Environmental Product Declaration

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

WISA® Spruce plywood, coated

from

UPM Plywood Oy

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-05046
Publication date:	2021-11-12
Valid until:	2026-11-12

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

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): PCR 2019:2014 Construction products (version 1.1); c-PCR-006 (to PCR 2019:2014) – Wood and wood-based products for use in construction (EN 16485:2014) (version 2019-12-20)
PCR review was conducted by: The Technical Committee of the International EPD® System. 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
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 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: UPM Plywood Oy

Contact:
Sanna Kontinen,
Manager, Environmental Affairs
email: sanna.kontinen@upm.com

More information: https://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 2020 UPM Plywood sales was EUR 400 million and it had 2,100 employees. UPM has five plywood mills and one veneer mill in Finland as well as plywood mills in Russia and Estonia.

Product-related or management system-related certifications:
FSC and PEFC CoC
ISO 9001 & 14001
CE marking according to EN 13986:2004+A1:2015 with AVCP 1 & 2+

Name and location of production site(s):
UPM Pellos Plywood Mills
Karsikkoniementie 10,
52420 Ristiina (Mikkeli),
Finland

Product information

Product name: WISA® coated spruce plywood. This is a name for a product group including the following trade names:

Product group	Trade name
WISA® coated spruce plywood	WISA-Form MDO
	WISA-Form Spruce
	WISA-Form Beto
	WISA-Paintply

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

This EPD represents the average composition and production of the products presented above. It is confirmed that the Global Warming Potential results for life cycle stages A1-3 does not differ by more than ±10% between the different products grouped.

Product identification:
WISA-Plywood products are marked with CE-marking containing unambiguous code of Declaration of Performance, i.e. UPM001CPR

Product description:
WISA- Plywood products are sustainable material for permanent buildings 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.

UN CPC code: 31410

LCA information

Declared unit: 1m^3 plywood product throughout its whole life cycle from cradle to grave

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: Primary data from the plywood factory (stage A3) represents the year 2020 (1-year data). Time representativeness of the secondary data was estimated mainly very good. In rare

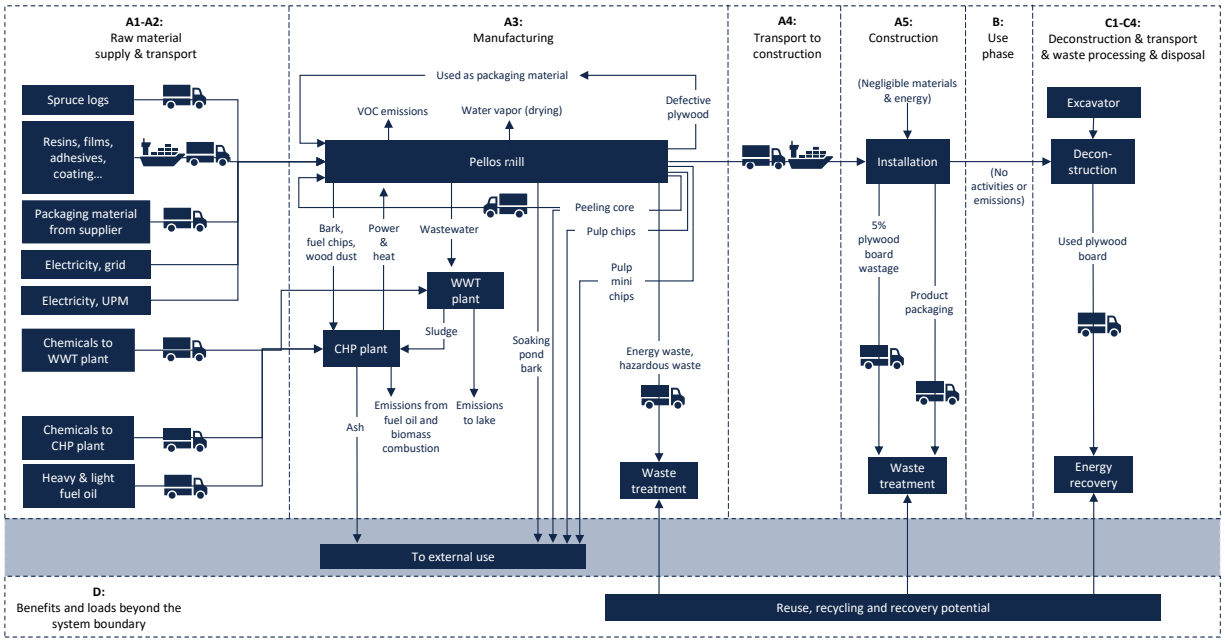
cases data older than 10 years was used due to lack of more updated data. It was estimated that this has no significant impact on the results.

