EcoLeaf
Type III Environmental Declaration (EPD)
Registration number： JR-BH-23003E

Japan EPD Program by SuMPO
Sustainable Management Promotion Organization
14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan
https://ecoleaf-label.jp/

JPC
Japan Precast Concrete

JPC Highly Durable PCaPC Pretension Girder & Beam Products (Fc=60N/mm^2)

Functional unit

1m^3

System boundary

☐ final products ■intermediate products

Product Stage (Cradle to Gate: A1-A3)

Main specifications of the product

Product Number: JPC-Pre-PG-PB-60

Specified Design Strenth: 60N/mm^2

Product Weight: 2,600kg per 1m^3

JPC Tomakomai Factory

Company Information

JAPAN PRECAST CONCRETE CO., LTD.
Tomakomai Factory
TEL +81-144-55-1230

Registration#	JR-BH-23003E
PCR number	PA-172290-BH-05
PCR name	Precast Concrete PC (intermediate goods)
Publication date	12/22/2023
Verification date	12/11/2023
Verification method	Product-by-product
Verification#	JV-BH-23003
Expiration date	12/10/2028

PCR review was conducted by:

Approval date	9/1/2023
PCR review panel chair	Ken Yamagishi (Affiliation:Sustainable Management Promotion Organization)

Third party verifier*

Tetsuya Okuyama

Independent verification of data & declaration in accordance with ISO14025 and ISO21930

☐internal ■external

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

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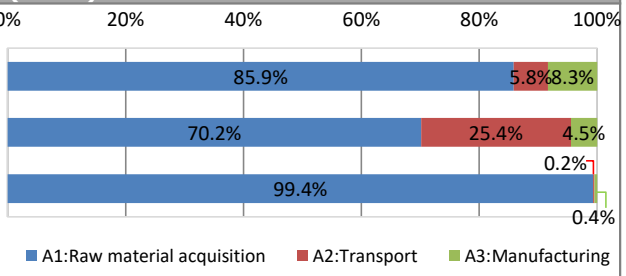
1. Results of life cycle impact assessment (LCIA)

Global warming IPCC2013 GWP100a	920	kg-CO2eq
Acidification	0.52	kg-SO2eq
Resources consumption	0.10	kg-Sbeq



Parameter \ stage	Unit	Total	A1:Raw material acquisition	A2:Transport	A3:Manufacturing		
Global warming IPCC2013 GWP100a	kg-CO_2eq	9.2E+02	7.9E+02	5.4E+01	7.6E+01		
Ozone layer destruction	kg-CFC-11eq	9.1E-07	9.0E-07	4.3E-10	1.3E-08		
Acidification	kg-SO_2eq	5.2E-01	3.7E-01	1.3E-01	2.3E-02		
Eutrophication	kg-PO_4^{3-}eq	2.9E-04	4.3E-05	3.7E-13	2.4E-04		
Photochemical ozone	kg-C_2H_4eq	5.9E-02	3.3E-03	2.6E-04	5.6E-02		
Resources consumption	kg-Sbeq	1.0E-01	1.0E-01	2.3E-04	4.3E-04		

2. Life cycle inventory analysis (LCI)

Parameter		Unit
Renewable primary energy	7.8E+01	MJ
Non-renewable energy resources	2.6E+02	kg
Non-renewable energy resources	9.6E+03	MJ
Renewable material resources	7.9E+01	kg
Non-renewable material resources	2.7E+03	kg
Consumption of freshwater	1.4E+00	m^3

3. Material composition

Material		Unit
Cement	17	%
Admixture	0.21	%
Aggregates	76	%
Rebars and PC wires	6.2	%
Other materials	0.13	%

4. Waste to disposal

Parameter		Unit
Hazardous waste	0.00E+00	kg
Non-hazardous waste.	4.4E+01	kg

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

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>

・Primary data were obtained only for domestic transport distances for raw material procurement and transport of waste and scrap iron, and for marine transport distances for PC steel products. For all other cases, the scenarios in PCR Annex B were applied.

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/en/epd/1265

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/)