Environmental Product Declaration

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

ALPI READY

from

ALPI S.P.A.

LEGNO DIVISION: Viale della Repubblica, 34 47015 Modigliana (FC) Italy
LINTECO DIVISION Via Provinciale Faentina, 38, 47015 Modigliana (FC) Italy

The EPD covers multiple products (listed at pag.4), based on worst-case results of the product group.

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	EPD-IES-0002474
Publication date:	2024-12-16
Revision date	2025-02-12
Valid until:	2029-12-15
	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

Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): *Construction product, PCR 2019:14, version 1.3.4 and 3151 CPC Code* c-PCR 16485:2014 Round and sawn timber - Environmental Product Declarations - Product category rules for wood and wood-based products for use in construction.
PCR review was conducted by: *The Technical Committee of the International EPD System. See www.environdec.com for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact*
Life Cycle Assessment (LCA)
LCA accountability: ALPI S.P.A.
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: Marcel Gomez Ferrer, Marcel Gomez Consultoria Ambiental*, Phone: +34 630 64 35 93 - Email: info@marcelgomez.com* 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: Alpi S.P.A.

Contact: Alex Cencin, email: alex.cencin@alpi.it

Description of the organisation: Alpi S.p.A. is the first company in the world to industrialize the production process of wood composites. Alpi was founded in 1919 as workshop of fine cabinetry, and rapidly began an industrial leader in the production of decorative surfaces.

Product-related or management system-related certifications: ISO 9001:2015 (certificate IT21/1109)

Name and location of production site(s):
ALPI SPA – LEGNO DIVISION (first step production manufacturing)
Viale della Repubblica, 34
47015 Modigliana (FC) – Italy

ALPI S.P.A. – LINTECO DIVISION (adding the support, lamination and coating)
Via Provinciale Faentina, 38,
47015 Modigliana (FC) - Italy

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More information: www.alpi.it

Product information

Product name: ALPIready

Product identification: 10.12F, 10.16F, 10.17F, 10.18F, 10.31F, 10.32F, 10.41F, 10.45F, 10.50F, 10.51F, 10.61F, 10.65F, 10.69F, 10.74F, 10.97F, 11.10F, 11.11F, 12.11F, 12.12F, 12.26F, 12.42F, 12.44F, 12.96F, 13.10F, 18.05F, 18.06F, 18.07F, 18.08F, 18.50F, 18.51F, 18.52F, 18.53F, 18.71F, 18.73F, 18.90F, 18.91F, 2-266F, 2-277F, 2-323F, 2-356F, 579F, 740F, AL.01F, AW.03F, AW.11F

Product description: ALPIready is a decorative surface in prefinished wood, ready for use. Two united layers of ALPIlignum veneer make one panel of ALPIready – all wood, varnished on the outward-facing side, ready for application on all kinds of surfaces. The product is robust, flexible and easy to use. ALPIready shortens the time and effort spent on installation, finishing and varnishing.
Each pattern is available with the most suitable finishes formulated to beautify the naturalness and colour of the wood.
In line with the sustainable approach at ALPI and the company's constant striving for excellence in the use of natural resources, ALPIready is made with wood from responsibly managed forests FSC® (FSC-C004666).

This EPD covers multiple products based on the worst-case results. In the LCA study, all raw materials used for the production of ALPIready have been considered, with their transport. In A3 module the consumptions are allocated for the whole production and reported to the surface of products under study. The variability of the products is determined by the different woods (ayous, poplar and linden), dyes and varnishes. In the study, the use of different wood was analysed and worst scenario is presented; different dyes and varnishes are considered in sensitivity analysis. The variability of results in terms of GHG-GWP is declared.

UN CPC code: ***3151*** *Veneer sheets and sheets for plywood and other wood sawn lengthwise, sliced or peeled, of a thickness not exceeding 6 mm*

Geographical scope: Global
The pretended communication of the EPD is B2B.

