SuMPO EPD JAPAN VERIFIED

SuMPO EPD Japan

Third party verified

Environmental Product Declaration

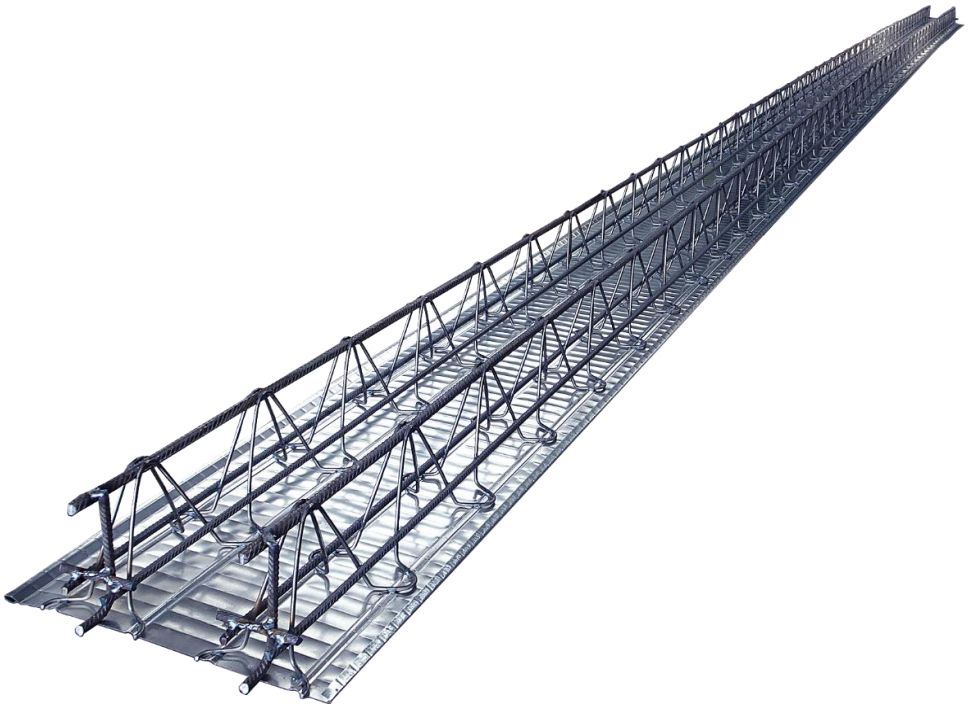
In conformance with

ISO14025 | ISO14040 | ISO14044

MEC Industry

MEC Industry Co.,Ltd.

SUPER Green DECK



Registration number	Verification date	Publication date	Expiration date	EPD type
SuMPO-EPD-2512-58-1	12/25/25	01/16/26 * First publication date	12/24/30	Single Product 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EPD can be updated or withdrawn during the validity period.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
PCR registration number	SuMPO-PCR-01000-2-0-1
PCR publication date	03/31/25
PCR review panel chair	Toshiharu Ikaga (Professor Emeritus, Keio University; President, IBECs)
PCR valid until	03/30/30
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	Takahiro Ato (Non Profit Organization Recycling System Center)		

＞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.	Sales Division, Sales Management Section, MEC Industry Co.,Ltd.
Address	3102 Kiba, Yusui-cho, Aira-gun, Kagoshima Prefecture, Japan
Contact	+81 0995-55-1586
LCA practitioner	Shuto Sugiyama (MEC Industry co.,Ltd)
Company description	**New Building Materials Business:** A business that develops and supplies new building materials that make it possible to replace some of the materials used in RC and steel structures with wood. **Wood Prefabrication Business:** The supply of single-family homes that utilize wood, delivered through prefabricated construction methods in which factory-made components are assembled on site.

Environmental Product Declaration for **SUPER Green DECK**

SuMPO EPD JAPAN VERIFIED

Product Information

Product name		SUPER Green DECK		
Product /model number		SGD		
Product sepcification	Function	Provision of construction decking		
	Mass	9.27 kg	Conversion factor	9.27 kg/㎡
	Applications	Construction decking		
	TS*	-		
Service life	Service life	Approximately 50 years		
	In-use conditions	Building use category: Steel, Steel-Reinforced Concrete (SRC), and Reinforced Concrete (RC) structures		
	reference	Statutory Useful Life Table (Japanese standards)		
Manufacturing site(s)		MEC Industry Yusui Plant		
Product description		This is a floor decking system in which a reinforcing bar truss (rebar) is integrated with a rebar-attached deck plate (formwork). During concrete placement, it functions as deck formwork; after curing, the rebar truss serves as the main slab reinforcement, and the system acts as a reinforced-concrete slab that carries structural loads. All constituent materials are made from electric-arc-furnace (EAF) steel.		
Website		https://www.mec-industry.com/building-material		

