EcoLeaf

Type III Environmental Declaration (EPD)

Registration number： JR-BC-20001E

Ecoleaf Environmental Labeling Program

Sustainable Management Promotion Organization

2-1, Kaji-cho 2 chome, Chiyoda-ku, Tokyo Japan

https://ecoleaf-label.jp/

Nakamoto Zourin Co.,Ltd

Yakisugi『Shou Sugi Ban』/ Suyaki

素焼

(Suyaki)

Suyaki施工例（米国）

素焼施工例（日本）

Functional unit

1 m^2 (15mm thick)

System boundary

□ final products ■ intermediate products

- Inclusive of: A1 Raw Material Supply, A2 Transport, A3 Manufacturing

- Exclusive of: A4 Transport, A5 Construction, B1 Use, B2 Maintenance, B3 Repair, B4 Replacement, B5 Refurbishment, B6 Operational energy use, B7 Operational water use, C1 Demolition, C2 Transport, C3 Waste processing, C4 Disposal

Main specifications of the product

- Weight: 6.1kg/m2
- No paint applied
- Production sites: Hiroshima and Tokushima

Company Information

Nakamotozourin Co.,Ltd
https://nakamotozourin.co.jp
Nakamoto Forestry North America
https://nakamotoforestry.com
Nakamoto Forestry Europe
https://nakamotoforestry.eu

Registration#	JR-BC-20001E
PCR number	PA-120000-BC-01
PCR name	Wood、WoodMaterials
Publication date	04/06/2020
Verification date	03/12/2020
Verification method	Product-by-product
Verification#	JR-BC-20001
Expiration date	03/12/2025

PCR review was conducted by:

Approval date	12/25/2019
PCR review panel chair	Masayuki Kanzaki (Sustainable Management Promotion Organization)

Third party verifier*

Tomoko Fuchigami

Independent verification of data & declaration in accordance with ISO14025

□internal ■external

*Auditor's name is stated if system certification has been performed.

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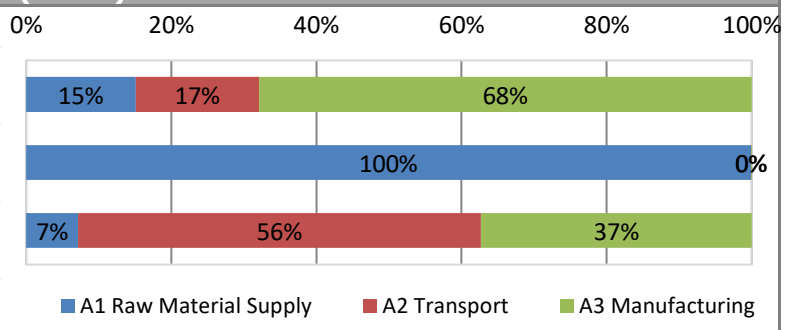
1. Results of life cycle impact assessment (LCIA)

Global warming IPCC2013 GWP100a	2.1	kg-CO2eq
Ozone layer destruction	0.0000094	g-CFC-11eq
Acidification	1.7	g-SO2eq



Parameter \ stage	Unit	Total	A1 Raw Material Supply	A2 Transport	A3 Manufacturing		
Global warming IPCC2013 GWP100a	kg-CO_2eq	2.1E+00	3.2E-01	3.6E-01	1.4E+00		
Ozone layer destruction	kg-CFC-11eq	9.4E-09	9.4E-09	2.9E-12	8.4E-12		
Acidification	kg-SO_2eq	1.7E-03	1.2E-04	9.2E-04	6.2E-04		
Photochemical ozone	kg-C_2H_4eq	2.9E-05	1.0E-06	9.3E-06	1.8E-05		
Eutrophication	kg-PO_4^{3-}eq	5.8E-06	5.8E-06	2.5E-15	9.3E-15		

2. Life cycle inventory analysis (LCI)

Parameter		Unit
Non-renewable material resources	1.1E-02	kg
Non-renewable energy resources	7.2E-01	kg
Non-renewable energy resources	3.2E+01	MJ
Renewable material resources	8.3E+00	kg
Renewable primary energy	4.4E-01	MJ
Consumption of freshwater	3.4E-04	m^3

3. Material composition

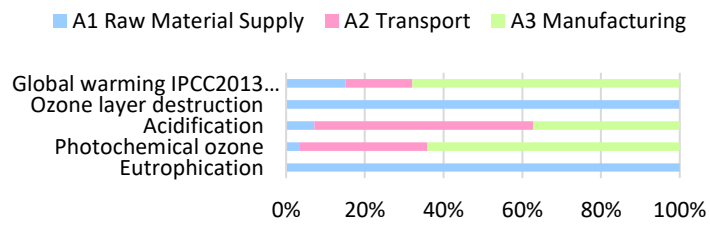
Material		Unit
Shou sugi ban	100	%
Package (film)	0.021	%
Hotmelt	0.090	%

4. Waste to disposal

Parameter		Unit
Hazardous waste	0.0E+00	kg
Non-hazardous waste.	4.5E-04	kg

*Data derived from LCA and not assigned to the impact categories of LCIA

5. Additional explanation



For the analysis, a set of foreground data was first prepared based on the foreground data collected for one year (October 2017 to September 2018) and then they were multiplied by the pertinent background data to estimate environmental loads. Transportation was calculated by collecting actual data over one year. As the product is manufactured in the plants in Hiroshima and Tokushima Prefectures, the averages of data taken from the two plants were used to represent the product data.

The analysis revealed that dominant stages varied depending on the LCI parameters (see the graph above). Namely, Ozone layer destruction, Eutrophication were under the stronger influence of A1 Raw Material Supply, while Global warming, Photochemical ozone were predominantly affected by A3 Manufacturing.

The carbon storage was calculated based on Annex F of the PCR as follows:

Carbon Storage （kg-C)

=6.06 (kg-wood) × 0.5 =3.03 (kg-C) (=11.1kg-CO2)

6-1. Supplementary environmental information

6-2. Regulated hazardous substances

Substance	CAS No.	Reference to standards or regulations
-		

7. Assumptions of secondary data used

Inventory Database: IDEA Ver.2.1.3

8. Remarks

- For data quantification, please refer to PCR and Rules on quantification and declaration.
- Comparative assertion is permitted only when Rules on quantification and declaration are satisfied.
  (Reference URL : https://ecoleaf-label.jp/regulation/)