



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Copper Busbars

ELIT AS



EPD HUB, HUB-3541

Published on 27.06.2025, last updated on 27.06.2025, valid until 26.06.2030

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.1 (5 Dec 2023) and JRC characterization factors EF 3.1.



Created with One Click LCA



GENERAL INFORMATION

MANUFACTURER

Manufacturer	ELIT AS
Address	Ulvedalsvegen 2, 2030 Nannestad, Norway
Contact details	firmapost@elit.no
Website	https://elit.no/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR Version 1.1, 5 Dec 2023
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4, and modules C1-C4, D
EPD author	Martine Haggren, ELIT AS
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	Haiha Nguyen, as an authorized verifier acting for EPD Hub Limited

This EPD is intended for business-to-business and/or business-to-consumer communication. 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	Copper Busbars
Additional labels	-
Product reference	-
Place(s) of raw material origin	Germany and Netherlands
Place of production	Stolberg, Germany and Tilburg, Netherlands
Place(s) of installation and use	Norway
Period for data	01.01.2024-31.12.2024
Averaging in EPD	Multiple factories
Variation in GWP-fossil for A1-A3 (%)	<10% (+0.10 /-0.19%)
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	2,8

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	1,04E+01
GWP-total, A1-A3 (kgCO ₂ e)	1,04E+01
Secondary material, inputs (%)	27,8
Secondary material, outputs (%)	90
Total energy use, A1-A3 (kWh)	47,7
Net freshwater use, A1-A3 (m ³)	0,17

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

ELIT is a Norwegian competence center and total supplier offering sourcing and technical service solutions to the electrical, HVAC, plumbing, industrial, and infrastructure sectors. In addition to delivering high-quality components and systems, ELIT provides product customization, technical support, and professional training through its internal competence center.

ELIT offers a wide range of products tailored to meet the needs of different industries. For more information about ELIT AS and its full product selection, visit <https://elit.no/>.

PRODUCT DESCRIPTION

Solid copper bar made of high-purity electrolytic copper (Cu-ETP) in accordance with NF EN 13601. Ideal for use in power distribution systems, including busbars and grounding applications. The bar has rounded edges and can be easily cut, punched, or bent, making it suitable for custom fabrication and heavy-duty connections.

Technical Data

- Electrolytic copper Cu-ETP (Cu/Al) according to NF EN 13601
- Copper purity of minimum 99,9%
- Maximum resistivity of 0,017241 $\Omega\text{mm}^2/\text{m}$ below 20°C
- Coefficient of linear expansion: $16,6 \times 10^{-6}$ per °C within 20°C to 100°C
- Tensile strength 25 daN/mm²
- Maximum elongation average 12%
- Rounded corners for easier installation

Nominal Rating

- For ambient temperature inside the operation panel: 35°C
- Working temperature measured on the copper bar, in accordance with DIN 43671

- Bars on edge

For more information about ELIT AS and its product range, visit <https://elit.no/>.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	100	EU
Minerals	-	-
Fossil materials	-	-
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	0,0109

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
Mass per declared unit	1 kg
Functional unit	-
Reference service life	-

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 covers the life-cycle modules listed in the following table.

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	X	MND	MND	MND	MND	MND	MND	MND	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

Modules not declared = MND. Modules not relevant = MNR

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

A market-based approach is used in modelling the electricity mix utilized in the factory.

The copper busbars (PCB) are sourced as finished products from two different suppliers. 9.25% of the total volume is produced and shipped from the Netherlands, while 90.75% is produced in Germany by KME. The copper busbars are manufactured using high-purity copper cathodes obtained through solvent extraction and electrowinning processes. These cathodes undergo hot rolling and further mechanical processing such as cutting, bending, and shaping to achieve the final dimensions required. The data used reflects average European conditions for copper processing and transformation.

ELIT receives the completed copper busbars directly from the manufacturers and does not perform any further modification. The finished products are delivered to our central warehouse in Nannestad, Norway, from where they are stored, packed, and shipped onward to customers or wholesalers.

