Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

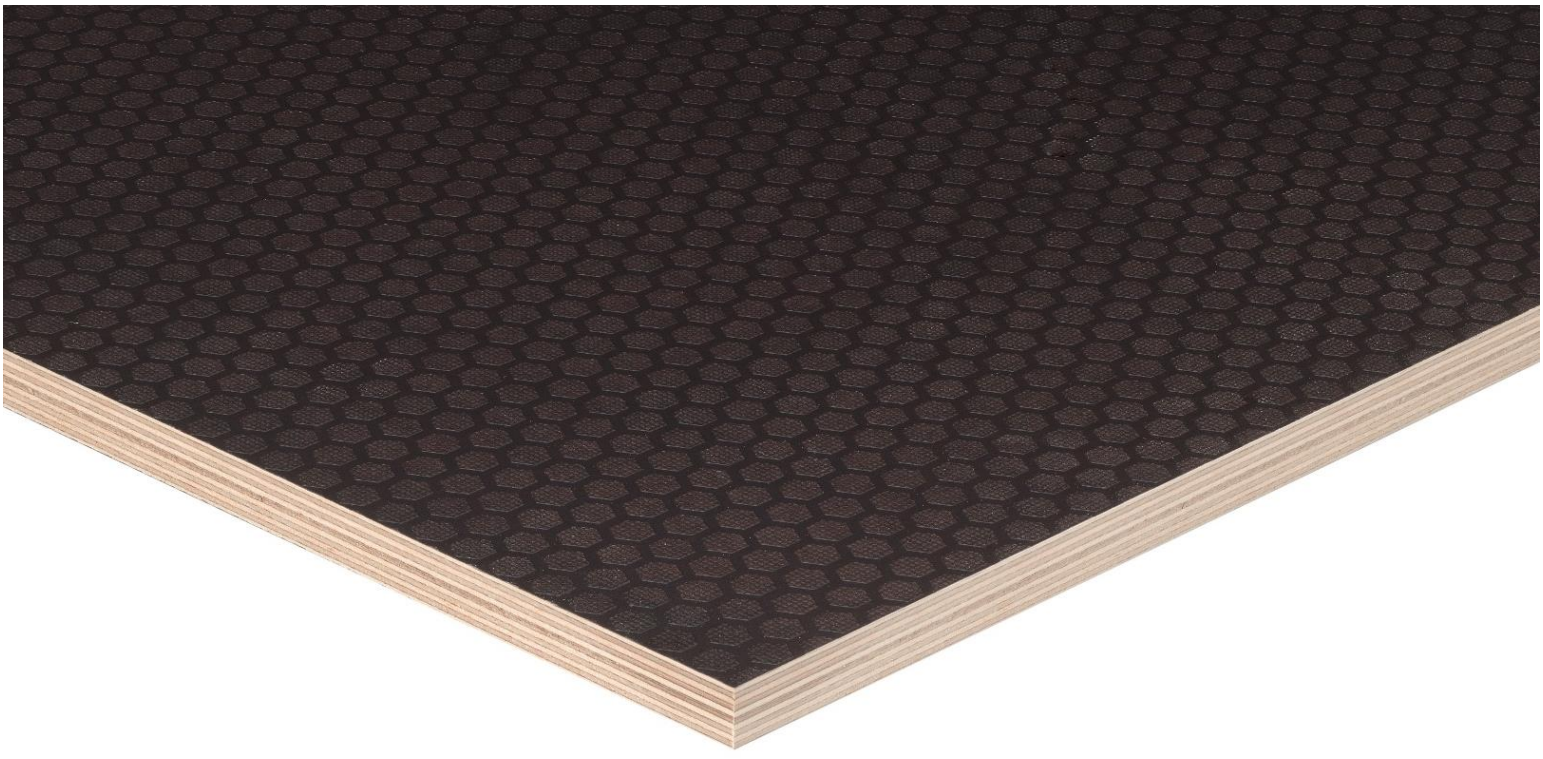
WISA® Birch plywood, coated

from

UPM Plywood Oy

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-10543
Publication date:	2023-10-25
Valid until:	2028-10-25

