Environmental Product Declaration

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

Parquet OPUS Oak 3-strip 13 mm

Multi-layered engineered wood flooring

from

Optimera Svenska AB Sweden

/OPTIMERA/

Programme:	The International EPD System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	EPD-IES-0016085:001
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An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see 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:	support@environdec.com

PCR and verification

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 v.2.0.1 and C-PCR-006 (2019) v1.0.0 Wood and Wood-Based Products for Use in Construction (EN16485)*
PCR review was conducted by: *PCR review was conducted by the Technical Committee of the International EPD® System. See https://environdec.com/about-us/the-international-epd-system-about-the-system for a list of members. Review chair: Rob Rouwette.* *The review panel may be contacted via the Secretariat www.environdec.com/contact.*
Verification
External and independent ('third-party') verification of the declaration and data, according to ISO 14025:2006, via EPD verification through: ☒ Individual EPD verification without a pre-verified LCA/EPD tool Third-party individual verifier: *Matt Fishwick, Fishwick Environmental Ltd*. Approved by: The International EPD® System
The procedure for follow-up of data during EPD validity involves a third-party verifier: ☐ Yes ☒ No

Ownership and limitations on use of EPD

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

EPDs within the same product category but published in different EPD programs may not be comparable. For two EPDs to be similar, they shall be based on the same PCR (including the same first-digit 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 identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterization factors); and be valid at the time of comparison.

Information about the EPD owner

Owner of the EPD: Optimera Svenska AB.
Contact of EPD owner:
Optimera - Henrik Björk (henrik.bjork@optimera.se)
Address of EPD owner: Cederströmsgatan 1, 212 10 Malmö Sweden.
Name and location of production site: Confidential contract manufacturing facility in Güssing, Austria.
Final process facility under direct control of the EPD owner (Trader): Warehouse in Varberg, Sweden.

Description of the organization: Optimera Svenska AB is a leading supplier of building materials and construction solutions to professional customers in Sweden. The company serves builders, carpenters, contractors, and property developers through an extensive network of branches, distribution centers, and digital sales channels. Optimera offers a comprehensive range of building materials, timber products, tools, and services designed to support efficient and sustainable construction. By combining industry expertise, strong supplier partnerships, and reliable logistics solutions, Optimera contributes to the successful delivery of construction projects across Sweden.

Product-related or management system-related certifications: ISO 9001- and 14001-certificates, EN 14342:2013.

LCA practitioner: Amit Lotan, CarbonZero AB, amit.lotan@carbonzero.se

Product information

Product name: Parquet OPUS Oak 3-strip 13 mm, multi-layered engineered wood flooring.

Product identification: Multi-layered engineered wood flooring. OPUS Parquet is a wooden floor made with a high-grade timber top layer. The materials required to produce these floors, such as sawn timber, planned timber friezes, veneers or ready-made top layers, are initially manufactured separately. The product-specific dimensions of the declared product are:
• Length: 2200 mm
• Width: 185 mm
• Thickness: 13 mm

Technical Properties:
Total Thickness - 13 mm
Density - 540 kg/m³
Moisture Content – 7 – 9%
Thermal Conductivity - 0.14 W/(m·K)

Use: Multi-layered engineered wood floors are floor coverings in accordance with EN 13489 for private and commercial use in interior areas. They are either laid "floating" on the screen or on other existing floors, such as wood or tiles in connection with suitable underlay materials or glued to the screed across the whole floor area.

Technical lifespan: can be assumed to be equal to the construction works' at least 50 years.

Visual representation of the product: Parquet OPUS Oak 3-strip 13 mm





Description of manufacturing process: The wood is peeled into thin layers and dried (or purchased as thin, dry sheets). They are then glued in layers with their grains perpendicular to one another to provide strength and durability and cut to a uniform size. These thin sheets (veneers) are then glued together using a hot press to apply heat and pressure. After acclimatization, the blanks undergo surface treatment and are given longitudinal and transverse profiles in accordance with the product format. It is then cut to the final size, sanded to remove rough spots, and packaged. Optimera is the EPD owner acting as a trader, the product is supplied by a single contract manufacturer in Güssing, Austria, and the final process facility under direct control is the warehouse in Varberg, Sweden.
UN CPC code: 31600.
Name and location of production site: Güssing, Austria.
Geographical scope of EPD: Raw materials and Manufacturing are from and in Austria (A1-A3). Products are sold mainly in Sweden (A4-D).

