



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AW-22021E

Japan EPD Program by SuMPO

Sustainable Management Promotion Organization

2-1, Kaji-cho 2 chome, Chiyoda-ku, Tokyo Japan

<https://ecoleaf-label.jp>

NIPPON STEEL | NIPPON STEEL CORPORATION

Non-Oriented Electrical Steel Sheets



Functional unit

1 t

System boundary

final products intermediate products

Production Stage and optional supplementary information

Main specifications of the product

Production sites : Setouchi Works, Kyushu Works

Main standards :

NIPPON STEEL Grade (H, HX etc.)

See Table 8.Remarks for details.

Type : Coil, Hoop, Sheet

Main sizes (unit : mm, t : thickness)

t=0.15 ~ 0.70

Company Information

NIPPON STEEL CORPORATION

<https://www.nipponsteel.com/en/product/sheet/list/>

Registration#	JR-AW-22021E
PCR number	PA-180000-AW-03
PCR name	Steel products except for construction use
Publication date	11/25/2022
Verification date	10/25/2022
Verification method	Product-by-product
Verification#	JV-AW-22021
Expiration date	10/24/2027
PCR review was conducted by:	
Approval date	04/01/2022
PCR review panel chair	Yasunari Matsuno (Chiba University)

Third party verifier*

Tetsuya Okuyama

Independent verification of data & declaration in accordance with ISO14025

internal

external

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

Registration number : JR-AW-22021E



1. Results of life cycle impact assessment (LCIA)

Parameter	Stage	(1)+(2)+(3)	(1)+(2)	Unit
Global warming IPCC2013 GWP100a		1300	2300	kg-CO ₂ eq
Acidification		0.9	2.5	kg-SO ₂ eq
Eutrophication		0.057	0.077	kg-PO ₄ ³⁻ eq

Table Legend
 (1)Raw material supply
 (2)Production
 (3)Recycling potential

Parameter	stage	Unit	(1)+(2)	(1)	(2)	(3)
Global warming IPCC2013 GWP100a		kg-CO ₂ eq	2.3E+03	7.5E+02	1.6E+03	-1.1E+03
Ozone layer destruction		kg-CFC-11eq	1.2E-06	1.6E-07	1.0E-06	-1.9E-07
Acidification		kg-SO ₂ eq	2.5E+00	7.7E-01	1.7E+00	-1.6E+00
Photochemical oxidant		kg-C ₂ H ₄ eq	2.2E-02	8.0E-03	1.4E-02	-2.3E-01
Eutrophication		kg-PO ₄ ³⁻ eq	7.7E-02	7.3E-04	7.6E-02	-1.9E-02

2. Life cycle inventory analysis (LCI)

Parameter	Unit
Non-renewable material resources	5.4E+02 kg
Renewable material resources	1.9E+03 kg
Non-renewable energy resources	3.3E+04 MJ
Renewable energy resources	4.0E+02 MJ
Consumption of freshwater	1.5E+01 m ³

3. Material composition

Material	Unit
Fe	90 %
C	0.1 %
Si	5 %
Mn	4 %
P	0.2 %
S	0.05 %
Al	3 %
Ni	4 %
Sn	1 %
Cu	2 %

4. Waste to disposal

Parameter	Unit
Hazardous waste	- kg
Non-hazardous waste.	1.9E+00 kg

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

5. Additional explanation

- Each LCI includes allocation for scrap recycling as an optional supplementary information(3) at table.1 . Recycling rate (RR) used in this calculation is 93.0% (calculated based on ISO 20915/JIS Q20915 and using Japan data in 2018 from Japan Iron and Steel Federation and Japan Steel Can Recycling Association).
- Scenarios of transport to site follow the PCR.
- Each item (except iron) in table 3 is the maximum value of all product standards covered by this EPD. However, the iron content in each product is never less than 90%, and the contents of other components are adjusted.
- Primary data collected in 2018. The source of the unit power consumption is the average of 10 electric power suppliers of Japan in 2014.
- For the transport of metallurgical coal, the amount is double counted due to the characteristics of the inventory database on which this estimation is based.



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AW-22021E

Japan EPD Program by SuMPO

Sustainable Management Promotion Organization

2-1, Kaji-cho 2 chome, Chiyoda-ku, Tokyo Japan

<https://ecoleaf-label.jp>

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
Nickel [Ni]	7440-02-0	Industrial Safety and Health Act
Chromium [Cr]	7440-47-3	Industrial Safety and Health Act
Copper [Cu]	7440-50-8	Industrial Safety and Health Act
Tin [Sn]	7440-31-5	Industrial Safety and Health Act

7. Assumptions of secondary data used

The IDEA2.1.3 data and steel scrap data (JP-AJ-0001) from the Japan Iron and Steel Federation are used.

8. Remarks

NIPPON STEEL Grade

HILITECORE™ (e.g. 35H440, 50H350) , HIEXCORE™ (e.g. 50HX290, 25HX1400) ,

HIGH TENSILE STRENGTH HILITECORE™ (e.g. 35HXT780T) , HOMECORE™ (e.g. 50H1000, 50H1300) ,

SEMICORE (e.g. 50HS600)

- 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-AW-22021E