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



General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	info@environdec.com

Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): PCR 2019:14 Construction products, version 1.2.5; c-PCR-006 (to PCR 2019:14) Wood and wood-based products for use in construction (EN 16485:2014) UN CPC 031, 311, 312, 313, 314, 315, 316, 319, version 2019-12-20.
PCR review was conducted by: The Technical Committee of the International EPD® System. A full list of members available on www.environdec.com. The review panel may be contacted via info@environdec.com.
Life Cycle Assessment (LCA)
Etteplan Finland Oy Laserkatu 6, 53850 Lappeenranta, Finland www.etteplan.com LCA by: Kaisa Kuusela
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by individual verifier Third-party verifier: Hannu Karppi, Ramboll Finland Oy 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 registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD:
UPM Plywood Oy

Contact:
Sanna Kontinen,
Manager, Environmental Affairs
e-mail: sanna.kontinen@upm.com

More information: www.wisaplywood.com

Description of the organisation:
UPM Plywood offers high quality WISA® plywood and veneer products for construction, vehicle flooring, LNG shipbuilding, parquet manufacturing and other industrial applications. In 2022 UPM Plywood sales was EUR 539 million and it had 1,982 employees. UPM has five plywood mills and one veneer mill in Finland and one plywood mill in Estonia.

Product-related or management system-related certifications:

- ✓ FSC and PEFC CoC
- ✓ ISO 9001, ISO 14001 & ISO 45001
- ✓ CE marking according to EN 13986:2004+A1:2015 with AVCP 2+ & 4 (depending on the product)
- ✓ M1 emission classification (depending on the product)

Names and locations of production sites:

- ✓ UPM Joensuu Plywood mill
  Sirkkalantie 17
  80100 Joensuu

- ✓ UPM Savonlinna Plywood mill
  Schaumanintie 1
  57200 Savonlinna

- ✓ UPM Otepää Plywood mill
  Tehase 2
  67404 Otepää

Product information

Product name:

WISA® coated birch plywood. This is a name for a range of different plywood products, see Table 1. This EPD represents the average composition and production of multiple plywood products manufactured at three mills in Finland and Estonia. The results presented in this EPD for 1 m^3 of average coated birch plywood are weighted according to the production volumes at each mill.

Table 1. Products included in the results of this average EPD.

Product group	Product	Features
WISA® coated birch plywood	WISA-Form Birch WISA-Form Maxi Birch WISA-Form Super	Smooth phenolic film coating on both sides.
	WISA-Form Birch^{MBT}	Smooth phenolic film coating on both sides and moisture barrier on the surface side.
	WISA-Hexa	Phenolic film coating with hexagonal pattern on both sides.
	WISA-Hexa Grey	Amino resin coating with hexagonal pattern on both sides.
	WISA-Wire	Phenolic film coating with wire mesh pattern on surface.

Up-to-date information on products is available at www.wisaplywood.com

Product identification:

WISA-Plywood products are marked with CE-marking containing unambiguous code of Declaration of Performance, i.e. UPM007CPR.

Product description:

WISA® Plywood products are sustainable material for permanent constructions and infrastructure. Panels are strong, stiff and lightweight and hence suitable for multiple different uses in building and construction applications, such as roofing, flooring and wall sheeting.

As permanent component of building or infrastructure, plywood boards are primarily used in dry indoor or moderately humid conditions (reference in-use conditions), such as in roofing, flooring and wall sheeting. According to research results and experience, glued timber products, such as plywood, will have around the same service life expectations than solid wood in dry and moderately humid conditions. If installed properly and moisture exposure is low or moderate, the service life of the plywood board is 100 years at minimum.

UN CPC code: 31410

Geographical scope:

WISA® coated birch plywood products are manufactured in Finland and Estonia and modules A1–A3 mostly represent these locations. Plywood products are used across Europe and therefore modules A4–A5, B, C (end-of-life stage) and D (avoided burdens) represent specific destination countries in Europe.

LCA information

Declared unit:

1 m^3 of WISA® coated birch plywood board from cradle to grave. Plywood density is 680 kg/m^3, which acts as a conversion factor for declared indicator results.

Reference service life:

100 years. As permanent component of building or infrastructure, plywood boards are primarily used in dry indoor or moderately humid conditions (reference in-use conditions), such as in roofing, flooring and wall sheeting. According to research results and experience, glued timber products, such as plywood, will have around the same service life expectations than solid wood in dry and moderately humid conditions. If installed properly and moisture exposure is low or moderate, the service life of the plywood board is 100 years at minimum.

