

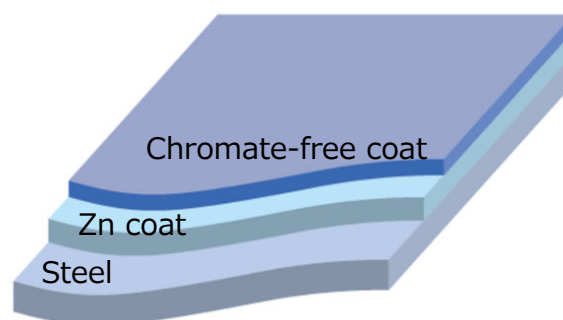


JFE Steel Corporation

Hot-dip Galvanized and aluminium alloy coated sheets for construction



Example of structures of coating layer



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

Thickness: 0.4 - 3.2mm

Registration#	JR-AJ-24070E
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-24070
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 Sheet Business Planning Dept.

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

1. Results of life cycle impact assessment (LCIA)

Stage Parameter	Production stage and Recycling potential [A1],[A2],[A3] and [D]	Production stage (cradle to gate) [A1],[A2] and [A3]	Unit
Global warming IPCC2013 GWP100a	2.4E+03	3.4E+03	kg-CO ₂ eq
Acidification	-8.3E-01	7.8E-01	kg-SO ₂ eq
Photochemical ozone	2.3E-02	4.2E-02	kg-PO ₄ ³⁻ eq

Stage Parameter	Unit	Total	[A1] Raw material supply	[A2] Transport to factory	[A3] Manufacturing	[D] Recycling potential
Global warming IPCC2013 GWP100a	kg-CO ₂ eq	3.4E+03	8.6E+02	1.5E+01	2.5E+03	-1.0E+03
Ozone layer destruction	kg-CFC-11eq	5.5E-05	5.4E-05	1.1E-10	4.0E-07	-1.9E-07
Acidification	kg-SO ₂ eq	7.8E-01	4.2E-01	6.7E-02	2.9E-01	-1.6E+00
Photochemical ozone	kg-C ₂ H ₄ eq	1.1E-02	7.8E-03	1.1E-03	2.3E-03	-2.3E-01
Eutrophication	kg-PO ₄ ³⁻ eq	4.2E-02	1.3E-05	9.5E-14	4.2E-02	-1.9E-02

2. Life cycle inventory analysis (LCI)

Parameter	Unit	Unit
Non-renewable material resources	1.5E+03	kg
Non-renewable energy resources	3.9E+04	MJ
Renewable material resources	1.2E+03	kg
Renewable primary energy	1.9E+02	MJ
Consumption of freshwater	6.8E+00	m ³

3. Material composition

Material	Unit	Unit
iron [Fe]	≥76.7	wt%
carbon [C]	≤1.0	wt%
silicon [Si]	≤3.0	wt%
manganese [Mn]	≤3.0	wt%
phosphorus [P]	≤0.200	wt%
sulfur [S]	≤0.050	wt%
zinc [Zn]	≤15.0	wt%
aluminum [Al]	≤1.0	wt%

4. Waste to disposal

Parameter	Unit	Unit
Hazardous waste	0.0E+00	kg
Non-hazardous waste.	2.1E+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 (Japanese Industrial Standards):

JIS G 3302 (SGCC, SGHC, SGCH, SGCD1, SGC340, SGH340 and others)

JIS G 3317 (SZACC, SZAHC, SZACH, SZACD1, SZAC340, SZA340 and others)

JFE Standards:

◆ JFE GALVAZINC™

Commercial quality (e.g. JFE-CB-GZ, JFE-HB-GZ), Forming quality (e.g. JFE-CC-GZ, JFE-HC-GZ)

Drawing quality (e.g. JFE-CD-GZ, JFE-HD-GZ), Deep drawing quality (e.g. JFE-CE-GZ, JFE-HE-GZ)

Structural quality, class 1 (e.g. JFE-C400-GZ, JFE-H400-GZ), class 2 (e.g. JFE-C490-GZ, JFE-H490-GZ)

Commercial quality high strength steel (e.g. JFE-HA310-GZ, JFE-CA440-GZ)

◆ JFE GALVAZINC ALLOY™

Commercial quality (e.g. JFE-CB-GA, JFE-HB-GA), Forming quality (e.g. JFE-CC-GA, JFE-HC-GA)

Drawing quality (e.g. JFE-CD-GA, JFE-HD-GA), Deep drawing quality (e.g. JFE-CE-GA, JFE-HE-GA)

Structural quality, class 1 (e.g. JFE-C400-GA, JFE-H400-GA), class 2 (e.g. JFE-C490-GA, JFE-H490-GA)

◆ ECOGAL-Neo™

Commercial quality (e.g. JFE-CB-ECOG, JFE-HB-ECOG), Forming quality (e.g. JFE-CC-ECOG)

Drawing quality (e.g. JFE-CD-ECOG), Deep drawing quality (e.g. JFE-CE-ECOG)

Structural quality, class 1 (e.g. JFE-C340-ECOG, JFE-H340-ECOG), class 2 (e.g. JFE-C490-ECOG, JFE-H490-ECOG)

Commercial quality high strength steel (e.g. JFE-CA400-ECOG, JFE-HA400-ECOG)

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/>)