



# Environmental product declaration

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

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Siparila Soft Wood

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# General information

## MANUFACTURER

**Manufacturer:** Siparila Oy

**Address:** Varaslahdentie 1, 40800 Vaajakoski

**Contact details:** info@siparila.fi

**Website:** <https://siparila.com/siparila>

## EPD STANDARDS, SCOPE AND VERIFICATION

**Program operator:** EPD Hub, hub@epdhub.com

**Reference standard:** EN 15804+A2:2019 and ISO 14025

**PCR:** EPD Hub Core PCR version 1.0, 1 Feb 2022

**Sector:** Construction product

**Category of EPD:** Third party verified EPD

**Scope of the EPD:** Cradle to gate with options, A4-A5, and modules C1-C4 and D

**EPD author:** Jori Jokela

**EPD verification:** Independent verification of this EPD and data,  
according to ISO 14025:  Internal certification  External verification

**EPD verifier:** H.N, as an authorized verifier acting for EPD Hub Limited

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

**Product name:** Siparila Soft Wood

**Place of production:** Vaajakoski, Finland

**Period for data:** 2021

**Averaging in EPD:** No averaging

## ENVIRONMENTAL DATA SUMMARY

Environmental Data summary	
Declared unit	1 m <sup>2</sup>
Declared unit mass	9 kg
GWP-fossil, A1-A3 (kgCO <sub>2e</sub> )	2.72
GWP-total, A1-A3 (kgCO <sub>2e</sub> )	-11.4
Secondary material, inputs (%)	0.383
Secondary material, outputs (%)	0.0
Total energy use, A1-A3 (kWh)	56.2
Total water use, A1-A3 (m <sup>3</sup> e)	0.0433

# Product and manufacturer

## ABOUT THE MANUFACTURER

Siparila is the forerunner of the wood industry. We are excited about the opportunities offered through the use of wood and are continually developing new ways of utilising wood in construction and interior design. We encourage our customers to use wood creatively and with an open mind, because it is an excellent material for creating exciting surfaces and unique structures.

Siparila is a traditionally minded wood-processing family business, where responsibility forms an integral part of operations. We want to turn exterior and interior construction and design into an exciting and positive experience for you, whether you are an architect, designer, builder or decorator. Siparila is your partner in construction and interior design.

As a pioneer, we have been involved in the renovation of the Finnish exterior and interior decoration panel market. We are constantly developing product development with designers and architects to provide homebuilders in Finland and abroad with new, innovative and user- centred solutions. We want to bring our finished products made of genuine wood available to all.

## PRODUCT DESCRIPTION

Exterior and interior cladding with tongue and groove joints and unpainted or primed surface. Product to be applied with tongue and groove joint on the wall equipped with furring strips. Product thickness is 17 mm - 32 mm, widths from 40 mm - 220 mm, lengths up to 6,0 m.

Calculations have been made using 20 mm x 145 mm softwood product data.

Further information can be found at <https://siparila.com/siparila>.

## PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	0	-
Minerals	0	-
Fossil materials	0.02	Finland
Bio-based materials	99.9	Finland

## BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

**Biogenic carbon content in product, kg C:** 4.3

**Biogenic carbon content in packaging, kg C:** 0.001

## FUNCTIONAL UNIT AND SERVICE LIFE

**Declared unit:** 1 m<sup>2</sup>

**Mass per declared unit:** 9 kg

## SUBSTANCES, REACH - VERY HIGH CONCERN

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

# Product life-cycle

## SYSTEM BOUNDARY

This EPD covers the life-cycle modules 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	MND							x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR.

## MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also includes the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

Core manufacturing processes are sawing, planning, surface treatment (primer or wood preservative) and packaging.

The environmental impacts of raw material supply (A1) include emissions generated when raw materials are taken from nature, transported to industrial units for processing and processed, along with waste handling from the various production processes. All major upstream processes are taken into consideration, including infrastructure. This stage includes all the aforementioned for the raw materials which end up in the final product (i.e. wood, surface treatment and packaging) as well as the electricity and heat production which are consumed during the manufacturing at the plant.

## 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 transportation distance is defined according to standard EN 15804:2019 + A2. Manufacturing plant is in Vaajakoski region of Finland. The average transportation distance from manufacturing site to construction site is calculated as 261 km and the transportation method is assumed to be lorry. Empty returns are not taken into account as it is assumed that return trip is used by the transportation company to serve the needs of other clients. Transportation does not cause losses as product are packaged properly.

