SuMPO EPD JAPAN VERIFIED

SuMPO EPD Japan

Third party verified

Environmental Product Declaration

In conformance with

ISO14025 | ISO14040 | ISO14044

株式会社 サイプレス・スナダヤ

Cypress Sunadaya CO., Ltd.

Structural Glued Laminated Timber (Cypress & Ceder)

Registration number	Verification date	Publication date	Expiration date	EPD type
SuMPO-EPD-2512-33-1	2025/12/5	2025/12/19 * First publication date	2030/12/4	Multiple Products EPD

Additional standards in conformance

ISO21930:2017

EPD can be updated or withdrawn during the validity period. To confirm the validity of this EPD, check the following website: https://ecoleaf-label.jp/epd/search

●General Information

＞Programme

Programme name	SuMPO EPD Japan
Programme operator	Sustainable Management Promotion Organization (SuMPO)
Address	KANDA SQUARE GATE 4F, 14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo, 101-0047, Japan
Website	https://ecoleaf-label.jp

＞GPI and PCR

GPI	SuMPO EPD Japan General Program Instructions v.2.1.1
PCR name	Core-PCR for Construction products v.2.0.1
PCR registration number	SuMPO-PCR-01000-2-0-1
PCR publication date	2025/03/31
PCR review panel chair	Shunji Ikaga
PCR valid until	2030/03/30
PCR issuer	Sustainable Management Promotion Organization (SuMPO)

＞Verification

Verification Type	Third-party verification in conformance with ISO14025 and ISO21930:2017		
	☐ Internal	■ External	
	■ Third-party verification by individual verifier	☐ Third-party verification by verification body	☐ Third-party verification by system certification
Verifier	Yumiko Umehara (Value Frontier Co., ltd.)		

＞Standards

Standards in conformance with;	■ ISO14040:2006	■ ISO14044:2006	☐ ISO14067:2018
	■ ISO14025:2006	☐ ISO21930:2007	■ ISO21930:2017
	☐ EN15804+A2	☐ EN50693:2019	☐ ISO/IEC63366:2025

EPD owner is responsible for the information contained in the EPD and for environmental claims related to the information. For any inquiries or requests regarding the content of the EPD, please contact the EPD owner.

EPDs are comparable only if they comply with the same standards, use the same sub-PCR where applicable, include all relevant information modules and are based on equivalent scenarios with respect to the context of construction works. Comparability of EPDs is limited to those applying a functional unit.

The LCIA results are relative expressions and do not predict impacts on category endpoints, the exceedance of thresholds, safety margins or risks.

When using weighted averages for calculation, the life cycle impact assessment results, life cycle inventory analysis-related information, waste-related information, and environmental information on output flows do not correspond to information about a specific product.

●EPD Owner's Information

Name of company and dept.	Production Division, Cypress Sunadaya CO., Ltd.
Address	1171-1, Kou-Shinyashiki, Komatsu-cho, Saijo-shi, Ehime, Japan
Contact	0898-72-2421
LCA practitioner	Woonerf Inc.
Company description	Focusing on the region's rich Hinoki cypress resources, Cypress Sunadaya has grown to become Japan's largest producer of Hinoki lumber and glued laminated timber. Furthermore, through the promotion of Cross Laminated Timber (CLT)—a new construction material—we aim to establish an environmentally sound business model that creates a virtuous cycle of forest resources.

●Product Information

Product name		Structural Glued Laminated Timber(Cypress & Ceder)		
Product /model number		JAS-certified Structural Glued Laminated Timber		
Product sepcification	Function	Engineered wood products for construction		
	Mass	439.97kg *Calculated value based on production during the reporting period	Conversion factor	439.97kg/m3 (Cypress and Ceder)
	Applications	Structural components for buildings, including beams, posts, and sills		
	TS*	Wood-based building materials compliant with the JAS Standard		
RSL (Reference Service Life)	Service life	Based on the service life of the building		
	In-use conditions	Based on the in-use conditions of the building		
	reference	-		
Manufacturing site(s)		Toyo Industrial Park		
Product description		A wood product made by laminating and bonding sawn boards (laminas) parallel to the wood grain using a special adhesive. By bonding all the laminas in parallel, this product is primarily used to form linear structural members. It is commonly used for beams, columns, and sill plates in the 'conventional post-and-beam construction method,' which is currently the most widespread construction method for wooden houses in Japan.		
Website		https://www.sunadaya.co.jp/product/laminated		

* TS: technical specifications,

●Product Content

Product components	Propotion (%)	Mass (unit)	
Wood	98.0	431.30	kg
Adhesive	1.9	8.39	kg
Epoxy Resin	0.1	0.28	kg
Packaging materials	Propotion (%)	Mass (unit)	
Polypropylene band	91.3	0.23	kg
Packaging sheet	8.7	0.02	kg

