



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AJ-22015E-A

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

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-A
PCR number	PA-180000-AJ-04
PCR name	Steel products for construction
Publication date	8/1/2022
Verification date	7/20/2023
Verification method	Product-by-product
Verification#	JV-AJ-22015
Expiration date	7/19/2028
PCR review was conducted by:	
Approval date	10/1/2019
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.

Registration number : JR-AJ-22015E

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

Parameter	stage	[A1~A3] + [D] ¹⁾	[A1~A3] ²⁾	Unit
Global warming IPCC2013 GWP100a		730	1800	kg-CO ₂ eq
Acidification		-1.4	0.26	kg-SO ₂ eq
Eutrophication		0.023	0.043	kg-PO ₄ ³⁻ 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 ₂ eq	1.8E+03	8.1E+02	1.3E+01	1.0E+03	-	-1.1E+03
Ozone layer destruction		kg-CFC-11eq	-7.6E-08	1.0E-07	8.8E-11	-1.8E-07	-	-1.9E-07
Acidification		kg-SO ₂ eq	2.6E-01	3.9E-01	4.7E-02	-1.8E-01	-	-1.6E+00
Photochemical ozone		kg-C ₂ H ₄ eq	1.3E-02	6.5E-03	9.4E-04	5.2E-03	-	-2.3E-01
Eutrophication		kg-PO ₄ ³⁻ eq	4.3E-02	1.1E-05	7.9E-14	4.3E-02	-	-2.0E-02

2. Life cycle inventory analysis (LCI)

項目		単位
Non-renewable material resources	8.2E+02	kg
Non-renewable energy resources	3.3E+04	MJ
Renewable material resources	9.8E+02	kg
Renewable primary energy	2.1E+02	MJ
Consumption of freshwater	2.0E+00	m ³

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.	1.7E+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 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 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.

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

Change date:8/2/2023

Correction of double counting on upstream and modification of allocation method of by-product gases

- 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/>)