Packaging for transport is included in the inventory and consists of cardboard boxes, plastic film, and wooden pallets. All material losses and energy consumption from the manufacturing process are included. The electricity consumption related to storage and packing at the warehouse (A3) is calculated based on ELIT's annual electricity use and total product volume handled. This figure is used to represent the energy use for manufacturing-related activities at the warehouse. The electricity mix for the warehouse is based on local Norwegian grid data, and energy losses during transmission are also considered.

The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Module A4 covers the transport of the product to the customer. Transport for A4 is calculated based on the average annual sales distance from head warehouse to customer. This transport distance is calculated to be 376,7km and the transportation method is lorry. The total weight includes the product and packaging per declared unit. Vehicle capacity utilization volume factor is assumed to be 100% which means full load. In reality, it may vary but as role of transportation emissions in total results is small, the variety in load is assumed to be negligible. To be conservative, empty returns are included in this study as implemented through an average load factor in the Ecoinvent transport datapoints. Transportation does not cause losses as product are packaged properly.

Installation (A5) is not included in the scope as the copper busbars cause no significant material losses or direct emissions during installation. A5 is only reported to account for the treatment of packaging waste according to EU end-of-life scenarios for plastic, wood, and cardboard.

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

Demolition is assumed to consume 0,01 kWh/kg of product. The source of energy is diesel fuel used by construction machines (C1). It is assumed that 100% of the waste is collected and transported to the waste treatment centre. Transportation distance to treatment is assumed as 50km and the

transportation method is assumed to be lorry (C2). Approximately 90% of copper is assumed to be recycled based on EuRIC (2020, p. 6) (C3). It is assumed that the remaining 10% of copper is taken to landfill for final disposal (C4). Benefits and loads in module D are calculated for the copper recycling activities at module C3 and for the exported energy from incineration of packaging materials in module A5.

