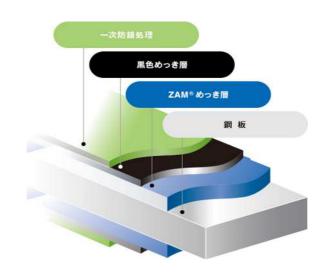
## Japan EPD Program by SuMPO

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

## NIPPON STEEL | NIPPON STEEL CORPORATION

# BLACK ZAM™





#### Functional unit

1 t

#### System boundary

final products intermediate products

Production Stage and optional supplementary infomation

#### Main specifications of the product

Production sites: Setouchi Works

Main standards:

NIPPON STEEL Grade (ZH,ZDKH etc.) See Table 8.Remarks for details.

Type: Coil, Sheet

Main sizes(unit mm,t !hickness)

 $t=0.25 \sim 6.0$ 

### Company Information

#### NIPPON STEEL CORPORATION

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

Registration#	JR-AW-23008E-A		
PCR number	PA-180000-AW-05		
PCR name	Steel products except for construction use		
Publication date	02/05/2024		
Verification date	01/16/2024		
Verification method	Product-by-product		
Verification#	JV-AW-24012		
Expiration date	01/15/2029		
PCR review was	conducted by:		
Approval date	05/10/2023		
PCR review	Yasunari Matsuno		
panel chair	Chiba University		
Third party varifier*			

#### Third party verifier\*

#### Takahiro Atoh

Independent verification of data & declaration in accordance with ISO14025

internal	external

<sup>\*</sup>Auditor's name is stated if system certification has been performed.

Registration number: JR-AW-23008E-A

## Type III Environmental Declaration (EPD)

Registration number: JR-AW-23008E-A

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)

Stage Parameter	(1)+(2)+(3)	(1)+(2)	Unit
Global warming IPCC2013 GWP100a	1600	2700	kg-CO₂eq
Acidification	0.55	2.3	kg-SO <sub>2</sub> eq
Eutrophication	0.025	0.046	kg-PO <sub>4</sub> <sup>3-</sup> 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)

stage						
Parameter	Unit	(1)+(2)	(1)	(2)		(3)
Global warming IPCC2013 GWP100a	kg-CO₂eq	2.7E+03	6.7E+02	2.1E+03		-1.1E+03
Ozone layer destruction	kg-CFC-11eq	2.7E-04	2.3E-04	3.8E-05		-2.1E-07
Acidification	kg-SO₂eq	2.3E+00	9.3E-01	1.4E+00		-1.8E+00
Photochemical ozone	kg-C <sub>2</sub> H <sub>4</sub> eq	2.4E-02	1.3E-02	1.1E-02		-2.5E-01
Eutrophication	kg-PO <sub>4</sub> <sup>3-</sup> eq	4.6E-02	1.2E-03	4.5E-02		-2.1E-02

2. Life cycle inventory analysis (LCI)			
Parameter		Unit	
Non-renewable material resources	6.8E+02	kg	
Renewable material resources	9.6E+02	kg	
Non-renewable energy resources	3.0E+04	MJ	
Renewable primary energy	-6.3E+02	MJ	
Consumption of freshwater	2.4E-01	m <sup>3</sup>	

3. Material composition			
Material		Unit	
Fe	84.0	%	
С	1.10	%	
Si	3.00	%	
Mn	3.00	%	
Р	0.050	%	
S	0.050	%	
Zn	14.00	%	
Al	1.00	%	
Mg	0.50	%	

4. Waste to disposal			
Parameter		Unit	
Hazardous waste	0.00E+00	kg	
Non-hazardous waste.	1.7E+00	kg	

<sup>\*</sup>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(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 SteelFederation and Japan Steel Can Recycling Association).
- 2. Scenarios of transport to site follow the PCR.
- 3. Each item (expect 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 84%, 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 due to the characteristics of the inventory database on which this estimation is based.

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## 6-1. Supplementary environmental information

Setouchi Works 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

#### 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

General use (e.g.MSMCC-DZBK、MSMHC-DZBK)、Deep drawing (e.g.MSMCD-DZBK、MSMHD-DZBK)、Structures (e.g.;MSMCK370-DZBK、MSMHK370-DZBK) etc.

- \*January 2024; Modification about allocation method of by-product gases
- 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-23008E-A