NIPPON STEEL | NIPPON STEEL CORPORATION

SteeLinC NEW STEEL AGE

Bar & Bar in Coil

Functional unit

1 t

System boundary

☐ final products ■intermediate products

Production Stage and optional supplementary infomation

Main specifications of the product

Production sites : Muroran and Kyushu Works
Main standards : S45C,SCR,SMN,SCM,SUP,SUJ,SUM
SGD,SWRY,SWRM,SWRH,SWRS,SWRCH,ASBO
ASMN,ASCM
※Please refer to the pamphlet for details
SteeLinC(Bar and rod materials) | NIPPON STEEL
STEELType : Bar, Bar in Coil, Square Bar
Main sizes
Bar : φ19~φ120 Square Bar □50~□350

Company Information

NIPPON STEEL CORPORATION
https://www.nipponsteel.com/en/product/sheet/list/

Registration#	JR-AW-21004E-A
PCR number	PA-180000-AW-05
PCR name	Steel products except for construction
Publication date	1/21/2022
Verification date	01/16/2024
Verification method	Product-by-product
Verification#	JV-AW-24010
Expiration date	1/15/2029

PCR review was conducted by:

Approval date	05/10/2023
PCR review panel chair	Yasunari Matsuno Chiba University

Third party verifier*

Shinichi Inoue

Independent verification of data & declaration in accordance with ISO14025

☐internal ■external

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

EcoLeaf
Type III Environmental Declaration (EPD)
Registration number : JR-AW-21004E-A

Japan EPD Program by SuMPO
Sustainable Management Promotion Organization
14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan
https://ecoleaf-label.jp

1. Results of life cycle impact assessment (LCIA)

Parameter \ Stage	(1)+(2)+(3)	(1)+(2)	Unit
Global warming IPCC2013 GWP100a	1600	2900	kg-CO_2eq
Acidification	3.0	4.9	kg-SO_2eq
Eutrophication	0.067	0.090	kg-PO_4^{3-}eq

Table Legend
(1)Raw material supply
(2)Production
(3)Recycling potential
(1)+(2):sum of (1)and(2) (cradle to gate)
(1)+(2)+(3): sum of (1),(2)and(3) (cradle to gate with allocation for scrap recycling)

Parameter \ stage	Unit	(1)+(2)	(1)	(2)			(3)
Global warming IPCC2013 GWP100a	kg-CO_2eq	2.9E+03	8.8E+02	2.0E+03			-1.3E+03
Ozone layer destruction	kg-CFC-11eq	-1.2E-07	2.7E-07	-3.8E-07			-2.3E-07
Acidification	kg-SO_2eq	4.9E+00	7.9E-01	4.1E+00			-1.9E+00
Photochemical ozone	kg-C_2H_4eq	1.5E-02	7.4E-03	7.2E-03			-2.7E-01
Eutrophication	kg-PO_4^{3-}eq	9.0E-02	3.7E-03	8.6E-02			-2.3E-02

2. Life cycle inventory analysis (LCI)

Parameter		Unit
Non-renewable material resources	9.5E+02	kg
Non-renewable energy resources	3.0E+04	MJ
Renewable material resources	1.1E+03	kg
Renewable primary energy	4.7E+02	MJ
Consumption of freshwater	1.0E+01	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]	≦0.05	%
sulfur [S]	≦0.05	%

4. Waste to disposal

Parameter		Unit
Hazardous waste	0.00E+00	kg
Non-hazardous waste.	1.00E+01	kg
Landfill of general waste	0.00E+00	kg
Landfill of industrial waste	1.00E+01	kg

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

5. Additional explanation

① As an indirect effect, the recycling effect of steel materials based on JIS Q 20915 was evaluated, and in this declaration, the value is described in the indirect effect column of the life cycle impact evaluation result breakdown table.
The indirect effect is added to the total value in Tables A1 and A2 above.
The recycling rate used in the calculation is 93.0% (calculation is based on JISQ20915, domestic data for FY2018 (Source: Japan Iron and Steel Federation, Iron Source Association, Steel Can Recycling Association)

② The transport scenario followed PCR.

③ Regarding the constituents of materials and substances, except for iron, the maximum of each upper limit of the target steel material standard is shown.

④ For the primary data, the actual values for FY2018 were used. For the electric power intensity, "Electricity, average of 10 general electric power companies, FY2014" was used.

Japan EPD Program by SuMPO
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6-1. Supplementary environmental information

1.Muroran and Kyushu Works are certified to ISO 14001.

2.We provide environment-friendly steel materials such as lead-free and steel materials that make it possible to reduce the weight of automobiles and omit manufacturing processes.

As a typical eco-products (environmentally friendly products), there is steel for connecting rods used in automobile engines

Reference: Nippon Steel Catalog Steel Bar / Wire P7

https://www.nipponsteel.com/product/catalog_download/pdf/B001en.pdf

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 IDEA2.1.3 data and steel scrap data from The Japan Iron and Steel Federation (JISF).

8. Remarks

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

- For data quantification, please refer to the PCR and the Rules on Quantification and Declaration.
- Comparative assertion is permitted only when the Rules on Quantification and Declaration are satisfied.
  (Reference URL : https://ecoleaf-label.jp/regulation/)