ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804:2012+A2:2019/AC:2021 & ISO 14025:2006

FURNITURE
MERIANTO OÜ

RTS EPD
EPD number: **RTS_440_25**

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EPD developed by LCA SUPPORT

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, RTS PCR 2024 and JRC characterization factors EF 3.1.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Merianto OÜ
Address	Ehitajate tee 110a-18; 13157 Tallinn, Estonia
Contact details	info@merianto.com
Website	www.merianto.com

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	Rakennustieto EPD Rakennustietosäätiö RTS sr, Malminkatu 16 A, 00100 Helsinki, Finland ymparisto.rakennustieto.fi/en/rakennustieto-epds
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EN 15804 serves as the core PCR. In addition, RTS PCR 2024 12.11.2024 was used.
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Sander Härma, LCA Support
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Sigita Židonienė, Vesta Consulting

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT AND MANUFACTURER

PRODUCT

Product name	Furniture
Place(s) of raw material origin	Europe
Place of production	Tallinn, Estonia
Period for data	Calendar year 2024

ABOUT THE MANUFACTURER

Merianto has been creating complete furniture and furnishing solutions for hospitals, health centres, pharmacies, hotels, museums, embassies, schools, kindergartens, office buildings and homes in Estonia, Finland and elsewhere since 2004. We mainly work with major construction companies who trust us to turn the bright ideas of designers and architects into reality.

Our standard selection of furniture (tall cabinets, wall cabinets, base cabinets drawer cabinets, and cargo cabinets) is constructed from either chipboard or MDF, and these materials are finished with either melamine or laminate, according to requirements. The products are fitted with drawers, shelves, cargo units, and/or baskets, depending on their purpose.

MERIANTO PRODUCT PORTFOLIO

Floor cabinets

Wall cabinets

Furniture sets

PRODUCT DESCRIPTION

This is EPD presents the environmental impacts of four assemblies of cabinets that are representative of the most commonly used materials and production processes of Merianto OÜ's furniture. This EPD gives a good representation of Merianto OÜ's products and processes, highlighting the manufacturers practices that are used throughout the factory.

The EPD covers four product groups. Each product group consists of four medical furniture cabinets. All cabinets are manufactured using the same processes. The main difference lies in the primary material used (see below). Each product group represents one primary material.

Product groups:

- PB Melamine furniture
- PB Laminate furniture
- MDF Melamine furniture
- MDF Laminate furniture

The four cabinets in question are:

UNIVERSAL MEDICINE CABINET MLK6

A versatile, lockable medicine cabinet (MLK-65) designed for clinical use, featuring a dual-chamber layout with a secure inner metal safe. The cabinet body is constructed from 18 mm melamine-faced board, with options for antibacterial finishes. It includes adjustable glass shelves and modular ISO 600×400 mm baskets, sensor-activated LED lighting, plexiglass internal pockets, and soft-close doors. The base is a sturdy powder-coated metal frame, and silicone magnetic seals ensure quiet closures. Built for flexible, hygienic storage in healthcare environments.

HIGH MEDICINE CABINET M-K4U WITH MEZZANINE

The tall MK cabinets are designed for baskets with a width of 600 mm or 400 mm. The medicine cabinets include an antibacterial surface finish. The cabinets can come with an open, or closed, facade. The doors open to 220°, and the drawers open 100%. For the purpose of this EPD, baskets with a width of 600 mm and closed facade are modelled. The cabinet interior can be fitted as desired using ISO modular system baskets, shelves and drawer systems. The cabinet modelled for the purpose of this EPD includes baskets, as based on sales volume.

DRAWER CABINET M-A4S

Merianto Medical hospital furniture is based on an ISO modular system using 600 x 400 mm and 400 x 300 mm baskets with the cabinet dimensions taking into consideration the modular system dimensions.
The lower MA cabinets are designed for baskets with a width of 600 mm or 400 mm. The cabinet interior can be fitted as desired using ISO modular system baskets and shelves. For the purpose of this EPD, the cabinet is fitted with baskets with a width of 600 mm, based on sales volume.

M-LC4

Merianto Medical hospital furniture includes M-LC cargo cabinets which are high-capacity front opening tall cabinets. The cabinet interior is transported on strong ball-bearing runners and can be opened up to 100%. The cabinet interior consists of special adjustable inner shelves and the cabinet can accommodate up to 12 shelves. The inner shelf frame is made of aluminium to which different label holders and dividers may be attached. The inner shelf base is white plastic or transparent acrylic glass (the plastic variant is considered in this EPD).