Time representativeness:

Manufacturer-specific data (module A3) represents year 2021. Time representativeness of secondary data used was mainly very good, and good overall.

Database(s) and LCA software used:

LCA for Experts software version 10.7 is used for modeling and calculation of results. Used databases include Sphera Professional database 2023 and and Ecoinvent 3.8 (cut-off) from Ecoinvent.

Description of system boundaries:

The system boundaries of this EPD are cradle to grave and module D *(A + B + C + D)*. Therefore, all life cycle stages are included. See Table 2 and Figure 1 below for information on declared modules and descriptions further below.

Table 2. Modules declared, geographical scope, share of specific data and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	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	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Geography	FI, EE, EU			FI, EE, EU													FI, EE, EU
Specific data used	<25 %			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	<10 %			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	3 %			-	-	-	-	-	-	-	-	-	-	-	-	-	-

EE = Estonia; EU = Europe; FI = Finland.

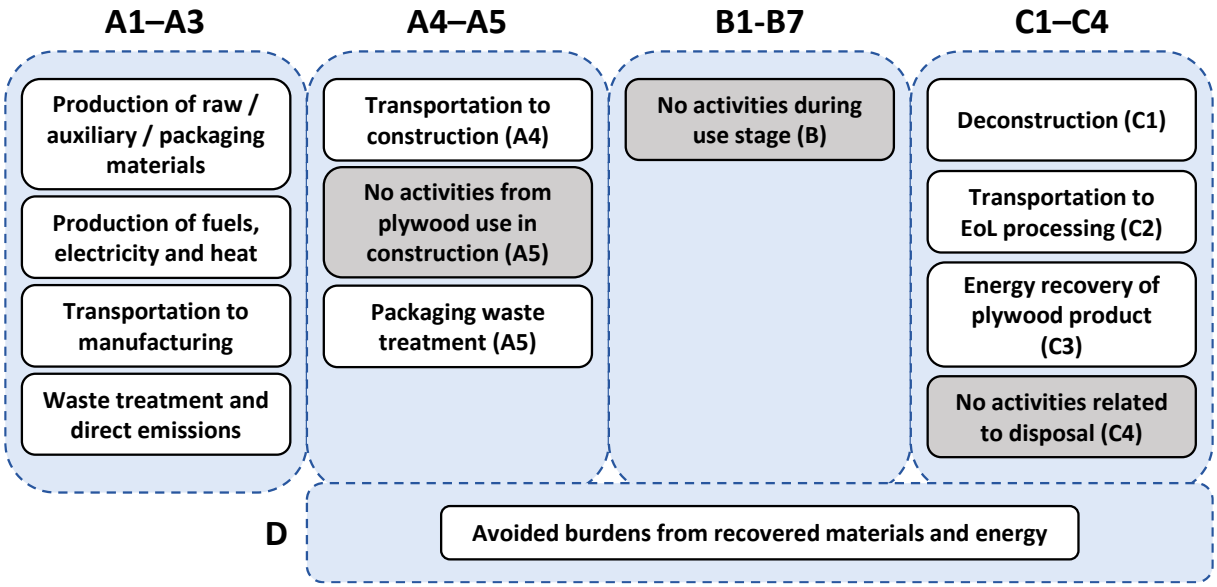


Figure 1. System diagram.

Module A1 includes the production of raw materials and energy used in the manufacturing of the plywood products. Birch logs are sourced from Finland and Estonia according to mill locations. Plywood mills have onsite energy plants that use wood residues from plywood manufacturing as fuel. Residual electricity used in manufacturing is produced mostly with natural gas, nuclear power and coal and its emission factor is 0.323 kg CO_2 eq./kWh (GWP-GHG).

Module A2 comprises of transportation processes up to the plywood mill gates. Most of the materials are shipped to the mills by road and few materials are also shipped by sea.

Module A3 includes the direct emissions of the manufacturing processes at the plywood mills, production of auxiliary and packaging materials, treatment of solid wastes and pre-treatment of wastewater. Plywood manufacturing process is depicted in Figure 2 below.

