ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Aerial Bunched Cable (3*70 + 54.6 SQMM)

APAR Industries Limited

Created with One Click LCA

APAR Tomorrow's solutions today | EPD Hub | ECO PLATFORM EPD VERIFIED

EPD HUB, HUB-5185

Published on 29.01.2026, last updated on 29.01.2026, valid until 28.01.2031

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1

GENERAL INFORMATION

MANUFACTURER

Manufacturer	APAR Industries Limited
Address	City Survey No. NA 1990, Village: Khatalwada & Revenue Survey No. 730 & 730/P1, Village: Manekpur, Khatalwada-Manekpur Road, Taluka: Umbergaon, District: Valsad, Gujarat - 396120, INDIA
Contact details	epd.info@apar.com
Website	www.apar.com

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Electrical product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with modules B6, C1-C4, D
EPD author	Mr. Rahul Bhandari and Mr. Balvant Singh
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Haiha Nguyen, as an authorized verifier acting for EPD Hub Limited

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	Aerial Bunched Cable (3*70+1*54.6 SQMM)
Product reference	X2425 AA / 02 / 937265
Place(s) of raw material origin	India
Place of production	Khatalwada, Gujrat, India
Place(s) of Installation and Use	Europe
Period for data	Financial Year – April 2024 to March 2025
Averaging in EPD	No grouping
A1-A3 Specific data (%)	94.1

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m of Aerial Bunched XLPE Cable (Type IV) - 0.6/1 KV
Declared unit mass	0.977 kg
Mass of packagings	0.241 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	6.42
GWP-total, A1-A3 ($kgCO_2e$)	6.02
Secondary material, inputs (%)	32
Secondary material, outputs (%)	69
Total energy use, A1-A3 (kWh)	22.1
Net freshwater use, A1-A3 (m^3)	0.03

PRODUCT AND MANUFACTURER

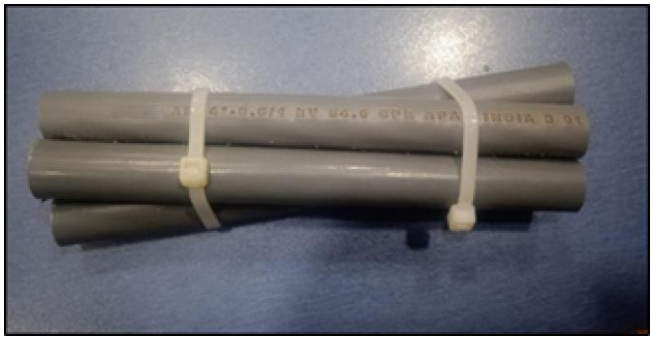
ABOUT THE MANUFACTURER

APAR Industries Limited is an Indian multinational conglomerate founded in 1958. The Company is global leader in Specialty Oils, Conductors, Cables, Lubricants, Specialty Automotive, and Polymers, with a presence in more than 140 countries. For more than six decades, APAR has been driving innovation with strong in-house R&D and state-of-the-art manufacturing, including advanced electron beam (e-beam) curing technology that ensures superior performance and reliability of its cables. Renowned for pioneering elastomer cables in India and being one of the largest manufacturers of solar cables, APAR delivers to diverse sectors such as renewable energy, defence, railways, shipbuilding, and power infrastructure, maintaining a consistent focus on quality, sustainability, and customer-centric solutions. The company is ranked #1 globally in Aluminium and Alloy Conductors, #1 in India and #3 globally in Transformer Oils, and is India's largest exporter and producer of speciality and renewable cables. It is also the only Indian company providing end-to-end solutions in copper and fibre hybrid cables, and features in the Top 10 lubricants companies in India. Its consistent focus on quality, sustainability, and customer-centric solutions has cemented its position as an indispensable partner in powering industries and communities worldwide.

