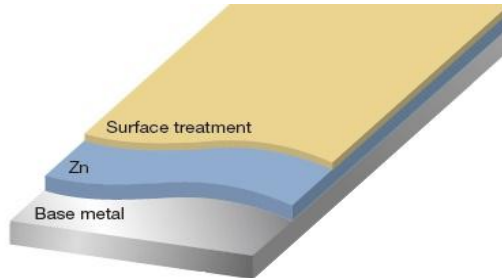
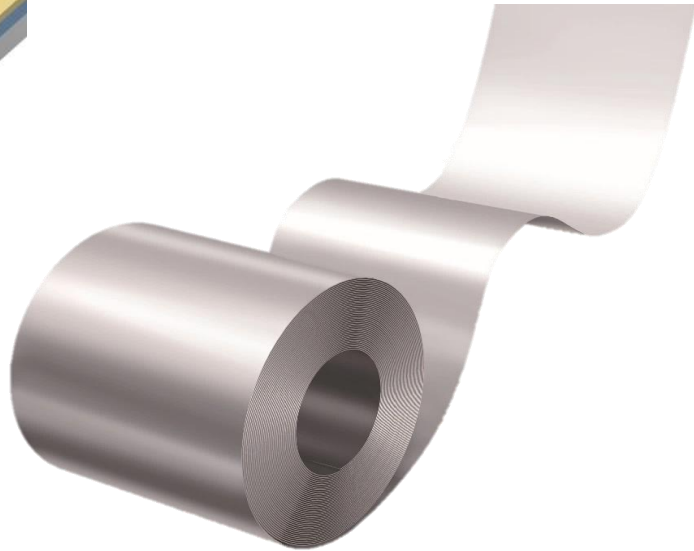




## Electrogalvanized Steel Sheets (for construction)



Coating Structure  
(representative example)



### Functional unit

1 t

### System boundary

final products       intermediate products

### Main specifications of the product

Production sites:

East Nippon Works, Setouchi 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 =0.4~3.2

### Company Information

**NIPPON STEEL CORPORATION**

Flat Products Unit Flat Products Planning Dept.

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

<b>Registration#</b>	JR-AJ-22004E-B
<b>PCR number</b>	PA-180000-AJ-06
<b>PCR name</b>	Steel products for construction
<b>Publication date</b>	4/21/2022
<b>Verification date</b>	1/19/2024
<b>Verification method</b>	Product-by-product
<b>Verification#</b>	JV-AJ-24018
<b>Expiration date</b>	3/17/2027
<b>PCR review was conducted by:</b>	
<b>Approval date</b>	5/10/2023
<b>PCR review panel chair</b>	Yasunari Matsuno (Chiba University)

### Third party verifier\*

Tomoko Fuchigami

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

internal       external

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

Registration number : JR-AJ-22004E-B

## 1. Results of life cycle impact assessment (LCIA)

Parameter	Stage	[A1~A3] + [D]	[A1~A3]	Unit
Global warming IPCC2013 GWP100a		1500	2700	kg-CO <sub>2</sub> eq
Acidification		-0.06	1.8	kg-SO <sub>2</sub> eq
Eutrophication		0.011	0.034	kg-PO <sub>4</sub> <sup>3-</sup> eq

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

Table Legend  
 【A1】: Raw mterial supply  
 【A2】: Transport to factory  
 【A3】: Manufacturing  
 【D】: Recycling potential  
 【A1~A3】: sum of 【A1】,【A2】and【A3】 (cradle to gate)

Parameter	stage	Unit	【A1~A3】	【A1】	【A2】	【A3】	【D】
Global warming IPCC2013 GWP100a		kg-CO <sub>2</sub> eq	2.7E+03	4.3E+02	1.2E+02	2.2E+03	-1.2E+03
Ozone layer destruction		kg-CFC-11eq	-2.7E-07	1.1E-07	8.1E-10	-3.9E-07	-2.2E-07
Acidification		kg-SO <sub>2</sub> eq	1.8E+00	5.0E-01	6.6E-02	1.2E+00	-1.9E+00
Photochemical ozone		kg-C <sub>2</sub> H <sub>4</sub> eq	1.9E-02	4.8E-03	1.1E-03	1.3E-02	-2.6E-01
Eutrophication		kg-PO <sub>4</sub> <sup>3-</sup> eq	3.4E-02	5.3E-03	7.3E-13	2.8E-02	-2.2E-02

## 2. Life cycle inventory analysis (LCI)

項目		単位
Non-renewable material resources	7.2E+02	kg
Non-renewable energy resources	3.0E+04	MJ
Renewable material resources	1.1E+03	kg
Renewable primary energy	-7.6E+01	MJ
Consumption of freshwater	4.7E+00	m <sup>3</sup>

## 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	%
zinc [Zn]	≤2.00	%

## 4. Waste to disposal

Parameter		Unit
Hazardous waste	-	kg
Non-hazardous waste.	2.0E+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 Each value of the results shown in this sheet is the mean value for ElectroGalvanized Steel Sheets.

### 6-1. Supplementary environmental information

East Nippon Works and Setouchi 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

<The details about Main standards>

Typical Type of JIS (JIS G 3313):

- Commercial quality (e.g.:SECC,SECCT,SEHC)
- Drawing quality (e.g.:SECD,SEHD)
- Deep Drawing quality (e.g.:SECE,SEHE)
- High-Strength quality for drawing (e.g.:SEFC340,SEPH400)

Typical Type of NIPPON STEEL standards :

- Commercial quality (e.g.:NSECC,NSEHC)
- Drawing quality (e.g.:NSEC270D,NSEH270D)
- Deep drawing (e.g.:NSEC270E,NSEH270E)
- Extra deep drawin (e.g.:NSEC270F)

- 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/>)