



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AJ-19009E

EcoLeaf Environmental Labeling Program

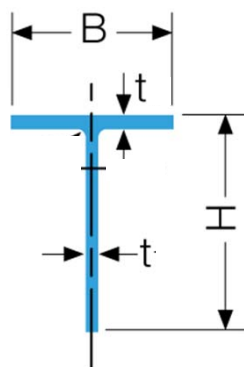
Sustainable Management Promotion Organization

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

<https://ecoleaf-label.jp>

NIPPON STEEL | NIPPON STEEL CORPORATION

## T-shapes from NSHYPER BEAM™



## Functional unit

1 t

## System boundary

 final products       intermediate products

Production Stage and optional supplementary information

## Main specifications of the product

Production sites : Kimitsu and Wakayama Works

Main standards :

SN400A,SN400B,SN490B,SM400A,SM400B,SM490A,  
SM490B,SM490YA,SM490YB,SS400

Type : T-shape

Main sizes(unit:mm,t:thickness)

H200(t9) × B200(t12) ~ H500(t19) × B400(t40)

## Company Information

NIPPON STEEL CORPORATION

<https://www.nipponsteel.com/en/product/construction/>

Registration#	JR-AJ-19009E
PCR number	PA-180000-AJ-02
PCR name	Steel products for construction
Publication date	12/6/2019
Verification date	11/29/2019
Verification method	Product-by-product
Verification#	JV-AJ-19009
Expiration date	11/28/2024
PCR review was conducted by:	
Approval date	8/13/2019
PCR review panel chair	Yasunari Matsuno (Chiba University)

## Third party verifier\*

Katsuyuki Nakano

Independent verification of data &amp; 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		870	2000	kg-CO <sub>2</sub> eq
Acidification		0.48	2.2	kg-SO <sub>2</sub> eq
Photochemical ozone		0.65	0.89	kg-C <sub>2</sub> H <sub>4</sub> eq

Parameter	stage	Unit	[A1~A3]	[A1]	[A2]	[A3]	[D]
Global warming IPCC2013 GWP100a		kg-CO <sub>2</sub> eq	2.0E+03	6.3E+02	1.2E+02	1.2E+03	-1.1E+03
Ozone layer destruction		kg-CFC-11eq	2.5E-06	1.7E-07	7.9E-10	2.3E-06	-2.0E-07
Acidification		kg-SO <sub>2</sub> eq	2.2E+00	5.3E-01	6.7E-02	1.6E+00	-1.7E+00
Photochemical ozone		kg-C <sub>2</sub> H <sub>4</sub> eq	8.9E-01	4.8E-03	1.0E-03	8.9E-01	-2.4E-01
Eutrophication		kg-PO <sub>4</sub> <sup>3-</sup> eq	4.1E-02	1.8E-05	7.1E-13	4.1E-02	-2.1E-02

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

Parameter		Unit
Non-renewable material resources	9.0E+02	kg
Non-renewable energy resources	3.0E+04	MJ
Renewable material resources	8.9E+02	kg
Renewable primary energy	9.7E+02	MJ
Consumption of freshwater	3.9E+00	m <sup>3</sup>

**3. Material composition**

Material		Unit
iron [Fe]	≥97.4	%
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.	2.02E+00	kg

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

**5. Additional explanation**

①Each LCI figure includes allocation for scrup recycling as a optional supplementary infomation[D].Recycling rate(RR) of this EPD is 93.1%(the average of Japan in 2014).

②Transport to site scienario is based on PCR.

③Each material figure(except iron) is the maximum value of these product standerds.

④The source of the unit power consumption is the average of 10 electric power suppliers of Japan in 2014.

○The folowing standerds are also available for this product as a custom-order.

•SN400C,SN490C,SMA400AW,SMA400BW,SMA490AW,SMA490BW



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#### 6-1. Supplementary environmental information

Wakayama Works has ISO 14001 certificate.

#### 6-2. Regulated hazardous substances

Substance	CAS No.	Reference to standards or regulations
manganese [Mn]	7439-96-5	Industrial Safety and Health Act

#### 7. Assumptions of secondary data used

We use the IDEA2.1.3 data and scrap iron data from the Japan Iron and Steel Federation(J.I.S.F).

#### 8. Remarks

- 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/>)

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