PRODUCT DESCRIPTION

Aerial Bunched Cables (ABC) are overhead power cables comprising multiple insulated single-core conductors bundled into a compact assembly. This Environmental Product Declaration (EPD) covers the Aerial Bunched Cable with a conductor configuration of 3 × 70 mm² + 1 × 54.6 mm², manufactured by APAR Industries. The cable is a low-voltage, heavy-duty product insulated with XLPE and designed to provide reliable electrical, mechanical, and thermal performance in outdoor overhead distribution networks.

Compared to conventional bare conductors, this ABC configuration offers improved electrical strength retention, higher short-circuit withstand capability, and enhanced resistance to moisture and surge currents, ensuring long service life and dependable operation in industrial, commercial, and utility applications. The Global Warming Potential (GWP-total) results for the alternative variant, Aerial Bunched Cable (3 × 35 mm² + 1 × 54.6 mm²), are included in the annex for reference.



Feature:

- Long service life with defect-free insulation
- High electrical and mechanical strength
- Resistance to moisture and surge currents
- Lower laying and installation costs due to smaller diameter and bending radius

Further information can be found at www.apar.com.

DATA SHEET

S. No.	Particular	Unit	Data
1	Specification according to which the conductor will be manufactured and tested.	-	GSC009 Rev. 02 Dated 12/2022
2	Code Name	-	Aerial Bunched XLPE Cable
3	No. of wire and Diameter	No	Phase – 18/2.316 mm Messenger – 7/3.159 mm
4	D. C. RESISTANCE AT 20°C (At Final Stage)	Ohm / m	0.000422
5	Mass of Cable	Kg / m	0.977

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	72%	India
Minerals	-	-
Fossil materials	28%	India
Bio-based materials	-	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	-
Biogenic carbon content in packaging, kg C	0.27

FUNCTIONAL UNIT AND SERVICE LIFE

Declared Unit	1 m of Aerial Bunched XLPE Cable (Type IV) - 0.6/1
Mass per declared unit	0.977 kg
Functional unit	-
Reference service life	25 years

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0.1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD considers the entire life cycle of the cable manufactured by APAR Industries. The EPD type is therefore “from cradle to gate with module B6, C1-C4 and D” type. In accordance with the EPD Regulations

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	MND	MND	MND	MND	MND	MND	MND	x	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

MANUFACTURING AND PACKAGING (A1-A3)

The cable production begins with the sourcing of essential materials: metals like aluminium, insulation and sheath materials. These materials are transported to APAR's production facility, where the aluminium undergoes the initial processing phase. Here, aluminium wires are drawn down to the precise dimensions needed for the cable’s construction. This drawn aluminium is then stranded, creating a conductor with the necessary mechanical flexibility and electrical performance characteristics.

In parallel, various insulation and sheath compounds are procured nationally and internationally. The raw material is received road transportation.

Insulation and sheath material is selected strictly to meet electrical and physical standards. Once the compounds are ready, they are extruded onto the aluminium strands to form the cable’s insulation and sheath layers, providing both electrical insulation and environmental protection.

For product identification, a printing process is applied to the outer sheath of the cable, ensuring that each cable is clearly marked according to required standards. Throughout production, electricity powers the various machines involved, and auxiliary materials are used to maintain and operate the equipment effectively.

Once manufacturing is complete, the finished cables are packaged in pine wood drums, which are durable enough to protect the product during storage and transport. These drums are then ready for dispatch to customers, ensuring safe handling and ease of use during installation.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts (A4) account for fuel combustion emissions, the environmental impact of fuel production, and associated infrastructure burdens. After packaging, the cables are inspected, labelled, and documented before dispatch. They are loaded securely onto trucks or containers, with tracking systems ensuring safe and timely delivery to customers.

For installation (A5), the product is delivered to the construction site, unloaded, and prepared for deployment. Safety protocols guide handling, while packaging materials (primarily wooden drums) are collected for reuse, recycling, or disposal.

This EPD does not provide detailed modelling of A4 and A5 as transport routes, installation practices, and site-specific conditions are outside the manufacturer’s control.

