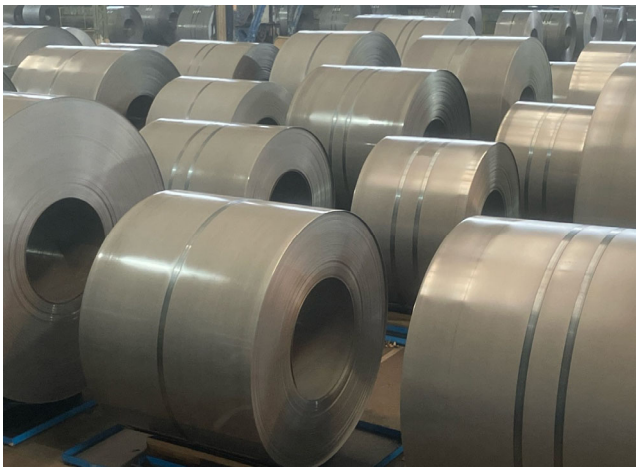
Japan EPD Program by SuMPO
Sustainable Management Promotion Organization
14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan
https://ecoleaf-label.jp/

JFE Steel Corporation

Pickled Steel Sheets and Coils for Construction



Functional unit

1 metric ton

System boundary

☐ final products ■intermediate products

Production stage (Raw material supply, Transport to factory, Manufacturing) and Recycling potential

Main specifications of the product

Production Site:
West Japan Works, East Japan Works

Representative Standards:
JIS (Japanese Industrial Standards), JFE Standards and others
Details are listed on Page 3 (8. Remarks)

Shape: Coil, Slit and Sheet

Thickness: 1.2 - 8.0mm

Registration#	JR-AJ-24071E
PCR number	PA-180000-AJ-06
PCR name	Steel products for construction
Publication date	28 March 2025
Verification date	12 March 2025
Verification method	Product-by-product
Verification#	JV-AJ-24071
Expiration date	11 March 2030

PCR review was conducted by:

Approval date	10 May 2023
PCR review panel chair	Yasunari Matsuno (Chiba University)

Third party verifier*

Takahiro Atoh

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

☐internal ■external

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

Company Information

JFE Steel Corporation Automotive Steel Business Planning Dept., Sheet Business Planning Dept.
https://www.jfe-steel.co.jp/en/index.html

1. Results of life cycle impact assessment (LCIA)

Parameter \ Stage	Production stage and Recycling potential [A1],[A2],[A3] and [D]	Production stage (cradle to gate) [A1],[A2] and [A3]	Unit
Global warming IPCC2013 GWP100a	1.7E+03	2.8E+03	kg-CO_2eq
Acidification	-1.1E+00	5.9E-01	kg-SO_2eq
Photochemical ozone	1.5E-02	3.5E-02	kg-PO_4^{3-}eq

Parameter \ Stage	Unit	Total	[A1] Raw material supply	[A2] Transport to factory	[A3] Manufacturing	[D] Recycling potential
Global warming IPCC2013 GWP100a	kg-CO_2eq	2.8E+03	7.2E+02	8.2E+00	2.1E+03	-1.1E+03
Ozone layer destruction	kg-CFC-11eq	1.2E-04	1.2E-04	5.5E-11	1.3E-07	-1.9E-07
Acidification	kg-SO_2eq	5.9E-01	3.6E-01	3.9E-02	1.9E-01	-1.6E+00
Photochemical ozone	kg-C_2H_4eq	7.8E-03	5.6E-03	7.4E-04	1.5E-03	-2.3E-01
Eutrophication	kg-PO_4^{3-}eq	3.5E-02	1.2E-05	4.9E-14	3.5E-02	-2.0E-02

2. Life cycle inventory analysis (LCI)

Parameter		Unit
Non-renewable material resources	1.3E+03	kg
Non-renewable energy resources	3.3E+04	MJ
Renewable material resources	8.6E+02	kg
Renewable primary energy	1.0E+02	MJ
Consumption of freshwater	4.1E+00	m^3

3. Material composition

Material		Unit
iron [Fe]	≧95.0	wt%
carbon [C]	≦1.5	wt%
silicon [Si]	≦3.0	wt%
manganese [Mn]	≦3.0	wt%
phosphorus [P]	≦0.15	wt%
sulfur [S]	≦0.05	wt%

4. Waste to disposal

Parameter		Unit
Hazardous waste	0.0E+00	kg
Non-hazardous waste.	1.9E+00	kg

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

5. Additional explanation

- This EPD shows the results calculated without applying system extensions.
- Scrap recycling potential is calculated based on ISO 20915/JIS Q 20915 and shown as [D] in table 1. Recycling ratio used in this calculation is 93.0%. (Using data is 2018FY from The Japan Iron and Steel Federation, The Japan ferrous raw materials association and The Japan Steel Can recycling Association).
- The environmental impact of self-generated electricity was calculated as primary data of fuel and the basic unit data of grid power consumption is the average of 10 electric power suppliers of Japan in 2014FY.
- Each item (except iron) in table 3 is the maximum value of all product standards covered by this EPD.
- Primary data in 2021 is used.

6-1. Supplementary environmental information

The production site is certified to ISO 14001.

6-2. Regulated hazardous substances

Substance	CAS No.	Reference to standards or regulations
manganese [Mn]	7349-96-5	・Industrial Safety and Health Act
copper [Cu]	7440-50-8	・Industrial Safety and Health Act
nickel [Ni]	7440-02-0	・Industrial Safety and Health Act
chromium [Cr]	7440-47-3	・Industrial Safety and Health Act
molybdenum [Mo]	7439-98-7	・Industrial Safety and Health Act

7. Assumptions of secondary data used

IDEA v2.1.3 database is used. Steel scrap data (JP-AJ-0001) from the Japan Iron and Steel Federation are used.

8. Remarks

Representative standards:
JIS (Japan Industrial Standards);
G 3101, G 3106, G 3114, G 3116, G 3125, G 3131, G 3132, G 3136, G 4051, G 4053, C 2555 and others
JFE Standards;
Hot rolled steel sheets for automobile use (JFE-HA),
Hot rolled corrosion resistance steel sheets (JFE-ASA),
Hot rolled checkered plate (JFE-HCP),
Hot rolled steel sheets for electric resistance welded pipe and tube (JFE-HP) and others
The Japan Iron and Steel Federation Standard (JFS);
JFS A 1001 (e.g. JSH270C) and others
ASTM; (e.g. A36/A36M), SAE J403 (e.g. SAE1006), EN10025-2 (e.g. S235JR), IS 2062 (e.g. E250) and others
Including others requested by customers based on these standards

- 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/)