Content declaration

The content declaration represents 1m² of Parquet OPUS Oak 3-strip 13mm, per declared unit of 1 m². The mass of one declared unit (1 m²) is 7.01 kg.

Product components (per declared unit of 1 m²)

Product Components	Mass, kg per declared unit	Post-consumer materials mass %	Biogenic materials mass, %C and kg C per declared unit
Top Layer (Oak)	2.10	0	14% (0.97 kg C)
Middle Layer (Spruce)	4.07	0	27% (1.89 kg C)
Backing Layer (Spruce veneer)	0.63	0	4% (0.29 kg C)
Adhesive	0.21	0	0% (0 kg C)
Total	7.01	0	45% (3.15 kg C[1])

Packaging materials (per declared unit of 1 m²)

Packaging materials	Mass, kg per declared unit	Mass-% (versus the product)	Weight biogenic carbon, kg C per declared unit
Cardboard	0.4	5.71%	0.19
Plastic (polyethylene, PE)	0.1	1.43%	0
Total	0.5	7.13%	0.19

The product does not contain substances on the Candidate List of Substances of Very High Concern for authorisation exceeding 0.1% by weight.

[1] 1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO_2, therefore the stored biogenic carbon in the product is equal to 11.5 kg CO_2 and an additional 0.69 kg CO_2 in the packaging. Biogenic carbon calculations are based on dry mass, with moisture excluded.

LCA information

Declared unit: 1 m^2 of Parquet OPUS Oak 3-strip 13 mm wood flooring. This is equivalent to 7.01 kg.
Time representativeness: manufacturing data from 2024 (2024-01-01 to 2024-12-31).
Database and LCA software used: Calculation completed in Sphera LCA for Experts v.10.9.3.0 with Sphera Managed LCA Content 2023 and an integrated ecoinvent cut-off database v3.11. The characterization factors used in this study are based on PCR 2019:14 and EN 15804+A2 (based on EF 3.1).
Description of system boundaries: Cradle to gate with options, modules C1–C4, module D and with optional modules A4, A5, B2, and B5.
Life cycle stages not considered: B1, B3, B6, and B7. Flooring does not utilize operational energy or water streams during use.
Cut-off approach and exclusions: The following procedures were used to exclude inputs and outputs.

- All input and output flows in a unit process were considered, i.e., taking into account the value of all flows in the unit process and the corresponding LCI where data was available.
- Conservative assumptions filled data gaps with average or generic data. Any assumptions in such cases were documented.
- The use of cut-off criterion on mass inputs and primary energy at the unit process level (1%) and the information module level (5%).

Supporting activities at the manufacturing site, such as building heating and lighting, are fully included in module A3. Human activities such as employee commuting and business travel are excluded from the system boundaries. Infrastructure and capital goods were excluded from foreground data but are included in background data as it is difficult to remove in Sphera LCA for Experts.

