03	0,00E+00	-1,95E-02
Acronyms	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 = Use of net fresh water									

PAINTED MDF MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
PERE	MJ	3,55E-01	1,52E-02	8,26E-01	**1,20E+00**	0,00E+00	1,75E-03	2,05E-03	0,00E+00	-2,14E+00
PERM	MJ	9,48E+00	7,01E-03	1,12E+00	**1,06E+01**	0,00E+00	8,61E-04	6,19E-04	0,00E+00	-1,31E-01
PERT	MJ	9,83E+00	2,22E-02	1,95E+00	**1,18E+01**	0,00E+00	2,61E-03	2,67E-03	0,00E+00	-2,28E+00
PENRE	MJ	9,02E+00	1,67E+00	5,93E+00	**1,66E+01**	0,00E+00	1,63E-01	7,25E-02	0,00E+00	-1,78E+00
PENRM	MJ.	5,67E-02	3,34E-05	6,72E-05	**5,68E-02**	0,00E+00	4,28E-06	8,11E-07	0,00E+00	-1,05E-05
PENRT	MJ	9,07E+00	1,67E+00	5,93E+00	**1,67E+01**	0,00E+00	1,63E-01	7,25E-02	0,00E+00	-1,78E+00
SM	kg	-	-	-	-	-	-	-	-	-
RSF	MJ	-	-	-	-	-	-	-	-	-
NRSF	MJ	-	-	-	-	-	-	-	-	-
FW	m^3	5,42E-01	4,44E-03	4,37E-02	**5,90E-01**	0,00E+00	4,87E-04	2,18E-02	0,00E+00	-1,88E-02
Acronyms	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 = Use of net fresh water									

Waste production and output flows

Waste production

PAINTED PINE MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2,49E-06	2,25E-06	1,41E-06	**6,15E-06**	0,00E+00	2,41E-07	1,47E-07	0,00E+00	-5,26E-07
Non-hazardous waste disposed	kg	6,34E-02	4,11E-02	5,84E-03	**1,10E-01**	0,00E+00	3,53E-03	3,23E-03	0,00E+00	-5,07E-03
Radioactive waste disposed	kg	6,61E-06	5,88E-06	1,49E-05	**2,73E-05**	0,00E+00	6,05E-07	2,25E-07	0,00E+00	-1,10E-05

NATURAL PINE MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	1,12E-06	8,38E-07	1,22E-06	**3,19E-06**	0,00E+00	2,24E-07	1,33E-07	0,00E+00	-5,26E-07
Non-hazardous waste disposed	kg	9,01E-03	1,53E-02	5,12E-03	**2,94E-02**	0,00E+00	3,28E-03	2,94E-03	0,00E+00	-5,07E-03
Radioactive waste disposed	kg	2,50E-06	2,19E-06	1,29E-05	**1,75E-05**	0,00E+00	5,62E-07	2,01E-07	0,00E+00	-1,10E-05

NATURAL OAK MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2,22E-06	5,20E-06	2,44E-06	**9,86E-06**	0,00E+00	3,96E-07	2,49E-07	0,00E+00	-9,13E-07
Non-hazardous waste disposed	kg	1,72E-02	9,12E-02	1,01E-02	**1,18E-01**	0,00E+00	5,80E-03	5,46E-03	0,00E+00	-8,80E-03
Radioactive waste disposed	kg	4,27E-06	1,46E-05	2,58E-05	**4,47E-05**	0,00E+00	9,95E-07	3,86E-07	0,00E+00	-1,91E-05

LACQUERED OAK MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	2,22E-06	5,89E-06	2,50E-06	**1,06E-05**	0,00E+00	4,05E-07	2,56E-07	0,00E+00	-9,13E-07
Non-hazardous waste disposed	kg	1,72E-02	1,18E-01	1,03E-02	**1,46E-01**	0,00E+00	5,93E-03	5,60E-03	0,00E+00	-8,80E-03
Radioactive waste disposed	kg	4,27E-06	1,67E-05	2,64E-05	**4,73E-05**	0,00E+00	1,02E-06	3,97E-07	0,00E+00	-1,91E-05

