



Cold-Rolled Steel Sheets and Coils



Functional unit

1 t

System boundary

final products intermediate products

Main specifications of the product

Production sites:

East Nippon Works, Nagoya Works,
Setouchi Works, Kyushu Works

Main standards:

JIS(Japanese Industrial Standards),
NIPPON STEEL standards

For details, please refer to "8. Remarks" in EL sheet 2.

Shape: Coil and sheet

Main thickness (unit: mm, t:=thickness) : t =0.18~3.2

Company Information

NIPPON STEEL CORPORATION

Flat Products Unit Flat Products Planning Dept.

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

Registration#	JR-AW-22005E-B
PCR number	PA-180000-AW-05
PCR name	Steel products (except for construction use)
Publication date	4/21/2022
Verification date	1/19/2024
Verification method	Product-by-product
Verification#	JV-AW-24014
Expiration date	3/17/2027
PCR review was conducted by:	
Approval date	5/10/2023
PCR review panel chair	Yasunari Matsuno (Chiba University)

Third party verifier*

Tomoko Fuchigami

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-22005E-B

1. Results of life cycle impact assessment (LCIA)

Domain of influence	Manufacturing + Indirect impact*1	Manufacturing only*2	Unit
Global warming IPCC2013 GWP100a	1400	2600	kg-CO ₂ eq
Acidification	-0.13	1.8	kg-SO ₂ eq
Eutrophication	0.022	0.045	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	2.6E+03	5.9E+02	2.0E+03	-1.2E+03
Ozone layer destruction		kg-CFC-11eq	1.9E-07	1.2E-07	6.5E-08	-2.2E-07
Acidification		kg-SO ₂ eq	1.8E+00	6.3E-01	1.1E+00	-1.9E+00
Photochemical ozone		kg-C ₂ H ₄ eq	1.7E-02	6.0E-03	1.1E-02	-2.6E-01
Eutrophication		kg-PO ₄ ³⁻ eq	4.5E-02	6.7E-03	3.8E-02	-2.3E-02

2. Life cycle inventory analysis (LCI)

項目		単位
Non-renewable material resources	7.7E+02	kg
Non-renewable energy resources	2.9E+04	MJ
Renewable material resources	1.1E+03	kg
Renewable primary energy	1.7E+02	MJ
Consumption of freshwater	3.4E+00	m ³

3. Material composition

Material		Unit
iron [Fe]	≥95.0	%
carbon [C]	≤1.10	%
silicon [Si]	≤3.00	%
manganese [Mn]	≤3.00	%
phosphorus [P]	≤0.050	%
sulfur [S]	≤0.050	%

4. Waste to disposal

Parameter		Unit
Hazardous waste	-	kg
Non-hazardous waste.	2.7E+00	kg
Treated MSW for landfill	0.0E+00	kg
Treated industrial waste for landfill	2.7E+00	kg

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

5. Additional explanation

① Each LCI includes allocation for scrap recycling as an optional supplementary information [End-of-Life].

The indirect effect is added to the total value in Tables [Raw material acquisition], [Production] and [Distribution].

Recyclingrate (RR) used in this calculation is 93.0%

(calculated based on ISO 20915/JIS Q 20915 standards and using FY 2018 data from Japan Steel Can Recycling Association and Tetsugen Association).

② Material transport scenarios based on PCR.

③ 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 95%, and the contents of other components are adjusted.

④ Primary data collected in 2018. The source of the unit power consumption is the average of 10 electric power suppliers of Japan in 2014.

⑤ For the transport of metallurgical coal, the amount is double counted in Tables [Raw material acquisition] and [Distribution] due to the characteristics of the consumption rate database on which this estimation is based.

6-1. Supplementary environmental information

East Nippon Works, Nagoya Works, Setouchi Works and Kyushu Works have ISO 14001 certificates.
 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

7. Assumptions of secondary data used

We use the IDEA v2.1.3 data and steel scrap data(JP-AJ-0001) from the Japan Iron and Steel Federation.

8. Remarks

Typical Standards of JIS :

- JIS G 3141 General-Purpose Cold-Rolled Steel Sheets and Coils (e.g.:SPCC,SPCD,SPCE)
- JIS G 4051 Carbon Steel and Carbon Steel for Machine Structural Uses (e.g.:S20C)
- JIS G 4053 Structural Alloy Steel (e.g.:SCr420)
- JIS G 4401 Carbon Tool Steel (e.g.:SK85)
- JIS G 4404 Alloy Tool Steel (e.g.:SKS5)
- JIS G 3311 Cold-rolled special steel strips (e.g.:S35CM)

Typical Standards of NIPPON STEEL standards :

- Cold-Rolled Steel Sheets and Coils with Workability : Commercial Quality (e.g.:NSCC), Drawing Quality(e.g.:NSC270D,NSC270E) ,Extra Deep Quality(e.g.: NSC270F)
- High-Strength Steel Sheets : Commercial Quality (e.g.:NSC390N) , Drawing Quality (e.g.:NSC340R) Deep Drawing Quality (e.g.:NSC340E) ,Bake Hardening Type Drawing Quality (e.g.:NSC340BH) , Dual-Phase (e.g.:NSC490D) ,Super-Ductile Type (e.g.:NSC590T)
- 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/>)