Further information can be found at:
https://merianto.com/en/

PRODUCT RAW MATERIAL MAIN COMPOSITION

	PB melamine	PB laminate	MDF melamine	MDF laminate	
Raw material category	**Amount, mass %**	**Amount, mass %**	**Amount, mass %**	**Amount, mass %**	**Material origin**
Metals	16,3	14,1	16,3	14,1	Europe
Minerals	0,7	0,6	0,7	0,6	Europe
Fossil materials	19,9	17,3	19,9	17,3	Europe
Bio-based materials	63,1	68	63,1	68	Europe

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

	PB melamine	PB laminate	MDF melamine	MDF laminate
Biogenic carbon content in product, kg C	101	126	101	126
Biogenic carbon content in packaging, kg C	5,4	5,4	5,4	5,4

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

DECLARED UNIT

Declared unit	**1 assembly of cabinets of PB melamine**	**1 assembly of cabinets of PB laminate**	**1 assembly of cabinets of MDF melamine**	**1 assembly of cabinets of MDF laminate**
Mass per declared unit	344,74 kg	397,31 kg	344,74 kg	397,31 kg

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm)

CPC code: 381 - Furniture

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

The scope of the EPD is cradle to gate with options (A4-A5), modules C1-C4 and module D. Life-cycle modules are listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = ND

MANUFACTURING AND PACKAGING (A1-A3)

The production process begins with the reception and unpacking of raw materials, followed by processing as required. If necessary, the panels are covered with high-pressure laminate, and the edges of the parts are finished with edge banding. Once the parts are ready, the cabinets are assembled using screw joints, which allows for the replacement of individual parts during the product's service life, rather than the entire cabinet. Before the products are packaged on pallets, a quality control check is performed. Only after this are the products ready for transport to the site.

The environmental impacts considered for the product stage cover the manufacturing of raw materials, packaging materials, and handling of waste formed in the production processes at the manufacturing facilities. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

A market-based approach is used in modelling the electricity mix utilized in the factory.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions. The majority of products, approximately 75%, are shipped to Finland, Helsinki, Vantaa, and Espoo. Approximately 1% of these are shipped slightly further afield. Transport is by truck and ship. The remaining 25% are shipped to Estonia, mainly Tallinn.

For modelling, the product is transported to Helsinki, with Finland being the main market area. No losses are assumed to occur during transport since the products are packaged properly.

A5 has been declared to account for packaging materials leaving the system. It is assumed that the cardboard packaging is mostly recycled (95%) with the rest incinerated with energy recovery as per Statistics Finland.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

It is estimated that there is no mass loss during the use of the product, therefore the end-of-life product is assumed to have the same weight as the declared product. All the end-of-life products are assumed to be sent to the closest recycling facilities. Transportation distance to the closest disposal area is estimated as 50 km and the method is assumed as lorry which is the most common option. It is assumed that the products are removed from the building without additional energy use. 100% of the waste is assumed to be collected.

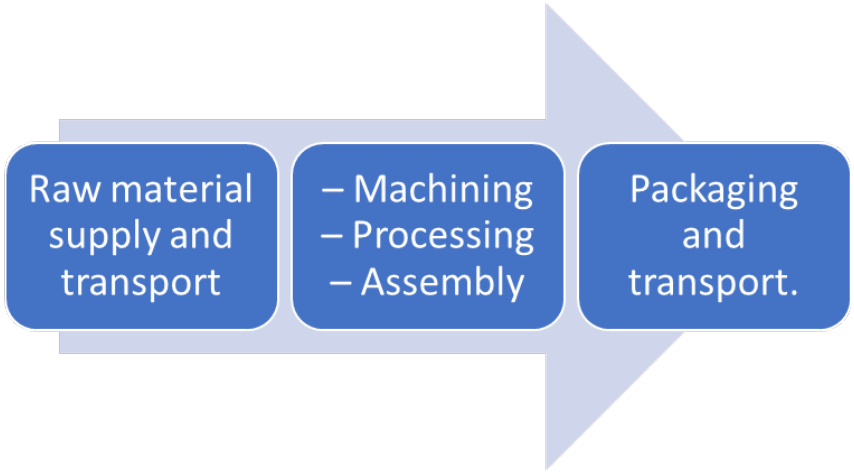
It is assumed that the metal parts are 90% recycled (EuRIC, 2020) and 40% for plastics, with 35% incinerated with energy recovery and the rest assumed to be landfilled (25%). (European Parlament, 2024) For glass, 50% gets recycled and the other half landfilled (Glassense EPD).

