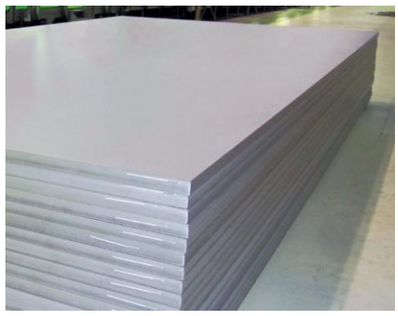
SuMPO EPD
Type III Environmental Declaration (EPD)
Registration number : JR-BO-24004E-B

Japan EPD Program by SuMPO
Sustainable Management Promotion Organization
14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan
https://ecoleaf-label.jp/

NIPPON STEEL

Stainless Steel (SUS304)



Functional unit

1 t

System boundary

☐ final products ■intermediate products

Production Stage

(Raw material supply, Transport, Manufacturing)

Main specifications of the product

Production sites :

Yamaguchi Works, East Nippon Works,

Kyushu Works

Main standards :

JIS(Japanese Industrial Standards)

See Table 8.Remarks for details

Type : Sheet, Strip, Wire rod, Steel bar

Main sizes(unit:mm, t:thickness, φ:diameter) :

t=0.1～150, φ=5.5~60

Company Information

NIPPON STEEL CORPORATION

Stainless Steel Unit Stainless Steel Technology Div.

https://www.nipponsteel.com/

Registration#	JR-BO-24004E-B
PCR number	PA-187000-BO-03
PCR name	Stainless steel products
Publication date	11/25/2024
Verification date	10/11/2024
Verification method	Product-by-product
Verification#	JV-BO-24004
Expiration date	10/10/2029

PCR review was conducted by:

Approval date	2/4/2023
PCR review panel chair	Ken Yamagishi Sustainable Management Promotion Organization

Third party verifier*

Naoki Makino

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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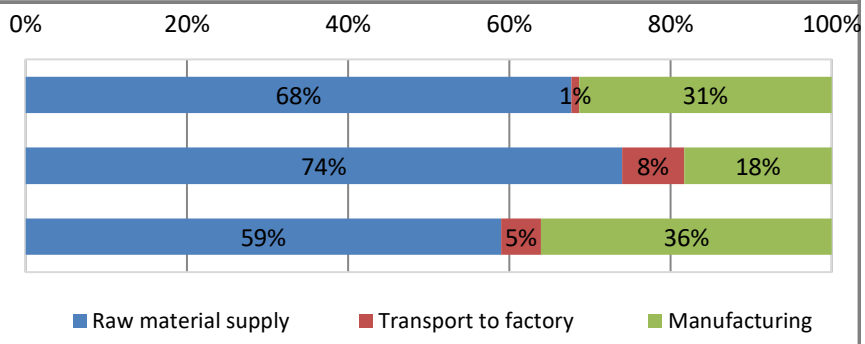
1. Results of life cycle impact assessment (LCIA)

Global warming IPCC2013 GWP100a	3600	kg-CO_2eq
Acidification	3.9	kg-SO_2eq
Photochemical ozone	0.10	kg-C_2H_4eq



Parameter \ stage	Unit	Total	Raw material supply	Transport to factory	Manufacturing		
Global warming IPCC2013 GWP100a	kg-CO_2eq	3.6E+03	2.4E+03	3.4E+01	1.1E+03		
Ozone layer destruction	kg-CFC-11eq	1.4E-04	1.3E-04	2.6E-10	6.1E-06		
Acidification	kg-SO_2eq	3.9E+00	2.9E+00	3.0E-01	7.1E-01		
Photochemical ozone	kg-C_2H_4eq	1.0E-01	5.9E-02	5.0E-03	3.6E-02		
Eutrophication	kg-PO_4^{3-}eq	1.3E+00	8.4E-03	2.2E-13	1.3E+00		

2. Life cycle inventory analysis (LCI)

Parameter		Unit
Non-renewable material resources	4.5E+02	kg
Non-renewable energy	4.8E+04	MJ
Renewable material resources	8.2E+02	kg
Renewable primary energy	1.7E+03	MJ
Consumption of freshwater	4.8E+00	m^3

3. Material composition

Material		Unit
C	≦0.08	%
Si	≦1.00	%
Mn	≦2.00	%
P	≦0.045	%
S	≦0.030	%
Ni	≦10.50	%
Cr	≦20.00	%
Fe	≧66	%

4. Waste to disposal

Parameter		Unit
Hazardous waste	0.0E+00	kg
Non-hazardous waste	3.7E+00	kg

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

5. Additional explanation

1. Scenarios of transport to site follow the PCR. For the inter-factory transportation for intermediate products, distances were measured using mapping software.
2. Each item (except iron) in table 3 is the maximum value of all product standards covered by this EPD. The iron content is adjusted by the contents of other components.
3. Primary data collected in 2022. The source of the unit power consumption is the average of 10 electric power suppliers of Japan in 2014.
4. The calculation results are weighted averages for sheet, bar, wire rod and plate.
5. Stainless steel slab and billet for this product are made by Yamaguchi Works.

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6-1. Supplementary environmental information

Each production area 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
Chromium[Cr]	7440-47-3	Industrial Safety and Health Act
Nickel[Ni]	7440-02-0	Industrial Safety and Health Act

7. Assumptions of secondary data used

The IDEA2.1.3 data is used.

8. Remarks

○JIS(Japanese Industrial Standards) : JIS G 4303(Stainless steel bars), JIS G 4304(Hot-rolled stainless steel plate, sheet an dstrip), JIS G 4305(Cold-rolled stainless steel plate, sheet and strip), JIS G 4308(Stainless steel wire rods)

・November 2025 : Change to contact details. ・April 2025 : Modification based on the change of company name.

- 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/)