



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AY-24003E

Japan EPD Program by SuMPO

Sustainable Management Promotion Organization

14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan

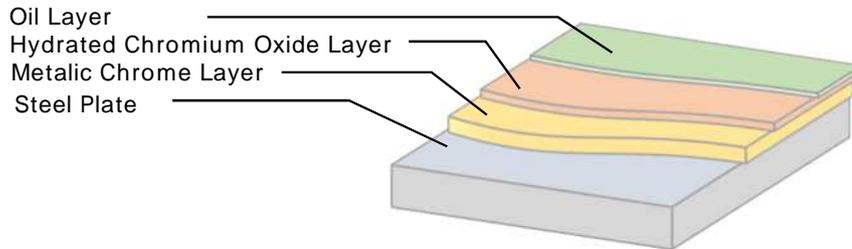
<https://ecoleaf-label.jp>



Toyo Kohan Co.,Ltd.

# Tin Free Steel

## Coating structure



## Example of use



## Functional unit

1 t

## System boundary

final products      intermediate products

Production Stage and optional supplementary information

## Main specifications of the product

Production sites : Kudamatsu Plant

Main standards :

SPTFS, WHT-2, D-WHT

See Table 8.Remarks for details.

Type : Coil, Sheet

Main sizes(unit mm,t thickness)

t=0.15 ~ 0.60

## Company Information

Toyo Kohan Co., Ltd.

<https://www.toyokohan.co.jp/en/index.html>

Registration#	JR-AY-24003E
PCR number	PA-180000-AY-05
PCR name	Steel products except for construction use
Publication date	04/10/2024
Verification date	03/27/2024
Verification method	Product-by-product
Verification#	JV-AY-24003
Expiration date	3/26/2029
PCR review was conducted by:	
Approval date	05/10/2023
PCR review panel chair	Yasunari Matsuno 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.

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

Parameter	Stage	(1)+(2)+(3)	(1)+(2)	Unit
Global warming IPCC2013 GWP100a		1400	2600	kg-CO <sub>2</sub> eq
Acidification		0.0035	1.9	kg-SO <sub>2</sub> eq
Photochemical ozone		0.18	0.20	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)

Parameter	stage	Unit	(1)+(2)	(1)	(2)	(3)
Global warming IPCC2013 GWP100a		kg-CO <sub>2</sub> eq	2.6E+03	2.3E+03	3.0E+02	-1.2E+03
Ozone layer destruction		kg-CFC-11eq	-5.5E-06	-7.0E-07	-4.8E-06	-2.2E-07
Acidification		kg-SO <sub>2</sub> eq	1.9E+00	1.8E+00	1.1E-01	-1.9E+00
Photochemical ozone		kg-C <sub>2</sub> H <sub>4</sub> eq	2.3E-02	1.6E-02	6.4E-03	-2.7E-01
Eutrophication		kg-PO <sub>4</sub> <sup>3-</sup> eq	2.0E-01	4.6E-02	1.6E-01	-2.3E-02

### 2. Life cycle inventory analysis (LCI)

Parameter		Unit
Non-renewable material resources	6.8E+02	kg
Renewable material resources	1.0E+03	kg
Non-renewable energy resources	3.0E+04	MJ
Renewable primary energy	-3.2E+02	MJ
Consumption of freshwater	1.8E+00	m <sup>3</sup>

### 3. Material composition

Material		Unit
Fe	98	%
C	<1	%
Mn	<1	%
Cr	<0.1	%

### 4. Waste to disposal

Parameter		Unit
Hazardous waste	0.00E+00	kg
Non-hazardous waste.	2.5E+00	kg

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

### 5. Additional explanation

- 1) This base material is Hot rolled coil made by Nippon Steel(Ecoleaf registration No.JR-AW-22010E-A).
- 2) Because this product is secondary processing product,the indirect effect is evaluated about the base material.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).
- 3) Transport distance between Nippon Steel and Toyo kohan is measured by geographic software.
- 4) 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 98%, and the contents of other components are adjusted.
- 5) Primary data collected in 2021. The source of the unit power consumption is the average of 10 electric power suppliers of Japan in 2014.



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### 6-1. Supplementary environmental information

Kudamatsu plant 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
Chromium[Cr]	7440-47-3	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

For details on the product model and specifications, please refer to our website.

[https://www.toyokohan.co.jp/en/products/hi\\_top/index.html](https://www.toyokohan.co.jp/en/products/hi_top/index.html)

- 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/> )

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