



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AJ-22014E-A

Japan EPD Program by SuMPO

Sustainable Management Promotion Organization

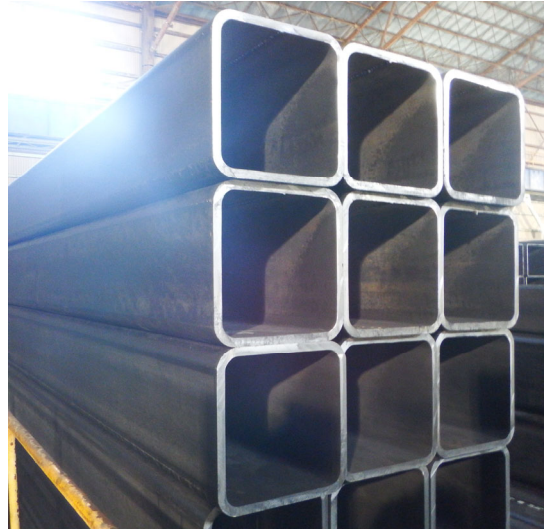
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JFE Steel Corporation

Square Steel Tubes for Building



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 (Kurashiki)

Chita Works

Main Standards : shown 5 Additional explanation

Shape : Square Steel Tubes

Main Section * thickness (Unit : mm,H,B:width, t:thickness)

□-H200xB200xt6~□-H550xB550xt28

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-22014E-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-23009
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	2100	kg-CO ₂ eq
Acidification		-1.8	-0.12	kg-SO ₂ eq
Eutrophication		0.036	0.056	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	2.1E+03	7.3E+02	2.3E+01	1.3E+03	-	-1.1E+03
Ozone layer destruction		kg-CFC-11eq	-1.5E-07	1.8E-07	1.5E-10	-3.3E-07	-	-2.0E-07
Acidification		kg-SO ₂ eq	-1.2E-01	3.8E-01	1.8E-01	-6.9E-01	-	-1.7E+00
Photochemical ozone		kg-C ₂ H ₄ eq	1.3E-02	6.5E-03	3.7E-03	2.9E-03	-	-2.3E-01
Eutrophication		kg-PO ₄ ³⁻ eq	5.6E-02	6.6E-06	1.3E-13	5.6E-02	-	-2.0E-02

2. Life cycle inventory analysis (LCI)

項目		単位
Non-renewable material resources	9.5E+02	kg
Non-renewable energy resources	3.2E+04	MJ
Renewable material resources	1.0E+03	kg
Renewable primary energy	1.5E+02	MJ
Consumption of freshwater	2.1E+00	m ³

3. Material composition

Material		Unit
iron[Fe]	≥96.8	wt%
carbon[C]	≤0.25	wt%
silicon[Si]	≤0.55	wt%
manganese[Mn]	≤1.65	wt%
phosphorous[P]	≤0.040	wt%
sulfur[S]	≤0.040	wt%

4. Waste to disposal

Parameter		Unit
Hazardous waste	0.0E+00	kg
Non-hazardous waste.	9.1E-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 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

【JIS】 STKR400, STKR490

【Minister-approved products】 BCR295, JBC®295, JBCR®385, JBCR®325P

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

Chita Works (Certified data 1999/7/22 ,Certification Number E026)

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

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/>)