



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AX-23006E

Japan EPD Program by SuMPO

Sustainable Management Promotion Organization

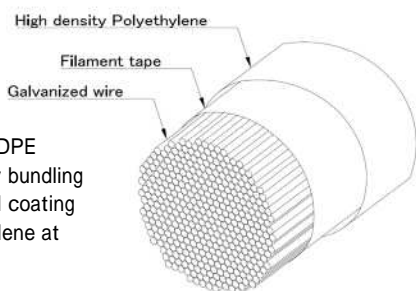
14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan

<https://ecoleaf-label.jp/>

TOKYO ROPE MFG. CO., LTD.

東京製綱株式会社

Parallel Wire Cable with HDPE sheathing



Parallel Wire Cable with HDPE sheathing are produced by bundling many galvanized wires and coating with high density polyethylene at the plant.

Parallel Wire Cable with HDPE sheathing

Functional unit

1t

System boundary

final products intermediate products
Production Stage and optional supplementary information

Main specifications of the product

Production site : Tsuchiura Plant
Main standards : JIS G3571, JSS
ISO 19203, ISO 19427
Galvanized wire diameter :
5mm (min. 4.5mm) ~ 7mm (max. 7.5mm)
Number of wires per strand : 19 ~ 499wires
Type : Coil

Company Information

TOKYO ROPE MFG. CO., LTD.
tokyorope.co.jp

Registration #	JR-AX-23006E
PCR number	PA-180000-AX-05
PCR name	Steel products with secondary processing for construction
Publication date	9/19/2023
Verification date	8/22/2023
Verification method	Product-by-product
Verification #	JV-AX-23006
Expiration date	8/21/2028
PCR review was conducted by:	
Approval date	5/10/2023
PCR review panel chair	Yasunari Matsuno Chiba University

Third party verifier*

Yuki Sakamoto

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

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	【A1~A3】 + 【D】	【A1~A3】	Unit
Global warming IPCC2013 GWP100a		1900	3200	kg-CO ₂ eq
Acidification		0.92	2.90	kg-SO ₂ eq
Eutrophication		-0.006	0.018	kg-PO ₄ ³⁻ -eq

Table Legend

【A1】: Raw material supply

【A2】: Transport to factory

【A3】: Manufacturing

【D】: Recycling potential

【A1 ~ A3】: sum of 【A1】 , 【A2】 and 【A3】 (cradle to gate)

【A1 ~ A3】 + 【D】: sum of 【A1】 , 【A2】 , 【A3】 and 【D】 (cradle to gate with allocation for scrap recycling)

Parameter	stage	Unit	【A1~A3】	【A1】	【A2】	【A3】	【D】
Global warming IPCC2013 GWP100a		kg-CO ₂ eq	3.2E+03	1.9E+03	1.1E+01	1.3E+03	-1.3E+03
Ozone layer destruction		kg-CFC-11eq	4.1E-04	1.5E-07	9.1E-11	4.1E-04	-2.4E-07
Acidification		kg-SO ₂ eq	2.9E+00	2.0E+00	2.9E-02	8.8E-01	-2.0E+00
Photochemical ozone		kg-C ₂ H ₄ eq	4.4E-02	1.7E-02	5.2E-05	2.6E-02	-2.8E-01
Eutrophication		kg-PO ₄ ³⁻ -eq	1.8E-02	1.8E-02	7.7E-14	1.0E-04	-2.4E-02

2. Life cycle inventory analysis (LCI)

Parameter		Unit
Non-renewable material resources	9.4E+02	kg
Non-renewable energy resources	4.7E+04	MJ
Renewable material resources	1.2E+03	kg
Renewable primary energy	-3.8E+02	MJ
Consumption of freshwater	3.7E+00	m ³

3. Material composition

Material		Unit
iron [Fe]	83.0	%
carbon [C]	1.00	%
silicon [Si]	3.00	%
manganese [Mn]	3.00	%
phosphorus [P]	0.050	%
sulfur [S]	0.050	%
zinc [Zn]	2.50	%
aluminum [Al]	0.13	%
high density polyethylene	10	%

4. Waste to disposal

Parameter		Unit
Hazardous waste	0.00E+00	kg
Non-hazardous waste.	7.0E+00	kg

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

5. Additional explanation

1) This base material is Wire rod made by Nippon Steel(Ecoleaf registration No.:JR-AJ-21009E).

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 【D】 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).

3) Transport distance between Nippon Steel (East Nippon Works Kimitsu Area) and Tokyo Rope Mfg. Co., Ltd. (Tsuchiura Plant) 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 83.0%, and the contents of other components are adjusted.

5) Primary data was collected for one year within 2018-2020. The source of the unit power consumption is the average of 10 electric power suppliers of Japan in 2014.

6-1. Supplementary environmental information

Tsuchiura Plant has ISO 14001 certificate.



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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

7. Assumptions of secondary data used

We use the IDEA v2.1.3 data and steel scrap data(JP-AJ-0001) from the Japan Iron and Steel Federation.

8. Remarks

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- 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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