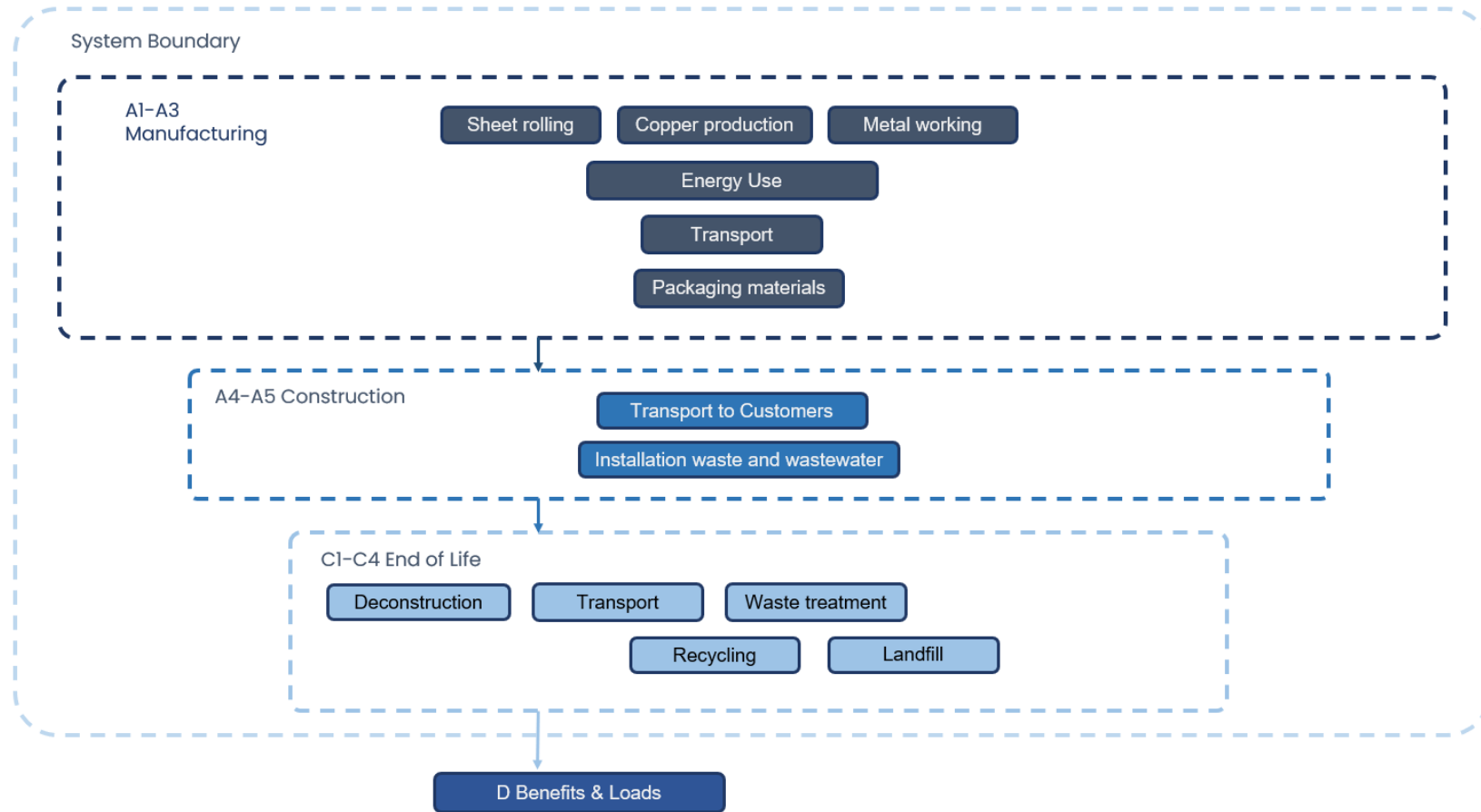


Figure: Life Cycle Diagram- Overview of the life cycle stages included in the EPD, showing all relevant processes from raw material extraction to end-of-life, including potential benefits beyond the system boundary.

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. 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 1 and 2. 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. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging material	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

The copper busbars are purchased as fully finished products. ELIT does not perform any additional manufacturing or processing steps beyond packaging and distribution. No modifications or alterations are made to the products before they are sold.

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	Multiple factories
Grouping method	Based on average results of product group - by total volume
Variation in GWP-fossil for A1-A3, %	<10% (+0.10 /-0.19%)

Averaging has been applied in this study, as the EPD covers one specific product sourced from two different production sites (Germany and Netherland). The results represent an average scenario based on data from both locations. A scaling table is included in the annex to show results for different product sizes.

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 3.10.1 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