* TS: technical specifications,

Product Content

Product components	Propotion (%)	Mass (unit)	
Rebar and steel wire	87.3	7.8	kg
Zinc-coated steel sheet	12.7	1.1	kg
Packaging materials	Propotion (%)	Mass (unit)	
Packaging timber	100.0	0.4	kg

Biogenic Carbon Content

Item	Content (kg-C)	Content (kg-CO_2 eq)
Biogenic carbon content per product	-	-
Biogenic carbon content in packaging	0.35	1.27

●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		Japan			
Description of representativeness for multiple-products/sites EPD		–			
Description of variation for multiple-products/sites EPD		–			
Description of products covered in the multiple products EPD		–			

＞LCA Information

Functional unit		per 1m^2	
Mass per declared unit (Conversion factor to mass)		9.27 kg/m^2	
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 (Cloud Version) ver.1.2.1.7	
LCI database		AIST-IDEA Ver3.5.1	
Characterization model		**Climate change:** IPCC Sixth Assessment Report (IPCC, 2021); **Other impact categories:** LIME2.	
Use of other background data		-	
Secondary data quality		We conducted the calculations using data that meet the secondary data quality requirements specified in the GPI. Data quality was evaluated in accordance with Section 4.2.3.6 of ISO 14044:2006 (Environmental management—Life cycle assessment—Requirements and guidelines).	
Primary data collection sites		MEC Industry Yusui Plant	
Primary data collection period		From April 2024 to September 2025	
Biogenic carbon		☐ 0/0 approach	■ -1/+1 approach
Information about electricity	Use	■ Average consumption mix	☐ Others
	Type		
	Purchase date		
	Issuing body		

＞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

Allocation is based on a physical criterion using mass (weight) as the basis.

＞Cut-off rules

No processes were cut off other than those specified in the PCR.

＞System Boundary

Only the material production stage (Modules A1–A3) was included in the calculation scope.
This is because, under the PCR used, only the above range is mandatory, while Modules A4 and beyond are optional.
No processes were excluded from the system boundary other than those outside the system boundaries defined in the GPI and the PCR.
The temporal system boundary is 100 years.