PRODUCT USE AND MAINTENANCE (B1-B7)

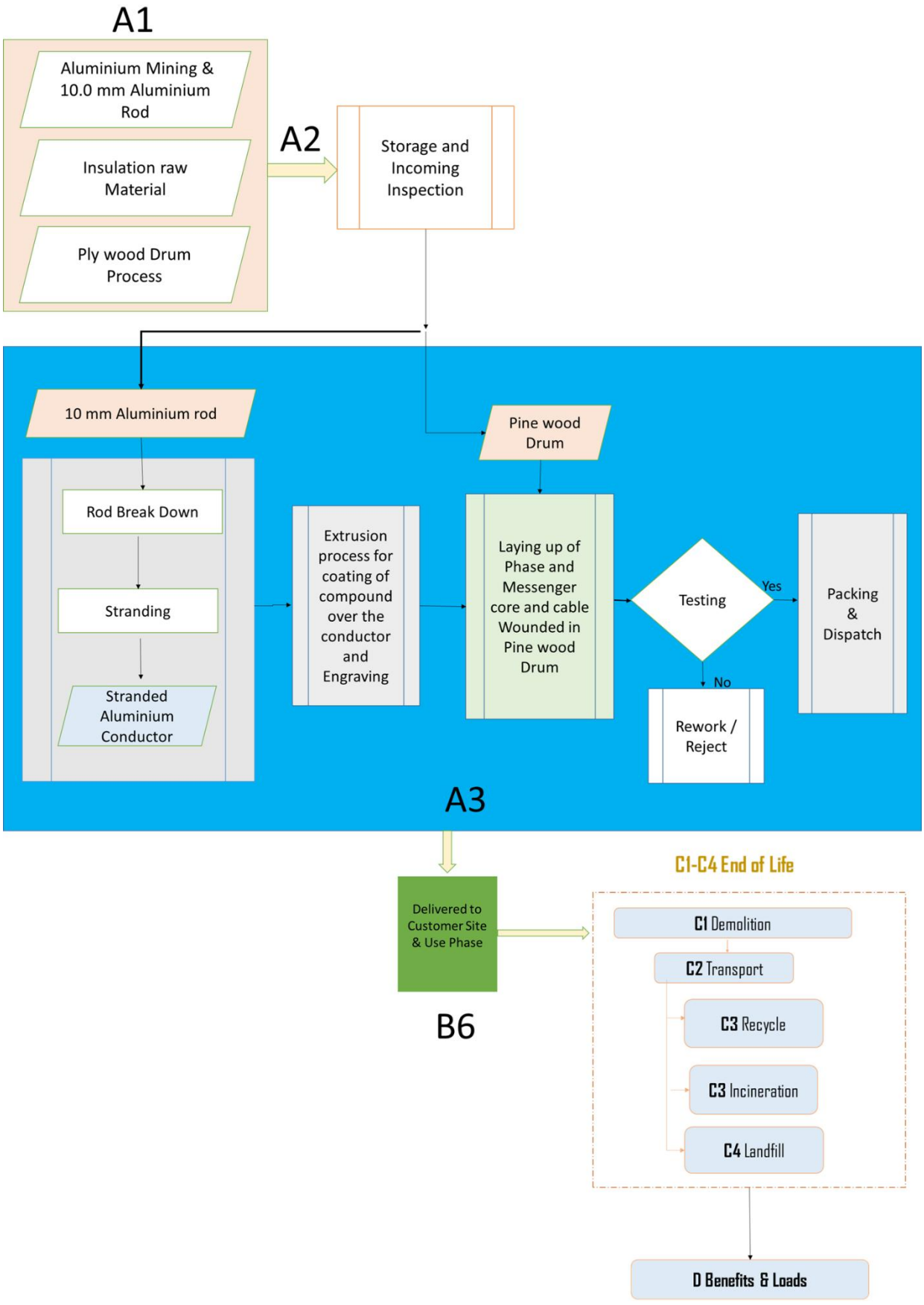
The cable is intended for overhead installations. It is typically a single-installation product, designed for reference service life of 25 years.