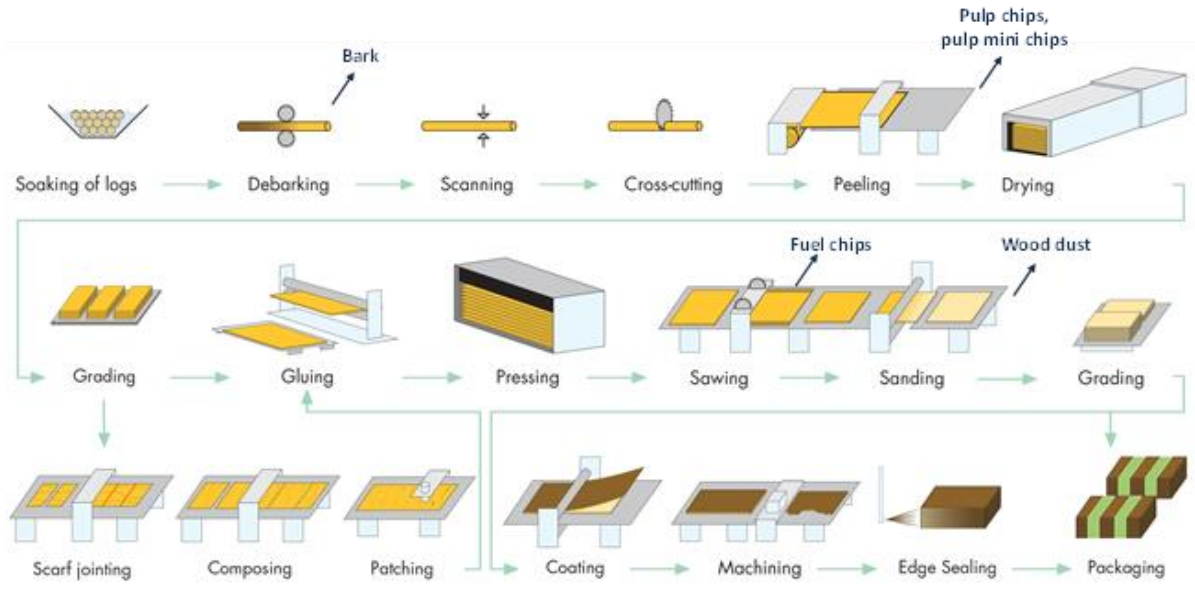


Figure 2. Manufacturing process flow diagram.

Module A4 describes the transportation of plywood products to end users in multiple European countries. In module A5 the plywood products are installed/used in construction (no significant inputs are identified to be used in construction). Plywood wastage and product packaging are directed to waste treatment in module A5.

Modules B1–B7 describe the use stage of plywood board installed in a building, in which the product does not require maintenance or replacements and the indoor emissions are very low over the service life – therefore the environmental impacts in module B are estimated to be insignificant and presented as zero. Modules C1–C4 describe the deconstruction of the plywood (C1), transportation to waste processing (C2), waste processing (C3) and disposal (C4). Plywood is assumed to be recovered as energy, of which burdens belong to module C3, and no activities are included in module C4. Module D describes the material and energy resource recovery across the life cycle.

Table 3. Modeling data pertaining to modules A4-C4.

Module	Module information
A4	888 km by road (Euro 5 truck, 24.7 ton payload capacity; 61 % utilization rate) 1151 km by sea (Container ship, 14 000 dead weight tonnage; 70 % utilization rate)
A5	5 % plywood material loss
B1–B7	No activities (estimated to be insignificant and presented as 0).
C1	Deconstruction (Excavator, 100 kW, construction)
C2	100 km assumed (Euro 6 truck, 9.3 ton payload capacity; 51 % utilization rate)
C3	100 % energy recovery assumed.
C4	No activities (presented as 0).
D	Quality ratios of recovered materials are accounted for. Default efficiency of energy recovery are 25-27 % for heat, 13-15 % for electricity (Sphera). Heat from natural gas (A5/C3) and country-specific electricity grid mix (A5/C3) are assumed to be avoided.

