



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AJ-22015E

Japan EPD Program by SuMPO

Sustainable Management Promotion Organization

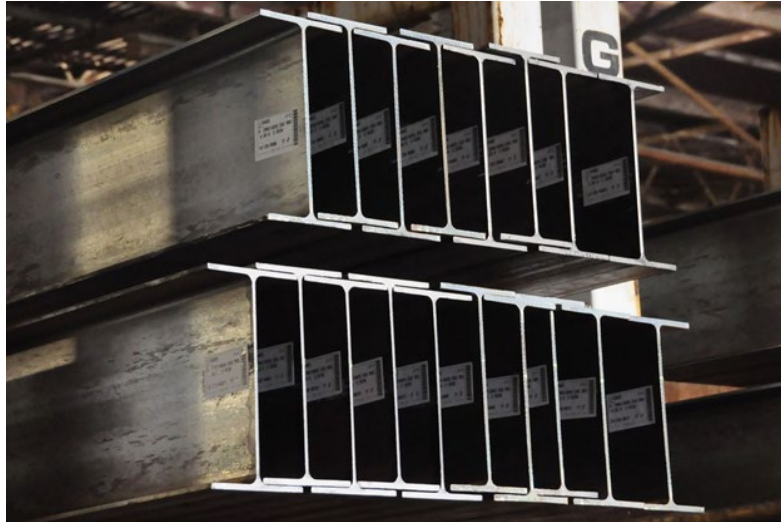
2-1, Kaji-cho 2 chome, Chiyoda-ku, Tokyo Japan

<https://ecoleaf-label.jp/>



JFE Steel Corporation

## Wide Flange Shapes



### Functional unit

1 t

### System boundary

final products       intermediate products

Production Stage (Raw material supply, Transport to factory, Manufacturing) and Indirect effect

### Main specifications of the product

Manufacturing Factries

West Japan Works (Fukuyama , Kurashiki)

Main Standards : shown 5 Additional explanation

Shape : Wide Flange Shapes

Main Section \*thickness (Unit : mm, t:thickness )

Example : For middle type

H200(t6) × 150(t9) ~ 918(t19) × 303(t37)

### 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-22015E
PCR number	PA-180000-AJ-04
PCR name	Steel products for construction
Publication date	8/1/2022
Verification date	7/26/2022
Verification method	Product-by-product
Verification#	JV-AJ-22015
Expiration date	7/25/2027
<b>PCR review was conducted by:</b>	
Approval date	10/1/2019
PCR review panel chair	Yasunari matsuno (Chiba University)

### Third party verifier\*

Hiroyuki Uchida

Independent verification of data & declaration in accordance with ISO14025 and ISO21930

internal       external

\*Auditor's name is stated if system certification has been performed.

Registration number : JR-AJ-22015E

**1. Results of life cycle impact assessment (LCIA)**

Parameter	stage	[A1~A3] + [D] <sup>1)</sup>	[A1~A3] <sup>2)</sup>	Unit
Global warming IPCC2013 GWP100a		1130	2200	kg-CO <sub>2</sub> eq
Acidification		0.55	2.2	kg-SO <sub>2</sub> eq
Eutrophication		0.021	0.041	kg-PO <sub>4</sub> <sup>3-</sup> eq

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

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

Parameter	stage	Unit	[A1~A3]	[A1] Raw material supply	[A2] Transport to factory	[A3] Manufacturing	[D] Indirect effect
Global warming IPCC2013 GWP100a		kg-CO <sub>2</sub> eq	2.2E+03	7.5E+02	1.3E+01	1.5E+03	-1.1E+03
Ozone layer destruction		kg-CFC-11eq	1.3E-07	9.9E-08	8.6E-11	3.0E-08	-1.9E-07
Acidification		kg-SO <sub>2</sub> eq	2.2E+00	3.5E-01	4.4E-02	1.8E+00	-1.6E+00
Photochemical ozone		kg-C <sub>2</sub> H <sub>4</sub> eq	1.5E-02	5.8E-03	8.7E-04	8.6E-03	-2.3E-01
Eutrophication		kg-PO <sub>4</sub> <sup>3-</sup> eq	4.1E-02	1.1E-05	7.7E-14	4.1E-02	-2.0E-02

**2. Life cycle inventory analysis (LCI)**

項目		単位
Non-renewable material resources	7.6E+02	kg
Non-renewable energy resources	5.2E+04	MJ
Renewable material resources	9.7E+02	kg
Renewable primary energy	2.1E+02	MJ
Consumption of freshwater	2.0E+00	m <sup>3</sup>

**3. Material composition**

Material		Unit
iron[Fe]	≥95.4	wt%
carbon[C]	≤0.30	wt%
silicon[Si]	≤0.65	wt%
manganese[Mn]	≤1.65	wt%
phosphorous[P]	≤0.05	wt%
sulfur[S]	≤0.05	wt%
copper [Cu]	≤0.60	wt%
chromium [Cr]	≤0.75	wt%
nickel [Ni]	≤0.45	wt%
vanadium[V]	≤0.11	wt%

**4. Waste to disposal**

Parameter		Unit
Hazardous waste	0.0E+00	kg
Non-hazardous waste.	1.6E+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 in table 1 Results of life cycle impact assessment (LCIA) as **【D】** indirect effect.  
The indirect effect is added to the total value (sum of **【A1】**, **【A2】**, **【A3】**) in Tables.
- Recycling rate 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 Federation, 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.

### Main Standards

SN400A, SN400B, SN400C, SN490B, SN490C, SM400A, SM400B, SM400C, SM490A, SM490B, SM490C, SM490YA, SM490YB, SS400, SS490, SS540, SMA400AW, SMA400BW, SMA400AP, SMA400BP, SMA490AW, SMA490BW, SMA490AP, SMA490BP, SM400A-FR, SM400B-FR, SM490A-FR, SM490B-FR, SN400B-FR, SN490B-FR, SM520B, SM520C, A36, A572Gr50, A992, S275JR, S275J0, S355JR, S355J0, SS275, SM275A, SM275B, SM355A, SM355B, SHN355

## 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)

West Japan Works (Kurashiki , Certified data 1997/10/2 , Certification Number E012)

## 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, ect. of Release Amounts of Specific Chemical
chromium [Cr]	7440-47-3	Substances in the Environment and Promotion of Improvements to the
molybdenum [Mo]	7439-98-7	Management Thereof
cobalt [Co]	7440-48-4	

## 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/>)