For operational energy use (B6), No additional energy is consumed by the product itself during use, apart from the electricity it transmits as part of its intended function. In this phase we have considered the loss of electricity due to its resistance during its service life.

PRODUCT END OF LIFE (C1-C4, D)

At end-of-life, cables are dismantled with negligible energy consumption. We have assumed that the waste is collected separately and transported to the waste treatment center. Transportation distance to treatment is assumed as 100 and the transportation method is assumed to be lorry (C2). As per common practice, the cable is shredded and the metals, Insulation and Sheath material from the product is sorted. Module C3 accounts for energy and resource inputs for sorting and treating. According to the International Aluminum Association (2020), approximately 76% of aluminum is recycled globally, which we have used as a conservative assumption in our LCA modeling. However, our product is designed to achieve a recyclability rate of up to 99%. Due to the material and energy recovery potential of aluminum, a part of the end-of-life product is converted into recycled raw materials. While for HDPE 24% is recycled, 49% in incinerated and 27% is landfilled. For Packaging the wooden drum is used for which 32% of the wooden packaging is recycled, 30% of the wooden packaging is incinerated and 38% of the wooden packaging is landfilled. Due to the material and energy recovery potential of the materials, a part of the end-of-life product is converted into recycled raw materials while electric and heat energy are generated from incineration.

SYTEM BOUNDARY



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR v1.2. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.
The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel related activities, energy and water use related to company management and sales activities are excluded.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 2 and 3. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC:2021 and JRC EF 3.1

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR v1.2. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	Mass allocation
Packaging material	Mass allocation
Ancillary materials	Mass allocation
Manufacturing energy and waste	Mass allocation

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	-

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent v3.10.1 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total[1)]	kg CO_2e	5.82E+00	1.28E-02	1.80E-01	6.02E+00	ND	ND	ND	ND	ND	ND	ND	9.06E-03	ND	0.00E+00	2.13E-02	7.15E-01	1.68E-01	-3.92E+00
GWP – fossil	kg CO_2e	5.82E+00	1.28E-02	5.84E-01	6.42E+00	ND	ND	ND	ND	ND	ND	ND	9.02E-03	ND	0.00E+00	2.13E-02	4.64E-01	1.43E-02	-3.85E+00
GWP – biogenic	kg CO_2e	2.63E-03	8.90E-07	-4.05E-01	-4.02E-01	ND	ND	ND	ND	ND	ND	ND	1.98E-05	ND	0.00E+00	3.66E-06	2.51E-01	1.54E-01	1.73E-02
GWP – LULUC	kg CO_2e	9.64E-04	5.71E-06	4.34E-04	1.40E-03	ND	ND	ND	ND	ND	ND	ND	1.80E-05	ND	0.00E+00	9.04E-06	3.53E-05	7.17E-06	-8.81E-02
Ozone depletion pot.	kg CFC-$_{11}$e	4.00E-07	1.89E-10	2.58E-09	4.02E-07	ND	ND	ND	ND	ND	ND	ND	8.43E-10	ND	0.00E+00	3.28E-10	3.06E-10	1.26E-10	-6.91E-08
Acidification potential	mol H^+e	2.76E-02	4.36E-05	3.49E-03	3.11E-02	ND	ND	ND	ND	ND	ND	ND	7.04E-05	ND	0.00E+00	7.04E-05	2.58E-04	3.79E-05	-2.43E-02
EP-freshwater[2)]	kg Pe	1.37E-04	9.94E-07	2.19E-04	3.57E-04	ND	ND	ND	ND	ND	ND	ND	5.87E-06	ND	0.00E+00	1.61E-06	1.07E-05	1.55E-06	-2.06E-03
EP-marine	kg Ne	4.03E-03	1.43E-05	5.66E-04	4.61E-03	ND	ND	ND	ND	ND	ND	ND	1.07E-05	ND	0.00E+00	2.30E-05	8.49E-05	6.42E-05	-3.31E-03
EP-terrestrial	mol Ne	4.50E-02	1.56E-04	5.76E-03	5.09E-02	ND	ND	ND	ND	ND	ND	ND	1.12E-04	ND	0.00E+00	2.51E-04	8.53E-04	1.47E-04	-3.02E-02
POCP ("smog")[3)]	kg NMVOCe	1.44E-02	6.42E-05	1.75E-03	1.62E-02	ND	ND	ND	ND	ND	ND	ND	4.04E-05	ND	0.00E+00	1.01E-04	2.38E-04	5.20E-05	-1.37E-02
ADP-minerals & metals[4)]	kg Sbe	1.52E-05	3.56E-08	7.21E-07	1.59E-05	ND	ND	ND	ND	ND	ND	ND	5.98E-07	ND	0.00E+00	6.85E-08	9.13E-07	1.56E-08	-8.43E-06
ADP-fossil resources	MJ	7.95E+01	1.85E-01	6.68E+00	8.64E+01	ND	ND	ND	ND	ND	ND	ND	1.17E-01	ND	0.00E+00	3.01E-01	3.07E-01	1.14E-01	-6.27E+01
Water use[5)]	m^3e depr.	6.98E-01	9.16E-04	3.33E+00	4.03E+00	ND	ND	ND	ND	ND	ND	ND	1.23E-02	ND	0.00E+00	1.43E-03	1.71E-02	1.95E-03	-7.25E+00

