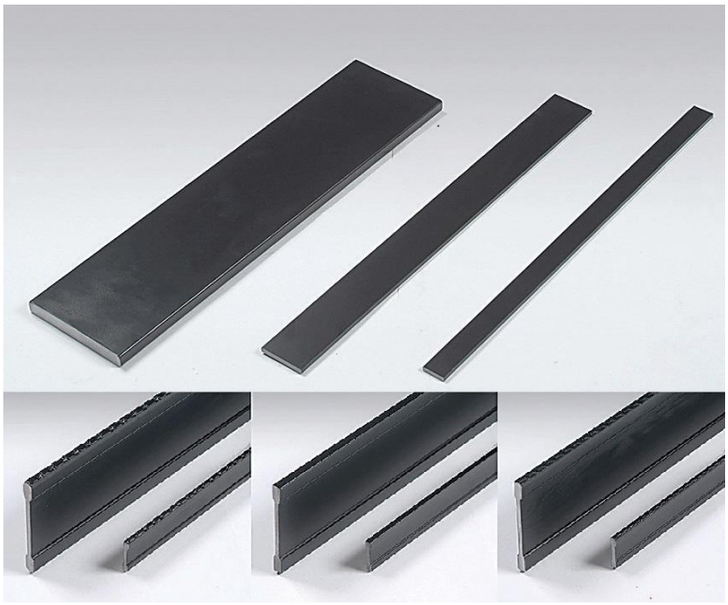
Japan EPD Program by SuMPO
Sustainable Management Promotion Organization
14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan
https://ecoleaf-label.jp/

KYOEI STEEL
(KYOEI STEEL LTD.)

Flat bar of steel



Functional unit

1t

System boundary

☐ final products ■intermediate products

Production Stage and optional supplementary infomation

Main specifications of the product

Production sites: Yamaguchi Works

Main standards: JIS G 3101 (SS400)

JIS G 3136 (SN400B, SN490B)

Type: Flat, I

Size: (Thickness)4.5～16mm (High)25～150mm

Registration#	JR-AJ-21004E-A
PCR number	PA-180000-AJ-06
PCR name	Steel products for construction
Publication date	6/4/2025
Verification date	5/21/2025
Verification method	Product-by-product
Verification#	JV-AJ-24075
Expiration date	5/20/2030

PCR review was conducted by:

Approval date	5/10/2023
PCR review panel chair	Yasunari Matsuno Chiba University

Third party verifier*

Takahiro Atoh

Independent verification of data & declaration in accordance with ISO14025

☐internal ■external

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

Company Information

KYOEI STEEL LTD.

http://www.kyoeisteel.co.jp

SuMPO EPD

Type III Environmental Declaration (EPD)

Registration number： JR-AJ-21004E-A

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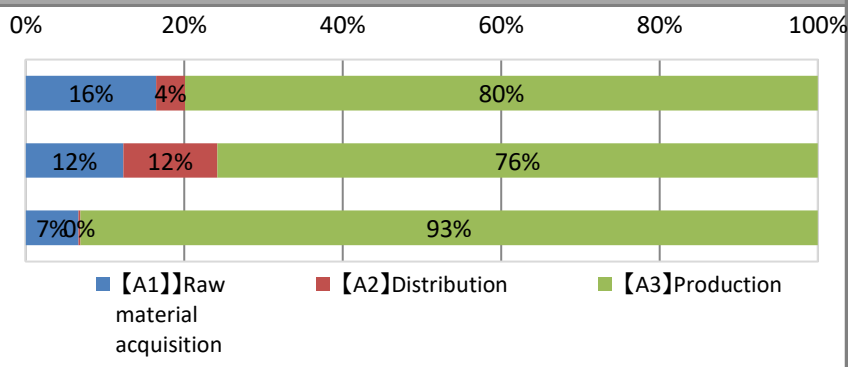
1. Results of life cycle impact assessment (LCIA)

Global warming IPCC2013 GWP100a	670	kg-CO_2eq
Acidification	0.64	kg-SO_2eq
Photochemical ozone	0.069	kg-C_2H_4eq



Parameter \ stage	Unit	Total	【A1】】Raw material acquisition	【A2】 Distribution	【A3】Production		【D】
Global warming IPCC2013 GWP100a	kg-CO_2eq	6.7E+02	1.1E+02	2.4E+01	5.4E+02		9.6E+01
Ozone layer destruction	kg-CFC-11eq	7.8E-05	8.8E-06	3.3E-10	6.9E-05		1.7E-08
Acidification	kg-SO_2eq	6.4E-01	7.9E-02	7.6E-02	4.8E-01		1.5E-01
Photochemical ozone	kg-C_2H_4eq	6.9E-02	4.6E-03	1.6E-04	6.5E-02		2.1E-02
Eutrophication	kg-PO_4^{3-}eq	7.1E-04	6.9E-04	2.5E-10	1.7E-05		1.8E-03

2. Life cycle inventory analysis (LCI)

Parameter		Unit
Non-renewable material resources	2.0E+03	MJ
Non-renewable energy resources	8.4E+03	MJ
Renewable material resources	3.3E+02	kg
Renewable primary energy	-5.6E+01	kg
Consumption of freshwater	1.4E+00	m^3

3. Material composition

Material		Unit
Iron [Fe]	≦96.72	%
Carbon [C]	≦0.58	%
Silicon [Si]	≦0.60	%
Manganese [Mn]	≦2.00	%
Phosphorus [P]	≦0.05	%
sulfur [S]	≦0.05	%

4. Waste to disposal

Parameter		Unit
Hazardous waste	0.0E+00	kg
Non-hazardous waste.	-1.4E+01	kg
Treated MSW for landfill	2.5E-10	kg
Treated industrial waste for landfill	-1.4E+01	kg

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

5. Additional explanation

①As an indirect impact, the recycling effect of steel materials based on JISQ20915 was evaluated and the values are listed in Table [D] above. The recycling effect was calculated as the difference between the load associated with the amount of scrap input to the product production site and the load reduction associated with the collection of scrap from used steel products. The recycling rate used in the calculation was 93.7% (according to JISQ20915, domestic data for FY2022 (source: Japan Iron and Steel Federation, Steel Can Recycling Association).

②For electricity intensity, “Electricity, Japan average, FY 2018” was used.

③Primary data was obtained in FY2023.

④Components related to materials and substances are the maximum of the respective upper limits of the applicable steel standards, except for iron.

⑤Electric furnace slag and mill scale are sold to the outside as products.

6-1. Supplementary environmental information

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 IDEA ver.3.1.0 data and steel scrap data(JP-AJ-0001) from the Japan Iron and Steel Federation are used.

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/）
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