Database(s) and LCA software used: Of priority, measured and calculated primary data gathered from the production plant and supply chain of studied products is used. Secondly, secondary data gathered from the most up-to-date GaBi and Ecoinvent (3.7.1) databases and literature is used. Secondary data was used for upstream and downstream processes for which the plywood producer has no influence over. As principle, secondary data with maximum 10 years age was used in the modelling when available. Datasets from GaBi database were used whenever possible. Ecoinvent data and data approximations was used only to fulfil data gaps when GaBi data was not available.

GaBi (version 10) software was used for LCA modelling.

Description of system boundaries:
The system boundary is a cradle to grave with module D. Thus, all life cycle stages are included in the study; product stage (module A1-A3), construction process stage (module A4-A5), use stage (module B), end of life (EoL) stage (module C) and module D that includes benefits from the EoL treatment of materials directed to material or energy recovery.

Use stage (B) is not associated with any activities or emissions causing any environmental impacts.



LCA practitioner:
LCA Consulting Oy
More information: https://lca-consulting.fi/

Contact:
Joni Kemppi
Project Manager
joni.kemppi@lca-consulting.fi

Cut-off rules: Flows accounting less than 1% of the overall input mass or energy flows have been excluded from the study if appropriate LCI data or even proxy data was not available. Additionally, the sum of excluded flows should not exceed 5% of the total inflows (by mass or by energy). This requirement is fulfilled.

Allocation: The recommended allocation procedure described in PCR, EN 15804+A2 and ISO 14044, section 4.3.4 is followed. As principle, allocation is avoided whenever possible. When allocation is applied, it is ensured that there is no double counting or omissions, and all the environmental impacts are allocated to either product or to co-products). Volumetric allocation is used to allocate flows between main products: coated and uncoated plywood. Additionally, economic allocation is used to allocate flows between main product and co-products of the mill. Economic allocation is applied only to raw material (wood) and energy inputs. No burden for e.g. production of process chemicals is allocated to co-products, only to plywood products. Around 5 % of the wood-based raw material and energy flows are allocated to the co-products.

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

	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	FI	FI	GLO	GLO	-	ND	ND	ND	ND	ND	ND	GLO	GLO	EU-28	EU-28	EU-28
Specific data used	Specific data used for all company owned processes					ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No
Variation – products	GWP variation less than 8 % for all products inside a product category					ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Variation – sites	Not relevant - only one manufacturing site examined					ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

A1 – Raw-material supply: The raw material supply covers sourcing and production of all raw materials, fuels and grid electricity used in the plywood manufacturing (plywood mill, wastewater treatment (WWT) plant and on-site power plant (CHP)). The supply of packaging materials is also included in module A1.

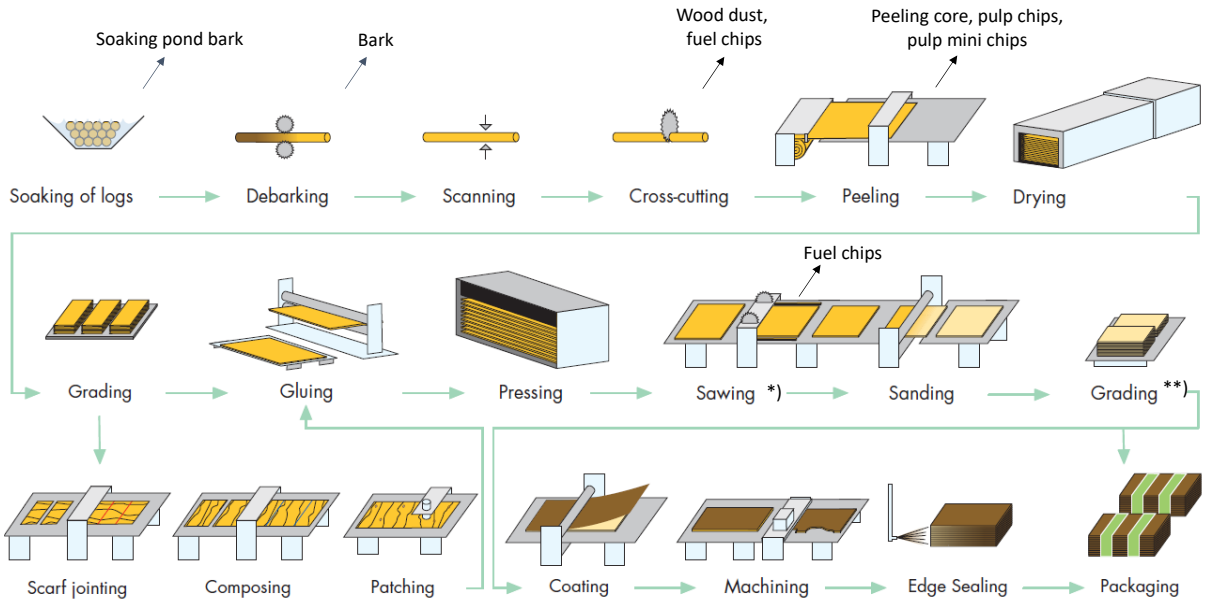
Most of the electricity for plywood manufacturing is from on-site CHP production but part of the electricity is bought from grid. On-site energy is mainly produced from bio-based residues from plywood mill. Purchased electricity is partly from UPM's own energy company (UPM Energy) and partly from local utility provider (national grid electricity). Electricity from UPM Energy is based on the generation portfolio

