



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AJ-22016E-A

Japan EPD Program by SuMPO

Sustainable Management Promotion Organization

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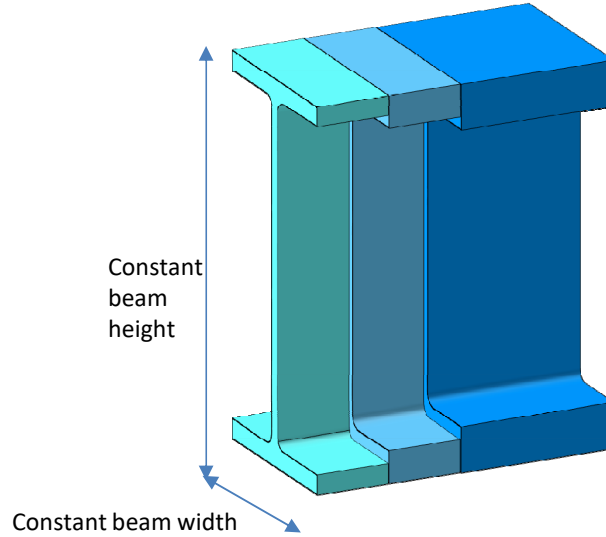


JFE Steel Corporation

**SUPER HISLEND-H®**



Products Photo



### 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 (In the case of a type that makes the external law constant)

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

H400 (t9) × 200 (t12)~1000 (t19) × 400 (t40)

### 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-22016E-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-23011
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] <sup>1)</sup>	[A1~A3] <sup>2)</sup>	Unit
Global warming IPCC2013 GWP100a		920	2000	kg-CO <sub>2</sub> eq
Acidification		-1.5	0.11	kg-SO <sub>2</sub> eq
Eutrophication		0.026	0.046	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	2.0E+03	8.2E+02	1.0E+01	1.1E+03	-	-1.1E+03
Ozone layer destruction		kg-CFC-11eq	-6.7E-07	1.1E-07	6.7E-11	-7.8E-07	-	-2.0E-07
Acidification		kg-SO <sub>2</sub> eq	1.1E-01	4.1E-01	5.4E-02	-3.5E-01	-	-1.7E+00
Photochemical ozone		kg-C <sub>2</sub> H <sub>4</sub> eq	1.3E-02	6.8E-03	1.1E-03	5.6E-03	-	-2.3E-01
Eutrophication		kg-PO <sub>4</sub> <sup>3-</sup> eq	4.6E-02	1.2E-05	6.0E-14	4.6E-02	-	-2.0E-02

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

項目		単位
Non-renewable material resources	8.1E+02	kg
Non-renewable energy resources	3.4E+04	MJ
Renewable material resources	9.5E+02	kg
Renewable primary energy	2.2E+02	MJ
Consumption of freshwater	7.8E-01	m <sup>3</sup>

**3. Material composition**

Material		Unit
iron[Fe]	≥95.6	wt%
carbon[C]	≤0.25	wt%
silicon[Si]	≤0.65	wt%
manganese[Mn]	≤1.65	wt%
phosphorous[P]	≤0.05	wt%
sulfur[S]	≤0.05	wt%
copper [Cu]	≤0.55	wt%
chromium [Cr]	≤0.75	wt%
nickel [Ni]	≤0.30	wt%
vanadium[V]	≤0.10	wt%

**4. Waste to disposal**

Parameter		Unit
Hazardous waste	0.0E+00	kg
Non-hazardous waste.	1.8E+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, SM520B, SM520C, SM490YA, SM490YB, SS400, SMA400AW, SMA400BW, SMA400AP, SMA400B, SMA490AW, SMA490BW, SMA490AP, SMA490BP, HBL®-H355B, HBL®-H355C, S275JR, S275J0, S355JR, S355J0

## 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/>)