●Biogenic Carbon Content

Item	Content (kg-C)	Content (kg-CO_2 eq)
Biogenic carbon content per product	211.43	775.26
Biogenic carbon content in packaging	-	-

●LCA-related Information

＞EPD Type Information

EPD type	Product type	☐ Single product EPD	■ Multiple products EPD	☐ Industry-wide EPD	
	Site type	■ Single site	☐ Multiple sites		
	Value	☐ Specific	■ Average	☐ Representative	☐ Worst case
Geographical coverage		Global			
Description of representativeness for multiple-products/sites EPD		It is considered that representativeness is ensured, as the raw materials used per cubic meter are identical for each product and manufacturing takes place at the same site in Japan. Furthermore, the assessment is calculated using primary data collected for all raw material inputs and energy consumption.			
Description of variation for multiple-products/sites EPD		All products are manufactured at the same site. The inputs for energy and various materials (excluding adhesives) per declared unit of 1m³ are identical. Furthermore, any variation in the calculated results caused by differences in adhesive input per 1m³ falls within ±10% for the applicable disclosure items.			
Description of products covered in the multiple products EPD		This EPD discloses data converted to a per 1m³ basis for products of varying thicknesses that are manufactured using the same materials and processes at the same site.			

＞LCA Information

Declared unit		per 1m³ of product		
Mass per declared unit (Conversion factor to mass)		439.97kg/m3 *Calculated value based on production during the reporting period		
Reference flow (number of products required to fulfil the function)		-		
System boundary		■ Cradle-to-Gate	☐ Cradle-to-Gate with options	☐ Cradle-to-Grave
LCA software		MiLCA ver 1.2.1.5		
LCI database		IDEA v3.4		
Characterization model		GWP IPCC2021 with LULUCF 100a、LIME2		
Use of other background data		-		
Secondary data quality		Calculations were performed using data that meets the secondary data quality requirements specified in the GPI. The data quality assessment was conducted in accordance with Section 4.2.3.6 of ISO 14044:2006 (Environmental management – Life cycle assessment – Requirements and guidelines).		
Primary data collection sites		Toyo Industrial Park		
Primary data collection period		From April 2024 to March 2025		
Biogenic carbon		☐ 0/0 approach	■ -1/+1 approach	
Information about electricity	Use	■ Average consumption mix	■ Others	
	Type	On-site PPA Solar Power Supply Service		
	Purchase date	Not applicable, as this is a self-consumption model with environmental attributes attached		
	Issuing body	Not applicable, as this is a self-consumption model with environmental attributes attached		

＞Modules

Production stage			Construction stage		Use stage							End-of-life stage				Suppl. info
					Use					Operation						
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Extraction and upstream production	Transport to factory	Manufacturing	Transport to site	Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction / Demolition	Transport to waste processing or disposal	Waste processing	Disposal of waste	Potential net benefits
■	■	■	–	–	–	–	–	–	–	–	–	–	–	–	–	–

■ : declared module　　– : module not declared

＞Allocation

In this assessment, process subdivision and allocation were considered in accordance with the procedures specified in the GPI. By-products such as sawdust, wood chips, and planer shavings are generated during the sawmilling and lamina cutting processes (used as boiler fuel or sold to third parties). As these by-products are not the primary intended product, no allocation of energy or water inputs was applied. Consequently, the target product bears the entire environmental burden within the system boundary.

＞Cut-off rules

For processes with minimal environmental impact where data collection is difficult, the 5% cut-off criterion specified in the PCR was applied, and these processes were excluded.

＞System Boundary

The system boundary was established in accordance with the PCR. Modules A4 through D are excluded from the system boundary, as defined in the GPI and PCR. The temporal system boundary is set at 100 years. (The scope of evaluation covers Modules A1, A2, and A3.)