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 ₂ e	1,01E+01	2,83E-01	-9,21E-03	1,04E+01	6,57E-02	4,50E-02	MND	MND	MND	MND	MND	MND	MND	3,61E-03	4,49E-02	2,45E-02	6,25E-04	-4,95E+00
GWP – fossil	kg CO ₂ e	1,01E+01	2,83E-01	3,02E-02	1,04E+01	6,56E-02	5,34E-03	MND	MND	MND	MND	MND	MND	MND	3,60E-03	4,49E-02	2,45E-02	6,24E-04	-4,94E+00
GWP – biogenic	kg CO ₂ e	0,00E+00	0,00E+00	-3,97E-02	-3,97E-02	0,00E+00	3,97E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP – LULUC	kg CO ₂ e	1,50E-02	9,99E-05	1,99E-04	1,53E-02	2,36E-05	1,50E-06	MND	MND	MND	MND	MND	MND	MND	3,69E-07	1,99E-05	2,88E-05	3,57E-07	-7,75E-03
Ozone depletion pot.	kg CFC-11e	1,02E-07	5,63E-09	8,21E-10	1,09E-07	1,31E-09	1,71E-11	MND	MND	MND	MND	MND	MND	MND	5,52E-11	6,28E-10	2,63E-10	1,81E-11	-4,59E-08
Acidification potential	mol H ⁺ e	3,24E-01	8,83E-04	1,33E-04	3,25E-01	1,37E-04	6,15E-06	MND	MND	MND	MND	MND	MND	MND	3,25E-05	1,50E-04	2,62E-04	4,43E-06	-1,47E-01
EP-freshwater ²⁾	kg Pe	1,32E-01	1,88E-05	9,86E-06	1,32E-01	4,42E-06	2,79E-07	MND	MND	MND	MND	MND	MND	MND	1,04E-07	3,49E-06	1,32E-05	5,13E-08	-1,06E-01
EP-marine	kg Ne	5,77E-02	2,97E-04	3,24E-05	5,81E-02	3,28E-05	6,39E-06	MND	MND	MND	MND	MND	MND	MND	1,51E-05	4,85E-05	5,81E-05	1,69E-06	-4,26E-02
EP-terrestrial	mol Ne	8,28E-01	3,23E-03	3,26E-04	8,32E-01	3,54E-04	2,48E-05	MND	MND	MND	MND	MND	MND	MND	1,65E-04	5,28E-04	6,55E-04	1,84E-05	-6,27E-01
POCP (“smog”) ³⁾	kg NMVOCe	1,73E-01	1,38E-03	1,45E-04	1,75E-01	2,27E-04	8,05E-06	MND	MND	MND	MND	MND	MND	MND	4,93E-05	2,08E-04	1,93E-04	6,60E-06	-1,21E-01
ADP-minerals & metals ⁴⁾	kg Sbe	4,14E-03	9,25E-07	3,98E-07	4,14E-03	2,19E-07	3,96E-09	MND	MND	MND	MND	MND	MND	MND	1,29E-09	1,48E-07	1,44E-06	9,92E-10	-1,96E-03
ADP-fossil resources	MJ	1,22E+02	3,97E+00	5,67E-01	1,27E+02	9,24E-01	1,48E-02	MND	MND	MND	MND	MND	MND	MND	4,72E-02	6,30E-01	2,89E-01	1,53E-02	-5,70E+01
Water use ⁵⁾	m ³ e depr.	5,31E+00	1,95E-02	6,65E-01	5,99E+00	4,59E-03	4,78E-04	MND	MND	MND	MND	MND	MND	MND	1,18E-04	2,92E-03	4,57E-03	4,42E-05	-2,01E+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

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	1,86E-06	2,22E-08	1,70E-09	1,88E-06	4,84E-09	1,01E-10	MND	MND	MND	MND	MND	MND	MND	9,25E-10	3,56E-09	3,65E-09	1,01E-10	-1,19E-06
Ionizing radiation ⁶⁾	kBq 11235e	9,75E-01	5,07E-03	6,52E-03	9,87E-01	1,19E-03	4,44E-05	MND	MND	MND	MND	MND	MND	MND	2,09E-05	5,10E-04	1,04E-03	9,63E-06	-3,65E-01
Ecotoxicity (freshwater)	CTUe	1,62E+03	5,21E-01	2,21E-01	1,62E+03	1,23E-01	8,93E-03	MND	MND	MND	MND	MND	MND	MND	2,60E-03	9,97E-02	1,68E-01	1,29E-03	-1,27E+03
Human toxicity, cancer	CTUh	2,23E-08	4,82E-11	4,72E-11	2,24E-08	1,10E-11	7,17E-13	MND	MND	MND	MND	MND	MND	MND	3,71E-13	7,64E-12	1,96E-11	1,15E-13	-2,76E-09
Human tox. non-cancer	CTUh	1,84E-06	2,49E-09	4,42E-10	1,85E-06	5,84E-10	3,51E-11	MND	MND	MND	MND	MND	MND	MND	5,87E-12	3,94E-10	1,25E-09	2,64E-12	-1,57E-07
SQP ⁷⁾	-	1,86E+02	2,36E+00	3,05E+00	1,91E+02	5,58E-01	1,41E-02	MND	MND	MND	MND	MND	MND	MND	3,30E-03	3,76E-01	5,47E-01	3,02E-02	-1,12E+02