PAINTED MDF MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	kg	8,44E-06	4,12E-06	2,61E-06	**1,52E-05**	0,00E+00	4,13E-07	1,90E-07	0,00E+00	-8,81E-07
Non-hazardous waste disposed	kg	8,30E-02	7,52E-02	1,68E-02	**1,75E-01**	0,00E+00	6,06E-03	4,44E-03	0,00E+00	-8,51E-03
Radioactive waste disposed	kg	2,82E-05	1,07E-05	4,94E-05	**8,83E-05**	0,00E+00	1,04E-06	2,52E-07	0,00E+00	-1,84E-05

Output flows

PAINTED PINE MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	-	-	-	-	-	-	-	-	-
Material for recycling	kg	-	-	-	-	-	-	-	-	-
Materials for energy recovery	kg	-	-	-	-	-	-	3,24E-01	-	-
Exported energy, electricity	MJ	-	-	-	-	-	-	-	-	-
Exported energy, thermal	MJ	-	-	-	-	-	-	-	-	-

NATURAL PINE MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	-	-	-	-	-	-	-	-	-
Material for recycling	kg	-	-	-	-	-	-	-	-	-
Materials for energy recovery	kg	-	-	-	-	-	-	3,24E-01	-	-
Exported energy, electricity	MJ	-	-	-	-	-	-	-	-	-
Exported energy, thermal	MJ	-	-	-	-	-	-	-	-	-

NATURAL OAK MOULDINGS

Indicator	Unit	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	-	-	-	-	-	-	-	-	-
Material for recycling	kg	-	-	-	-	-	-	-	-	-
Materials for energy recovery	kg	-	-	-	-	-	-	5,38E-01	-	-
Exported energy, electricity	MJ	-	-	-	-	-	-	-	-	-
Exported energy, thermal	MJ	-	-	-	-	-	-	-	-	-

LACQUERED OAK MOULDINGS										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	-	-	-	-	-	-	-	-	-
Material for recycling	kg	-	-	-	-	-	-	-	-	-
Materials for energy recovery	kg	-	-	-	-	-	-	5,38E-01	-	-
Exported energy, electricity	MJ	-	-	-	-	-	-	-	-	-
Exported energy, thermal	MJ	-	-	-	-	-	-	-	-	-

PAINTED MDF MOULDINGS										
Indicator	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	-	-	-	-	-	-	-	-	-
Material for recycling	kg	-	-	-	-	-	-	-	-	-
Materials for energy recovery	kg	-	-	-	-	-	-	5,65E-01	-	-
Exported energy, electricity	MJ	-	-	-	-	-	-	-	-	-
Exported energy, thermal	MJ	-	-	-	-	-	-	-	-	-

Additional information

All production sites have PEFC and FSC certificates. Eesti Höövelliist OÜ is a member of Sedex.

All five types of mouldings have been tested for indoor emissions in the year 2020 (according to ISO 16000-9:2006 (Indoor air – Part 9: Determination of the emission of volatile organic compounds from building products and furnishing – Emission test chamber method). The test results of TVOC, TSVOC, formaldehyde and carcinogenic VOCs are in compliance with the Exemplary level emission criteria of Wood-based products of BREEAM International (2016, issue 2.0).

References

General Programme Instructions of the International EPD® System. Version 3.01.

PCR Construction Products (2019:14), version 1.1

C-PCR-006 *Wood and wood based products for use in construction*

EN 15804:2012 + A2:2019 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products

EN 16485:2014 Round and sawn timber. Environmental product declarations. Product category rules for wood and wood-based products for use in construction

EN 16449:2014 Wood and wood-based products. Calculation of the biogenic carbon content of wood and conversion to carbon dioxide

ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations. Principles and procedures.

ISO 14044:2006 Environmental management. Life Cycle Assessment. Requirements and guidelines.

WSP (2021). *LCA Report for painted and natural wooden mouldings - Pine, oak and MDF*.

Raadal, H. L., Modahl, I. S., & Lyng, K.-A. (2009). *Klimaregnskap for avfallshåndtering Fase I og II. Oppdragsrapport nr 18.09.* Østfoldforskning, Norge.

Strömberg, B., & Herstad Svärd, S. (2012). *Bränslehandboken 2012.* Stockholm: VÄRMEFORSK Serviceaktiebolag.