SuMPO EPD
Type III Environmental Declaration (EPD)
Registration number：JR-AW-22017E-A

Japan EPD Program by SuMPO
Sustainable Management Promotion Organization
14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan
KANDA SQUARE GATE
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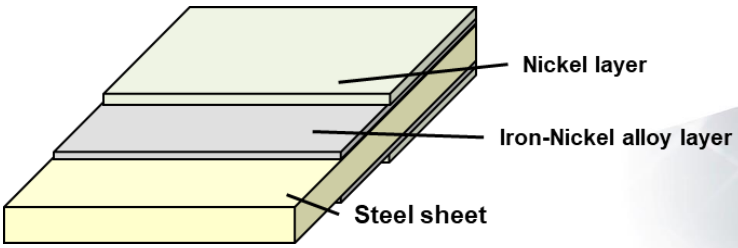
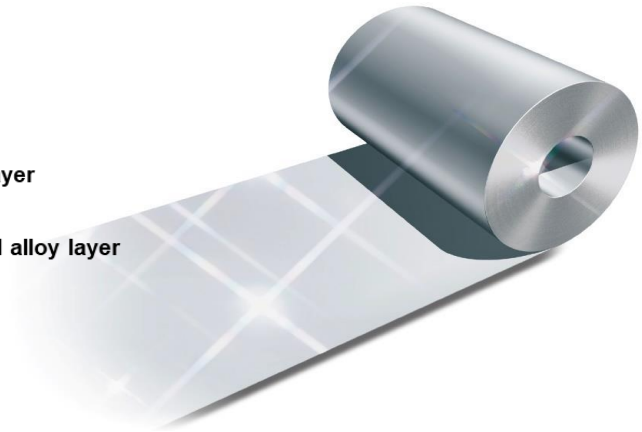
NIPPON STEEL CORPORATION

Nickel plated steel sheet (SUPERNICKEL™)





Functional unit

1 t

System boundary

☐ final products ■intermediate products

Production stages (raw material procurement and product manufacture) and indirect impacts

Main specifications of the product

Production site : Setouchi Works

Main standards: Nippon Steel Standard(NTSN,NTSNC,etc)

Shape : Coil, hoop and sheet

Main thickness (unit: mm, t:=thickness)

t = 0.15 to 1.0

Company Information

NIPPON STEEL CORPORATION
Tin Mill Products Technology Dept.,
Flat Products Technology Div.
TEL: 03-6867-6555

Registration#	JR-AW-22017E-A
PCR number	PA-180000-AW-05
PCR name	Steel products (except for construction use)
Publication date	11/1/2022
Verification date	1/29/2024
Verification method	Product-by-product
Verification#	JV-AW-24023
Expiration date	1/28/2029

PCR review was conducted by:

Approval date	5/10/2023
PCR review panel chair	Yasunari Matsuno (Chiba University)

Third party verifier*

Hiroyuki Uchida

Independent verification of data & declaration in accordance with ISO14025

☐internal ■external

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

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①Results of life cycle impact assessment (LCIA)

Domain of influence	Manufacturing + Indirect impact*1	Manufacturing only*2	Unit
Climate change IPCC2013 GWP100a	2000	3100	kg-CO_2eq
Acidification	16	18	kg-SO_2eq
Eutrophication	0.92	0.94	kg-PO_4^{3-}eq

*1:the total of (1) to (3), *2:the total of (1) to (2)

Parameter \ stage	Unit	the total of (1)to (2)	(1)raw material procurement	(2)product manufacture			(3)indirect impacts
Global warming IPCC2013 GWP100a	kg-CO_2eq	3.1E+03	7.2E+02	2.4E+03			-1.2E+03
Ozone layer destruction	kg-CFC-11eq	-1.0E-06	8.4E-08	-1.1E-06			-2.1E-07
Acidification	kg-SO_2eq	1.8E+01	1.6E+01	1.8E+00			-1.8E+00
Photochemical oxidant	kg-C_2H_4eq	1.3E-01	1.1E-01	2.6E-02			-2.5E-01
Eutrophication	kg-PO_4^{3-}eq	9.4E-01	9.0E-01	4.1E-02			-2.1E-02

②Life cycle inventory analysis (LCI)

項目		単位
Non-renewable material resources	6.3E+02	kg
Renewable material resources	9.5E+02	kg
Non-renewable energy resources	3.8E+04	MJ
Renewable primary energy	5.2E+01	MJ
Consumption of freshwater	1.0E+00	m^3

③Material composition

Material		Unit
Iron [Fe]	≧79.1	%
Manganese [Mn]	≦0.60	%
Nickel [Ni]	≦20	%
Chromium [Cr]	≦0.10	%
Copper [Cu]	≦0.20	%

④ Waste to disposal

Parameter		Unit
Treated MSW for landfill	0.0E+00	kg
Treated industrial waste for landfill	1.6E+00	kg

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

⑤Additional explanation

1)Steel material recycling effects were assessed based on JISQ20915 as indirect impacts. Their values are shown in column ① of the table above. The indirect impacts are added to the total of ① to ② in the table above. The recycling rate in this calculation is 93.0%. (The calculation was based on JISQ20915 and used the domestic data of FY2018. (Source: The Japan Iron and Steel Federation, the Japan Ferrous Raw Materials Association, and Japan Steel Can Recycling Association))

2)Transport to site scenario is based on PCR.

3)Regarding ③ Material composition on this sheet, except for iron, the maximum value of each upper limit value of the applicable steel standards is indicated.

4)The calculation results do not indicate the figures of individual products, but the average of all nickel plated steel sheet(SUPERNICKEL™) made by Nippon Steel .

5)The primary data used are the actual figures for FY2018. The source of the unit power consumption is the average of 10 electric power suppliers of Japan in FY2014.

6)Concerning the transport of coking coal, due to the nature of the unit consumption database used, the unit consumption is double-counted for coking coal and coal transport.

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⑥-1. Supplementary environmental information

Products are manufactured at an ISO14001 certified Works.

⑥-2. Regulated hazardous substances

Substance	CAS No.	Reference to standards or regulations
Manganese [Mn]	7439-96-5	the Industrial Safety and Health Act
Nickel [Ni]	7440-02-0	the Industrial Safety and Health Act
Chromium [Cr]	7440-47-3	the Industrial Safety and Health Act
Copper [Cu]	7440-50-8	the Industrial Safety and Health Act

⑦ Assumptions of secondary data used

The IDEA v2.1.3 data were used. For the scrap primary unit (scrap LCI), the primary unit registration No.: JP-AJ-0001 was used.

⑧Remarks

January 2024; Modification about allocation method of by-product gases
November 2024: Change of EcoLeaf mark to SuMPO EPD mark

- 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/)