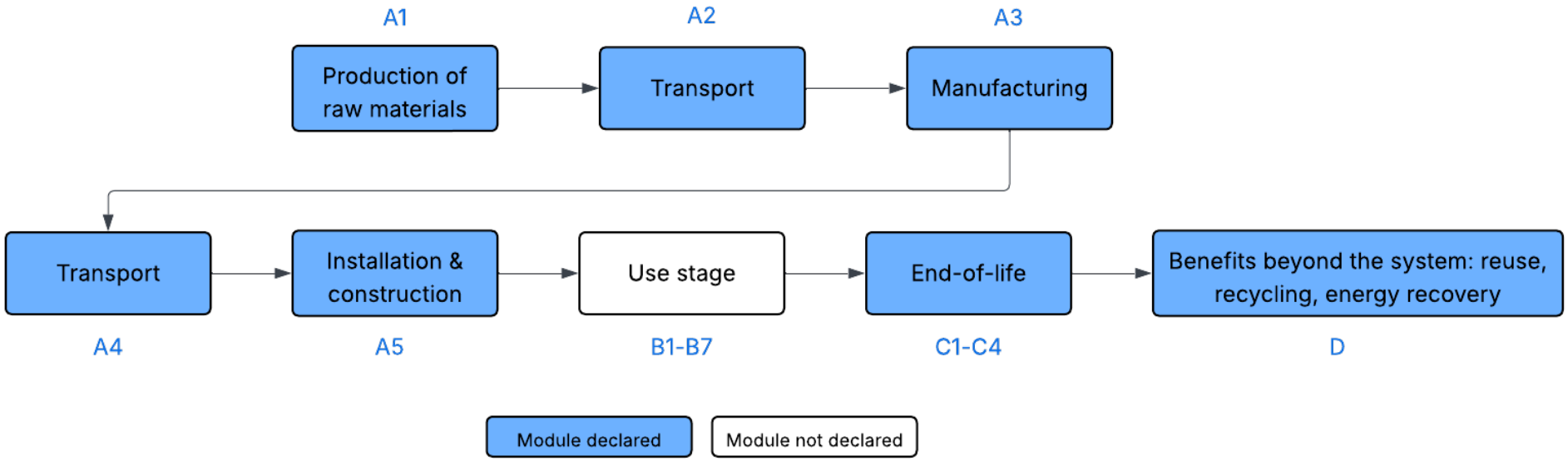
Parts from wood are 100% incinerated with a conservative energy recovery of 61% (Egger, Formica EPD). With exception, PB Laminate, which uses a different particle board, has incineration rate of 93% with 7% landifilled (Koskisen EPD). Electronic waste, in this case the LED lights, an EU average of around 45% recycling rate was used (Eurostat, 2024). This is taken into account in module C3 and D. Adhesives, coatings and other similar materials that cannot be easily removed from the bio-based materials are assumed to receive the same treatment.

All biogenic carbon stored in the product is assumed to be released in C3 and C4.

The heat and electricity recovered from the incineration process of C3 is considered in module D. Recycled metals can be used to produce new metal products. Recycled bio-based materials are assumed to replace wood chips.

MANUFACTURING PROCESS




A1
A2
A3
Production of raw materials
Transport
Manufacturing
Transport
Installation & construction
Use stage
End-of-life
Benefits beyond the system: reuse, recycling, energy recovery
A4
A5
B1-B7
C1-C4
D
Module declared
Module not declared

LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the References section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	Not allocated
Packaging material	Not allocated
Ancillary materials	Not allocated
Manufacturing energy and waste	Allocated by mass

DATA QUALITY AND SOURCES

Data for modelling A1-A3 came directly from the manufacturer. For generic data – The data sources for the study are Ecoinvent 3.10.1 database (2024) and One Click LCA database (2023), the most recent data was used. All background data are representative of conditions and practices used in Europe. No averaging of data from different production sites was required.

ENVIRONMENTAL IMPACT DATA FOR PB MELAMINE FURNITURE

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.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	5,35E+02	1,28E+02	1,83E+02	8,46E+02	7,46E+00	3,58E+01	0,00E+00	1,86E+00	4,01E+02	1,31E+00	-4,34E+02
GWP – fossil	kg CO_2e	8,91E+02	1,28E+02	1,69E+02	1,19E+03	7,46E+00	3,66E-01	0,00E+00	1,86E+00	7,15E+01	1,23E+00	-4,33E+02
GWP – biogenic	kg CO_2e	-3,58E+02	7,48E-03	1,43E+01	-3,44E+02	1,30E-03	3,54E+01	0,00E+00	1,55E-04	3,29E+02	8,42E-02	0,00E+00
GWP – LULUC	kg CO_2e	1,72E+00	4,60E-02	5,20E-01	2,29E+00	3,12E-03	2,09E-04	0,00E+00	8,30E-04	3,26E-02	1,58E-04	-1,02E+00
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	8,65E-06	2,55E-06	3,89E-06	1,51E-05	1,30E-07	2,65E-09	0,00E+00	2,74E-08	2,09E-07	6,48E-09	-1,09E-05
Acidification potential	mol H^+e	3,84E+00	2,69E-01	7,07E-01	4,81E+00	1,09E-01	1,32E-03	0,00E+00	6,33E-03	1,08E-01	1,81E-03	-1,45E+00
EP-freshwater[2)]	kg Pe	2,47E-01	8,62E-03	1,67E-02	2,72E-01	3,71E-04	7,82E-05	0,00E+00	1,44E-04	4,17E-03	5,13E-05	-6,47E-02
EP-marine	kg Ne	7,60E-01	6,45E-02	1,38E-01	9,62E-01	2,75E-02	5,50E-04	0,00E+00	2,08E-03	4,60E-02	7,28E-03	-2,96E-01
EP-terrestrial	mol Ne	7,41E+00	6,97E-01	1,35E+00	9,45E+00	3,05E-01	3,87E-03	0,00E+00	2,26E-02	4,50E-01	7,28E-03	-3,07E+00
POCP ("smog")[3)]	kg NMVOCe	2,68E+00	4,45E-01	3,97E-01	3,52E+00	9,04E-02	1,20E-03	0,00E+00	9,32E-03	1,28E-01	2,80E-03	-1,31E+00
ADP-minerals & metals[4)]	kg Sbe	6,92E-03	4,26E-04	6,59E-05	7,42E-03	1,65E-05	2,79E-06	0,00E+00	5,18E-06	5,94E-05	5,57E-07	-1,27E-03
ADP-fossil resources	MJ	1,50E+04	1,80E+03	1,40E+06	1,42E+06	9,87E+01	2,92E+00	0,00E+00	2,69E+01	1,96E+02	5,56E+00	-6,22E+03
Water use[5)]	m^3e depr.	4,06E+02	8,95E+00	7,58E+02	1,17E+03	3,91E-01	1,15E-01	0,00E+00	1,33E-01	1,25E+01	2,71E-02	-1,29E+02