Technical features	
Size	2500x1250/3050x1300 mm
Nominal Thickness	1.0 mm
Variation in size (UNI EN 438-2, 17:2019)	1 %
Resistance to abrasion (UNI EN 438-2, 10:2019)	>20/25 Taber turns
Resistance to cold liquids (UNI EN 12720:2013)	A
Lightfastness (xenon arc lamp) (UNI EN 438-2, 27:2019)	>4/5 Grey scale
Formaldehyde Emission	Compliance with Annex 1 of the German Chemical Prohibition Ordinance (according to DIN EN 16516 and DIN EN 717-1)
Weight for DU	0,75 kg/m^2
Apparent density	750 kg/m^3
Moisture content	5,1%
Certification	FSC www.fsc.org The mark of responsible forestry FSC® C004666

LCA information

Declared unit: 1 m^2 of ALPIready installed with a useful life of 50 years. The mass conversion factor for 1 m^2 is 0,75 kg.
The study comprises the raw material extraction, raw material transportation, manufacturing, transportation to costumer, end-of-life of product.

Reference service life: 50 years

Time representativeness: primary data refer to 2023 year. The generic data has been updated in 2023 (Ecoinvent 3.9.1)

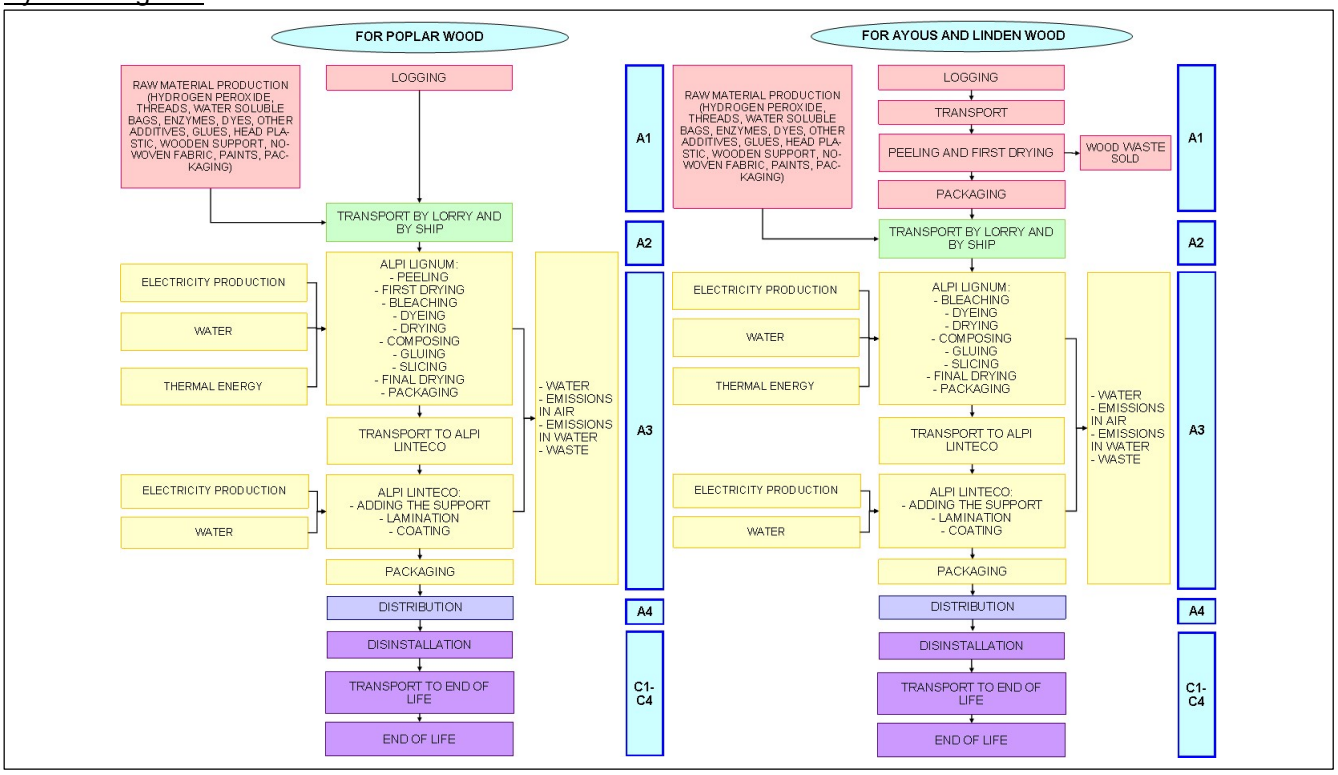
Geographical representativeness: primary data are derived from ALPI S.P.A. in Modigliana production sites. The secondary data are derived by database Ecoinvent 3.9.1 (RER or GLO records).

