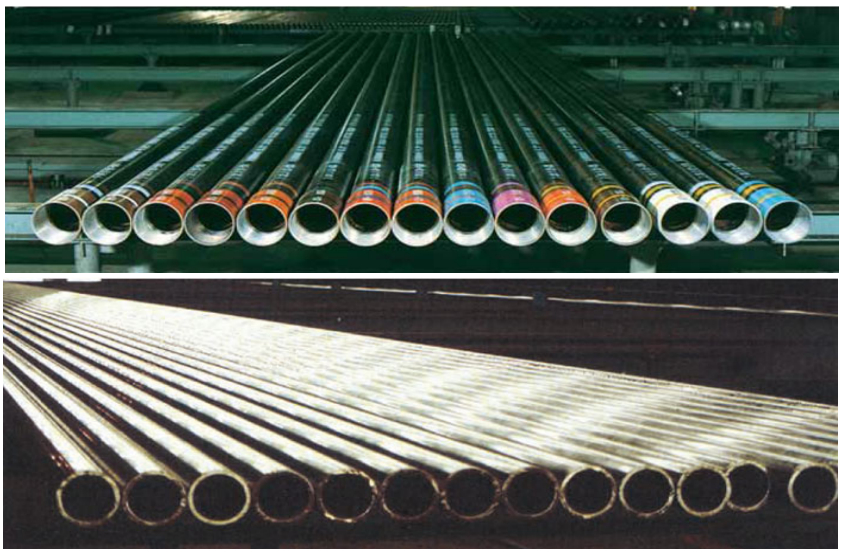
SuMPO EPD
Type III Environmental Declaration (EPD)
Registration number : JR-BO-24012E

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

High Alloy Seamless Steel 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: Chita Works

Representative Standards:
API 5CT, API 5CRA, JFE series and others
Listed on Page 3 (8. Remarks)

Shape: Seamless Steel Pipe

Size range:
OD; 25.4mm(1inch) - 426.0mm(16.8inch)
WT; 2.3mm(0.09inch) - 65mm(2.56inch)
Length; 4m(13.1ft) - 28.5m(93.5ft)

Registration#	JR-BO-24012E
PCR number	PA-187000-BO-03
PCR name	Stainless steel products
Publication date	21 March 2025
Verification date	14 March 2025
Verification method	Product-by-product
Verification#	JV-BO-24012
Expiration date	13 March 2030

PCR review was conducted by:

Approval date	4 December 2023
PCR review panel chair	Ken Yamagishi Sustainable Management Promotion Organization

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 Tubular Business Planning & Marketing Dept.
https://www.jfe-steel.co.jp/en/index.html

1. Results of life cycle impact assessment (LCIA)

Global warming IPCC2013 GWP100a	7.3E+03	kg-CO_2eq
Acidification	1.8E+01	kg-SO_2eq
Photochemical ozone	8.9E-01	kg-PO_4^{3-}eq

Parameter \ Stage	Unit	Total	[A1] Raw material supply	[A2] Transport to factory	[A3] Manufacturing
Global warming IPCC2013 GWP100a	kg-CO_2eq	7.3E+03	3.8E+03	4.0E+01	3.5E+03
Ozone layer destruction	kg-CFC-11eq	4.6E-06	1.4E-06	2.7E-10	3.2E-06
Acidification	kg-SO_2eq	1.8E+01	1.8E+01	9.4E-02	5.1E-01
Photochemical ozone	kg-C_2H_4eq	1.3E-01	1.1E-01	1.8E-03	1.6E-02
Eutrophication	kg-PO_4^{3-}eq	8.9E-01	4.6E-01	2.4E-13	4.3E-01

2. Life cycle inventory analysis (LCI)

Parameter		Unit
Non-renewable material resources	1.4E+03	kg
Non-renewable energy resources	9.9E+04	MJ
Renewable material resources	2.6E+03	kg
Renewable primary energy	9.0E+02	MJ
Consumption of freshwater	2.5E+00	m^3

3. Material composition

Material		Unit
iron [Fe]	≧65.0	wt%
carbon [C]	≦0.22	wt%
silicon [Si]	≦1.0	wt%
manganese [Mn]	≦1.8	wt%
copper [Cu]	≦3.0	wt%
nickel [Ni]	≦7.0	wt%
chromium [Cr]	≦18.0	wt%
molybdenum [Mo]	≦3.5	wt%
tungsten [W]	≦2.0	wt%

4. Waste to disposal

Parameter		Unit
Hazardous waste	0.0E+00	kg
Non-hazardous waste.	3.6E+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.
- 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
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
cobalt [Co]	7440-48-4	・Industrial Safety and Health Act
copper [Cu]	7440-50-8	・Industrial Safety and Health Act
tungsten [W]	7440-33-7	・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 G 3458(STPA), G 3462(STBA), G 3467(STFA) and others
Japanese METI code KA-STPA28, KA-STBA28 and others
ATSM A53, A106, A192, A210, A213, A333, A335, A519
ASME SA53, SA106, SA192, SA210, SA213, SA333, SA335, SA519
API 5CT, 5CRA, 5L and 5LC grades, ISO 11960, 13680 and 3183, DNV-ST-F101
JFE-Sreies(High Cr OCTG), EN10216-1,2
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/)