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Renew. PER as energy[8)]	MJ	3,15E+03	3,15E+01	-4,02E+02	2,78E+03	1,29E+00	-1,89E+02	0,00E+00	3,69E-01	-5,84E+03	-3,14E+00	-9,05E+02
Renew. PER as material	MJ	3,76E+03	0,00E+00	-1,83E+02	3,58E+03	0,00E+00	-1,59E+02	0,00E+00	0,00E+00	-3,42E+03	0,00E+00	0,00E+00
Total use of renew. PER	MJ	6,91E+03	3,15E+01	-5,85E+02	6,36E+03	1,29E+00	-3,48E+02	0,00E+00	3,69E-01	-9,26E+03	-3,14E+00	-9,05E+02
Non-re. PER as energy	MJ	1,21E+04	1,80E+03	1,36E+03	1,53E+04	9,87E+01	2,92E+00	0,00E+00	2,69E+01	-1,21E+03	-3,63E+02	-6,15E+03
Non-re. PER as material	MJ	2,88E+03	0,00E+00	-4,71E+01	2,83E+03	0,00E+00	-5,19E-01	0,00E+00	0,00E+00	-2,23E+03	-6,00E+02	0,00E+00
Total use of non-re. PER	MJ	1,50E+04	1,80E+03	1,32E+03	1,81E+04	9,87E+01	2,40E+00	0,00E+00	2,69E+01	-3,44E+03	-9,63E+02	-6,15E+03
Secondary materials	kg	1,16E+02	8,36E-01	1,34E+01	1,30E+02	4,47E-02	6,54E-03	0,00E+00	1,15E-02	1,84E-01	1,91E-03	3,52E+01
Renew. secondary fuels	MJ	2,46E+02	1,06E-02	1,15E+00	2,47E+02	3,75E-04	3,40E-05	0,00E+00	1,46E-04	2,83E-03	3,61E-05	-1,04E+00
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	9,89E+00	2,45E-01	8,90E-01	1,10E+01	1,04E-02	2,16E-03	0,00E+00	3,98E-03	1,53E-01	-6,78E-02	-1,67E+00

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste	kg	9,75E+01	2,62E+00	9,50E-01	1,01E+02	1,34E-01	4,26E-02	0,00E+00	4,56E-02	3,45E+00	9,35E-03	-2,67E+01
Non-hazardous waste	kg	1,97E+03	5,52E+01	5,29E+01	2,07E+03	2,43E+00	1,71E+00	0,00E+00	8,44E-01	2,71E+02	9,26E+01	-3,28E+02
Radioactive waste	kg	5,06E-02	5,77E-04	1,84E-03	5,31E-02	2,24E-05	6,60E-06	0,00E+00	5,74E-06	2,06E-04	1,29E-06	-1,33E-02

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	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	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	5,90E-01	5,90E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,92E+01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	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	1,09E+03	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	2,50E+02	2,50E+02	0,00E+00	7,82E+00	0,00E+00	0,00E+00	2,19E+03	0,00E+00	0,00E+00

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	8,93E+02	1,28E+02	1,69E+02	1,19E+03	7,46E+00	3,66E-01	0,00E+00	1,86E+00	7,15E+01	1,23E+00	-4,34E+02

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.