Technological representativeness: primary data are derived from processes and products of ALPI S.P.A. under study. The secondary data are derived from databases of ALPI similar technology.

Database(s) and LCA software used: LCA Software used is SimaPro v. 9.5.0.2, the database used is Ecoinvent 3.9.1

Description of system boundaries:
This study is a “cradle to gate” with C1-C4 and D modules EPD, in accordance to paragraph 5.2 of UNI EN 15804:2021, paragraph 6.3.2 in UNI EN 16485:2014 and paragraph 1.2 of PCR 2019:14 Construction products (EN 15804+A2): this choice was made because installation scenario isn’t well known as it often involves another manufacturing phase outside ALPI.

System diagram:



More information:

- The allocation is applied in the LCA study: when necessary, mass allocation is used.
- Cut-off: at least 95% of the energy and materials used by module has been introduced, as well as 99% of the total use of energy and materials
- The modularity principle, as well as the polluter payer principle have been followed
- The long-term emissions have not been included.
- The next processes have not been included since its impact is not significant:
    - Environmental impact from infrastructure, construction, production equipment, and tools that are not directly consumed in the production process.
    - Personnel-related impacts, such as transportation to and from work.

- The impact methods used are:
    - Environmental footprint 3.1
    - Cumulative energy demand (LHV) v. 1.00 for resource use
    - EDIP 2003 v. 1.07 for waste production.

The verifier and the program operator do not make any claim nor have any responsibility of the legality of the product.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) 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	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	Global	Global	Italy	Global	-	-	-	-	-	-	-	-	Global	Global	Global	Global	Global
Specific data used	66%			-	-	-	-	-	-	-	-	-	-	-	-	-	ND
Variation – products	<10%			-	-	-	-	-	-	-	-	-	-	-	-	-	ND
Variation – sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	ND

Module A1 – Raw material supply: this module includes the extraction and production of raw material.

Module A2 – Transport: this module includes the transport of raw materials from the production site to the ALPI S.P.A. gate.

Module A3 – Manufacturing: this module considers ALPI S.P.A. internal processes, including consumption of energy, resources, packaging and generation of waste and emissions in air and water.

The electricity used in the productive process is modelled from supplier energetic mix integrated with TERNA information (1 kWh – supplier energetic mix = 0,16 kg CO2eq).

Module A4 – Transport: this module considers the transport of product to customer site. The distances are calculated as average weighted (in Italy and abroad) of all transports of 2023; for the model the distances from ALPI S.P.A. site to capital of state (for abroad distribution) or to the capital of province (for Italian distribution) are considered. Information about the real position of end user is non known because the customer makes another manufacturing phase and sold ALPIready integrated on a support to the end user.

PARAMETER	DESCRIPTION / VALUE
Fuel type and consumption of vehicle or vehicle type used for transport e.g. long distance truck, boat, etc	From Ecoinvent Truck (16-32 metric ton): 0,0374 kg of diesel low sulfur for ton*km transported Ferry: 0,030 kg of heavy fuel oil for ton*km transported Ship: 0,0025 kg of heavy fuel oil for ton*km transported

	Train: 0,0007 kg of diesel for ton*km transported
Distance	The distances are calculated as weighted average of all transportation in Italy and abroad in 2023: - Truck: 404 km - Ferry: 0,28 km - Ship: 8.340 km
Capacity utilisation (including empty returns)	From Ecoinvent database: Truck: 36,67% Ferry: 50% Ship: 70% Train: unspecified
Volume capacity utilisation factor	1

- Module C1 – Deconstruction/demolition: The product is not separable from the other element: the impact of this module is considered negligible because ALPIready weight is negligible compared to the other element.
- Module C2 – Transport to waste processing: the product is then transported to disposal; the scenario provides the transport for 50 km.
- Module C3 - Waste processing for reuse, recovery and/or recycling: the product is sent to landfill; any process of reuse, recovery and/or recycling isn't considered in the study.
- Module C4 - Disposal: the product is totally disposed in landfill.

