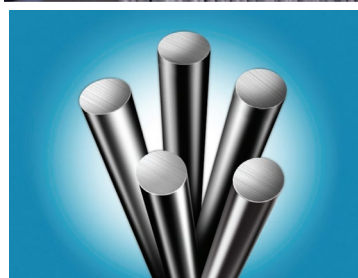


■ NIPPON STEEL | NIPPON STEEL CORPORATION

Stainless Steel (Ferritic・Martensitic)



Functional unit

1t

System boundary

final products intermediate products

Production Stage

(Raw material supply, Transport, Manufacturing)

Main specifications of the product

Production sites : Yamaguchi Works, East Nippon Work

Main standards :

JIS(Japanese Industrial Standards), ASTM, ASME,
NIPPON STEEL Standards

See Table 8.Remarks for details

Type : Sheet, Strip, Wire rod, Steel bar

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

t=0.1~9.0, φ=5.5~60

Company Information

NIPPON STEEL CORPORATION

Stainless Steel Unit Stainless Steel Technology Div.

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

Registration#	JR-BO-24001E-C
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-24001
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

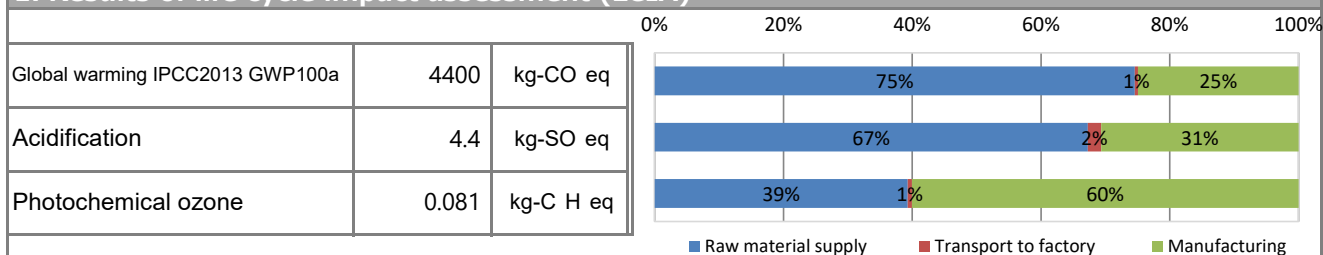
Independent verification of data & declaration in accordance with ISO14025 and ISO21930

internal external

*Auditor's name is stated if system certification has been performed.

Registration number : JR-BO-24001E-C

1. Results of life cycle impact assessment (LCIA)



Be sure to refer to “6-1. Supplementary environmental information” for Scope 3 and carbon footprint calculations.

Parameter	stage	Unit	Total	Raw material supply	Transport to factory	Manufacturing
Global warming IPCC2013 GWP100a		kg-CO ₂ eq	4.4E+03	3.3E+03	2.3E+01	1.1E+03
Ozone layer destruction		kg-CFC-11eq	1.6E-04	1.6E-04	1.9E-10	1.9E-06
Acidification		kg-SO ₂ eq	4.4E+00	3.0E+00	9.2E-02	1.4E+00
Photochemical ozone		kg-C ₂ H ₄ eq	8.1E-02	3.2E-02	5.3E-04	4.9E-02
Eutrophication		kg-PO ₄ ³⁻ eq	2.9E-01	8.5E-05	1.6E-13	2.8E-01

2. Life cycle inventory analysis (LCI)

Parameter	Unit	Value
Non-renewable material resources	kg	3.2E+02
Non-renewable energy	MJ	5.9E+04
Renewable material resources	kg	6.5E+02
Renewable primary energy	MJ	1.4E+03
Consumption of freshwater	m ³	1.2E+01

3. Material composition

Material	Unit	Value
C	%	≒ 0.4
Si	%	≒ 3.0
Mn	%	≒ 2.0
P	%	≒ 0.15
S	%	≒ 0.4
Ni	%	≒ 2.5
Cr	%	≒ 31
Mo	%	≒ 4.0
Cu	%	≒ 2.0
Nb	%	≒ 1.0
Ti	%	≒ 1.0
Al	%	≒ 6.0
Sn	%	≒ 1.0
N	%	≒ 0.12
Fe	%	≒ 65

4. Waste to disposal

Parameter	Unit	Value
Hazardous waste	kg	0.0E+00
Non-hazardous waste	kg	4.1E+01

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

5. Additional explanation

- Scenarios of transport to site follow the PCR. For the inter-factory transportation for intermediate products, distances were measured using mapping software.
- 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.
- Primary data collected in 2022. The source of the unit power consumption is the average of 10 electric power suppliers of Japan in 2014.
- The calculation results are weighted averages for sheet, bar and wire rod.
- Products made from external crude steel (melted) are not included.

6-1. Supplementary environmental information

Each production area has ISO 14001 certificate.

Note on Global warming IPCC2013 GWP100a: When purchasers of this product calculate GHG emissions under GHG Protocol Scope 3, Category 1 for their organization, or when calculating the carbon footprint of products manufactured using this product, they must check the following URL:

<https://www.nipponsteel.com/en/product/cfp/certificate.html>

(The content of the above URL is not subject to EPD verification.)

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
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 and strip), JIS G 4305(Cold-rolled stainless steel plate, sheet and strip), JIS G 4308(Stainless steel wire rods)

○ASTM A240/A240M (Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications)

○ASME BPVC. II .A SA-240/SA-240M (Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications)

○NIPPON STEEL Standards : Hot-rolled stainless steel sheet and strip, Cold-rolled stainless steel sheet and strip, Stainless steel bars, Stainless steel wire rods

- November 2025 : Change to contact details.
- April 2025 : Modification based on the change of company name.
- April 2026 : Additional explanatory notes added to "6-1. Supplementary environmental information".

- 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/>)