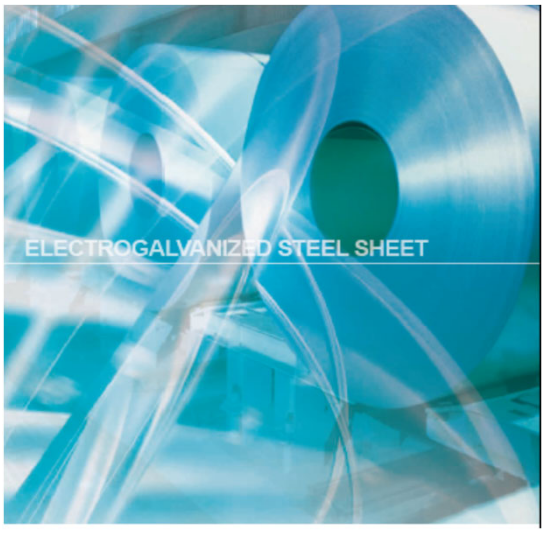
SuMPO EPD
Type III Environmental Declaration (EPD)
Registration number : JR-AJ-24069E

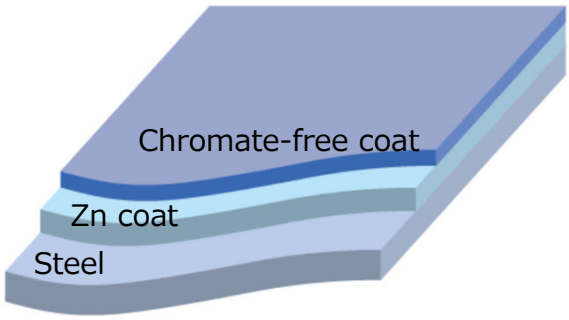
Japan EPD Program by SuMPO
Sustainable Management Promotion Organization
14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan
https://ecoleaf-label.jp/

JFE Steel Corporation

# Electrogalvanized Steel 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

Representative Standards:

JIS (Japanese Industrial Standards), JFE Standards and others

Details are listed on Page 3 (8. Remarks)

Shape: Coil

Thickness: 0.3 - 3.2mm

| | |
|---|---|
| **Registration#** | JR-AJ-24069E |
| **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-24069 |
| **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

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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-$CO_2$eq |
| Acidification | -8.1E-01 | 7.9E-01 | kg-$SO_2$eq |
| Photochemical ozone | 3.1E-02 | 5.0E-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-$CO_2$eq | 3.2E+03 | 7.5E+02 | 7.6E+00 | 2.4E+03 | -1.0E+03 |
| Ozone layer destruction | kg-CFC-11eq | 5.4E-05 | 5.4E-05 | 5.3E-11 | 2.4E-07 | -1.9E-07 |
| Acidification | kg-$SO_2$eq | 7.9E-01 | 3.4E-01 | 4.8E-02 | 4.0E-01 | -1.6E+00 |
| Photochemical ozone | kg-$C_2H_4$eq | 9.4E-03 | 6.8E-03 | 8.6E-04 | 1.8E-03 | -2.2E-01 |
| Eutrophication | kg-$PO_4^{3-}$eq | 5.0E-02 | 1.0E-05 | 4.6E-14 | 5.0E-02 | -1.9E-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 | 1.3E+03 | kg |
| Renewable primary energy | 1.4E+02 | MJ |
| Consumption of freshwater | 4.8E+00 | $m^3$ |

## 3. Material composition

| Material | | Unit |
|---|---|---|
| iron [Fe] | ≧87.7 | 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] | ≦5.0 | wt% |

## 4. Waste to disposal

| Parameter | | Unit |
|---|---|---|
| Hazardous waste | 0.0E+00 | kg |
| Non-hazardous waste. | 1.7E+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 3313 (SECC, SECCT, SEHC, SECD, SEHD, SECE, SEHE, SEFC340, SEPH400 and othes)
JFE Standards:
●JFE EXCELZINC™
Commercial quality (e.g. JFE-CC-EZ, JFE-HC-EZ), Drawing quality (e.g. JFE-CD-EZ, JFE-HD-EZ)
Deep drawing quality (e.g. JFE-CE-EZ, JFE-CF-EZ, JFE-HE-EZ), Extra deep drawing quality (e.g. JFE-CG-EZ)
High strength steel for commercial quality (e.g. JFE-CA390-EZ, JFE-CA440-EZ, JFE-HA390-EZ, JFE-HA440-EZ)
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/)