ENVIRONMENTAL IMPACT DATA FOR PB LAMINATE FURNITURE

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.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	6,55E+02	6,08E+01	2,23E+02	9,38E+02	8,57E+00	1,90E+01	0,00E+00	2,20E+00	4,50E+02	2,16E+01	-4,70E+02
GWP – fossil	kg CO_2e	1,08E+03	6,07E+01	2,07E+02	1,35E+03	8,56E+00	3,66E-01	0,00E+00	2,20E+00	7,39E+01	1,40E+00	-4,68E+02
GWP – biogenic	kg CO_2e	-4,26E+02	7,48E-03	1,53E+01	-4,11E+02	1,50E-03	1,86E+01	0,00E+00	1,55E-04	3,76E+02	2,02E+01	0,00E+00
GWP – LULUC	kg CO_2e	2,69E+00	2,21E-02	5,21E-01	3,23E+00	3,58E-03	2,09E-04	0,00E+00	9,72E-04	3,80E-02	2,67E-04	-1,08E+00
Ozone depletion pot.	kg CFC-$_{11}$e	3,57E-05	1,20E-06	4,76E-06	4,16E-05	1,49E-07	2,65E-09	0,00E+00	3,32E-08	2,40E-07	1,08E-08	-1,21E-05
Acidification potential	mol H^+e	4,94E+00	1,95E-01	8,66E-01	6,00E+00	1,26E-01	1,32E-03	0,00E+00	7,31E-03	1,23E-01	3,00E-03	-1,55E+00
EP-freshwater[2)]	kg Pe	3,08E-01	3,99E-03	1,91E-02	3,31E-01	4,25E-04	7,82E-05	0,00E+00	1,70E-04	4,79E-03	1,82E-04	-6,65E-02
EP-marine	kg Ne	1,00E+00	4,77E-02	1,64E-01	1,21E+00	3,16E-02	5,50E-04	0,00E+00	2,38E-03	5,24E-02	1,28E-02	-3,18E-01
EP-terrestrial	mol Ne	1,04E+01	5,21E-01	1,63E+00	1,25E+01	3,50E-01	3,87E-03	0,00E+00	2,58E-02	5,15E-01	1,22E-02	-3,31E+00
POCP ("smog")[3)]	kg NMVOCe	3,53E+00	2,57E-01	4,82E-01	4,27E+00	1,04E-01	1,20E-03	0,00E+00	1,08E-02	1,47E-01	4,80E-03	-1,41E+00
ADP-minerals & metals[4)]	kg Sbe	8,51E-03	1,96E-04	6,99E-05	8,77E-03	1,90E-05	2,79E-06	0,00E+00	6,21E-06	6,55E-05	9,35E-07	-1,31E-03
ADP-fossil resources	MJ	1,80E+04	8,50E+02	1,74E+06	1,76E+06	1,13E+02	2,92E+00	0,00E+00	3,19E+01	2,26E+02	9,30E+00	-6,82E+03
Water use[5)]	m^3e depr.	6,13E+02	4,15E+00	9,41E+02	1,56E+03	4,49E-01	1,15E-01	0,00E+00	1,57E-01	1,40E+01	4,50E-02	-1,33E+02

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Renew. PER as energy[8)]	MJ	2,87E+03	1,46E+01	-4,82E+02	2,41E+03	1,48E+00	-1,89E+02	0,00E+00	4,44E-01	-6,85E+03	-2,58E+02	-1,01E+03
Renew. PER as material	MJ	4,09E+03	0,00E+00	-7,05E+01	4,01E+03	0,00E+00	-1,59E+02	0,00E+00	0,00E+00	-3,73E+03	-1,22E+02	0,00E+00
Total use of renew. PER	MJ	6,96E+03	1,46E+01	-5,53E+02	6,42E+03	1,48E+00	-3,48E+02	0,00E+00	4,44E-01	-1,06E+04	-3,81E+02	-1,01E+03
Non-re. PER as energy	MJ	1,47E+04	8,50E+02	1,66E+03	1,72E+04	1,13E+02	2,92E+00	0,00E+00	3,19E+01	-1,18E+03	-3,60E+02	-6,75E+03
Non-re. PER as material	MJ	3,25E+03	0,00E+00	-3,12E+01	3,22E+03	0,00E+00	-5,19E-01	0,00E+00	0,00E+00	-2,61E+03	-6,10E+02	0,00E+00
Total use of non-re. PER	MJ	1,80E+04	8,50E+02	1,62E+03	2,05E+04	1,13E+02	2,40E+00	0,00E+00	3,19E+01	-3,79E+03	-9,70E+02	-6,75E+03
Secondary materials	kg	3,51E+01	3,94E-01	1,37E+01	4,93E+01	5,13E-02	6,54E-03	0,00E+00	1,36E-02	2,12E-01	3,26E-03	3,51E+01
Renew. secondary fuels	MJ	4,32E+01	4,84E-03	1,15E+00	4,43E+01	4,31E-04	3,40E-05	0,00E+00	1,73E-04	3,05E-03	6,15E-05	-1,04E+00
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	1,33E+01	1,14E-01	1,07E+00	1,44E+01	1,20E-02	2,16E-03	0,00E+00	4,69E-03	1,68E-01	-1,24E-01	-1,83E+00

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste	kg	1,03E+02	1,23E+00	9,96E-01	1,05E+02	1,53E-01	4,26E-02	0,00E+00	5,35E-02	3,86E+00	1,59E-02	-2,72E+01
Non-hazardous waste	kg	2,08E+03	2,56E+01	6,12E+01	2,16E+03	2,79E+00	1,71E+00	0,00E+00	9,98E-01	3,12E+02	1,68E+02	-3,38E+02
Radioactive waste	kg	3,58E-02	2,66E-04	2,21E-03	3,83E-02	2,57E-05	6,60E-06	0,00E+00	7,01E-06	2,36E-04	2,18E-06	-1,49E-02

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	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	0,00E+00	0,00E+00
Materials for recycling	kg	1,87E+01	0,00E+00	5,90E-01	1,93E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,92E+01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	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	1,22E+03	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	3,02E+02	3,02E+02	0,00E+00	7,82E+00	0,00E+00	0,00E+00	2,44+E03	0,00E+00	0,00E+00

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	1,08E+03	6,08E+01	2,07E+02	1,35E+03	8,56E+00	3,66E-01	0,00E+00	2,20E+00	7,39E+01	1,40E+00	-4,70E+02

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.