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	4,23E+01	6,87E-02	2,37E+00	4,48E+01	1,62E-02	-4,07E-01	MND	MND	MND	MND	MND	MND	MND	2,99E-04	8,64E-03	4,49E-02	1,48E-04	-2,79E+01
Renew. PER as material	MJ	0,00E+00	0,00E+00	3,46E-01	3,46E-01	0,00E+00	-3,46E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	4,23E+01	6,87E-02	2,72E+00	4,51E+01	1,62E-02	-7,54E-01	MND	MND	MND	MND	MND	MND	MND	2,99E-04	8,64E-03	4,49E-02	1,48E-04	-2,79E+01
Non-re. PER as energy	MJ	1,22E+02	3,97E+00	3,98E-01	1,27E+02	9,24E-01	-1,27E-01	MND	MND	MND	MND	MND	MND	MND	4,72E-02	6,30E-01	2,89E-01	1,53E-02	-5,70E+01
Non-re. PER as material	MJ	0,00E+00	0,00E+00	1,70E-01	1,70E-01	0,00E+00	-1,70E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of non-re. PER	MJ	1,22E+02	3,97E+00	5,68E-01	1,27E+02	9,24E-01	-2,97E-01	MND	MND	MND	MND	MND	MND	MND	4,72E-02	6,30E-01	2,89E-01	1,53E-02	-5,70E+01
Secondary materials	kg	2,78E-01	1,82E-03	3,92E-03	2,83E-01	4,29E-04	1,50E-05	MND	MND	MND	MND	MND	MND	MND	1,96E-05	2,83E-04	3,34E-04	3,85E-06	5,86E-01
Renew. secondary fuels	MJ	5,03E-03	2,30E-05	1,10E-02	1,60E-02	5,42E-06	1,34E-07	MND	MND	MND	MND	MND	MND	MND	5,12E-08	3,60E-06	1,52E-05	7,97E-08	-3,04E-03
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	1,50E-01	5,35E-04	1,55E-02	1,66E-01	1,26E-04	-3,39E-05	MND	MND	MND	MND	MND	MND	MND	3,12E-06	8,35E-05	1,26E-04	1,59E-05	-8,44E-02

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	2,34E+00	5,70E-03	2,22E-03	2,35E+00	1,34E-03	1,39E-04	MND	MND	MND	MND	MND	MND	MND	5,25E-05	1,10E-03	2,25E-03	1,69E-05	-1,05E+00
Non-hazardous waste	kg	7,59E+01	1,20E-01	1,16E-01	7,61E+01	2,83E-02	6,31E-02	MND	MND	MND	MND	MND	MND	MND	7,15E-04	2,06E-02	6,34E-02	3,87E-04	1,23E+00
Radioactive waste	kg	2,46E-04	1,26E-06	1,49E-06	2,49E-04	2,96E-07	1,11E-08	MND	MND	MND	MND	MND	MND	MND	5,12E-09	1,25E-07	2,55E-07	2,35E-09	-9,00E-05

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	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	1,00E-02	1,00E-02	0,00E+00	1,15E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	9,00E-01	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	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	0,00E+00	6,18E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,62E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,56E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+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 ₂ e	1,01E+01	2,81E-01	3,04E-02	1,04E+01	6,52E-02	6,13E-03	MND	MND	MND	MND	MND	MND	MND	3,59E-03	4,47E-02	2,44E-02	6,19E-04	-4,93E+00
Ozone depletion Pot.	kg CFC ₋₁₁ e	8,58E-08	4,48E-09	6,41E-10	9,09E-08	1,04E-09	1,38E-11	MND	MND	MND	MND	MND	MND	MND	4,37E-11	5,02E-10	2,18E-10	1,44E-11	-3,87E-08
Acidification	kg SO ₂ e	2,51E-01	6,71E-04	1,06E-04	2,52E-01	1,10E-04	4,56E-06	MND	MND	MND	MND	MND	MND	MND	2,29E-05	1,15E-04	2,11E-04	3,28E-06	-9,91E-02
Eutrophication	kg PO ₄ ³ e	4,91E-02	1,71E-04	4,25E-04	4,97E-02	2,77E-05	1,94E-06	MND	MND	MND	MND	MND	MND	MND	5,34E-06	2,79E-05	3,00E-05	1,04E-06	-3,58E-02
POCP (“smog”)	kg C ₂ H ₄ e	1,14E-02	6,40E-05	1,39E-05	1,15E-02	1,16E-05	5,61E-07	MND	MND	MND	MND	MND	MND	MND	1,71E-06	1,03E-05	1,25E-05	3,10E-07	-4,73E-03
ADP-elements	kg Sbe	4,13E-03	9,04E-07	3,92E-07	4,13E-03	2,14E-07	3,82E-09	MND	MND	MND	MND	MND	MND	MND	1,26E-09	1,44E-07	1,44E-06	9,72E-10	-1,95E-03
ADP-fossil	MJ	1,07E+02	3,89E+00	4,71E-01	1,11E+02	9,04E-01	1,40E-02	MND	MND	MND	MND	MND	MND	MND	4,68E-02	6,22E-01	2,73E-01	1,52E-02	-5,11E+01