of 2020. Electricity from grid is modelled by using Finnish residual grid mix from year 2019. Both electricity origins are modelled in GaBi, resulting in the following GHG emission factors:

- Electricity from UPM Energy: 129 g CO_2e(fossil)/kWh
- Electricity from grid (residual mix) 407 g CO_2e(fossil)/kWh

A2 – Transport: Transportation of raw materials to Pellos mill. Transportation distances and modes of transport are based on the primary data provided by UPM Plywood.

A3 – Manufacturing: This module includes the manufacturing of plywood boards in Pellos mill, starting from receiving the wood logs and ending with the packaging and storage of final products before transportation to customer. More detailed diagram of the plywood manufacturing process in Pellos mill is presented below.



A3 module includes also the operation of on-site WWT plant and power plant (CHP production). Several co-products are generated in the manufacturing process of plywood products. Bark, fuel chips and dust are utilised on site for energy production at the CHP plant, where small amounts of light and heavy fuel oil are used as auxiliary fuel. Pulp chips, pulp mini chips and a fraction of peeling core are sold outside this product system and handled as allocatable co-products. Another fraction of the peeling cores is processed into timber beds by a subcontractor to be used as packaging in this product system. All steam needed in plywood manufacturing is produced at on-site CHP plant.

A4 – Transport: Plywood products are transported to multiple European countries by train, trucks and container ships. Routes, distances and modes of transport are obtained from the producer's Transport Management System. No material losses occur during transport, and storage of plywood is assumed to not require energy or material input.

A5 – Construction installation: This module comprises of installation of the plywood product and transport and treatment of packaging waste and waste plywood. No energy or material inputs are considered in construction installation due to their minor impact. At the construction site a 5 % wastage of plywood material is assumed. Energy recovery is assumed as EoL treatment option for wastage.

B1-B7 – Use stage: Once the product is installed, no actions or technical operations leading to energy, material or water use are required during the use stage until the demolition of the construction. Indoor

emissions are assumed to be zero, as per the strictest indoor emission classification M1 granted to the product by Building Information Foundation RTS sr.

C1 – Deconstruction/demolition: The de-construction and/or demolition of the product is part of the demolition of the entire construction. The deconstruction is considered to be done by excavation.

C2 – Transport: Transport distance to waste processing is estimated to be 100 km by road.

C3 – Waste processing: Incineration with energy recovery is assumed to be the most likely option for end-of-life treatment for used plywood.

C4 – Disposal: No waste material treatment is included in this module.

D – Reuse-Recovery/Recycling potential: Emission credits are obtained from energy recovery and recycling of waste materials. In energy recovery, it is assumed that heat and electricity from waste incineration substitute thermal energy from natural gas and average European electricity grid mix, respectively.

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
Wood, spruce	409.7	0%	100%
Wood, birch	9.4	0%	100%
Phenolic resin	20.9	0%	0%
Hardener	4.1	0%	0%
Protective agents	0.4	0%	0%
Phenolic films	15.3	0%	0%
Adhesives	0.2	0%	0%
TOTAL	**460**	**0%**	**91,0%**
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**	
Corrugated board	2.6	0.56 %	
Plastic band (polyester)	0.2	0.04 %	
Plastic wrap (LDPE)	0.1	0.03 %	
Bed timber	3.8	0.83 %	
Plywood	2.2	0.48 %	
TOTAL	**6.32**	**1.93 %**	

There are no SVHC substances in the product or their amount is negligible.