PARAMETER	VALUE / DESCRIPTION
Collection process specified by type	Product waste are collected with 16-32 metric ton truck
Recovery system specified by type	There is no recovery, recycling or reuse
Disposal specified by type	100 % Landfill (0,75 kg)
Assumptions for scenario development (e.g. transportation)	16-32 metric ton truck. Distance: 50 km

- Module D - Reuse-Recovery-Recycling potential: Module D calculates the potential environmental benefits of the recycling or reuse of materials. The waste in module A1-A3 is considered a co-product, and the potential benefits of recycling the waste are not included in module D because they exit the system. In the other modules all wastes go to landfill (as defined by the scenario).

Content information

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material
Wood	0,22-0,33	0	100% Biogenic material 0,5 kgC/kg
Chemicals	0,16-0,28	0	0
Dye	3,27E-04 - 2,32E-02	0	0
Vinyl impregnated canvas sheets	0,021-0,028	0	0
Glue	0,18-0,24	0	0
Varnish	0,029-0,054	0	0
TOTAL	0,75	0	0,11 kgC/m^2
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**	**Weight biogenic carbon, kg C/kg**
Wood	0,21	28%	0,11 kgC/m^2

The Alpi's products do not contain any "Substances of Very High Concern" SVHC included in the concentration above 0.1% weight by weight.

Results of the environmental performance indicators

The following results refers to 1 m^2 of ALPIready of ALPI S.P.A., weighting 0,75 kg/m^2.
The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.
The results correspond to the worst-case scenario product.
This EPD contains the module C; we strongly discourage the use of the results of modules A1 - A3 without considering the results of module C.
The calculation method used is the EF3.1.

Mandatory impact category indicators according to EN 15804

Results per declared unit															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	1,47E+01	1,41E-01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	5,71E-03	0,00E+00	1,02E-02	0,00E+00
GWP-biogenic	kg CO_2 eq.	-1,84E+00	7,37E-06	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	3,26E-07	0,00E+00	2,36E+00	0,00E+00
GWP-luluc	kg CO_2 eq.	2,24E-02	5,02E-06	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	2,19E-07	0,00E+00	8,32E-06	0,00E+00
GWP-total	kg CO_2 eq.	1,29E+01	1,41E-01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	5,71E-03	0,00E+00	2,37E+00	0,00E+00
ODP	kg CFC 11 eq.	1,38E-06	2,10E-09	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	8,43E-11	0,00E+00	1,92E-10	0,00E+00
AP	mol H^+ eq.	4,81E-02	2,74E-03	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	2,28E-05	0,00E+00	1,20E-04	0,00E+00
EP-freshwater	kg P eq.	4,43E-04	2,01E-07	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	1,34E-08	0,00E+00	7,70E-08	0,00E+00
EP-marine	kg N eq.	1,50E-02	7,25E-04	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	9,33E-06	0,00E+00	5,96E-05	0,00E+00

EP-terrestrial	mol N eq.	1,27E-01	7,99E-03	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	1,00E-04	0,00E+00	6,34E-04	0,00E+00
POCP	kg NMVOC eq.	5,78E-02	2,17E-03	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	3,17E-05	0,00E+00	1,58E-04	0,00E+00
ADP-minerals& metals*	kg Sb eq.	1,19E-05	4,52E-09	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	3,40E-10	0,00E+00	3,85E-09	0,00E+00
ADP-fossil*	MJ	2,52E+02	1,80E+00	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	7,68E-02	0,00E+00	8,88E-02	0,00E+00
WDP*	m^3	6,47E+00	2,00E-03	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	1,07E-04	0,00E+00	-9,64E-03	0,00E+00
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.*

Results per declared unit

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[1]	kg CO_2 eq.	1,47E+01	1,41E-01	N.D	N.D	N.D	N.D	N.D.	N.D	N.D	N.D	0,00E+00	5,71E-03	0,00E+00	1,02E-02	0,00E+00

[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.