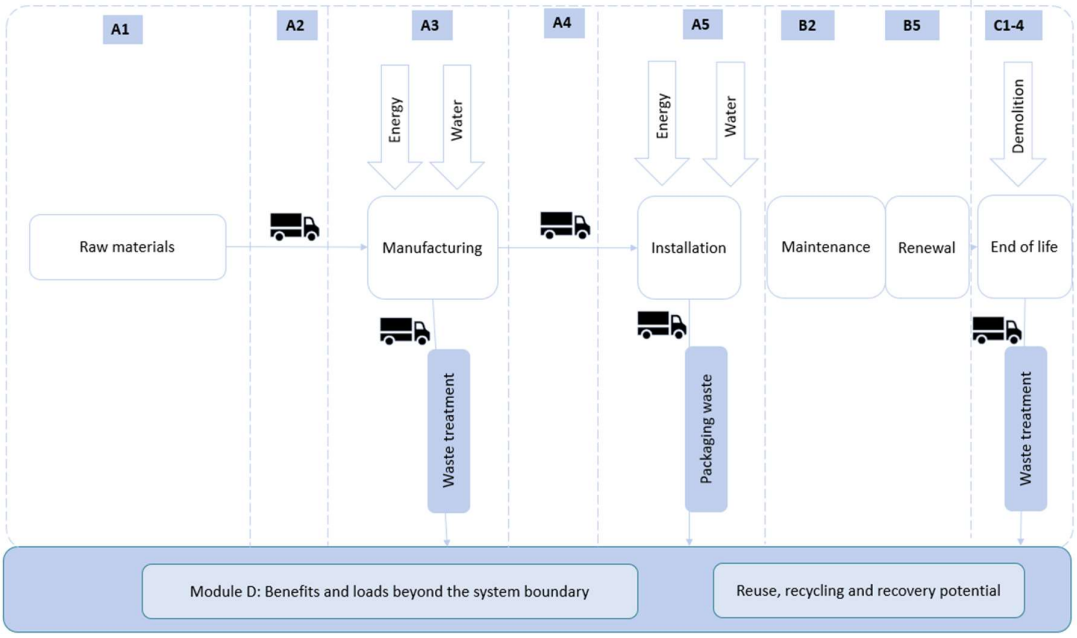
Allocation procedures: Calculations were based on mass, so there is no difference in per-tonne impact. As density remains the same, there is also no difference in impact per m^2.

- Foreground Data: no co-product allocation applied since no co-products are generated. 100% mass allocation for multi-product processes.
- Background Data: ecoinvent v3.11 and Sphera MLC usually uses economic allocation for multi-output processes.
- End-of-Life: the cut-off approach is applied throughout for waste leaving A1-A3, A5, and C, including in the case of generic data, where the ecoinvent v3.11 and Sphera MLC with a cut-off classification end-of-life allocation method was used. The cut-off point is where an end-of-waste state is reached, following the “polluter pays principle”.

Electricity used in manufacturing: Austrian residual 2024 mix was utilized for A3 manufacturing data and declare its carbon intensity as 0.243 kg CO_2e/kWh.

For the total energy used in the manufacturing process, the Austrian residual electricity mix is produced from Hydropower (60.3%), Wind (11.3%), Natural gas (9.2%), Solar PV (9.3%), biofuels (5.3%), Coal (2.4%), and Oil (0.9%), Other (1.3%)

System diagram:



Note: The end-of-state of waste for recovered energy is reached after incineration.

Modules declared that geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results) - X = modules included, ND = not declared, AT = Austria, SE = Sweden

	Product stage			Assembly stage		Use stage							End of life stage				Benefits & loads beyond system boundary
	Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Declared	X	X	X	X	X	ND	X	ND	ND	X	ND	ND	X	X	X	X	X
Geography	AT	AT	AT	SE	SE	-	SE	-	-	SE	-	-	SE	SE	SE	SE	SE
Specific data used	35%					-											
Variation-Products	0%			-													
Variation-Sites	N/A (single site)			-													

Declaration of data sources, reference years, and share of primary data A1-A3:

The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data, to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories.

Process	Source type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
Raw Material Extraction – A1	Database	Sphera MLC 2023 and ecoinvent v3.11	2023-2024	Secondary data	0%
Transportation – A2	Database	Sphera MLC 2023 and ecoinvent v3.11	2023-2024	Secondary data	0%
Manufacturing of the product and Packaging – A3	Collected data	Manufacturer and Sphera MLC 2023 and	2023-2024	Primary data and secondary data	35%
Total share of primary data, of GWP-GHG results for A1-A3	35%				

Summary of data quality: Data quality was evaluated in accordance with EN 15941:2024 and the scoring matrix defined in Annex E, Table E.1 of EN 15804:2012+A2:2019. Primary foreground data was collected specifically for the Austrian manufacturing facility for the full 2024 operational year, achieving a "Very Good" rating across technical, geographical, and time-related representativeness criteria. High-quality secondary data representing upstream materials and downstream transportation was sourced from the ecoinvent v3.11 cut-off database. No generic or proxy datasets contributing to more than 1% of any environmental indicator were classified as "Poor" or "Very Poor," and no "Fair" datasets contributed to more than 30% of any impact category. Overall, the utilized datasets consistently scored "Good" or "Very Good," ensuring a highly robust and representative environmental profile.