Environmental Information

Potential environmental impact – mandatory indicators according to EN 15804

Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4	A5	B	C	D
GWP-fossil	kg CO_2 eq.	1.37E+02	1.10E+01	2.69E+01	1.75E+02	9.36E+00	4.20E+00	0.00E+00	5.09E+01	-2.97E+02
GWP-biogenic	kg CO_2 eq.	-1.27E+03	-8.03E-03	3.92E+02	-8.77E+02	1.94E-03	5.53E+01	0.00E+00	8.22E+02	5.47E-01
GWP-luluc	kg CO_2 eq.	2.60E-01	7.11E-02	4.32E-03	3.36E-01	3.84E-02	1.28E-02	0.00E+00	4.03E-02	-2.08E-01
GWP-total	kg CO_2 eq.	-1.13E+03	1.10E+01	4.19E+02	-7.02E+02	9.40E+00	5.95E+01	0.00E+00	8.73E+02	-2.97E+02
ODP	kg CFC 11 eq.	7.16E-06	1.35E-15	1.12E-07	7.28E-06	2.14E-15	1.58E-08	0.00E+00	1.09E-13	-1.03E-07
AP	mol H^+ eq.	1.36E+00	1.04E-01	2.29E-01	1.70E+00	1.72E-01	1.13E-02	0.00E+00	1.25E-01	-3.94E-01
EP-freshwater	kg P eq.	4.39E-03	2.63E-05	5.23E-04	4.94E-03	1.53E-05	3.95E-05	0.00E+00	2.67E-05	-6.43E-04
EP-marine	kg N eq.	1.58E-01	3.09E-02	1.24E-01	3.13E-01	4.64E-02	3.27E-03	0.00E+00	4.17E-02	-1.12E-01
EP-terrestrial	mol N eq.	1.66E+00	3.41E-01	1.18E+00	3.18E+00	5.09E-01	4.46E-02	0.00E+00	5.96E-01	-1.20E+00
POCP	kg NMVOC eq.	6.50E-01	8.27E-02	3.03E-01	1.04E+00	1.28E-01	2.02E-01	0.00E+00	1.12E-01	-3.15E-01
ADP-minerals&metals*	kg Sb eq.	2.11E-04	7.30E-07	3.52E-06	2.15E-04	5.28E-07	1.61E-04	0.00E+00	1.96E-06	-5.55E-05
ADP-fossil*	MJ	3.04E+03	1.43E+02	9.94E+02	4.18E+03	1.23E+02	2.68E+01	0.00E+00	2.33E+02	-5.16E+03
WDP	m^3	1.17E+01	7.89E-02	2.11E+02	2.23E+02	7.37E-02	6.09E+00	0.00E+00	8.59E+01	-2.62E+01
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.*

Potential environmental impact – additional mandatory and voluntary indicators

Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4	A5	B	C	D
GWP-GHG[1]	kg CO_2 eq.	1.32E+02	1.09E+01	2.61E+01	1.69E+02	9.28E+00	4.18E+00	0.00E+00	5.06E+01	-2.94E+02
PM	Disease incidences	1.18E-05	1.68E-06	7.26E-07	1.42E-05	2.85E-06	6.43E-08	0.00E+00	6.40E-07	-3.50E-06
IR-hh	kBq U235 eq.	5.02E+00	2.45E-02	3.75E+01	4.25E+01	2.09E-01	3.01E-01	0.00E+00	1.60E+00	-6.17E+01
ETP-fw*	CTUe	9.09E+03	1.04E+02	5.41E+02	9.74E+03	8.67E+01	1.91E+01	0.00E+00	1.16E+02	-1.11E+03
HTP-c*	CTUe	5.03E-07	2.06E-09	8.39E-09	5.13E-07	1.73E-09	6.54E-10	0.00E+00	6.01E-09	-5.00E-08
HTP-nc*	CTUh	4.74E-06	1.10E-07	2.05E-07	5.06E-06	8.53E-08	3.63E-08	0.00E+00	2.28E-07	-1.95E-06
Land use*	Pt	1.12E+05	3.98E+01	3.77E+01	1.13E+05	2.66E+01	8.33E+00	0.00E+00	6.75E+01	-1.25E+03
Acronyms	GWP-GHG = Global Warming Potential (greenhouse gas), excluding biogenic carbon; PM = Particulate matter; IR-hh = Ionising radiation, human health; ETP-fw = Ecotoxicity, freshwater; HTP-c = Human toxicity potential, cancer; HTP-nc = Human toxicity potential, non-cancer									

