## Japan EPD Program by SuMPO

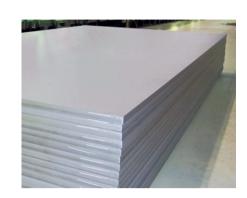
Sustainable Management Promotion Organization 14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan https://ecoleaf-label.jp/



Registration number: JR-BO-24002E-B

# Stainless Steel (Austenitic • Duplex)









#### **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, Kyushu Works,

East Nippon Works

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):

 $t=0.1\sim150$ , φ=5.5~60

## **Company Information**

#### NIPPON STEEL CORPORATION

Stainless Steel Unit Stainless Steel Technology Div.

https://www.nipponsteel.com/

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		
Publication date 11/25/2024  Verification date 10/11/2024	PA-187000-BO-03	
Verification date 10/11/2024		
Verification method Product-by-product		
Verification# JV-BO-24002		
Expiration date 10/10/2029		
PCR review was conducted by:		
Approval date 2/4/2023		
PCR review Ken Yamagishi		
panel chair Sustainable Management Promotion C	)rganization	

## Third party verifier\*

#### Naoki Makino

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

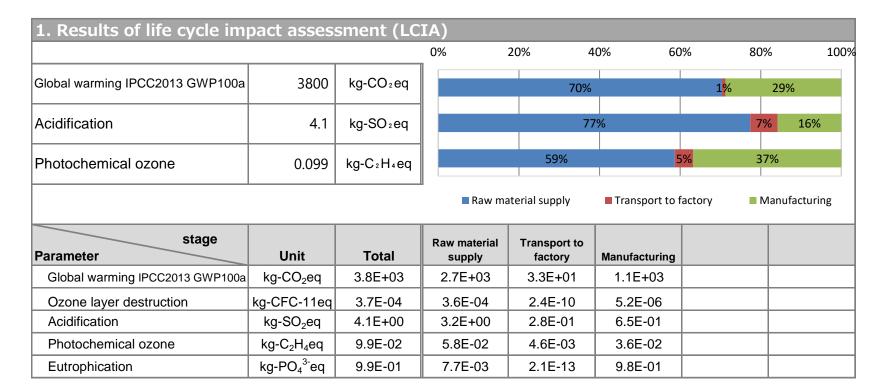
□internal ■ external

Registration number: JR-BO-24002E-B

<sup>\*</sup>Auditor's name is stated if system certification has been performed.

Registration number: JR-BO-24002E-B

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



2. Life cycle inventory analysis (LCI)			
Parameter		Unit	
Non-renewable material resources	5.7E+02	kg	
Non-renewable energy	5.1E+04	MJ	
Renewable material resources	8.0E+02	kg	
Renewable primary energy	1.6E+03	MJ	
Consumption of freshwater	4.6E+00	m <sup>3</sup>	

4. Waste to disposal		
Parameter		Unit
Hazardous waste	0.0E+00	kg
Non-hazardous waste	3.7E+00	kg

<sup>\*</sup>Data derived from LCA and not assigned to the impact categories of LCIA  $\,$ 

3. Material composition			
Material		Unit	
С	≦0.2	%	
Si	≦ 5.0	%	
Mn	≦16	%	
Р	≦0.05	%	
S	≦0.4	%	
Ni	≦25	%	
Cr	≦28	%	
Мо	<b>≦</b> 7.0	%	
Cu	≦ 5.0	%	
Nb	≦ 1.0	%	
Ti	≦ 1.0	%	
Al	≦2.0	%	
W	≦3.0	%	
N	≦0.4	%	
Fe	≧ 47	%	

# 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.

## Japan EPD Program by SuMPO

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

## 6-1. Supplementary environmental information

Each production area has ISO 14001 certificate.

Registration number: JR-BO-24002E-B

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

OJIS(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)

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

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

ONIPPON STEEL Standards: Hot-rolled stainless steel sheet and strip, Cold-rolled stainless steel sheet and strip, Stainless steel plates, Stainless steel bars, 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/)

Registration number: JR-BO-24002E-B