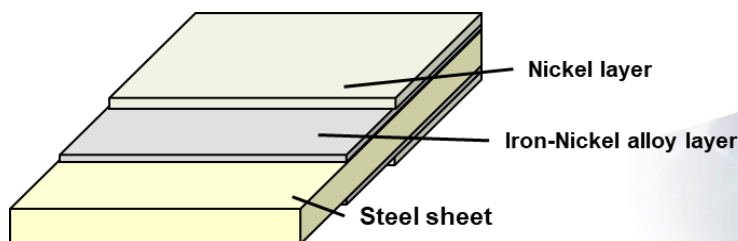


NIPPON STEEL CORPORATION

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.,
 Tin Mill Products & Electrical Steel Sheet Div.
 TEL: 03-6867-6558

Registration#	JR-AW-22017E-B
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.



① Results 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 ₂ eq
Acidification	16	18	kg-SO ₂ eq
Eutrophication	0.92	0.94	kg-PO ₄ ³⁻ eq

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

*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 ₂ eq	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 ₂ eq	1.8E+01	1.6E+01	1.8E+00	-1.8E+00
Photochemical oxidant		kg-C ₂ H ₄ eq	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

② Life 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

③ Material 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

⑤ Additional explanation

- 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))
- Transport to site scenario is based on PCR.
- 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.
- 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 .
- 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.
- 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.

⑥-1. Supplementary environmental information

Products are manufactured at an ISO14001 certified Works.

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	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.

⑧ Remarks

January 2024; Modification about allocation method of by-product gases

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/>)