[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.
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Use of resources

Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4	A5	B	C	D
PERE	MJ	5.77E+02	6.55E+00	5.05E+03	5.63E+03	7.82E+00	6.49E+00	0.00E+00	3.79E+01	-1.24E+03
PERM	MJ	1.03E+04	0.00E+00	0.00E+00	1.03E+04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	1.08E+04	6.55E+00	5.05E+03	1.59E+04	7.82E+00	6.49E+00	0.00E+00	3.79E+01	-1.24E+03
PENRE	MJ	1.99E+03	1.44E+02	9.94E+02	3.13E+03	1.23E+02	2.69E+01	0.00E+00	2.33E+02	-5.16E+03
PENRM	MJ.	1.06E+03	0.00E+00	0.00E+00	1.06E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	3.05E+03	1.44E+02	9.94E+02	4.19E+03	1.23E+02	2.69E+01	0.00E+00	2.33E+02	-5.16E+03
SM	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
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
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

FW	m^3	3.39E-01	8.27E-03	5.90E+00	6.24E+00	1.02E-02	1.46E-01	0.00E+00	2.02E+00	-1.22E+00
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-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 production and output flows

Waste production

Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4	A5	B	C	D
Hazardous waste disposed	kg	4.66E-06	6.05E-09	3.85E-01	3.85E-01	9.81E-09	5.21E-09	0.00E+00	3.52E-08	-1.16E-06
Non-hazardous waste disposed	kg	1.79E+00	2.00E-02	3.55E-01	2.17E+00	2.23E-02	4.24E-01	0.00E+00	5.97E+00	-2.42E+00
Radioactive waste disposed	kg	1.52E-02	1.71E-04	3.78E-01	3.93E-01	2.01E-03	1.86E-03	0.00E+00	1.01E-02	-3.76E-01

Output flows

Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4	A5	B	C	D
Components for re-use	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
Material for recycling	kg	0.00E+00	0.00E+00	1.18E+01	1.18E+01	0.00E+00	2.69E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	6.18E-01	6.18E-01	0.00E+00	2.92E+01	0.00E+00	4.37E+02	0.00E+00
Exported energy, electricity	MJ	0.00E+00	0.00E+00	3.28E-01	3.28E-01	0.00E+00	7.98E+01	0.00E+00	1.20E+03	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	6.15E-01	6.15E-01	0.00E+00	1.43E+02	0.00E+00	2.16E+03	0.00E+00

Information on biogenic carbon content in 1 m^3 of coated plywood

Results per functional or declared unit		
BIOGENIC CARBON CONTENT	**Unit**	**QUANTITY**
Biogenic carbon content in product	kg C	202
Biogenic carbon content in packaging	kg C	3

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

Other environmental indicators

Potential ecotoxicity impacts to humans, aquatic and terrestrial ecosystems were examined as additional impact categories. Ecotoxicity potentials are calculated according to Dutch requirements (add-ons to EN 15804).

Indicator	Unit	A1	A2	A3	Tot.A1-A3	A4	A5	B	C	D
HTP*	kg DCB eq.	1.08E+02	2.86E-01	1.68E+00	1.10E+02	3.32E-01	5.96E-01	0.00E+00	7.03E-01	-8.99E+00
FEATP*	kg DCB eq.	3.62E+01	5.52E-02	4.61E-01	3.67E+01	4.45E-02	2.54E+00	0.00E+00	4.80E-02	-7.42E-01
MAETP*	kg DCB eq.	1.32E+05	1.68E+02	1.18E+03	1.34E+05	3.11E+02	1.35E+04	0.00E+00	6.52E+02	-1.85E+04
TETP*	kg DCB eq.	2.69E+00	2.06E-02	7.25E-03	2.72E+00	1.42E-02	4.54E-02	0.00E+00	2.59E-02	-3.36E-01
Acronyms	HTP = Human toxicity potential; FEATP = Fresh water aquatic ecotoxicity potential; MAETP = Marine aquatic ecotoxicity potential; TETP = Terretrial ecotoxicity potential									