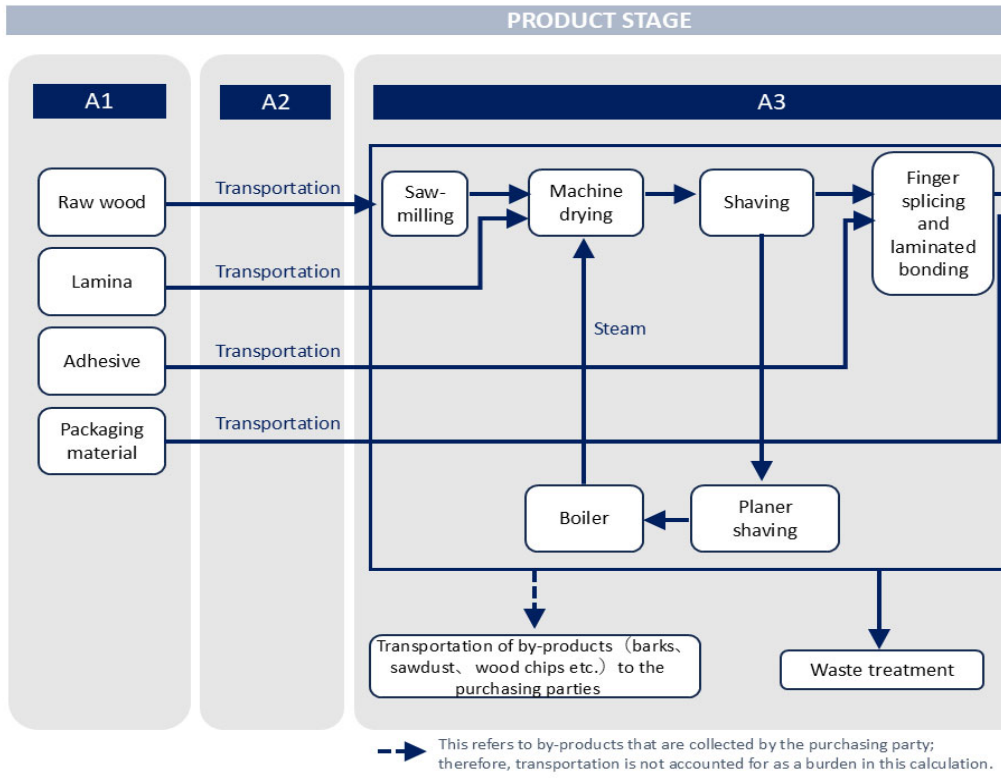
＞Scenario

Modules	Description
A2 and A3	The scenarios specified in the PCR were applied for transport vehicles and loading rates.

＞Electricity Modelling

Calculations for commercial electricity at the manufacturing factory were performed using the 2021 Japan average grid electricity data. Additionally, the factory utilizes a solar power supply service via an on-site PPA (with bundled environmental attributes); for this electricity, the 2021 Japan average data for solar power generation was applied.

＞Life Cycle Sytem Diagram



●LCA Result

＞LCIA Indicators

		Production stage				Construction stage		Use stage							End-of-life stage				Supple. info
								Use					Operation						
		A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP - total	kg-CO_2eq	-2.21E+03	8.46E+01	1.63E+03	-4.91E+02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GWP - fossil	kg-CO_2eq	9.73E+01	8.45E+01	1.01E+02	2.83E+02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GWP - biogenic	kg-CO_2eq	-2.30E+03	1.63E-02	1.53E+03	-7.75E+02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GWP - land use and land use change	kg-CO_2eq	2.07E-01	8.78E-02	1.23E-01	4.17E-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ODP: Ozone depletion potential	kg-CFC-11eq	6.26E-06	3.76E-09	4.71E-06	1.10E-05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EP: Eutrophication potential	kg-PO_4^3-eq	2.07E-02	4.01E-07	1.15E-05	2.07E-02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AP: Acidification potential	kg-SO_2eq	7.27E-02	1.21E-01	2.10E-01	4.04E-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
POCP: Photochemical oxidant creation potential	kg-C_2H_4eq	8.35E-04	8.09E-04	1.36E-03	3.00E-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Optional indicators																			
ADP - elements	kg-Sbeq	3.52E-04	3.51E-07	4.85E-04	8.37E-04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GWP - aircraft	kg-CO_2eq	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

＞LCI - Primary Resource Use

		Production stage				Construction stage		Use stage							End-of-life stage				Supple. info
								Use					Operation						
		A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
RPR_E*	MJ	1.29E+02	4.89E-01	9.67E+02	1.10E+03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RPR_M*	MJ	2.51E+04	7.97E-04	1.62E-02	2.51E+04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
$NRPR_E$*	MJ	1.32E+03	9.27E+02	2.65E+03	4.90E+03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
$NRPR_M$*	MJ	1.20E+02	3.12E-03	1.07E+00	1.21E+02	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*RPRE: Renewable primary resources used as an energy carrier, RPRM: Renewable primary resources with energy content used as material, NRPRE: Non-renewable primary resources used as an energy carrier, NRPRM: Non-renewable primary resources with energy content used as material.