ENVIRONMENTAL IMPACT DATA FOR MDF MELAMINE FURNITURE

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.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	5,35E+02	1,28E+02	1,83E+02	8,46E+02	7,46E+00	1,90E+01	0,00E+00	1,86E+00	4,01E+02	1,31E+00	-4,34E+02
GWP – fossil	kg CO_2e	8,91E+02	1,28E+02	1,69E+02	1,19E+03	7,46E+00	3,66E-01	0,00E+00	1,86E+00	7,15E+01	1,23E+00	-4,33E+02
GWP – biogenic	kg CO_2e	-3,58E+02	7,48E-03	1,43E+01	-3,44E+02	1,30E-03	1,86E+01	0,00E+00	1,55E-04	3,29E+02	8,42E-02	0,00E+00
GWP – LULUC	kg CO_2e	1,72E+00	4,60E-02	5,20E-01	2,29E+00	3,12E-03	2,09E-04	0,00E+00	8,30E-04	3,26E-02	1,58E-04	-1,02E+00
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	8,65E-06	2,55E-06	3,89E-06	1,51E-05	1,30E-07	2,65E-09	0,00E+00	2,74E-08	2,09E-07	6,48E-09	-1,09E-05
Acidification potential	mol H^+e	3,84E+00	2,69E-01	7,07E-01	4,81E+00	1,09E-01	1,32E-03	0,00E+00	6,33E-03	1,08E-01	1,81E-03	-1,45E+00
EP-freshwater[2)]	kg Pe	2,47E-01	8,62E-03	1,67E-02	2,72E-01	3,71E-04	7,82E-05	0,00E+00	1,44E-04	4,17E-03	5,13E-05	-6,47E-02
EP-marine	kg Ne	7,60E-01	6,45E-02	1,38E-01	9,62E-01	2,75E-02	5,50E-04	0,00E+00	2,08E-03	4,60E-02	7,28E-03	-2,96E-01
EP-terrestrial	mol Ne	7,41E+00	6,97E-01	1,35E+00	9,45E+00	3,05E-01	3,87E-03	0,00E+00	2,26E-02	4,50E-01	7,28E-03	-3,07E+00
POCP ("smog")[3)]	kg NMVOCe	2,68E+00	4,45E-01	3,97E-01	3,52E+00	9,04E-02	1,20E-03	0,00E+00	9,32E-03	1,28E-01	2,80E-03	-1,31E+00
ADP-minerals & metals[4)]	kg Sbe	6,92E-03	4,26E-04	6,59E-05	7,42E-03	1,65E-05	2,79E-06	0,00E+00	5,18E-06	5,94E-05	5,57E-07	-1,27E-03
ADP-fossil resources	MJ	1,50E+04	1,80E+03	1,40E+06	1,42E+06	9,87E+01	2,92E+00	0,00E+00	2,69E+01	1,96E+02	5,56E+00	-6,22E+03
Water use[5)]	m^3e depr.	4,06E+02	8,95E+00	7,58E+02	1,17E+03	3,91E-01	1,15E-01	0,00E+00	1,33E-01	1,25E+01	2,71E-02	-1,29E+02

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Renew. PER as energy[8)]	MJ	3,15E+03	3,15E+01	-4,02E+02	2,78E+03	1,29E+00	-1,89E+02	0,00E+00	3,69E-01	-5,84E+03	-3,14E+00	-9,05E+02
Renew. PER as material	MJ	3,76E+03	0,00E+00	-1,83E+02	3,58E+03	0,00E+00	-1,59E+02	0,00E+00	0,00E+00	-3,42E+03	0,00E+00	0,00E+00
Total use of renew. PER	MJ	6,91E+03	3,15E+01	-5,85E+02	6,36E+03	1,29E+00	-3,48E+02	0,00E+00	3,69E-01	-9,26E+03	-3,14E+00	-9,05E+02
Non-re. PER as energy	MJ	1,21E+04	1,80E+03	1,36E+03	1,53E+04	9,87E+01	2,92E+00	0,00E+00	2,69E+01	-1,21E+03	-3,63E+02	-6,15E+03
Non-re. PER as material	MJ	2,88E+03	0,00E+00	-4,71E+01	2,83E+03	0,00E+00	-5,19E-01	0,00E+00	0,00E+00	-2,23E+03	-6,00E+02	0,00E+00
Total use of non-re. PER	MJ	1,50E+04	1,80E+03	1,32E+03	1,81E+04	9,87E+01	2,40E+00	0,00E+00	2,69E+01	-3,44E+03	-9,63E+02	-6,15E+03
Secondary materials	kg	1,16E+02	8,36E-01	1,34E+01	1,30E+02	4,47E-02	6,54E-03	0,00E+00	1,15E-02	1,84E-01	1,91E-03	3,52E+01
Renew. secondary fuels	MJ	2,46E+02	1,06E-02	1,15E+00	2,47E+02	3,75E-04	3,40E-05	0,00E+00	1,46E-04	2,83E-03	3,61E-05	-1,04E+00
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	9,89E+00	2,45E-01	8,90E-01	1,10E+01	1,04E-02	2,16E-03	0,00E+00	3,98E-03	1,53E-01	-6,78E-02	-1,67E+00