Installation is assumed to be manual, hence no energy nor material is required; regarding packaging waste, wooden pallet and cardboards are assumed to be incinerated for energy recovery and steel straps recycled.

## 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)

Demolition is assumed to have only small effects due to easy dismantling (1 kWh/m<sup>2</sup> or less if machinery used, based on own experience). It is assumed that 100 % of the wooden products are collected (C1). Distance for transportation to treatment is assumed as 50 km and the transportation method is assumed to be lorry (C2). 100 % of wooden products are assumed to be incinerated with energy recovery (C3). Due to the recycling process the end-of-life product is converted into an energy (D).

# Manufacturing process

Raw materials are transported into the manufacturing facility by truck transport.

In the manufacturing process raw materials goes first to the quality check. Next raw boards go into machine processing. Product thickness is selected to be 17 mm-32 mm, widths from 40 mm-220 mm. After machine processing primer/wood preservative is added in the painting line if needed.

In the end (after primer/wood preservative have dried, if added) the product is cut to the desired length (lengths up to 6,0 m) and packed. Packaging contains recyclable wood pallets, metal straps and plastic film.

Ancillary materials used are water (sawing and painting line) and lubricant oil in machinery.

Readymade products are packed for transport to customers. Product transports to our customers are carried out by a truck transportation.

Sawdust and wood chips are generated as waste materials from production process and are utilized for local municipality/industrial energy production. Small amount of packaging material waste is recycled via official waste material recycling system. Waste lubricant oils are collected by official hazardous material recycling company.



# Manufacturing process



# 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.

## 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	No allocation
Packaging materials	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

## AVERAGES AND VARIABILITY

Primary data represents the manufacturing site in Vaajakoski, Finland. Different product thicknesses with similar material composition but different weights are covered by scaling. The kg-based results for products and packaging can be scaled to the weight of each thickness. The different thicknesses are listed in Annex I. The data of 20 mm x 145 mm board (1 m<sup>2</sup>) was used to calculate the impacts for the product. The primary data has calculated of the 20 mm x 145 mm product's consumption of raw materials and energy, and production of waste.

**Type of average:** No averaging

**Averaging method:** Not applicable

## LCA SOFTWARE AND BIBLIOGRAPHY

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. Ecoinvent and One Click LCA databases were used as sources of environmental data.

# Environmental impact data

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP – total	kg CO <sub>2</sub> e	-1,27E1	2,09E-1	1,1E0	-1,14E1	2,12E-1	1,16E-1	MND	3,31E-1	4,1E-2	2,82E1	oEo	-9,2E0
GWP – fossil	kg CO <sub>2</sub> e	1,73E0	2,08E-1	7,85E-1	2,72E0	2,14E-1	1,12E-1	MND	3,31E-1	4,08E-2	2,12E-1	oEo	-9,12E0
GWP – biogenic	kg CO <sub>2</sub> e	-1,47E1	6,56E-4	3,06E-1	-1,44E1	6,76E-4	3,62E-3	MND	3E-4	1,29E-4	2,8E1	oEo	-6,43E-2
GWP – LULUC	kg CO <sub>2</sub> e	2,62E-1	7,48E-5	3,96E-3	2,66E-1	7,7E-5	6,36E-7	MND	3,3E-5	1,47E-5	2,13E-4	oEo	-1,45E-2
Ozone depletion pot.	kg CFC <sub>11</sub> e	2,42E-7	4,97E-8	4,85E-8	3,4E-7	5,12E-8	1,52E-10	MND	7,07E-8	9,75E-9	1,33E-8	oEo	-5,06E-7
Acidification potential	mol H <sup>+</sup> e	1,99E-2	8,68E-4	4,37E-3	2,52E-2	8,95E-4	1,67E-5	MND	3,44E-3	1,7E-4	1,87E-3	oEo	-7,16E-2
EP-freshwater	kg Pe	1,96E-4	1,42E-6	2,9E-5	2,26E-4	1,47E-6	2,27E-8	MND	1,1E-6	2,8E-7	9,48E-6	oEo	-3,64E-4
EP-marine	kg Ne	3,86E-3	2,63E-4	8,17E-4	4,94E-3	2,71E-4	7,45E-6	MND	1,52E-3	5,16E-5	7,55E-4	oEo	-8,4E-3
EP-terrestrial	mol Ne	3,47E-2	2,9E-3	9,12E-3	4,67E-2	2,98E-3	8,05E-5	MND	1,67E-2	5,69E-4	8,07E-3	oEo	-9,86E-2
POCP (“smog”)	kg NMVOCe	1,39E-2	9,32E-4	2,67E-3	1,76E-2	9,6E-4	1,98E-5	MND	4,59E-3	1,83E-4	2,01E-3	oEo	-2,73E-2
ADP-minerals & metals	kg Sbe	1,13E-5	4,88E-7	3,28E-6	1,51E-5	5,03E-7	1,23E-8	MND	1,68E-7	9,59E-8	5,82E-7	oEo	-8,12E-6
ADP-fossil resources	MJ	2,69E1	3,18E0	1,83E1	4,84E1	3,28E0	1,57E-2	MND	4,45E0	6,25E-1	2,72E0	oEo	-1,17E2
Water use	m <sup>3</sup> e depr.	1,2E0	1,47E-2	3,99E-1	1,62E0	1,51E-2	3,3E-3	MND	1,2E-2	2,88E-3	6,42E-1	oEo	-1,39E0

## ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Particulate matter	Incidence	3,68E-7	2,45E-8	4,37E-8	4,36E-7	2,52E-8	1,04E-10	MND	9,22E-8	4,8E-9	1,73E-8	oEo	-6,77E-7
Ionizing radiation	kBq U235e	2,7E-1	1,64E-2	6,22E-1	9,09E-1	1,69E-2	6,82E-5	MND	2,05E-2	3,22E-3	4,36E-2	oEo	-2,29E0
Ecotoxicity (freshwater)	CTUe	4,96E1	2,65E0	1,44E1	6,66E1	2,73E0	3,81E-2	MND	2,68E0	5,2E-1	3,11E0	oEo	-2,18E2
Human toxicity, cancer	CTUh	1,88E-9	6,98E-11	3,56E-10	2,3E-9	7,19E-11	4,47E-12	MND	1,03E-10	1,37E-11	4,36E-10	oEo	-2,88E-9
Human tox. non-cancer	CTUh	4,9E-8	2,8E-9	8,37E-9	6,01E-8	2,89E-9	1,62E-10	MND	1,94E-9	5,5E-10	1,98E-8	oEo	-8,89E-8
SQP	-	1,55E3	3,71E0	6,57E0	1,56E3	3,82E0	9,01E-3	MND	5,79E-1	7,28E-1	6,18E-1	oEo	-8,04E1



## USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Renew. PER as energy <sup>8</sup>	MJ	1,57E2	4,12E-2	1,14E0	1,58E2	4,25E-2	-8,41E-2	MND	2,54E-2	8,09E-3	-1,26E2	oEo	-2,49E1
Renew. PER as material	MJ	1,31E2	oEo	2,9E0	1,34E2	oEo	-9,53E-2	MND	oEo	oEo	-1,69E0	oEo	oEo
Total use of renew. PER	MJ	2,88E2	4,12E-2	4,04E0	2,92E2	4,25E-2	-1,79E-1	MND	2,54E-2	8,09E-3	-1,27E2	oEo	-2,49E1
Non-re. PER as energy	MJ	2,47E1	3,18E0	1,67E1	4,46E1	3,28E0	-1,56E0	MND	4,45E0	6,25E-1	2,72E0	oEo	-1,18E2
Non-re. PER as material	MJ	2,51E0	oEo	1,64E0	4,15E0	oEo	-1,55E0	MND	oEo	oEo	-5,63E0	oEo	1,57E0
Total use of non-re. PER	MJ	2,73E1	3,18E0	1,83E1	4,88E1	3,28E0	-3,1E0	MND	4,45E0	6,25E-1	-2,91E0	oEo	-1,17E2
Secondary materials	kg	2,48E-2	8,97E-4	8,78E-3	3,45E-2	9,25E-4	2,11E-5	MND	1,74E-3	1,76E-4	3,41E-3	oEo	-6,75E-3
Renew. secondary fuels	MJ	4,48E-4	7,91E-6	2,49E-3	2,95E-3	8,15E-6	1,34E-7	MND	5,7E-6	1,55E-6	7,58E-6	oEo	-5,71E-5
Non-ren. secondary fuels	MJ	oEo	oEo	oEo	oEo	oEo	oEo	MND	oEo	oEo	oEo	oEo	oEo
Use of net fresh water	m <sup>3</sup>	2,79E-2	4,22E-4	1,49E-2	4,33E-2	4,35E-4	1,22E-5	MND	2,7E-4	8,29E-5	-6,06E-4	oEo	-9,23E-2

8) PER = Primary energy resources.