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	3.13E-07	1.28E-09	2.08E-08	3.35E-07	ND	ND	ND	ND	ND	ND	ND	6.53E-10	ND	0.00E+00	1.75E-09	3.14E-09	7.54E-10	-2.70E-07
Ionizing radiation[6)]	kBq U235e	8.75E-02	1.61E-04	9.06E-03	9.68E-02	ND	ND	ND	ND	ND	ND	ND	7.72E-04	ND	0.00E+00	2.77E-04	1.19E-03	1.97E-04	-9.99E-01
Ecotoxicity (freshwater)	CTUe	8.72E+01	2.62E-02	4.10E+00	9.14E+01	ND	ND	ND	ND	ND	ND	ND	5.63E-01	ND	0.00E+00	4.51E-02	2.41E-01	2.96E+01	-9.34E+00
Human toxicity, cancer	CTUh	8.85E-09	2.11E-12	6.03E-10	9.45E-09	ND	ND	ND	ND	ND	ND	ND	6.41E-12	ND	0.00E+00	3.61E-12	3.27E-11	3.92E-12	-6.41E-09
Human tox. non-cancer	CTUh	3.49E-07	1.20E-10	4.33E-09	3.54E-07	ND	ND	ND	ND	ND	ND	ND	4.25E-10	ND	0.00E+00	1.89E-10	1.62E-09	7.89E-10	-4.72E-08
SQP[7)]	-	4.85E+00	1.87E-01	5.20E+01	5.70E+01	ND	ND	ND	ND	ND	ND	ND	6.39E-02	ND	0.00E+00	1.98E-01	4.33E-01	2.08E-01	-4.46E+00