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste	kg	9,75E+01	2,62E+00	9,50E-01	1,01E+02	1,34E-01	4,26E-02	0,00E+00	4,56E-02	3,45E+00	9,35E-03	-2,67E+01
Non-hazardous waste	kg	1,97E+03	5,52E+01	5,29E+01	2,07E+03	2,43E+00	1,71E+00	0,00E+00	8,44E-01	2,71E+02	9,26E+01	-3,28E+02
Radioactive waste	kg	5,06E-02	5,77E-04	1,84E-03	5,31E-02	2,24E-05	6,60E-06	0,00E+00	5,74E-06	2,06E-04	1,29E-06	-1,33E-02

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	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	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	5,90E-01	5,90E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,92E+01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	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	1,09E+03	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	2,50E+02	2,50E+02	0,00E+00	7,82E+00	0,00E+00	0,00E+00	2,19E+03	0,00E+00	0,00E+00

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	8,93E+02	1,28E+02	1,69E+02	1,19E+03	7,46E+00	3,66E-01	0,00E+00	1,86E+00	7,15E+01	1,23E+00	-4,34E+02

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.

ENVIRONMENTAL IMPACT DATA FOR MDF LAMINATE FURNITURE

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.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	6,53E+02	1,30E+02	2,21E+02	1,00E+03	8,57E+00	1,90E+01	0,00E+00	2,14E+00	4,60E+02	1,31E+00	-4,84E+02
GWP – fossil	kg CO_2e	1,06E+03	1,30E+02	2,07E+02	1,40E+03	8,56E+00	3,66E-01	0,00E+00	2,14E+00	7,49E+01	1,23E+00	-4,83E+02
GWP – biogenic	kg CO_2e	-4,14E+02	7,48E-03	1,43E+01	-4,00E+02	1,50E-03	1,86E+01	0,00E+00	1,55E-04	3,86E+02	8,42E-02	0,00E+00
GWP – LULUC	kg CO_2e	2,54E+00	4,69E-02	5,21E-01	3,11E+00	3,58E-03	2,09E-04	0,00E+00	9,57E-04	4,01E-02	1,58E-04	-1,10E+00
Ozone depletion pot.	kg CFC-$_{11}$e	2,50E-05	2,58E-06	4,76E-06	3,24E-05	1,49E-07	2,65E-09	0,00E+00	3,16E-08	2,53E-07	6,48E-09	-1,26E-05
Acidification potential	mol H^+e	4,51E+00	2,89E-01	8,66E-01	5,67E+00	1,26E-01	1,32E-03	0,00E+00	7,29E-03	1,30E-01	1,81E-03	-1,60E+00
EP-freshwater[2)]	kg Pe	3,06E-01	8,76E-03	1,91E-02	3,33E-01	4,25E-04	7,82E-05	0,00E+00	1,66E-04	5,04E-03	5,13E-05	-6,73E-02
EP-marine	kg Ne	9,48E-01	7,01E-02	1,64E-01	1,18E+00	3,16E-02	5,50E-04	0,00E+00	2,40E-03	5,50E-02	7,28E-03	-3,28E-01
EP-terrestrial	mol Ne	9,19E+00	7,58E-01	1,63E+00	1,16E+01	3,50E-01	3,87E-03	0,00E+00	2,61E-02	5,41E-01	7,28E-03	-3,41E+00
POCP ("smog")[3)]	kg NMVOCe	3,30E+00	4,64E-01	4,82E-01	4,25E+00	1,04E-01	1,20E-03	0,00E+00	1,07E-02	1,54E-01	2,80E-03	-1,45E+00
ADP-minerals & metals[4)]	kg Sbe	7,47E-03	4,31E-04	6,99E-05	7,98E-03	1,90E-05	2,79E-06	0,00E+00	5,96E-06	6,80E-05	5,57E-07	-1,33E-03
ADP-fossil resources	MJ	1,78E+04	1,83E+03	1,74E+06	1,76E+06	1,13E+02	2,92E+00	0,00E+00	3,10E+01	2,39E+02	5,56E+00	-7,06E+03
Water use[5)]	m^3e depr.	4,91E+02	9,08E+00	9,41E+02	1,44E+03	4,49E-01	1,15E-01	0,00E+00	1,53E-01	1,46E+01	2,71E-02	-1,36E+02