A4 transport to customer: Using the data below, A4 transport to customers was assumed to be within Sweden and a typical average distance to customer used. Note that the product is manufactured in Austria and sold in Sweden, and this is an EPD published by a trader. Therefore, A3 results account for transportation from Austria to the Varberg (Sweden) warehouse, plus warehouse operations.

A4 scenario information	
Transportation	GLO: Truck-trailer, Euro 0 - 6 mix, 34 - 40t gross weight, 27t payload capacity
Fuel type	RER: Diesel (6.35% bio-content)
Fuel consumption	0.0167 kg/tkm
Distance	500 km
Capacity utilization (including returns)	61 %
Bulk density of transported products	540 kg/m³
Volume capacity utilization factor	1

A5, Installation

This stage includes disposing of the packaging waste (cardboard and PE) and 5% installation offcut waste scenario from the final product. For each product, the amounts are presented in the content declaration table. Installation is a manual process with no ancillary material requirements and therefore all other impact from this stage were assumed immaterial (below the cut-off). The 5% installation offcut waste scenario and the packaging disposal routes are derived from specific EPD owner data and standard industry practice.

- Waste paperboard is 100% disposed of for full incineration and produces 2.14 MJ/kg of electricity and 3.89 MJ/kg of thermal energy, which was presented in module D.
- Waste plastic is 74% incinerated and 26% recycled. For incineration, it produces 6.68 MJ/kg of electricity and 11.9 MJ/kg of thermal energy, which was presented in moule D.

Packaging disposal routes (A5)

Material	Recycling rate (%)	Incineration rate (%)	Landfill rate (%)
Cardboard	0.00	100.00	0.00
Polyethylene	26.00	74.00	0.00

Module A5 also accounts for a 5% installation offcut waste scenario of the flooring product. The upstream embodied impacts (A1–A4) of these wasted offcuts and their end-of-life treatment (100% incineration with energy recovery) are fully included within module A5.

B1-B7 Use stage

This stage includes B2 and B5; other B modules have no activities or emissions related to the product. In Module B2, the cleaning and oiling of the engineered wood flooring are considered, including the auxiliary materials required and the treatment of the resulting waste and wastewater, over the technical lifespan. In Module B5, the renovation of the engineered wood flooring is specified, including the treatment of the resulting waste.

B2 - Maintenance The maintenance scenario is based on the technical lifespan of 50 years. The consumption values and frequencies are derived from standard industry practices and LCI background reports for residential engineered wood flooring. The scenario assumes vacuum cleaning occurs 120 times per year (approximately every 3 days), damp mopping/wet cleaning occurs 12 times per year (monthly), and surface re-oiling occurs every 5 years. Electricity consumption is modeled using the Swedish national grid mix.

- Water consumption (wet cleaning): 0.24 m^3
- Electricity consumption (vacuum cleaning): 15.6 kWh
- Cleaning product (wet cleaning): 0.48 liters
- Cleaning product (oils): 0.0014 liters
- Pads (oils): 0.12 pieces
- Oil: 0.11 kg

B5 - Renewal The renewal scenario is based on the technical lifespan of 50 years. The material inputs and frequencies are derived from standard manufacturer maintenance guidelines for multi-layered engineered wood floors. The scenario assumes the floor undergoes major refurbishment - specifically

sanding, re-oiling, and lacquering - twice during its 50-year technical lifespan. The electricity consumed during sanding is modeled using the Swedish national grid mix.

- Electricity consumption (sanding): 1.32 kWh
- Decrease for each instance of renovation: 0.7 mm
- Sanding material: 0.2 pieces
- Oil (applied to 50% of floors): 0.05 kg
- Lacquer (applied to 50% of floors): 0.225 kg

C1 Deconstruction/Demolition: Module C1 describes the dismantling of the product. As it is assumed that dismantling will be done manually, no impacts are accounted for in this module.

C2 Transport: This stage represents the transport distance to the waste processing facility. Transport distance to waste processing is assumed to be 80 km (landfill) and 130 km (incineration) by truck.

