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

SAWL PIPE

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 (Fukuyama)

Representative Standards:

Listed on Page 3 (8. Remarks)

Shape: SAWL Pipe

Available size:

OD; 400 - 1422mm

WT; 6.0 - 50.8mm

max Length; 18.3m

Registration#	JR-AJ-23013E-A
PCR number	PA-180000-AJ-06
PCR name	Steel products for construction
Publication date	15 September 2023
Verification date	12 February 2025
Verification method	Product-by-product
Verification#	JV-AJ-24050
Expiration date	29 June 2028

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 Plate Business Planning Dept.

https://www.jfe-steel.co.jp/en/index.html

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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	2.2E+03	3.2E+03	kg-CO_2eq
Acidification	-3.8E-01	1.2E+00	kg-SO_2eq
Photochemical ozone	2.7E-02	4.6E-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	3.2E+03	9.0E+02	2.4E+01	2.3E+03	-1.0E+03
Ozone layer destruction	kg-CFC-11eq	1.0E-06	1.9E-07	1.6E-10	8.1E-07	-1.8E-07
Acidification	kg-SO_2eq	1.2E+00	4.0E-01	3.8E-02	7.3E-01	-1.5E+00
Photochemical ozone	kg-C_2H_4eq	8.9E-03	6.7E-03	7.1E-04	1.5E-03	-2.2E-01
Eutrophication	kg-PO_4^{3-}eq	4.6E-02	1.4E-05	1.4E-13	4.6E-02	-1.8E-02

2. Life cycle inventory analysis (LCI)

Parameter		Unit
Non-renewable material resources	1.4E+03	kg
Non-renewable energy resources	3.6E+04	MJ
Renewable material resources	1.2E+03	kg
Renewable primary energy	1.2E+02	MJ
Consumption of freshwater	4.0E+00	m^3

3. Material composition

Material		Unit
iron [Fe]	≧94.2	wt%
carbon [C]	≦0.2	wt%
silicon [Si]	≦1.0	wt%
manganese [Mn]	≦2.0	wt%
nickel [Ni]	≦1.0	wt%
chromium [Cr]	≦0.5	wt%
molybdenum [Mo]	≦0.5	wt%
copper [Cu]	≦0.5	wt%
phosphorus [P]	≦0.05	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 2018 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
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
copper [Cu]	7440-50-8	・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

Products Shape:
Longitudinal Submeged Arc Welded Steel Pipe
Representative Applicattions:
Transportation for gases, oiles and water. Boiler and Pressure vessel. Structures.
Representative standards:
JIS; G 3444, G 3457, G 3475, A 5525, A 5530
API; 5L, 2B、 ASTM; A53, A134, A139, A252, A671, A672, A691, A525
DNV; DNV-ST-F101、 ISO; 3183、 CSA; Z245.1、 AWWA C 200、 JPI and others
Including others requested by customers based on these standards

・ March, 2025; Modification about system boundary and allocation of by-product gases.

- 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/)