## END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Hazardous waste	kg	2,1E-1	3,41E-3	5,22E-2	2,66E-1	3,52E-3	2,42E-5	MND	5,96E-3	6,7E-4	6,33E-3	oEo	-7,23E-1
Non-hazardous waste	kg	5,12E0	5,94E-2	1,7E0	6,88E0	6,12E-2	3,76E-2	MND	4,19E-2	1,17E-2	9,35E0	oEo	-2,91E1
Radioactive waste	kg	1,36E-4	2,19E-5	1,45E-4	3,03E-4	2,26E-5	3,34E-8	MND	3,13E-5	4,31E-6	1,11E-5	oEo	-6,54E-4

## END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Components for re-use	kg	oEo	oEo	oEo	oEo	oEo	oEo	MND	oEo	oEo	oEo	oEo	oEo
Materials for recycling	kg	oEo	oEo	7E-4	7E-4	oEo	2E-3	MND	oEo	oEo	oEo	oEo	oEo
Materials for energy rec	kg	oEo	oEo	2,01E-1	2,01E-1	oEo	4,51E-2	MND	oEo	oEo	oEo	oEo	oEo
Exported energy	MJ	oEo	oEo	oEo	oEo	oEo	1,39E0	MND	oEo	oEo	1,34E2	oEo	oEo

## ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO <sub>2</sub> e	1,94E0	2,06E-1	7,72E-1	2,92E0	2,12E-1	1,12E-1	MND	3,27E-1	4,04E-2	2,05E-1	oEo	-8,95E0
Ozone depletion Pot.	kg CFC <sub>-11</sub> e	2E-7	3,93E-8	4,09E-8	2,8E-7	4,05E-8	1,29E-10	MND	5,6E-8	7,72E-9	1,15E-8	oEo	-4,13E-7
Acidification	kg SO <sub>2</sub> e	1,67E-2	6,73E-4	3,59E-3	2,1E-2	6,93E-4	1,19E-5	MND	2,45E-3	1,32E-4	1,37E-3	oEo	-6,11E-2
Eutrophication	kg PO <sub>4</sub> <sup>3-</sup> e	6,15E-3	1,5E-4	1,18E-3	7,48E-3	1,55E-4	1E-5	MND	5,69E-4	2,95E-5	1,46E-3	oEo	-1,31E-2
POCP ("smog")	kg C <sub>2</sub> H <sub>4</sub> e	1,64E-3	2,65E-5	1,92E-4	1,85E-3	2,73E-5	2,65E-7	MND	5,36E-5	5,19E-6	4,85E-5	oEo	-2,65E-3
ADP-elements	kg Sbe	1,08E-5	4,75E-7	3,28E-6	1,46E-5	4,89E-7	1,17E-8	MND	1,65E-7	9,32E-8	5,36E-7	oEo	-8,15E-6
ADP-fossil	MJ	2,69E1	3,18E0	1,77E1	4,78E1	3,28E0	1,57E-2	MND	4,45E0	6,25E-1	2,72E0	oEo	-1,14E2

## ANNEX 1. ARTICLES COVERED BY THIS EPD

Article	Thickness	Net weight kg	GWP-fossil, A1-A3 (kg CO <sub>2</sub> e/item)
Siparila Soft Wood	17 mm	7,7	2,5
Siparila Soft Wood	18 mm	8,1	2,6
Siparila Soft Wood	19 mm	8,6	2,7
Siparila Soft Wood	20 mm	9,0	2,8
Siparila Soft Wood	21 mm	9,5	2,9
Siparila Soft Wood	21,5 mm	9,7	2,9
Siparila Soft Wood	22 mm	9,9	3,0
Siparila Soft Wood	22,5 mm	10,1	3,1
Siparila Soft Wood	23 mm	10,4	3,1
Siparila Soft Wood	24 mm	10,8	3,1
Siparila Soft Wood	25 mm	11,3	3,2
Siparila Soft Wood	26 mm	11,7	3,3
Siparila Soft Wood	27 mm	12,2	3,5
Siparila Soft Wood	28 mm	12,6	3,6
Siparila Soft Wood	30 mm	13,5	3,9
Siparila Soft Wood	32 mm	14,4	4,2

# Verification statement

## VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? [Read more online](#)

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

## THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited 30.04.2023



SIPARILA