Additional impact category indicators

The results correspond to the worst-case product.

Results per declared unit																
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Ionising radiation	kBq U-235 eq	2,34E-01	1,89E-04	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	7,59E-06	0,00E+00	2,17E-05	0,00E+00
Particulate matter	disease inc.	2,94E-07	6,19E-09	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	3,99E-10	0,00E+00	1,24E-09	0,00E+00
Human toxicity, non-cancer	CTUh	6,79E-08	6,39E-10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	4,14E-11	0,00E+00	1,47E-09	0,00E+00
Human toxicity, cancer	CTUh	2,65E-08	1,64E-11	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	4,28E-13	0,00E+00	2,12E-09	0,00E+00
Ecotoxicity, freshwater	CTUe	7,64E+01	8,93E-01	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	3,94E-02	0,00E+00	3,50E-01	0,00E+00
Land use	Pt	1,21E+02	4,48E-03	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	2,90E-04	0,00E+00	5,43E-03	0,00E+00

Resource use indicators

The results correspond to the worst-case product.

Results per declared unit															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	33,76	2,85E-03	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00	1,13E-04	0,00	23,75	0,00
PERM	MJ	23,75	0,00	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00	0,00	0,00	-23,75	0,00
PERT	MJ	57,51	2,85E-03	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00	1,13E-04	0,00	0,00	0,00
PENRE	MJ	236,45	1,80	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00	0,08	0,00	36,56	0,00
PENRM	MJ	36,56	0,00	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00	0,00	0,00	-36,56	0,00
PENRT	MJ	273,00	1,80	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00	0,08	0,00	0,00	0,00
SM	kg	0,00	0,00	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00	0,00	0,00	0,00	0,00
RSF	MJ	26,16	0,00	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00	0,00	0,00	0,00	0,00
NRSF	MJ	0,00	0,00	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00	0,00	0,00	0,00	0,00
FW	m^3	5,08	2,01E-04	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00	1,03E-05	0,00	9,45E-04	0,00
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 indicators

The results correspond to the worst-case product.

Results per declared unit															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	1,14E-03	1,02E-05	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00	5,17E-07	0,00	4,46E-07	0,00
Non-hazardous waste disposed	kg	6,89E-01	2,69E-04	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00	1,95E-05	0,00	7,50E-01	0,00
Radioactive waste disposed	kg	1,38E-04	7,01E-08	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00	2,69E-09	0,00	1,34E-08	0,00

Output flow indicators

The results correspond to the worst-case product.

Results per functional or declared unit															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0,00E+00	0,00E+00	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	2,00E+00	0,00E+00	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy, thermal	MJ	0,00E+00	0,00E+00	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Variability on indicators results

Mandatory impact category indicators	Minimum compared to maximum
Climate change	-8%
Climate change – Biogenic	-27%
Climate change – Fossil	-8%
Climate change - Land use and LU change	-53%
Ozone depletion	-11%
Acidification	-20%
Eutrophication, freshwater	-10%
Eutrophication, marine	-13%
Eutrophication, terrestrial	-15%
Photochemical ozone formation	-12%
Resource use, minerals and metals	-59%
Resource use, fossils	-10%
Water use	-15%
Additional impact category indicators	**Minimum compared to maximum**
Ionising radiation	-8%
Particulate matter	-17%
Human toxicity, non-cancer	-25%
Human toxicity, cancer	-24%
Ecotoxicity, freshwater	-46%
Land use	-26%
Resources indicators	**Minimum compared to maximum**
PERE	-26%
PERT	-26%
PENRE	-17%
PENRT	-17%
FW	-17%
Output flows	**Minimum compared to maximum**
Material for recycling	-15%

Differences versus previous version

The document has been updated in data 12/02/2025 with editorial changes about commercial names of product included.

References

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