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Renew. PER as energy[8)]	MJ	3,41E+03	3,19E+01	-4,82E+02	2,96E+03	1,48E+00	-1,89E+02	0,00E+00	4,25E-01	-7,26E+03	-3,14E+00	-1,05E+03
Renew. PER as material	MJ	5,32E+03	0,00E+00	-1,83E+02	5,14E+03	0,00E+00	-1,59E+02	0,00E+00	0,00E+00	-4,98E+03	0,00E+00	0,00E+00
Total use of renew. PER	MJ	8,73E+03	3,19E+01	-6,65E+02	8,10E+03	1,48E+00	-3,48E+02	0,00E+00	4,25E-01	-1,22E+04	-3,14E+00	-1,05E+03
Non-re. PER as energy	MJ	1,44E+04	1,83E+03	1,66E+03	1,79E+04	1,13E+02	2,92E+00	0,00E+00	3,10E+01	-1,17E+03	-3,63E+02	-6,99E+03
Non-re. PER as material	MJ	3,42E+03	0,00E+00	-4,71E+01	3,38E+03	0,00E+00	-5,19E-01	0,00E+00	0,00E+00	-2,78E+03	-6,00E+02	0,00E+00
Total use of non-re. PER	MJ	1,79E+04	1,83E+03	1,61E+03	2,13E+04	1,13E+02	2,40E+00	0,00E+00	3,10E+01	-3,95E+03	-9,63E+02	-6,99E+03
Secondary materials	kg	1,16E+02	8,49E-01	1,37E+01	1,30E+02	5,13E-02	6,54E-03	0,00E+00	1,32E-02	2,23E-01	1,91E-03	3,50E+01
Renew. secondary fuels	MJ	2,46E+02	1,07E-02	1,15E+00	2,47E+02	4,31E-04	3,40E-05	0,00E+00	1,68E-04	3,13E-03	3,61E-05	-1,04E+00
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	1,24E+01	2,49E-01	1,07E+00	1,37E+01	1,20E-02	2,16E-03	0,00E+00	4,59E-03	1,74E-01	-6,78E-02	-1,90E+00

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
Hazardous waste	kg	9,78E+01	2,66E+00	9,96E-01	1,02E+02	1,53E-01	4,26E-02	0,00E+00	5,26E-02	4,03E+00	9,35E-03	-2,74E+01
Non-hazardous waste	kg	1,99E+03	5,61E+01	6,12E+01	2,11E+03	2,79E+00	1,71E+00	0,00E+00	9,73E-01	3,29E+02	9,26E+01	-3,43E+02
Radioactive waste	kg	5,68E-02	5,83E-04	2,21E-03	5,96E-02	2,57E-05	6,60E-06	0,00E+00	6,62E-06	2,47E-04	1,29E-06	-1,57E-02

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	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	0,00E+00	0,00E+00
Materials for recycling	kg	9,65E-01	0,00E+00	5,90E-01	1,55E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,92E+01	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	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	1,28E+03	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	3,02E+02	3,02E+02	0,00E+00	7,82E+00	0,00E+00	0,00E+00	2,55E+03	0,00E+00	0,00E+00

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	1,07E+03	1,30E+02	2,07E+02	1,40E+03	8,56E+00	3,66E-01	0,00E+00	2,14E+00	7,49E+01	1,23E+00	-4,84E+02

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.

SCENARIO DOCUMENTATION

MANUFACTURING ENERGY (A3)

Scenario parameter	Value
Electricity data source and quality	Electricity, Estonia, residual mix, 2023 (One Click LCA)
Electricity CO2e / kWh	0,68
District heating data source and quality	District heating, Estonia, ProBas
District heating CO2e / kWh	0,0734

TRANSPORT AND INSTALLATION (A4-A5)

The product is transported to Helsinki, with Finland being the main market area. No losses are assumed to occur during transport since the products are packaged properly.

Transport (A4)

Scenario parameter	Value
Fuel and vehicle type. Eg, electric truck, diesel powered truck	Market for transport, freight, lorry 16-32 metric ton
Average transport distance, km	60 km by lorry
Average transport distance, km	80 km by ferry
Capacity utilization (including empty return) %	100
Bulk density of transported products	200
Volume capacity utilization factor	<1

A5 has been declared to account for packaging materials leaving the system. It is assumed that the package is collected and recycled, with a portion being incinerated with energy recovery.

Installation (A5)

Scenario parameter	Value
Ancillary materials for installation, kg	0
Water and other resource use, m3	0
Materials for recycling: cardboard packaging, kg	11,1
Materials for energy recovery: cardboard packaging, kg	0,7

PRODUCT END OF LIFE (C1-C4, D)

It is estimated that there is no mass loss during the use of the product, therefore the end of life product is assumed to have the same weight as the declared product. All the end-of-life products are assumed to be sent to the closest recycling facilities. Transportation distance to the closest disposal area is estimated as 50 km and the method is assumed as lorry which is the most common option. It is assumed that the products are removed from the building without additional energy use. 100% of the waste is assumed to be collected.

End of life

	PB melamine	PB laminate	MDF melamine	MDF laminate
Scenario information	**Value**	**Value**	**Value**	**Value**
Collection process – kg collected separately	344,7	397,3	344,7	397,3
Collection process – kg collected with mixed waste	0	0	0	0
Recovery process – kg for re-use	0	0	0	0
Recovery process – kg for recycling	79,2	79,2	79,2	79,2
Recovery process – kg for energy recovery	241,3	278,8	241,3	293,9
Disposal (total) – kg for final deposition	24,2	39,3	24,2	24,2
Scenario assumptions e.g. transportation	50 km by lorry	50 km by lorry	50 km by lorry	50 km by lorry

LCA SOFTWARE

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

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