



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-BH-23001E

Japan EPD Program by SuMPO

Sustainable Management Promotion Organization  
14-8, Uchikanda 1-Chome, Chiyoda-ku, Tokyo Japan  
<https://ecoleaf-label.jp/>



KUROSAWA Highly Durable PCaPC Posttension  
Column Products ( $F_c=60\text{N/mm}^2$ )



## Functional unit

1m<sup>3</sup>

## System boundary

☐ final products      ☒ intermediate products

Product Stage (Cradle to Gate: A1-A3)

## Main specifications of the product

Product Number: Post-PC-60

Specified Design Strength: 60N/mm<sup>2</sup>

Product Weight: 2,550kg per 1m<sup>3</sup>

Kanto Sakuragawa Factory

## Company Information

KUROSAWA CONSTRUCTION CO., LTD

Marketing Department

TEL +813-6302-0222 URL: <https://www.kurosawakensetu.co.jp/>

Registration#	JR-BH-23001E
PCR number	PA-172290-BH-03
PCR name	Precast Concrete PC (intermediate goods)
Publication date	1/18/2023
Verification date	1/11/2023
Verification method	Product-by-product
Verification#	JV-BH-23001
Expiration date	1/10/2028

## PCR review was conducted by:

Approval date	4/1/2022
PCR review panel chair	Ken Yamagishi (Affiliation: Sustainable Management Promotion Organization)

## Third party verifier\*

Shinichi Inoue

Independent verification of data & declaration in accordance with ISO14025 and ISO 21930

☐ internal      ☒ external

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

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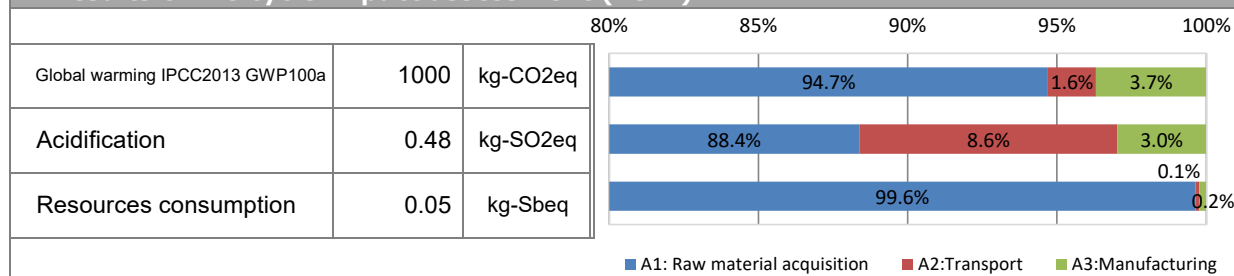
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## 1. Results of life cycle impact assessment (LCIA)



Parameter	stage	Unit	Total	A1: Raw material acquisition	A2:Transport	A3:Manufacturing		
Global warming IPCC2013 GWP100a		kg-CO <sub>2</sub> eq	1.0E+03	9.6E+02	1.6E+01	3.7E+01		
Ozone layer destruction		kg-CFC-11eq	6.9E-07	5.9E-07	1.3E-10	9.4E-08		
Acidification		kg-SO <sub>2</sub> eq	4.8E-01	4.3E-01	4.2E-02	1.4E-02		
Eutrophication		kg-PO <sub>4</sub> <sup>3-</sup> eq	1.3E-04	2.4E-05	1.1E-13	1.0E-04		
Photochemical ozone		kg-C <sub>2</sub> H <sub>4</sub> eq	3.7E-03	3.3E-03	8.3E-05	2.8E-04		
Resources consumption		kg-Sbeq	5.0E-02	5.0E-02	6.8E-05	1.1E-04		

## 2. Life cycle inventory analysis (LCI)

項目		単位
Non-renewable material resources	2.7E+03	kg
Non-renewable energy resources	1.0E+04	MJ
Renewable material resources	1.5E+02	kg
Renewable primary energy	7.9E+01	MJ
Consumption of freshwater	1.5E+00	m3
Non-renewable energy resources	3.0E+02	kg

## 3. Material composition

Material		Unit
Cement	17	%
Admixture	0.27	%
Aggregates	74	%
Rebars and PC wires	7.5	%
Other materials	0.36	%

## 4. Waste to disposal

Parameter		Unit
Hazardous waste	0.00E+00	kg
Non-hazardous waste.	2.7E+00	kg

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



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## 5. Additional explanation

<Scope of Lifecycle Stages>

• This declaration result consists of the Cradle to Gate stages (A1:Raw material acquisition, A2:Transport, A3:Manufacturing).

<Outline of Transport Scenarios>

• For transportation of raw material procurement, the scenarios in PCR Annex B were applied for the means of transportation, loading rate, and domestic transportation at the import destination. When transportation involved marine transportation and domestic transportation, the distance was calculated based on the primary data.

## 6-1. Supplementary environmental information

• No toxic substances in the product.

• The design service life of this product shall be 200 years. The specified design service life of the building's structural frame has been verified by a third-party organization, the Center for Better Living (report on verification results dated May 25, 2020).

• The installing of prestress into the structural frame and members of high-strength concrete in advance prevents cracks that cause deterioration and suppresses the intrusion of deterioration factors such as carbonization, resulting in a highly durable product with significantly less deterioration over time.

• This product's declaration URL:

<https://ecoleaf-label.jp/english/searchAll.php?monthFrom=&yearFrom=&monthTo=&yearTo=&keyword=JR-BH-23001E>

## 7. Assumptions of secondary data used

Based on the IDEA v2.1.3 and the intensity data v1.12 registered in Japan EPD Program by SuMPO

## 8. Remarks

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- 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/>)

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