C3 Waste processing: This stage includes any necessary waste treatment. The final product is disposed of after 50 years. It is assumed that 100% of the wood will be collected separately and treated in accordance with Swedish statistics on the end of life of wood. The disposal will be 100% incineration, for which credit is presented in module D. The energy efficiency of incineration at end-of-life was assumed to be >60% (40%) and therefore incineration was treated as a recovery process, and its impacts was assigned to C3. Primary energy use indicators were calculated using Option A from Annex 3 of the PCR (EN 15804).

C4 Final Disposal: No landfilling is relevant for this product.

D Benefits and loads beyond the system boundary:

From A5 – Cardboard packaging of the final product is 100% disposed of for full incineration, producing 2.14 MJ/kg of electricity and 3.89 MJ/kg of thermal energy. Waste plastic is 74% incinerated, producing 6.68 MJ/kg of electricity and 11.9 MJ/kg of thermal energy. Additional environmental benefits are derived from the energy recovery of the 5% installation offcuts incinerated in Module A5, substituting electrical and thermal energy grids. 1 kg produces 2.21 MJ of electricity and 5.19 MJ of thermal heat.

From C3 - Final product disposed of is treated according to Swedish statistics for wood mixtures: 100% - Incineration. 1 kg produces 2.21 MJ of electricity and 5.19 MJ of thermal heat.

*Swedish government statistics from 2024 show that 98% of wood waste is incinerated with energy recovery. Therefore, it seemed reasonable to assume that this product would be incinerated with 100% energy recovery.

Environmental performance

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. The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

Main environmental performance results per 1m^2 of declared unit

Mandatory impact category indicators according to EN 15804, EF 3.1

Indicator	Unit	A1-A3	A4	A5	B2	B5	C1	C2	C3	C4	D
GWP-Total	kg CO_2 eq.	-6.81E+00	3.51E-01	1.32E+00	9.21E-01	3.85E-01	0	3.11E-02	1.17E+01	0	-2.03E+00
GWP-Fossil	kg CO_2 eq.	5.34E+00	3.50E-01	6.19E-01	8.02E-01	3.75E-01	0	3.08E-02	1.58E-01	0	-1.85E+00
GWP-Biogenic	kg CO_2 eq.	-1.22E+01	0.00E+00	6.97E-01	0.00E+00	0.00E+00	0	0.00E+00	1.15E+01	0	0.00E+00
GWP-Luluc	kg CO_2 eq.	5.20E-02	1.10E-03	2.66E-03	1.19E-01	1.02E-02	0	2.52E-04	1.12E-03	0	-1.82E-01
ODP	kg CFC 11 eq.	1.10E-07	1.84E-14	5.50E-09	2.51E-11	2.31E-12	0	4.73E-15	6.24E-13	0	-3.61E-11
AP	mol H^+ eq.	3.15E-02	1.13E-03	1.63E-03	3.74E-03	1.18E-03	0	3.74E-04	2.04E-03	0	-5.90E-03
EP-freshwater	kg P eq.	1.50E-04	2.89E-07	7.51E-06	1.59E-04	2.51E-06	0	6.78E-08	1.76E-07	0	-1.64E-05
EP-marine	kg N eq.	1.21E-02	5.45E-04	6.32E-04	1.61E-03	4.51E-04	0	1.66E-04	5.27E-04	0	-1.94E-03
EP-terrestrial	mol N eq.	1.39E-01	5.95E-03	7.25E-03	1.23E-02	2.93E-03	0	1.81E-03	8.82E-03	0	-2.16E-02
POCP	kg NMVOC eq.	4.36E-02	1.07E-03	2.23E-03	2.28E-03	1.28E-03	0	3.58E-04	1.40E-03	0	-4.39E-03
ADP-minerals& metals	kg Sb eq.	1.65E-05	7.29E-09	8.25E-07	4.79E-07	6.60E-08	0	1.80E-09	9.44E-09	0	-7.83E-07
ADP-fossil	MJ	9.20E+01	1.46E+00	4.67E+00	6.41E+01	1.73E+01	0	3.96E-01	2.46E+00	0	-1.07E+02
WDP	m^3	1.76E+00	5.02E-04	8.80E-02	-8.58E+00	5.20E-02	0	1.25E-04	1.18E+00	0	-8.46E-01
Acronyms	GWP-total: Global Warming Potential; 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; See “additional Norwegian requirements” for indicator given as PO4 eq. EP-marine: Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-terrestrial: Eutrophication potential, Accumulated Exceedance; POCP: Formation potential of tropospheric ozone; ADP-M&M: Abiotic depletion potential for non-fossil resources (minerals and metals); ADP-fossil: Abiotic depletion potential for fossil resources; WDP: Water deprivation potential, deprivation weighted water consumption										