Cut-off criteria:
The sum of excluded flows do not exceed 5% of the total inputs or outputs (by mass or by energy). The flows knowingly excluded are as follows:

- Capital equipment, infrastructure, and employee commute.
- Production of few minor auxiliary/raw materials (<0.05 % of material input mass to mills).
- Few minor solid waste flows (<0.06 % of plywood production mass).
- A5: Production of screws and use of screwdriver in construction stage.
- B1: Emissions to air during use stage are very minor and assumed to be zero.

Allocation:
Volumetric allocation is used to allocate annual flows between main products from the mills, coated and coated birch plywood. Economic allocation is then applied to allocate flows between plywood product and wooden co-products of the mill. Economic allocation is applied only to raw material (wood) and energy inputs relating to the formation of co-products. Plywood products carry at least 94 % of burdens from manufacturing.

Data quality:
Primary data of UPM Plywood represents year 2021 and annual production inventory data is used as the basis of calculation. Modeling data is obtained from Sphera Professional database 2023 and Ecoinvent 3.8 database. Time-related, geographical and technological representativeness are assessed before using secondary data and overall, the data quality is good.

Content information

Compositions of average WISA® coated birch plywood and accompanying packaging are presented in Table 4 below. It should be noted that the plywood composition represents a calculated average of all included plywood products and not any specific product.

Table 4. WISA® coated birch plywood composition and packaging (average for multiple products).

Product components	**Weight, kg**	**Post-consumer material, weight-%**	**Biogenic material, weight-% and kg C/kg**
Wood, birch	588.5	0 %	100%, 0.49
Moisture	58.9	0 %	0 %
Adhesive resin	20.3	0 %	0 %
Hardeners and fillers	4.0	0 %	0 %
Phenolic coatings	8.0	0 %	0 %
Edge sealing	0.2	0 %	0 %
Others (i.e. composing adhesives, fillers)	0.1	0 %	0 %
TOTAL	**680.0**	**0 %**	**86.5 %, 0.43**
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**	**Weight biogenic carbon, kg C/kg**
Bed timber	11.8	1.7 %	0.40
Plywood	9.6	1.4 %	0.45
Cardboard	0.7	0.1 %	0.43
Polyester band	0.2	0.0 %	0
Plastic wrap (LDPE)	1.1	0.2 %	0
TOTAL	**23.4**	**3.4 %**	**0.40**

There are no SVHC substances in the product.

Results of the environmental performance indicators

The declared indicators in this section represent average WISA® coated birch plywood. The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Mandatory impact category indicators (EN 15804+A2)

Results per 1 m^3 of average WISA® coated birch plywood										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-total	kg CO_2 eq.	-7.92E+02	5.33E+01	9.36E+01	0.00E+00	3.93E-01	8.58E+00	1.12E+03	0.00E+00	-3.52E+02
GWP-fossil	kg CO_2 eq.	3.59E+02	5.28E+01	6.17E+00	0.00E+00	3.88E-01	8.48E+00	5.82E+01	0.00E+00	-3.50E+02
GWP-biogenic	kg CO_2 eq.	-1.15E+03	1.09E-01	8.75E+01	0.00E+00	1.36E-03	1.94E-02	1.07E+03	0.00E+00	-1.39E+00
GWP-luluc	kg CO_2 eq.	1.33E+00	4.13E-01	9.04E-03	0.00E+00	3.59E-03	7.93E-02	4.08E-03	0.00E+00	-2.89E-02
ODP	kg CFC 11 eq.	2.28E-05	6.40E-12	1.31E-11	0.00E+00	5.05E-14	1.11E-12	1.04E-10	0.00E+00	-4.04E-09
AP	mol H^+ eq.	1.28E+00	2.57E-01	1.69E-02	0.00E+00	2.03E-03	1.09E-02	1.72E-01	0.00E+00	-3.85E-01
EP-freshwater	kg P eq.	9.03E-02	1.65E-04	1.90E-05	0.00E+00	1.42E-06	3.13E-05	2.94E-05	0.00E+00	-7.86E-04
EP-marine	kg N eq.	5.17E-01	9.16E-02	5.01E-03	0.00E+00	9.50E-04	3.65E-03	4.94E-02	0.00E+00	-1.33E-01
EP-terrestrial	mol N eq.	5.48E+00	1.02E+00	6.95E-02	0.00E+00	1.05E-02	4.42E-02	7.13E-01	0.00E+00	-1.42E+00
POCP	kg NMVOC eq.	1.68E+00	2.47E-01	1.35E-02	0.00E+00	2.66E-03	9.34E-03	1.36E-01	0.00E+00	-3.60E-01
ADP-minerals&metals*	kg Sb eq.	3.27E-04	3.04E-06	3.34E-07	0.00E+00	2.57E-08	5.68E-07	9.74E-07	0.00E+00	-3.23E-05
ADP-fossil*	MJ	8.72E+03	7.14E+02	4.32E+01	0.00E+00	5.28E+00	1.17E+02	2.63E+02	0.00E+00	-5.97E+03
WDP*	m^3	7.68E+01	5.54E-01	1.00E+01	0.00E+00	4.69E-03	1.03E-01	1.15E+02	0.00E+00	-1.93E+01

