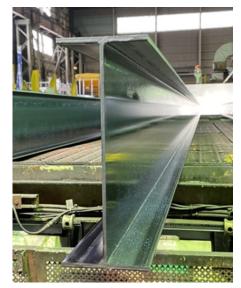


## Japan EPD Program by SuMPO Sustainable Management Promotion Organization

14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan https://ecoleaf-label.jp/



# Welded light gauge H-Sections



### **Functional unit**

1 metric ton

#### System boundary

- □ final products ■intermediate products
  - Production stage (Raw material supply, Transport to factory, Manufacturing)

and Recycling potential

#### Main specifications of the product

#### Production Site:

Light Shapes Plant (Kurashiki) Representative Standards: SWH400, SWH400-M Shape: Light gauge H-Sections Representative Section Size: Web Height (H); 100 - 300mm Fluage Width (B); 60 - 150mm Web thickness (t1); 2.8 - 6.0mm Flange thickness (t2); 3.2 - 9.0mm

Registration#	JR-AJ-24065E				
PCR number	PA-180000-AJ-06				
PCR name	Steel products for construction				
Publication date	21 March 2025				
Verification date	13 February 2025				
Verification method	Product-by-product				
Verification#	JV-AJ-24065				
Expiration date	12 February 2030				
PCR review was conducted by:					
Approval date	10 May 2023				
PCR review	Yasunari Matsuno				
panel chair	(Chiba University)				
Third party verifi	er*				

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.

#### **Company Information**

JFE Steel Corporation Planning&Marketing Dept., Construction Materials & Services Business Division https://www.jfe-steel.co.jp/en/index.html

Registration number : JR-AJ-24065E

D Sumpo EPD

FIED Type III Environmental Declaration (EPD)

Registration number : JR-AJ-24065E

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1. Results of life cycle impact assessment (LCIA)					
Stage Parameter	Production stage and Recycling potential [A1],[A2],[A3] and [D]	Production stage (cradle to gate) [A1],[A2] and [A3]	Unit		
Global warming IPCC2013 GWP100a	2.5E+03	3.5E+03	kg-CO <sub>2</sub> eq		
Acidification	-8.1E-01	7.5E-01	kg-SO <sub>2</sub> eq		
Photochemical ozone	2.5E-02	4.4E-02	kg-PO4 <sup>3-</sup> eq		

Stage Parameter	Unit	Total	[A1] Raw material supply	[A2] Transport to factory	[A3] Manufacturing	[D] Recycling potential
Global warming IPCC2013 GWP100a	kg-CO <sub>2</sub> eq	3.5E+03	8.9E+02	1.0E+01	2.6E+03	-1.0E+03
Ozone layer destruction	kg-CFC-11eq	4.4E-07	2.6E-07	6.9E-11	1.8E-07	-1.8E-07
Acidification	kg-SO <sub>2</sub> eq	7.5E-01	4.5E-01	4.8E-02	2.5E-01	-1.6E+00
Photochemical ozone	kg-C <sub>2</sub> H <sub>4</sub> eq	1.1E-02	7.1E-03	9.0E-04	3.2E-03	-2.2E-01
Eutrophication	kg-PO <sub>4</sub> <sup>3-</sup> eq	4.4E-02	1.4E-05	6.1E-14	4.4E-02	-1.9E-02

2. Life cycle inventory analysis (LCI)				
Parameter		Unit		
Non-renewable material resources	1.6E+03	kg		
Non-renewable energy resources	4.2E+04	MJ		
Renewable material resources	1.1E+03	kg		
Renewable primary energy	1.5E+02	MJ		
Consumption of freshwater	5.1E+00	m³		

3. Material composition				
Material		Unit		
iron [Fe]	≧98.0	wt%		
carbon [C]	≦0.20	wt%		
silicon [Si]	≦0.35	wt%		
manganese [Mn]	≦1.40	wt%		
phosphorus [P]	≦0.03	wt%		
sulfur [S]	≦0.02	wt%		

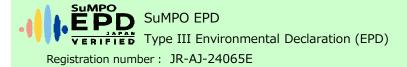
4. Waste to disposal		
Parameter		Unit
Hazardous waste	0.0E+00	kg
Non-hazardous waste.	2.4E+00	kg

\*Data derived from LCA and not assigned to the impact categories of LCIA

#### 5. Additional explanation

- $\boldsymbol{\cdot}$  This EPD shows the results calculated without applying system extensions.
- Scrap recycling potential is calculated based on ISO 20915/JIS Q 20915 and shown as [D] in table 1. Recycling ratio used in this calculation is 93.0%. (Using data is 2018FY from The Japan Iron and Steel Federation, The Japan ferrous raw materials association and The Japan Steel Can recycling Association).
- The environmental impact of self-generated electricity was calculated as primary data of fuel and the basic unit data of grid power consumption is the average of 10 electric power suppliers of Japan in 2014FY.
- Each item (except iron) in table 3 is the maximum value of all product standards covered by this EPD.

• Primary data in 2021 is used.



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6-1. Supplementary environmental information The production site is certified to ISO 14001.

us substand	ces
CAS No.	Reference to standards or regulations
7349-96-5	<ul> <li>Industrial Safety and Health Act</li> </ul>
7440-50-8	<ul> <li>Industrial Safety and Health Act</li> </ul>
7440-02-0	<ul> <li>Industrial Safety and Health Act</li> </ul>
7440-47-3	<ul> <li>Industrial Safety and Health Act</li> </ul>
7439-98-7	<ul> <li>Industrial Safety and Health Act</li> </ul>
7440-48-4	<ul> <li>Industrial Safety and Health Act</li> </ul>
	CAS         No.           7349-96-5         7440-50-8           7440-02-0         7440-47-3           7439-98-7         7439-98-7

#### 7. Assumptions of secondary data used

IDEA v2.1.3 database is used. Steel scrap data (JP-AJ-0001) from the Japan Iron and Steel Federation are used.

8.	Rem	narks	
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- 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/)

Registration number : JR-AJ-24065E