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy[8)]	MJ	1.56E+00	2.54E-03	4.10E+00	5.67E+00	ND	ND	ND	ND	ND	ND	ND	3.68E-01	ND	0.00E+00	4.36E-03	-1.95E+00	-1.56E+00	-2.26E+01
Renew. PER as material	MJ	0.00E+00	0.00E+00	3.65E+00	3.65E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	-2.26E+00	-1.39E+00	2.01E-01
Total use of renew. PER	MJ	1.56E+00	2.54E-03	7.75E+00	9.31E+00	ND	ND	ND	ND	ND	ND	ND	3.68E-01	ND	0.00E+00	4.36E-03	-4.22E+00	-2.94E+00	-2.24E+01
Non-re. PER as energy	MJ	6.74E+01	1.85E-01	6.23E+00	7.38E+01	ND	ND	ND	ND	ND	ND	ND	1.17E-01	ND	0.00E+00	3.01E-01	-8.02E+00	-2.82E+00	-6.28E+01
Non-re. PER as material	MJ	1.21E+01	0.00E+00	3.82E-03	1.21E+01	ND	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	-8.80E+00	-3.29E+00	2.91E+00
Total use of non-re. PER	MJ	7.95E+01	1.85E-01	6.24E+00	8.59E+01	ND	ND	ND	ND	ND	ND	ND	1.17E-01	ND	0.00E+00	3.01E-01	-1.68E+01	-6.11E+00	-5.98E+01
Secondary materials	kg	3.12E-01	7.89E-05	1.14E-02	3.24E-01	ND	ND	ND	ND	ND	ND	ND	1.50E-04	ND	0.00E+00	1.35E-04	5.39E-04	4.37E-05	6.60E-01
Renew. secondary fuels	MJ	3.38E-03	1.00E-06	9.63E-02	9.97E-02	ND	ND	ND	ND	ND	ND	ND	7.14E-06	ND	0.00E+00	1.71E-06	1.15E-05	6.80E-07	-1.22E-04
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m^3	2.22E-02	2.74E-05	7.14E-03	2.93E-02	ND	ND	ND	ND	ND	ND	ND	2.88E-04	ND	0.00E+00	4.07E-05	2.05E-04	-1.26E-03	-1.59E-01

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	9.50E-01	3.14E-04	1.71E-02	9.67E-01	ND	ND	ND	ND	ND	ND	ND	1.28E-03	ND	0.00E+00	5.02E-04	6.23E-03	6.18E-04	-7.88E-01
Non-hazardous waste	kg	3.23E+00	5.81E-03	7.57E-01	3.99E+00	ND	ND	ND	ND	ND	ND	ND	3.03E-02	ND	0.00E+00	9.61E-03	2.87E-01	1.75E+00	-1.01E+01
Radioactive waste	kg	1.01E-04	3.95E-08	1.72E-06	1.03E-04	ND	ND	ND	ND	ND	ND	ND	1.93E-07	ND	0.00E+00	6.81E-08	2.96E-07	4.82E-08	-2.65E-04

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	1.13E-02	0.00E+00	1.96E-02	3.09E-02	ND	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	6.74E-01	0.00E+00	0.00E+00
Materials for energy rec	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	2.59E+00	0.00E+00	0.00E+00
Exported energy – Electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	1.09E+00	0.00E+00	0.00E+00
Exported energy –	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	0.00E+00	ND	0.00E+00	0.00E+00	1.50E+00	0.00E+00	0.00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	5.84E+00	1.27E-02	5.82E-01	6.44E+00	ND	ND	ND	ND	ND	ND	ND	9.10E-03	ND	0.00E+00	2.12E-02	4.64E-01	1.92E-02	-3.92E+00
Ozone depletion Pot.	kg CFC_{-11}e	3.39E-07	1.50E-10	2.30E-09	3.42E-07	ND	ND	ND	ND	ND	ND	ND	8.49E-10	ND	0.00E+00	2.62E-10	2.54E-10	1.01E-10	-5.71E-08
Acidification	kg SO_2e	2.28E-02	3.33E-05	2.95E-03	2.58E-02	ND	ND	ND	ND	ND	ND	ND	5.93E-05	ND	0.00E+00	5.38E-05	1.99E-04	2.81E-05	-2.10E-02
Eutrophication	kg PO_4^3e	4.25E-03	8.10E-06	3.14E-03	7.41E-03	ND	ND	ND	ND	ND	ND	ND	1.82E-05	ND	0.00E+00	1.32E-05	4.04E-05	1.95E-05	-4.93E-03
POCP ("smog")	kg C_2H_4e	1.87E-03	2.96E-06	1.60E-04	2.04E-03	ND	ND	ND	ND	ND	ND	ND	3.71E-06	ND	0.00E+00	4.88E-06	1.29E-05	4.63E-06	-2.43E-03
ADP-elements	kg Sbe	1.53E-05	3.48E-08	7.11E-07	1.61E-05	ND	ND	ND	ND	ND	ND	ND	5.96E-07	ND	0.00E+00	6.69E-08	9.06E-07	1.51E-08	-7.32E-06
ADP-fossil	MJ	7.90E+01	1.83E-01	6.61E+00	8.58E+01	ND	ND	ND	ND	ND	ND	ND	1.04E-01	ND	0.00E+00	2.96E-01	2.88E-01	1.10E-01	-4.55E+01