＞LCI- Secondary Resources Use

		Production stage				Construction stage		Use stage							End-of-life stage				Supple. info
								Use					Operation						
		A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
SM： Use of secondary material	kg	2.21E-01	3.45E-04	1.19E-01	3.40E-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RSF： Renewable secondary fuels	MJ	8.35E-01	2.27E-04	9.90E-03	8.45E-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NRSF： Non-renewable secondary fuels	MJ	2.85E-01	1.40E-03	2.47E-02	3.11E-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RE： Use of recovered energy	MJ	6.66E-01	2.36E-03	4.09E+00	4.75E+00	-	-	-	-	-	-	-	-	-	-	-	-	-	-

＞LCI - ADP-fossil and Consumption of freshwater

		Production stage				Construction stage		Use stage							End-of-life stage				Supple. info
								Use					Operation						
		A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP - fossil	MJ	1.49E+03	1.15E+03	1.40E+03	4.04E+03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Consumption of freshwater resources	㎥	2.56E+03	2.40E-03	3.46E-02	2.56E+03	-	-	-	-	-	-	-	-	-	-	-	-	-	-

＞Waste Indicators

		Production stage				Construction stage		Use stage							End-of-life stage				Supple. info
								Use					Operation						
		A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
hazardous waste disposed	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
non-hazardous waste disposed	kg	4.46E-01	7.61E-02	4.40E-01	9.62E-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
high-level radioactive waste	㎥	7.85E-10	3.09E-12	4.79E-09	5.58E-09	-	-	-	-	-	-	-	-	-	-	-	-	-	-
intmd. and low-level radioactive waste	㎥	3.28E-07	1.29E-09	2.00E-06	2.33E-06	-	-	-	-	-	-	-	-	-	-	-	-	-	-

＞Output Flow Indicators

			Production stage				Construction stage		Use stage							End-of-life stage				Supple. info
									Use					Operation						
			A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for reuse		kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Materials for recycling		kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Material for energy recovery		kg	0.00E+00	0.00E+00	7.16E+01	7.16E+01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exported energy from waste (energy recovery efficiency≧60%)		MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incineration of waste (energy recovery efficiency＜60%)	Waste disposed	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Recovered energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Waste disposed in landfill and energy recoved from landfill gas	Waste disposed	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Recovered energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-	-	-	-	-	-	-	-	-	-	-	-	-	-

＞Description of LCA Results

- Modules A4 (Transport to site) through A5 (Construction/Installation) and Module C (End-of-life stage) are excluded from the calculation, as these vary depending on the specific project where the product is used.
- Module B (Use stage) is excluded from the calculation.
- The biogenic carbon content stored in the product per declared unit is 775 kg-CO2. (CO2 equivalent)
This figure was calculated based on the formula provided in the Japanese Forestry Agency's "Guidelines for Indication of Carbon Storage of Wood Used in Buildings."
- The primary data collection period is from April 2024 to March 2025.

●Additional Environmental Information

＞Additional Environmental Information not related to LCA

- All raw timber used in the manufacture of this product complies with the "Clean Wood Act". We have obtained both "Type 1" registration as a sawmill handling logs and "Type 2" registration as a glued laminated timber factory handling processed wood products.
- This product holds Chain of Custody (CoC) certifications for both FSC and SGEC, verifying that certified wood is properly managed throughout the processing and distribution stages.

＞Information on Hazardous Substances

Hazardous materials name	CAS No.	Standards or regulations
Formaldehyde	50-00-0	Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Law concerning Pollutant Release and Transfer Register / PRTR) Act on the Regulation of Manufacture and Evaluation of Chemical Substances
Formic acid	64-18-6	Act on the Regulation of Manufacture and Evaluation of Chemical Substances
Phenol	108-95-2	Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Law concerning Pollutant Release and Transfer Register / PRTR) Act on the Regulation of Manufacture and Evaluation of Chemical Substances
Ethylene glycol	107-21-1	Act on the Regulation of Manufacture and Evaluation of Chemical Substances
Polymethylene polyphenyl polyisocyanate	9016-87-9	Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Law concerning Pollutant Release and Transfer Register / PRTR) Act on the Regulation of Manufacture and Evaluation of Chemical Substances
Bisphenol A-type epoxy resin, etc.	25068-6, 25085-99-8, etc.	Act on the Regulation of Manufacture and Evaluation of Chemical Substances
Triethylenetetramine	112-24-3	Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Law concerning Pollutant Release and Transfer Register / PRTR)

Release of dangerous substances from construction products

This product is certified as F☆☆☆☆ (F-Four Star), which represents the lowest level of formaldehyde emission among the four categories defined by the Japanese Agricultural Standards (JAS) (*).
(*) Certification Date and Category: July 13, 2018, Low-formaldehyde Cross-Laminated Panel / Certifying Body: Japan Plywood Inspection Corporation

●Definitions of Terms

N/A

●References

・ISO14025:2006 Environmental labels and declarations - Type III environmental declarations - Principles and procedures
・ISO14040:2006 Environmental management - Life Cycle Assessment - Principles and framework
・ISO14044:2006 Environmental management - Life Cycle Assessment - Requirements and guidelines
・ISO21930:2017 Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products and services

●Version History

N/A