ENVIRONMENTAL IMPACTS – 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 ₂ e	1,01E+01	2,83E-01	3,04E-02	1,04E+01	6,57E-02	5,34E-03	MND	MND	MND	MND	MND	MND	MND	3,61E-03	4,49E-02	2,45E-02	6,25E-04	-4,95E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH₄ fossil, CH₄ biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO₂ is set to zero.

THIRD-PARTY VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? [Read more online](#)

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited
27.06.2025



ANNEX I: SCALING TABLE

Table 1. Scaling Table for Environmental Impact of ELIT PCB Copper Busbars

This table presents the Global Warming Potential (GWP) values for different ELIT PCB copper busbar products, based on their mass (in kg). The GWP values are calculated according to EN 15804+A1 and EN 15804+A2 standards, with separate contributions for total GWP, fossil GWP, and biogenic GWP.

Product Name	Mass (in kg)	A1-A3, EN 15804+A1	A1-A3, EN 15804+A2		
		GWP	GWP _{-total}	GWP _{-fossil}	GWP _{-biogenic}
PCBCopper busbar	1 kg	10,07	10,03	10,06	0,04
ELIT PCB-4M-20X5	3,56	35,8492	35,7068	35,8136	0,1424
ELIT PCB-2M-25X5	2,19	22,0533	21,9657	22,0314	0,0876
ELIT PCB-4M-25X5mm	4,45	44,8115	44,6335	44,767	0,178
ELIT PCB-4M-30x5mm	5,34	53,7738	53,5602	53,7204	0,2136

ELIT PCB-2M-30X10	5,29	53,2703	53,0587	53,2174	0,2116
ELIT PCB-4M-30X10	10,69	107,6483	107,2207	107,5414	0,4276
ELIT PCB-4M-40x5mm	7,12	71,6984	71,4136	71,6272	0,2848
ELIT PCB-2M-40X10	7,09	71,3963	71,1127	71,3254	0,2836
ELIT PCB-4M-40X10	14,25	143,4975	142,9275	143,355	0,57
ELIT PCB-2M-50X5mm	4,49	45,2143	45,0347	45,1694	0,1796
ELIT PCB-4M-50X5mm	8,89	89,5223	89,1667	89,4334	0,3556
ELIT PCB-2M-50X10	8,89	89,5223	89,1667	89,4334	0,3556
ELIT PCB-4M-50x10mm	17,79	179,1453	178,4337	178,9674	0,7116
ELIT PCB-4M-60X5mm	10,68	107,5476	107,1204	107,4408	0,4272
ELIT PCB-4M-60x10mm	21,35	214,9945	214,1405	214,781	0,854
ELIT PCB-4M-80X5mm	14,42	145,2094	144,6326	145,0652	0,5768

ELIT PCB-4M-80x10mm	28,49	286,8943	285,7547	286,6094	1,1396
ELIT PCB-2M-100X5	8,89	89,5223	89,1667	89,4334	0,3556
ELIT PCB-4M-100x5mm	17,79	179,1453	178,4337	178,9674	0,7116
ELIT PCB-2M-100X10	17,79	179,1453	178,4337	178,9674	0,7116
ELIT PCB-4M-100x10mm	35,59	358,3913	356,9677	358,0354	1,4236
ELIT PCB-4M-120x10mm	42,8	430,996	429,284	430,568	1,712