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[9)]	kg CO_2e	5.82E+00	1.28E-02	5.85E-01	6.42E+00	ND	ND	ND	ND	ND	ND	ND	9.04E-03	ND	0.00E+00	2.13E-02	4.64E-01	1.43E-02	-3.94E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH4 fossil, CH4 biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO2 is set to zero.

SCENARIO DOCUMENTATION

MANUFACTURING ENERGY SCENARIO

Scenario parameter	Value
Electricity Data Source and Quality	a) Electricity, consumption mix w/o renewables, IN b) Electricity production, photovoltaic, rooftop, IN c) Electricity production, wind, onshore, IN
Electricity CO2e / kWh	a) 1.16 kg CO_2e/kWh b) 0.0592 kg CO_2e/kWh c) 0.0211 kg CO_2e/kWh

USE STAGES SCENARIO DOCUMENTATION - B6 USE OF ENERGY

Scenario information	Value
Type of energy carrier, e.g., electricity, natural gas, district heating / kWh	Electricity (grid) – losses due to cable resistance = 0.093 kWh/m for 25 years' service life (Electricity, low voltage, European attribute mix with emission factor 0.1 kg CO_2e/kWh)
Power output of equipment / kW	Not applicable (passive cable product)
Characteristic performance, e.g., energy efficiency, emissions, variation of performance with capacity utilization, etc.	Continuous current carrying capacity per manufacturer specification; energy losses calculated as **$E = I^2 \times R \times RSL$**
Further assumptions for scenario development, e.g., frequency and period of use, number of occupants	Continuous operation over a 25-year reference service life (219,000 hrs)

END OF LIFE SCENARIO DOCUMENTATION

Scenario information	Value
Collection process – kg collected separately	1.22
Collection process – kg collected with mixed waste	0
Recovery process – kg for re-use	0
Recovery process – kg for recycling	0.67
Recovery process – kg for energy recovery	0.21
Disposal (total) – kg for final deposition	0.36
Scenario assumptions e.g. transportation	100 km truck transportation to disposal

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR v1.2 and ECO Platform verification checklist are used.
EPD Hub is not able to identify any unjustified deviations from the PCR v1.2 and EN 15802+A2 in the Environmental Product Declaration and its project report.
EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.
The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration
The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Haiha Nguyen
Tool verification validity: 27 March 2025 - 26 March 2028

HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited

29.01.2026

ANNEX: 1
CONVERSION TABLE FOR PRODUCT STAGE (A1-A3) GWP – EN15804+A2, EF 3.1

The scaling table in an environmental product declaration (EPD) shows the relationship between the declared unit of a product and the environmental impact in a tabulated form. The scaling table is used to provide a standardized way to compare different products and to adjust the environmental performance data of the product according to its declared unit.

No.	Item Code	Description	Unit product weight (kg / m of cable)	GWP - Total - A1-A3 (kgCO2e/m of cable)	Scaling factor
1	X2425 AA / 01 / 937265	Aerial Bunched Cable (3 X 35 + 1 X 54.6 Sq.mm)	0.658	3.80	0.63
2	X2425 AA / 02 / 937265	Aerial Bunched Cable (3 X 70 + 1 X 54.6 Sq.mm)	0.977	6.02	1.00