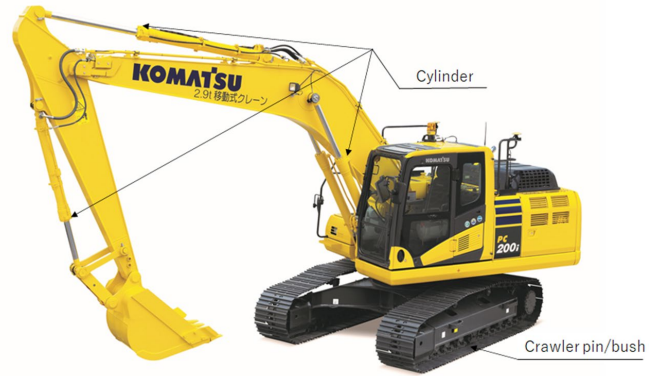
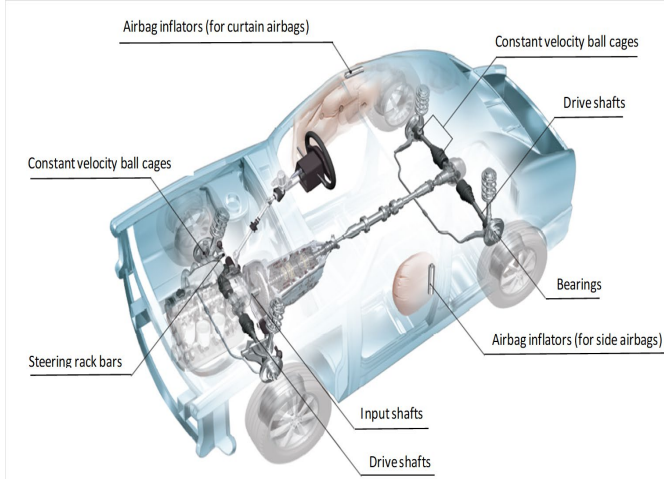


NIPPON STEEL | NIPPON STEEL CORPORATION

Seamless Pipes for Mechanical Use

Application examples of steel pipes for mechanical use



Functional unit

1 t

System boundary

final products intermediate products

Production Stage and optional supplementary information

Main specifications of the product

Production sites :

Kansai Works/Wakayama Area(Wakayama,Kainan)

Main standards : STKM11A~20, S10C~55C, SCr415/420,
SCM415~440, SNCM439, ABST-090~107,
SUJ2, SUMISTRONG®55-H~100-QC

Main sizes

Outer diameter: 15.9~426.0mm, Thickness: 1.4~51.5mm

Company Information

NIPPON STEEL CORPORATION

<https://www.nipponsteel.com/en/product/pipe/>

Registration#	JR-AW-23019E-A
PCR number	PA-180000-AW-05
PCR name	Steel products except for construction use
Publication date	02/05/2024
Verification date	11/01/2023
Verification method	Product-by-product
Verification#	JV-AW-23019
Expiration date	10/31/2028

PCR review was conducted by:

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

Third party verifier*

Yasuo Koseki

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)

Parameter	Stage	(1)+(2)+(3)	(1)+(2)	Unit
Global warming IPCC2013 GWP100a		1900	3100	kg-CO ₂ eq
Acidification		-0.80	1.1	kg-SO ₂ eq
Photochemical ozone		0.0017	0.024	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)

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

Parameter	stage	Unit	(1)+(2)	(1)	(2)	(3)
Global warming IPCC2013 GWP100a		kg-CO ₂ eq	3.1E+03	5.6E+02	2.5E+03	-1.2E+03
Ozone layer destruction		kg-CFC-11eq	3.6E-06	1.5E-07	3.4E-06	-2.2E-07
Acidification		kg-SO ₂ eq	1.1E+00	5.5E-01	5.1E-01	-1.9E+00
Photochemical ozone		kg-C ₂ H ₄ eq	2.4E-02	5.4E-03	1.8E-02	-2.6E-01
Eutrophication		kg-PO ₄ ³⁻ eq	2.4E-02	1.8E-05	2.4E-02	-2.2E-02

2. Life cycle inventory analysis (LCI)

Parameter	Unit
Non-renewable material resources	8.7E+02 kg
Renewable material resources	8.7E+02 kg
Non-renewable energy resources	4.0E+04 MJ
Renewable primary energy	1.0E+02 MJ
Consumption of freshwater	6.0E+01 m ³

4. Waste to disposal

Parameter	Unit
Hazardous waste	0.00E+00 kg
Non-hazardous waste.	2.0E+00 kg

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

3. Material composition

Material	Unit
Fe	≥91.3 %
C	≤1.10 %
Si	≤0.55 %
Mn	≤1.60 %
P	≤0.04 %
S	≤0.04 %
Cu	≤0.50 %
Ni	≤2.00 %
Cr	≤1.60 %
Mo	≤0.90 %
Nb	≤0.15 %
V	≤0.15 %
Ti	≤0.06 %
B	≤0.01 %

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 91.3%, 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.

6-1. Supplementary environmental information

Each production site is certified to ISO 14001.

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

1 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/>)