



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AJ-22013E-A

Japan EPD Program by SuMPO

Sustainable Management Promotion Organization

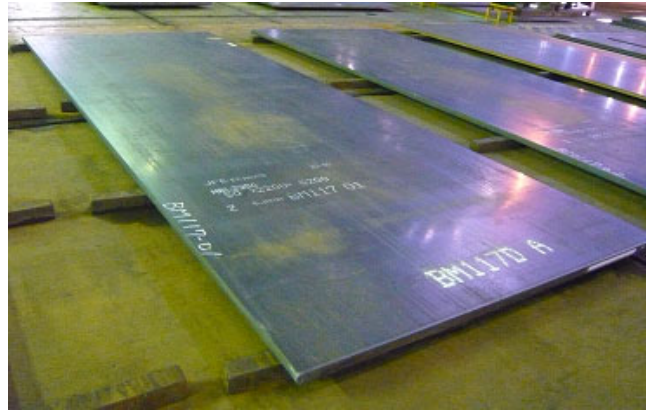
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JFE Steel Corporation

Steel Plates for Building Structures



### 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 Factories

East Japan Works (Keihin)

West Japan Works (Fukuyama, Kurashiki)

Main Standards : shown 5. Additional explanation

Shape : Steel Plate

### 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-22013E-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-23008
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		830	1900	kg-CO <sub>2</sub> eq
Acidification		-1.6	0.035	kg-SO <sub>2</sub> eq
Eutrophication		0.030	0.050	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	1.9E+03	7.2E+02	2.2E+01	1.1E+03	-	-1.1E+03
Ozone layer destruction		kg-CFC-11eq	4.6E-07	1.6E-07	1.4E-10	3.0E-07	-	-1.9E-07
Acidification		kg-SO <sub>2</sub> eq	3.5E-02	3.6E-01	1.5E-01	-4.7E-01	-	-1.6E+00
Photochemical ozone		kg-C <sub>2</sub> H <sub>4</sub> eq	1.2E-02	6.2E-03	3.0E-03	2.3E-03	-	-2.3E-01
Eutrophication		kg-PO <sub>4</sub> <sup>3-</sup> eq	5.0E-02	6.8E-06	1.3E-13	5.0E-02	-	-2.0E-02

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

項目		単位
Non-renewable material resources	9.0E+02	kg
Non-renewable energy resources	3.0E+04	MJ
Renewable material resources	1.0E+03	kg
Renewable primary energy	1.4E+02	MJ
Consumption of freshwater	1.6E+00	m <sup>3</sup>

**3. Material composition**

Material		Unit
iron[Fe]	≥95.8	wt%
carbon[C]	≤0.25	wt%
silicon[Si]	≤0.65	wt%
manganese[Mn]	≤2.50	wt%
phosphorous[P]	≤0.050	wt%
sulfur[S]	≤0.050	wt%

**4. Waste to disposal**

Parameter		Unit
Hazardous waste	0.0E+00	kg
Non-hazardous waste.	9.7E-01	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】** and **【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

**【Minister-approved products】**HBL®385B-L, HBL®385B, HBL®385C, HBL®440B, HBL®440C, HBL®630B-L, HBL®630C-L, HBL®630B, HBL®630C, JFE-LY100, JFE-LY225, SA440B, SA440C,

H-SA700A, H-SA700B, HBL®325B, HBL®325C, HBL®355B, HBL®355C

**【JIS】**SS400, SM490YA, SM490YB, SM520B, SM520C, SM570, SN400A, SN400B, S N400C, SN490B, SN490C, SM400A, SM400B, SM400C, SM490A, SM490B, SM490C

**【EN】**EN10025, S235, S275, S355, S420, S450, S460, S500, S550, S620, S690, S890, S960

**【ASTM】**A36, A572, A913, A1043, A1066, A1077

## 6-1. Supplementary environmental information

The Products are manufactured in ISO14000 certified factories.

East Japan Works (Keihin ,Certified data 1997/5/27 , Certification Number E010)

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/>)