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.*

Additional mandatory and voluntary impact category indicators (EN 15804+A2)

Results per 1 m³ of average WISA® coated birch plywood										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[1]	kg CO_2 eq.	3.61E+02	5.34E+01	6.19E+00	0.00E+00	3.93E-01	8.58E+00	5.82E+01	0.00E+00	-3.53E+02
PM	Disease incidences	8.46E-06	5.07E-06	1.16E-07	0.00E+00	2.29E-08	8.28E-08	1.16E-06	0.00E+00	-3.25E-06
IRP**	kBq U^{235} eq.	8.65E+01	1.88E-01	3.29E-01	0.00E+00	1.48E-03	3.27E-02	2.39E+00	0.00E+00	-3.53E+01
ET-freshwater*	CTUe	2.39E+03	5.10E+02	1.90E+01	0.00E+00	3.78E+00	8.36E+01	1.08E+02	0.00E+00	-9.66E+02
HTP-c*	CTUh	2.29E-07	1.02E-08	1.26E-09	0.00E+00	7.68E-11	1.70E-09	1.12E-08	0.00E+00	-7.49E-08
HTP-n*	CTUh	4.41E-06	4.37E-07	6.51E-08	0.00E+00	3.42E-09	7.54E-08	6.15E-07	0.00E+00	-1.79E-06
SQI*	Pt	1.50E+05	2.54E+02	2.07E+01	0.00E+00	2.21E+00	4.87E+01	8.03E+01	0.00E+00	-1.68E+03

GWP-GHG = Global Warming Potential greenhouse gases; PM = Particulate Matter; IRP = Ionizing Radiation Potential; ET-freshwater = Ecotoxicity freshwater; HTP-c = Human Toxicity Potential cancer; HTP-c = Human Toxicity Potential non-cancer; SQI = Soil Quality Index

** 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.*

*** Disclaimer: This impact category deals mainly with the eventual impact of low dose ionizing radiation of 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.*

[1] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

Resource use indicators

Note: energy stored in the product is not balanced out over the life cycle A to C, but instead reported as primary energy used as material, even though it is lost from the product system under study, why this has to be considered in any further assessment or use of the reported result.

Results per 1 m^3 of average WISA® coated birch plywood										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	1.27E+04	4.47E+01	2.07E+01	0.00E+00	3.84E-01	8.49E+00	6.57E+01	0.00E+00	-2.32E+03
PERM	MJ	2.61E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	3.88E+04	4.47E+01	2.07E+01	0.00E+00	3.84E-01	8.49E+00	6.57E+01	0.00E+00	-2.32E+03
PENRE	MJ	7.74E+03	7.17E+02	4.33E+01	0.00E+00	5.30E+00	1.17E+02	2.64E+02	0.00E+00	-5.97E+03
PENRM	MJ	1.64E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	9.38E+03	7.17E+02	4.33E+01	0.00E+00	5.30E+00	1.17E+02	2.64E+02	0.00E+00	-5.97E+03
SM	kg	9.26E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF	MJ	2.10E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	1.71E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m^3	4.89E+00	4.91E-02	2.42E-01	0.00E+00	4.21E-04	9.30E-03	2.71E+00	0.00E+00	-1.07E+00

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-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