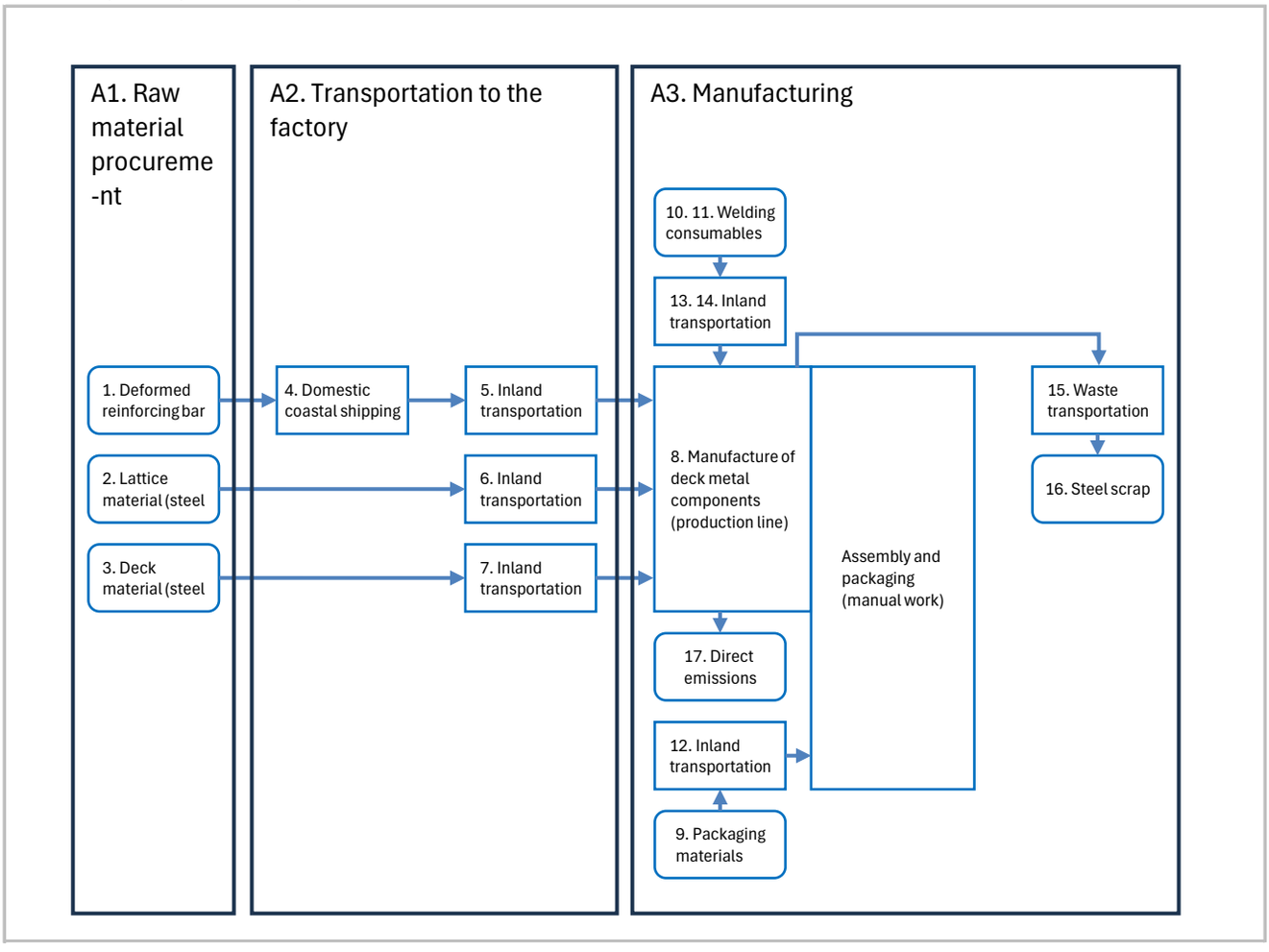
＞Scenario

Modules	Description
A1	Transport scenario specified in the PCR
A2	Transport scenario specified in the PCR
A3	Transport scenario specified in the PCR

＞Electricity Modelling

For all life cycle stages covered, the calculations were performed using data for Japan’s average grid electricity mix in 2021.

＞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	9.05E+00	8.75E-01	2.51E+00	1.24E+01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GWP - fossil	kg-CO_2eq	9.04E+00	8.75E-01	2.50E+00	1.24E+01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GWP - biogenic	kg-CO_2eq	6.19E-03	8.87E-05	2.40E-04	6.52E-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GWP - land use and land use change	kg-CO_2eq	5.94E-03	4.48E-04	3.66E-03	1.00E-02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ODP: Ozone depletion potential	kg-CFC-11eq	7.73E-08	8.15E-12	8.53E-09	8.58E-08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EP: Eutrophication potential	kg-PO_4^3-eq	9.32E-06	3.57E-09	7.39E-06	1.67E-05	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AP: Acidification potential	kg-SO_2eq	5.65E-03	7.43E-03	2.75E-03	1.58E-02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
POCP: Photochemical oxidant creation potential	kg-C_2H_4eq	6.19E-05	1.19E-04	4.20E-05	2.23E-04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Optional indicators																			
ADP - elements	kg-Sbeq	3.00E-04	2.72E-09	8.58E-06	3.08E-04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GWP - aircraft	kg-CO_2eq	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-	-	-	-	-	-	-	-	-	-	-	-	-	-

＞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	3.21E+01	3.57E-03	1.37E+01	4.58E+01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RPR_M*	MJ	2.15E-02	7.64E-06	1.32E+01	1.32E+01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
$NRPR_E$*	MJ	1.22E+02	9.51E+00	5.66E+01	1.89E+02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
$NRPR_M$*	MJ	9.91E-02	2.70E-05	3.75E-02	1.37E-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*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	1.32E+01	3.18E-06	1.19E-02	1.32E+01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RSF： Renewable secondary fuels	MJ	1.58E-02	1.63E-06	1.35E-01	1.51E-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NRSF： Non-renewable secondary fuels	MJ	5.47E-02	8.41E-06	1.25E-03	5.60E-02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RE： Use of recovered energy	MJ	5.69E-01	5.36E-05	2.56E-01	8.24E-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-

＞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	8.89E+01	1.18E+01	3.49E+01	1.36E+02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Consumption of freshwater resources	㎥	9.73E-02	3.99E-04	1.39E+00	1.49E+00	-	-	-	-	-	-	-	-	-	-	-	-	-	-

＞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	1.09E-01	5.44E-04	4.85E-02	1.58E-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
high-level radioactive waste	m^3	7.68E-11	8.81E-15	7.96E-11	1.56E-10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
intmd. and low-level radioactive waste	m^3	7.81E-08	9.36E-12	3.49E-08	1.13E-07	-	-	-	-	-	-	-	-	-	-	-	-	-	-

＞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	0.00E+00	0.00E+00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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

Because generic values (emission factors/unit data) are used, the results may not reflect characteristics specific to this product. Therefore, please use these results as approximate estimates.

●Additional Environmental Information

＞Additional Environmental Information not related to LCA

＞Information on Hazardous Substances

Hazardous materials name	CAS No.	Standards or regulations
-		
-		
-		

Release of dangerous substances from construction products
–

●Definitions of Terms

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●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
・ISO14067:2018 Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification

●Version History