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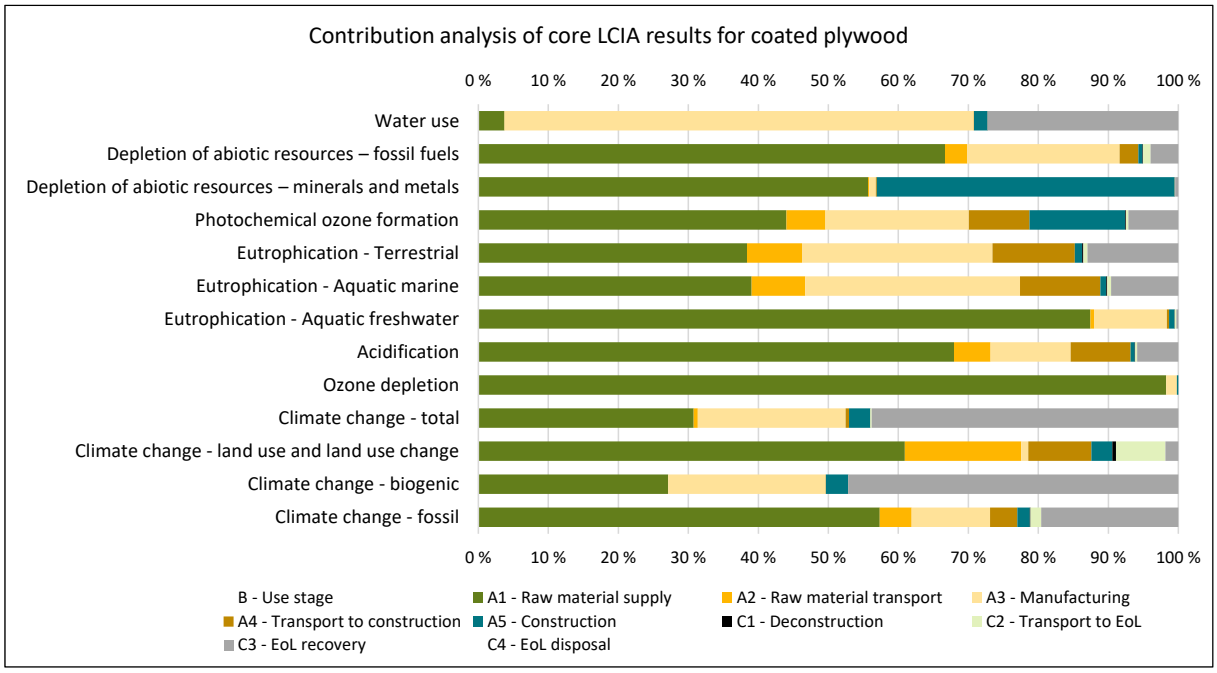
Additional information

Use

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

Contribution analysis of core LCIA results

Contribution analysis for the core LCIA results (mandatory impact categories according to EN 15804+A2) shows the relative contribution of each life cycle stage to the total potential impact in each impact category. In the cases of “climate change – biogenic” and “climate change – total”, the sequestration of carbon is omitted and only the GHG emissions are accounted for. Avoided burdens from module D are also excluded from this contribution analysis.



Differences versus previous versions

This is an updated EPD for UPM WISA® Spruce coated plywood. The previous EPD was published on February 2019. The main differences versus previous versions are presented in the table below.

Main differences versus previous versions		
	Previous EPD	**This EPD**
EPD Program operator	Building information Foundation RTS	The International EPD® System
Version of the EN 15804 standard	EN 15804:2012+A1:2013	EN 15804:2012+A2:2019
Included modules	A1-A5 + B + C	A1-A5 + B + C + D
Production sites	Two	One
GWP tot (excl module D)	586 kg CO2e	240 kg CO2e

There are also differences in allocation methods. In the LCA model used as basis for this EPD, more burdens from wood-based raw materials but less burdens from energy production are allocated to plywood products, compared to earlier study.

Additionally, carbon balance is more specifically followed in this EPD study. Since economic allocation of the wood-based feedstock is not in accordance with the carbon contents of the material flows, separate carbon correction is applied in order to fix the carbon balance between carbon uptake and release allocated to a product in question. This was not similarly done in the previous version.

References

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

PCR 2019:2014 Construction products (version 1.1),

c-PCR-006 (to PCR 2019:2014) – Wood and wood-based products for use in construction (EN 16485:2014) (version 2019-12-20),

EN 15804:2012+A2:2019. Sustainability of construction works. Environmental Product Declarations. Core rules for the product category of construction products

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

ISO 14040. 2006. Environmental management. Life cycle assessment. Principles and framework.

ISO 14044. 2006. Environmental management. Life cycle assessment. Requirements and guidelines.

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