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

KOBE STEEL, LTD. Steel Plates for Building Structures

Functional unit

1t

System boundary

☐ final products ■intermediate products

Production Stage (Raw material acquisition, Transport to factory, Manufacturing) and Indirect impacts

Main specifications of the product

Production site：Kakogawa Works
Main Standard：As stated in "5. Additional explanation"
Type：Steel Plate

Company Information

https://www.kobelco.co.jp/english/products/steel-aluminum/plate/

Contact Information：
Steel Plate Products Technical Marketing Department, Steel Plate Products Unit, Steel & Aluminum Business, KOBE STEEL, LTD.

Registration#	JR-AJ-24076E
PCR number	PA-180000-AJ-06
PCR name	Steel products for construction use
Publication date	25 July 2025
Verification date	21 April 2025
Verification method	Product-by-product
Verification#	JV-AJ-24076
Expiration date	20 April 2030

PCR review was conducted by:

Approval date	10 May 2023
PCR review panel chair	Yasunari Matsuno (Chiba University)

Third party verifier*

Hisao Naito

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

☐internal ■external

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

1. Results of life cycle impact assessment (LCIA)

Parameter \ stage	Production stage (total of【A1】,【A2】, and【A3】) and Indirect impacts	Production stage (total of【A1】,【A2】, and【A3】)	Unit
Global warming IPCC2013 GWP100a	1500	2800	kg-CO_2eq
Acidification	-0.016	1.9	kg-SO_2eq
Eutrophication	0.087	0.11	kg-PO_4^{3}-eq

Parameter \ stage	Unit	Total	【A1】 Raw material acquisition	【A2】 Transport to factory	【A3】 Manufacturing		Indirect impacts
Global warming IPCC2013 GWP100a	kg-CO_2eq	2.8E+03	5.3E+02	3.8E+01	2.2E+03	–	-1.3E+03
Ozone layer destruction	kg-CFC-11eq	1.4E-04	5.3E-06	4.8E-10	1.4E-04	–	-2.3E-07
Acidification	kg-SO_2eq	1.9E+00	5.1E-01	8.8E-02	1.3E+00	–	-1.9E+00
Urban area air pollution	kg-SO_2eq	1.1E+00	3.3E-01	3.3E-02	7.2E-01	–	-1.4E+00
Photochemical ozone	kg-C_2H_4eq	3.4E-03	4.3E-03	2.1E-04	-1.0E-03	–	-2.7E-01
Eutrophication	kg-PO_4^{3-}eq	1.1E-01	3.9E-05	3.9E-10	1.1E-01	–	-2.3E-02

2. Life cycle inventory analysis (LCI)

Parameter		Unit
Non-renewable material resources	9.9E+02	kg
Non-renewable energy resources	3.1E+04	MJ
Renewable material resources	1.2E+03	kg
Renewable primary energy	2.9E+03	MJ
Consumption of freshwater	3.5E+00	m^3

3. Material composition

Material		Unit
Iron [Fe]	98.0	%
Carbon [C]	0.2	%
Silicon [Si]	0.3	%
Manganese [Mn]	1.4	%
Phosphorus [P]	0.0	%
Sulfur [S]	0.0	%
Other elements	0.2	%

4. Waste to disposal

Parameter		Unit
Hazardous waste	0.0E+00	kg
Non-hazardous waste	1.9E+01	kg

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

5. Additional explanation

The recycling rate used for calculating indirect impacts is 93.7% (an estimated value by the Japan Iron and Steel Federation, calculated in accordance with JIS Q 20915 using domestic data for FY2022 [sources: Japan Ferrous Raw Materials Association, Japan Steel Can Recycling Association]).
The electricity emission intensity used is “Electricity, Japan average, FY2018.”
The primary data collection period is from January to December 2022. For some data, the period from April 2022 to March 2023 was used.

Main Standard :
【JIS Standard】
SS400, SM400A, SM400B, SM400C, SM490A, SM490B, SM490C, SM490YA, SM490YB, SM520B, SM520C, SM570, SN400A, SN400B, SN400C, SN490B, SN490C
【MLIT Certification】
KCLA325B,C, KCLA355B,C, KCLA385B,C, KCLA440B,C, SA440B,C, KBSA630B,C, HSA700A,B

6-1. Supplementary environmental information

Kakogawa Works is ISO 14001 certified.

6-2. Regulated hazardous substances

Substance	CAS No.	Reference to standards or regulations
Manganese [Mn]	7439-96-5	Industrial Safety and Health Act, PRTR Act
Nickel [Ni]	7440-02-0	Industrial Safety and Health Act, PRTR Act
Chromium [Cr]	7440-47-3	Industrial Safety and Health Act, PRTR Act
Molybdenum [Mo]	7439-98-7	Industrial Safety and Health Act, PRTR Act
Copper [Cu]	7440-50-8	Industrial Safety and Health Act
Aluminum (Aluminium) [Al]	7429-90-5	Industrial Safety and Health Act
Lead [Pb]	7439-92-1	Industrial Safety and Health Act, PRTR Act
Cobalt [Co]	7440-48-4	Industrial Safety and Health Act, PRTR Act
Tungsten [W]	7440-33-7	Industrial Safety and Health Act

7. Assumptions of secondary data used

The IDEA ver.3.1.0 data was used.

For the scrap emission intensity, steel scrap data from the Japan Iron and Steel Federation (registration No. JP-AJ-0001) was used.

8. Remarks

- 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/)