



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AJ-22002E

EcoLeaf Environmental Labeling Program

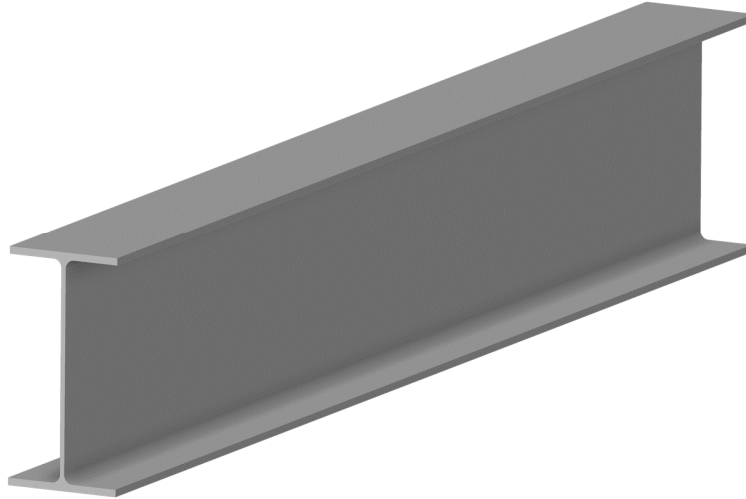
Sustainable Management Promotion Organization

2-1, Kaji-cho 2 chome, Chiyoda-ku, Tokyo Japan

<https://ecoleaf-label.jp>

NIPPON STEEL | NIPPON STEEL STRUCTURAL SHAPES CORPORATION

Wide flange shapes



Functional unit

1 t

System boundary

 final products intermediate products

Production Stage and optional supplementary information

Main specifications of the product

Production sites : Nippon Steel Structural Shapes Corporation

Main standards : JIS G 3101 (SS400)

JIS G 3106 (SM400A,B, SM490A,B, SM490YA,YB)

JIS G 3136 (SN400A,B, SN490B)

Type : H-shape

Main sizes(unit:mm,t:thickness)

H150(t5) × 75(t7) ~ H500(t10)X200(t16)

H148(t6) × 100(t9)~H340(t9)X250(t14)

H100(t6) × 100(t8)~H300(t10)X300(t15)

Company Information

Nippon Steel Structural Shapes Corporation

Production Planning Department

URL: <https://www.shapes.nipponsteel.com/>

Registration#	JR-AJ-22002E
PCR number	PA-180000-AJ-03
PCR name	Steel products for construction
Publication date	31/03/2022
Verification date	02/21/2022
Verification method	Product-by-product
Verification#	JV-AJ-22002
Expiration date	02/20/2027
PCR review was conducted by:	
Approval date	10/1/2019
PCR review panel chair	Yasunari Matsuno (Chiba University)

Third party verifier*

Yuki Sakamoto

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]	[A1~A3]	Unit
Global warming IPCC2013 GWP100a		680	930	kg-CO ₂ eq
Acidification		0.80	1.2	kg-SO ₂ eq
Eutrophication		0.017	0.021	kg-PO ₄ ³⁻ eq

Table Legend

【A1】: Raw mterial supply

【A2】: Transport to factory

【A3】: Manufacturing

【D】: Recycling potential

【A1~A3】: sum of 【A1】、【A2】and【A3】 (cradle to gate)

【A1~A3】+【D】: sum of 【A1】、【A2】、【A3】 and 【D】 (cradle to gate with allocation for scrap recycling)

Parameter	stage	Unit	[A1~A3]	[A1]	[A2]	[A3]	[D]
Global warming IPCC2013 GWP100a		kg-CO ₂ eq	9.3E+02	5.3E+02	1.6E+01	3.9E-02	-2.5E+02
Ozone layer destruction		kg-CFC-11eq	1.5E-06	1.5E-06	1.4E-10	2.8E-08	-4.5E-08
Acidification		kg-SO ₂ eq	1.2E+00	8.9E-01	5.1E-02	2.5E-01	-3.8E-01
Photochemical ozone		kg-C ₂ H ₄ eq	9.1E-02	4.3E-03	9.4E-05	8.7E-02	-5.4E-02
Eutrophication		kg-PO ₄ ³⁻ eq	2.1E-02	2.1E-02	1.2E-13	2.1E-07	-4.6E-03

2. Life cycle inventory analysis (LCI)

Parameter		Unit
Non-renewable material resources	2.2E+02	kg
Renewable material resources	4.4E+02	kg
Non-renewable energy resources	1.5E+04	MJ
Renewable primary energy	2.1E+02	MJ
Consumption of freshwater	1.7E+00	m ³

3. Material composition

Material		Unit
iron [Fe]	≥97.45	%
carbon [C]	≤0.25	%
silicon [Si]	≤0.55	%
manganese [Mn]	≤1.65	%
phosphorus [P]	≤0.05	%
sulfur [S]	≤0.05	%

4. Waste to disposal

Parameter		Unit
Hazardous waste	0.00E+00	kg
Non-hazardous waste.	1.40E+00	kg

5. Additional explanation

- Each LCI includes allocation for scrap recycling as an optional supplementary information [D]. Recycling rate (RR) used in this calculation is 93.0% (calculated based on ISO 20915/JIS Q 20915 and using Japan data from Japan Iron and Steel Federation and Japan Steel Can Recycling Association).
- Scenarios of transport to site follow the PCR.
- Each item (except iron) in table 3 is the maximum value of the standards of the products.
- The average grid power supply of 10 electric power suppliers of Japan in 2014 is used in the LCI calculation for grid electricity.
- Primary data collected in 2018.

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



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6-1. Supplementary environmental information

These products are made in the ISO 14001 certified factory.

6-2. Regulated hazardous substances

Substance	CAS No.	Reference to standards or regulations
manganese [Mn]	7439-96-5	Industrial Safety and Health Act
copper [Cu]	7440-50-8	Industrial Safety and Health Act
nickel [Ni]	7440-02-0	Industrial Safety and Health Act
chrominium [Cr]	7440-47-3	Industrial Safety and Health Act
molybdenum [Mo]	7439-98-7	Industrial Safety and Health Act

7. Assumptions of secondary data used

The IDEA2.1.3 database Steel scrap LCI data from The Japan Iron and Steel Federation (JISF)

8. Remarks

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- For data quantification, please refer to the PCR and the Rules on Quantification and Declaration.
- Comparative assertion is permitted only when the Rules on Quantification and Declaration are satisfied.
(Reference URL : <https://ecoleaf-label.jp/regulation/>)

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