Additional mandatory and voluntary impact category indicators

Indicator	Unit	A1-A3	A4	A5	B2	B5	C1	C2	C3	C4	D
GWP-GHG[2]	kg CO_2 eq.	5.34E+00	3.50E-01	6.19E-01	8.02E-01	3.75E-01	0	3.08E-02	1.58E-01	0	-1.85E+00
PM	Disease incidence	2.95E-06	1.06E-08	7.31E-09	3.67E-08	1.08E-08	0	5.09E-09	1.38E-08	0	-6.32E-08
IRP	kBq U235 eq.	3.96E-01	3.85E-04	2.54E-02	2.26E+00	1.98E-01	0	9.84E-05	2.03E-02	0	-3.43E+00
ETP-fw	CTUe	6.69E+01	1.84E+00	1.49E+00	1.30E+01	9.46E+00	0	4.68E-01	4.93E-01	0	-9.92E+00
HTP-c	CTUh	9.87E-09	2.51E-11	6.28E-11	2.45E-09	2.83E-10	0	6.45E-12	9.20E-11	0	-2.71E-09
HTP-nc	CTUh	9.72E-08	1.36E-09	4.49E-09	8.97E-08	4.88E-09	0	3.23E-10	3.96E-09	0	-3.00E-08
SQP	Dimensionless	3.61E+03	6.04E-01	3.99E+00	4.44E+01	3.76E+00	0	1.39E-01	7.81E-01	0	-1.28E+02
Acronyms	PM = Particulate matter emissions; IRP = Ionising radiation, human health; ETP-fw = Ecotoxicity (freshwater); HTP-c = Human toxicity, cancer effects; HTP-nc = Human toxicity, non-cancer effects; SQP =: Land use related impacts / soil quality										

Resource use indicators, following option A of Annex 3 of the PCR, for PERM/PENRM and PERT/PENRT

Indicator	Unit	A1-A3	A4	A5	B2	B5	C1	C2	C3	C4	D
PERE	MJ	1.69E+02	1.03E-01	7.29E+00	7.56E+01	6.58E+00	0	2.40E-02	1.12E+02	0	-1.24E+02
PERM	MJ	1.17E+02	0.00E+00	-6.00E+00	0.00E+00	0.00E+00	0	0.00E+00	-1.11E+02	0	0.00E+00
PERT	MJ	2.86E+02	1.03E-01	1.29E+00	7.56E+01	6.58E+00	0	2.40E-02	1.00E+00	0	-1.24E+02
PENRE	MJ	7.22E+01	1.46E+00	8.21E+00	6.41E+01	1.73E+01	0	3.96E-01	9.86E+00	0	-1.07E+02
PENRM	MJ	1.14E+01	0.00E+00	-4.00E+00	0.00E+00	0.00E+00	0	0.00E+00	-7.40E+00	0	0.00E+00
PENRT	MJ	8.36E+01	1.46E+00	4.21E+00	6.41E+01	1.73E+01	0	3.96E-01	2.46E+00	0	-1.07E+02
SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0	0.00E+00
FW	m3	7.20E-02	5.14E-05	4.59E-03	1.01E-01	8.47E-03	0	1.22E-05	2.83E-02	0	-1.49E-01
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										

2 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.

