



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AJ-22017E-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

Heavy Wide Flange H-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 : shown 5 Additional explanation

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-22017E-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-23012
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.

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1. Results of life cycle impact assessment (LCIA)

Parameter	stage	[A1~A3] + [D] ¹⁾	[A1~A3] ²⁾	Unit
Global warming IPCC2013 GWP100a		1000	2000	kg-CO ₂ eq
Acidification		-0.93	0.63	kg-SO ₂ eq
Eutrophication		0.025	0.044	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	2.0E+03	8.8E+02	2.2E+01	1.1E+03	-	-1.0E+03
Ozone layer destruction		kg-CFC-11eq	-3.3E-07	1.1E-07	1.4E-10	-4.3E-07	-	-1.8E-07
Acidification		kg-SO ₂ eq	6.3E-01	4.0E-01	3.6E-02	1.9E-01	-	-1.6E+00
Photochemical ozone		kg-C ₂ H ₄ eq	1.4E-02	6.8E-03	6.9E-04	6.4E-03	-	-2.2E-01
Eutrophication		kg-PO ₄ ³⁻ eq	4.4E-02	1.1E-05	1.3E-13	4.4E-02	-	-1.9E-02

2. Life cycle inventory analysis (LCI)

項目		単位
Non-renewable material resources	9.3E+02	kg
Non-renewable energy resources	3.5E+04	MJ
Renewable material resources	1.2E+03	kg
Renewable primary energy	2.3E+02	MJ
Consumption of freshwater	2.5E+00	m ³

3. Material composition

Material		Unit
iron[Fe]	≥96.1	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%
nickel [Ni]	≤0.50	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 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, SS400, SS490, SS540, SM490YA, SM490YB, SM520B, SM520C, HBL®-JH325B, HBL®-JH325C, HBL®-JH355B, HBL®-JH355C, SS275, SM275A, SM275B, SM355A, SM355B, SHN355

Main Section •thickness (Unit: mm, t:thickness)

H418(t15) × 402 (t30) ~ 498 (t45) × 432 (t70)

H492 (t15) × 465 (t20) ~ 572 (t45) × 510 (t60)

H670(t25) × 475 (t30) ~ 770 (t70) × 520 (t80)

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/>)