



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AJ-21001E

Ecoleaf Environmental Labeling Program

Sustainable Management Promotion Organization

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

<https://ecoleaf-label.jp/>

KYOEI STEEL

(KYOEI STEEL LTD.)

Deformed bar of steel



Functional unit

1t

System boundary

final products intermediate products

Production Stage and optional supplementary information

Main specifications of the product

Production sites: Yamaguchi, Nagoya and Hirakata Works

Main standards: SD295、SD345、SD390、SD490、SD490、USD590、USD685)

Type: Bamboo joint, screw joint

Size: D10~D51

Company Information

KYOEI STEEL LTD.

<http://www.kyoeisteel.co.jp>

Registration#	JR-AJ-21001E
PCR number	PA-180000-AJ-03
PCR name	Steel products for construction
Publication date	4/20/2021
Verification date	4/8/2021
Verification method	Product-by-product
Verification#	JV-AJ-21001
Expiration date	4/7/2026
PCR review was conducted by:	
Approval date	10/1/2019
PCR review panel chair	Yasunari Matsuno (Chiba University)

Third party verifier*

Hiroyuki Uchida

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

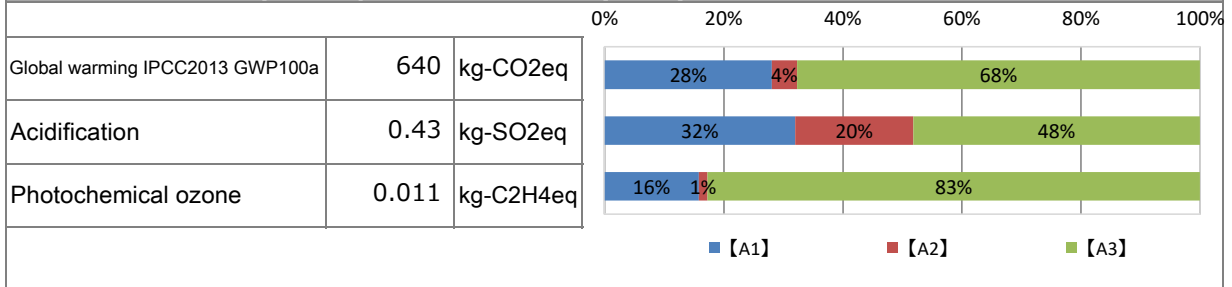
internal external

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

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1. Results of life cycle impact assessment (LCIA)



Parameter	stage	Unit	[A1~A3]	[A1]	[A2]	[A3]	[D]
Global warming IPCC2013 GWP100a		kg-CO ₂ eq	6.4E+02	1.8E+02	2.7E+01	4.3E+02	1.9E+02
Ozone layer destruction		kg-CFC-11eq	1.4E-07	1.2E-07	2.2E-10	1.0E-08	3.4E-08
Acidification		kg-SO ₂ eq	4.3E-01	1.4E-01	8.4E-02	2.0E-01	2.9E-01
Photochemical ozone		kg-C ₂ H ₄ eq	1.1E-02	1.7E-03	1.6E-04	8.7E-03	4.0E-02
Eutrophication		kg-PO ₄ ³⁻ eq	5.9E-05	3.1E-06	1.9E-13	5.6E-05	3.4E-03

Ma 2. Life cycle inventory analysis (LCI)

Parameter	Value	Unit
Non-renewable material resources	-6.5E+01	kg
Non-renewable energy resources	9.4E+03	MJ
Renewable material resources	3.0E+02	kg
Renewable primary energy	2.1E+02	MJ
Consumption of freshwater	2.7E-01	m ³

3. Material composition

Material	Value	Unit
Iron [Fe]	≥96.72	%
Carbon [C]	≤0.58	%
Silicon [Si]	≤0.6	%
Manganese [Mn]	≤2	%
Phosphorus [P]	≤0.05	%
sulfur [S]	≤0.05	%

4. Waste to disposal

Parameter	Value	Unit
Hazardous waste	0.00E+00	kg
Non-hazardous waste.	1.0E+01	kg

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

5. Additional explanation

- ① Each LCI figure includes allocation for scrap recycling as an optional supplementary information [D]. Recycling rate (RR) of this EPD is 93.1% (the average of Japan in 2014).
- ② Transport to site scenario is based on PCR.
- ③ The source of the unit power consumption is the average of 10 electric power suppliers of Japan in 2014.
- ④ The first data was acquired from 2019.
- ⑤ Each material figure (except iron) is the maximum value of these product standards.
- ⑥ Electric furnace slag and electric furnace dust (except for Yamaguchi Works) are sold to the outside as products.



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6-1. Supplementary environmental information

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6-2. Regulated hazardous substances

Substance	CAS No.	Reference to standards or regulations
Manganese [Mn]	7439-96-5	Industrial Safety and Health Act
Copper [Cu]	7440-50-8	Industrial Safety and Health Act
Chrome [Cr]	7440-47-3	Industrial Safety and Health Act
Nickel [Ni]	7440-02-0	Industrial Safety and Health Act

7. Assumptions of secondary data used

We use the IDEA2.1.3 data and scrap iron data from the Japan Iron and Steel Federation(J.I.S.F).

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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