Waste indicators

Indicator	Unit	A1-A3	A4	A5	B2	B5	C1	C2	C3	C4	D
HWD	kg	4.37E-08	5.80E-11	6.64E-08	1.50E-07	1.04E-08	0	1.54E-11	1.36E-09	0	-2.43E-07
NHWD	kg	1.16E-01	1.98E-04	4.32E-01	3.17E-01	2.32E-01	0	5.05E-05	1.56E-01	0	-1.43E-01
RWD	kg	2.27E-03	2.69E-06	1.56E-04	1.95E-02	1.69E-03	0	6.90E-07	1.78E-04	0	-2.95E-02
Acronyms	HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed of.										

Output flow indicators

Indicator	Unit	A1-A3	A4	A5	B2	B5	C1	C2	C3	C4	D
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0	0.00E+00
MFR	kg	0.00E+00	0.00E+00	2.60E-02	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0	0.00E+00
MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0.00E+00	0	0.00E+00
EEE	MJ	3.84E-01	0.00E+00	2.13E+00	0.00E+00	0.00E+00	0	0.00E+00	1.55E+01	0	0.00E+00
EET	MJ	1.56E+00	0.00E+00	4.26E+00	0.00E+00	0.00E+00	0	0.00E+00	3.64E+01	0	0.00E+00
Acronyms	CRU = Components for reuse; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electric energy; EET = Exported thermal energy										

Information describing the biogenic carbon content at the factory gate

Biogenic carbon content	Value (kg C/declared unit)
Biogenic carbon content in the product	3.15
Biogenic carbon content in packaging	0.19
Note:	1 kg of biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kilograms of CO_2.

Disclaimers

ILCD classification	Indicator	Disclaimer
ILCD Type 1	Global warming potential (GWP)	None
	Depletion potential of the stratospheric ozone layer (ODP)	None
	Potential incidence of disease due to PM emissions (PM)	None
ILCD Type 2	Acidification potential, Accumulated Exceedance (AP)	None
	Eutrophication potential, Fraction of nutrients reaching freshwater end compartment (EP-freshwater)	None
	Eutrophication potential, Fraction of nutrients reaching marine end compartment (EP-marine)	None
	Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	None
	Formation potential of tropospheric ozone (POCP)	None
	Potential Human exposure efficiency relative to U235 (IRP)	1
ILCD Type 3	Abiotic depletion potential for non-fossil resources (ADP-minerals & metals)	2
	Abiotic depletion potential for fossil resources (ADP-fossil)	2
	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	2
	Potential Comparative Toxic Unit for ecosystems (ETP-fw)	2
	Potential Comparative Toxic Unit for humans (HTP-c)	2
	Potential Comparative Toxic Unit for humans (HTP-nc)	2
	Potential Soil Quality Index (SQP)	2

Disclaimer 1 – This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health in 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, radon, and certain construction materials is also not measured by this indicator.

Disclaimer 2 – The results of this environmental impact indicator shall be used with care, as the uncertainties on these results are high or as there is limited experience with the indicator.

Abbreviations

Abbreviation	Definition
General Abbreviations	
EN	European Norm (Standard)
EPD	Environmental Product Declaration
EF	Environmental Footprint
GPI	General Programme Instructions
ISO	International Organization for Standardization
LCA	Life Cycle Assessment
PCR	Product Category Rules
c-PCR	Complementary Product Category Rules
CEN	European Committee for Standardization
CLC	Co-location centre
CPC	Central product classification
GHS	Globally harmonized system of classification and labelling of chemicals
GRI	Global Reporting Initiative
Environmental Impact Indicators (EN 15804)	
GHG	Greenhouse gas
GWP	Global Warming Potential (kg CO_2 eq.)
GWP-fossil	Global Warming Potential from fossil sources (kg CO_2 eq.)
GWP-biogenic	Global Warming Potential from Biogenic Sources (kg CO_2-eq.)
GWP-luluc	Global Warming Potential from land use and land use change (kg CO_2 eq.)
GWP-total	Total Global Warming Potential (kg CO_2 eq.)
GWP-GHG	Global Warming Potential for greenhouse gases (kg CO_2 eq.)
ODP	Ozone Depletion Potential (kg CFC-11 eq.)
AP	Acidification Potential (mol H^+ eq.)
EP	Eutrophication Potential
EP-freshwater	Freshwater eutrophication potential (kg P eq.)
EP-marine	Marine eutrophication potential (kg N eq.)
EP-terrestrial	Terrestrial eutrophication potential (mol N eq.)
POCP	Photochemical Ozone Creation Potential (kg NMVOC eq.)
ADP	Abiotic Depletion Potential
ADP-minerals&metals	Abiotic depletion potential for non-fossil resources (kg Sb eq.)
ADP-fossil	Abiotic depletion potential for fossil resources (MJ)
WDP	Water Deprivation Potential (m^3)
Resource Use Indicators	
PERE	Use of renewable primary energy excluding renewable primary energy resources used as raw materials (MJ)
PERM	Use of renewable primary energy resources as raw materials (MJ)
PERT	Total use of renewable primary energy resources (MJ)
PENRE	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (MJ)
PENRM	Use of non-renewable primary energy resources used as raw materials (MJ)
PENRT	Total use of non-renewable primary energy resources (MJ)
SM	Use of secondary material (kg)
RSF	Use of renewable secondary fuels (MJ)
NRSF	Use of non-renewable secondary fuels (MJ)
FW	Use of net fresh water (m^3)
Waste Indicators	
HWD	Hazardous Waste (disposed) (kg)
NHWD	Non-Hazardous Waste (disposed) (kg)
RWD	Radioactive Waste (disposed) (kg)