Waste indicators

Results per 1 m^3 of average WISA® coated birch plywood										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	2.61E-02	2.22E-09	1.92E-07	0.00E+00	1.64E-11	3.62E-10	5.95E-09	0.00E+00	-1.45E-07
Non-hazardous waste disposed	kg	1.10E+01	1.03E-01	1.90E+00	0.00E+00	8.08E-04	1.78E-02	2.07E+01	0.00E+00	-3.44E+00

Radioactive waste disposed	kg	8.42E-01	1.27E-03	2.03E-03	0.00E+00	9.92E-06	2.19E-04	1.49E-02	0.00E+00	-3.49E-01

Output flow indicators

Results per 1 m³ of average WISA® coated birch plywood										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	6.91E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	7.33E+00	0.00E+00	1.77E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	1.80E+02	0.00E+00	4.60E+01	0.00E+00	0.00E+00	0.00E+00	6.46E+02	0.00E+00	0.00E+00
Exported energy, electricity	MJ	9.34E+02	0.00E+00	1.26E+02	0.00E+00	0.00E+00	0.00E+00	1.46E+03	0.00E+00	0.00E+00
Exported energy, thermal	MJ	1.97E+03	0.00E+00	2.27E+02	0.00E+00	0.00E+00	0.00E+00	2.63E+03	0.00E+00	0.00E+00

Other impact category indicators

Impact category indicators calculated according to EN 15804+A1.

Results per 1 m³ of average WISA® coated birch plywood										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP	kg CO_2 eq.	-8.59E+02	5.37E+01	9.62E+01	0.00E+00	3.88E-01	8.45E+00	1.08E+03	0.00E+00	-3.46E+02
ODP	kg R11 eq.	2.14E-05	7.54E-12	1.55E-11	0.00E+00	5.94E-14	1.31E-12	1.23E-10	0.00E+00	-4.76E-09
AP	kg SO_2 eq.	9.36E-01	1.92E-01	1.18E-02	0.00E+00	1.41E-03	7.84E-03	1.19E-01	0.00E+00	-2.90E-01
EP	kg Phosphate eq.	5.79E-01	3.28E-02	2.28E-03	0.00E+00	3.36E-04	1.66E-03	2.16E-02	0.00E+00	-5.73E-02
POCP	kg Ethene eq.	2.21E-01	6.15E-03	8.03E-04	0.00E+00	1.36E-04	-3.73E-04	9.25E-03	0.00E+00	-3.25E-02
ADPE*	kg Sb eq.	3.33E-04	3.03E-06	3.47E-07	0.00E+00	2.56E-08	5.65E-07	1.08E-06	0.00E+00	-3.46E-05

ADPF*	MJ	6.08E+03	7.03E+02	3.69E+01	0.00E+00	5.20E+00	1.15E+02	2.18E+02	0.00E+00	-4.87E+03

GWP = Global Warming Potentia; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion for fossil resources potential

** 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.*

Potential ecotoxicity impacts to humans, aquatic and terrestrial ecosystems, calculated according to Dutch requirements (add-ons to EN 15804).

Results per 1 m^3 of average WISA® coated birch plywood										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
HTP*	kg DCB eq.	2.36E+02	1.30E+00	1.36E-01	0.00E+00	1.06E-02	1.76E-01	1.01E+00	0.00E+00	-1.03E+01
FAETP*	kg DCB eq.	2.76E+01	2.76E-01	9.67E-03	0.00E+00	2.09E-03	4.59E-02	3.94E-02	0.00E+00	-3.36E-01
MAETP*	kg DCB eq.	6.10E+04	8.83E+02	1.24E+02	0.00E+00	6.57E+00	1.45E+02	8.76E+02	0.00E+00	-2.56E+04
TETP*	kg DCB eq.	1.07E+00	1.12E-01	1.37E-02	0.00E+00	9.15E-04	2.02E-02	1.21E-01	0.00E+00	-3.43E-01

HTP = Human Toxicity Potential; FAETP = Freshwater Aquatic Ecotoxicity Potential; MAETP = Marine Aquatic Ecotoxicity Potential; TETP = Terrestrial Ecotoxicity Potential

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Additional environmental information

There are no harmful substances released to air, water or ground during the use of the product. Regarding indoor air quality the plywood boards have (depending on the product) M1 emission classification granted by the Building Information Foundation RTS sr (Rakennustietosäätiö RTS sr). M1 stands for low emissions.

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