



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AJ-23013E

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 acquisition, manufacturing) and Indirect effect

Main specifications of the product

Production Site:

West Japan Works (Fukuyama)

Representative Standards:

Listed on Page 3 (5. Additional Information)

Shape: SAWL Pipe

Available size: OD 400-1422mm, WT 6.0-50.8mm,

Company Information

JFE Steel Corporation

About us: <https://www.jfe-steel.co.jp/en/index.html>

Contact us:

<https://www.jfe-steel.co.jp/en/contact.html>

Registration#	JR-AJ-23013E
PCR number	PA-180000-AJ-04
PCR name	Steel products for construction
Publication date	9/15/2023
Verification date	6/30/2023
Verification method	Product-by-product
Verification#	JV-AJ-23013
Expiration date	6/29/2028
PCR review was conducted by:	
Approval date	4/1/2022
PCR review panel chair	Yasunari matsuno (Chiba University)

Third party verifier*

Takahiro Atoh

Independent verification of data & declaration in accordance with ISO14025 & 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	[A1,A2,A3] +[D] ¹⁾	[A1,A2,A3] ²⁾	Unit
Global warming IPCC2013 GWP100a		1100	2100	kg-CO ₂ eq
Acidification		0.66	0.66	kg-SO ₂ eq
Eutrophication		0.046	0.046	kg-PO ₄ ³⁻ eq

1)[A1,A2,A3]+[D]:sum of [A1],[A2],[A3] and [D]

2)[A1,A2,A3]:sum of [A1],[A2] and [A3]

Parameter	stage	Unit	Total	[A1] Raw material acquisition	[A2] Transport to factory	[A3] Manufacturin g	[D] Indirect effect
Global warming IPCC2013 GWP100a		kg-CO ₂ eq	2.1E+03	9.3E+02	2.3E+01	1.2E+03	-1.0E+03
Ozone layer destruction		kg-CFC-11eq	4.5E-07	1.9E-07	1.5E-10	2.6E-07	-1.8E-07
Acidification		kg-SO ₂ eq	6.6E-01	4.3E-01	3.8E-02	1.9E-01	-1.5E+00
Photochemical ozone		kg-C ₂ H ₄ eq	1.5E-02	7.3E-03	7.1E-04	7.1E-03	-2.2E-01
Eutrophication		kg-PO ₄ ³⁻ eq	4.6E-02	1.4E-05	1.3E-13	4.6E-02	-1.8E-02

2. Life cycle inventory analysis (LCI)

Parameter	Unit
Non-renewable material resources	9.6E+02 kg
Non-renewable energy resources	1.2E+03 MJ
Renewable material resources	1.2E+03 kg
Renewable primary energy	2.6E+02 MJ
Consumption of freshwater	3.9E+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%
phosphorous[P]	0.05 wt%
sulfur[S]	0.05 wt%

4. Waste to disposal

Parameter	Unit
Hazardous waste	- kg
Non-hazardous waste.	1.7E+00 kg
Treated MSW for landfill	0.0E+00 kg
Treated industrial waste for landfill	1.7E+00 kg

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



5. Additional explanation

- The indirect effect (scrap recycling potential) is calculated based on ISO 20915/JIS Q 20915 and shown as [D]indirect effect in table "1. Results of life cycle impact assessment (LCIA)" .
The indirect effect is added to the total value (sum of [A1], [A3]) in tables.
- Recycling ratio used in this calculation is 93.0% (calculated based on ISO 20915/JIS Q 20915 and using FY 2018 data from The Japan Iron and Steel Federatin, The Japan Steel Can recycling Association and The Japan ferrous raw materials association).
- The source of unit power consumption is the average of 10 electric power suppliers of Japan in 2014.
- Primary data collected in 2018.

Products Shape: Longitudinal Submeged Arc Welded Steel Pipe
 Representative Applicattions: Transportation for gases, oiles and water. Boiler and Pressure vessel. Structures.
 Representative Standards:
 JIS; G3444, G3457, G3475, A5525, A5530
 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 etc.
 Including others requested by customers based on these standards

6-1. Supplementary environmental information

The Products are manufactured in ISO14000 certified factories.
 West Japan Works (Fukuyama , Certified data 1998/3/2 ,Certification Number E026)

6-2. Regulated hazardous substances

Substance	CAS No.	Reference to standards or regulations
copper [Cu]	7440-50-8	• Industrial Safety and Health Act.
manganese [Mn]	7439-96-5	• Industrial Safety and Health Act.
nickel [Ni]	7440-02-0	• Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof
chromium [Cr]	7440-47-3	
molybdenum [Mo]	7439-98-7	

7. Assumptions of secondary data used

IDEA v2.1.3 data are used. 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/>)