Output Flow Indicators	
CRU	Components for Reuse (kg)
MFR	Material for Recycling (kg)
MER	Materials for Energy Recovery (kg)
EEE	Exported Energy, Electricity (MJ)
EET	Exported Energy, Thermal (MJ)
Lifecycle Stages / Modules	
A1	Raw material supply
A2	Transport
A3	Manufacturing
A4	Transport to the site
A5	Construction/Installation
B1	Use
B2	Maintenance
B3	Repair
B4	Replacement
B5	Refurbishment
B6	Operational energy use
B7	Operational water use
C1	Deconstruction/Demolition
C2	Transport to waste processing
C3	Waste processing
C4	Disposal
D	Reuse-Recovery-Recycling potential
Other Relevant Terms	
SVHC	Substances of Very High Concern
EC No.	European Community Number
CAS No.	Chemical Abstracts Service Number
MJ	Megajoule
kg	Kilogram
m^3	Cubic Meter
NMVOC	Non-Methane Volatile Organic Compounds
Sb eq.	Antimony Equivalents
P eq.	Phosphorus Equivalents
N eq.	Nitrogen Equivalents
CFC-11 eq.	Chlorofluorocarbon-11 Equivalents
CO_2 eq.	Carbon Dioxide Equivalents
kg C	Kilograms of Carbon
Kg CO_2 eq.	Kilograms of Carbon Dioxide Equivalent
ND	Not Declared

References

LCA for experts	LCA Software Version 10.9.3.0
Databases	ecoinvent v3.11 and Sphera MLC
EN 15804:2012+A2	Sustainability of construction works – Environmental product declaration – Core rules for the product category of construction products
EPD International (2024)	General Programme Instructions International EPD System, version 5.0
Statistics Sweden	Waste Scenarios, https://www.scb.se/en/
ISO 14020:2022	International Standard ISO 14020 – Environmental statements and programs for products – Principles and general requirements
ISO 14025:2006	International Standard ISO 14025 – Environmental labels and declarations — Type III environmental declarations — Principles and procedures
ISO 14040:2006	International Standard ISO 14040: Environmental Management – Life cycle assessment – Principles and framework. Second edition 2006-07-01.
PCR 2019:2014	Construction Products v2.0.1 Product Category aligned with EN 15804:2014+A2
Background LCA Report	Background Life Cycle Assessment Report for Parquet OPUS Oak 3-strip 13 mm, 2026
EN 16485:2014	ound and sawn timber – Environmental Product Declarations – Product category rules for wood and wood-based products for use in construction
ISO 14044:2006	Environmental management — Life cycle assessment — Requirements and guidelines
EN 15941:2024	Sustainability of construction works - Data quality for environmental product declarations and for building life cycle assessment
C-PCR-006 (2019)	Wood and Wood Based Products for Use in Construction. Version 2019-12-20

Version history

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