

Environmental product declaration

In accordance with ISO 14025:2006 and EN 15804+A2:2022 standards
Cable ladders, wire cable trays and accessories with Magnelis® coating



Manufacturer: KOPOS KOLÍN a.s.

Program: National environmental labeling program

Program operator: Ministry of the Environment of the Czech Republic

Product Category Rules: EN 15804+A2:2022

EPD registration number: Sk11-07-26

EPD for a product group, based on the worst values of the impact category indicator results

Valid from: 2026-07-07

General information

Program: National environmental labeling program

Program Operator: Ministry of the Environment of the Czech Republic

Manufacturer: KOPOS KOLÍN a.s., Havlíčkova 432, Kolín 28002, Kolín IV, Czech Republic

EPD registration number: Sk11-07-26

Declared unit: 1 kg a product from the product line Magnelis® (label ZM or POZM)

Product Category Rules: EN 15804+A2:2022

Owner of the EPD: KOPOS KOLÍN a.s.

Contact: Bc. Ivana Fiedlerová, e-mail: ekolog@kopos.cz

Created by: Bc. Ivana Fiedlerová

Valid from: 2026-07-07

Expiration date: 2031-07-06

Validity: 5 years

The EPD owner has the sole ownership and responsibility for the EPD.

EPDs within a single category are not necessarily comparable. For two EPDs to be comparable, they must be based on the same product category principle, cover products with the same functions, technical characteristics, and uses—the same declared or functional unit must be used. They must have equivalent system boundaries, objectives, and scope; data quality requirements and criteria for the inclusion of inputs and outputs; data collection methods; calculation procedures; impact categories; and allocation procedures. Instructions regarding content and format for compiling the data required to develop the declaration and validity at the time of comparison must also be equivalent.

Cable ladders, wire cable trays and accessories with Magnelis® coating



Company information

KOPOS KOLÍN a.s. is a leading Czech manufacturer of electrical installation materials with a tradition dating back 100 years.

It currently produces more than 5,000 products that cover a wide range of needs for modern electrical installations. The product range includes complete solutions for storing, routing and protecting electrical wiring - from installation boxes, rails, channels and pipes to cable support systems, fire-resistant installations and specialized elements for radiation shielding, used, for example, in the field of nuclear energy.

Products are designed with an emphasis on functionality, safety, long service life, high technical level, and above all with regard to the practical needs of customers.

Quality is the basic pillar of the company's philosophy, which is confirmed not only by long-term experience, but also by the trust of customers at home and abroad. All products meet the requirements of European standards and are regularly tested in accredited electrotechnical testing laboratories.

The company has an integrated quality management system in place and is a holder of ISO 9001, ISO 14001, ISO 50001 certifications, the Czech Quality brand and the Safe Enterprise certificate.

Product information

Cable trays

a component of the system used to support cables, consisting of a base section with built-in side sections or a base section attached to the side sections

Cable ladders

a component of the system used to support cables, consisting of side supports connected to each other by crossbars

Cable route

a set consisting solely of segments of cable trays or segments of cable ladders

Supporting equipment

a component of the system designed to provide mechanical support that may restrict the movement of the cable route

Assembly equipment

a component of the system used to secure other devices to the cable route

System accessories

a component of the system used for an additional function, such as securing cables, mounting accessories, etc.

Surface treatments Magnelis®

continuous galvanizing with addition of magnesium and aluminium – EN 10346, EN 10143. A galvanizing method where a cold-rolled steel strip is after degreasing and pickling passed through an alloy zinc bath alloyed with 3.5% aluminium and 3% magnesium.

The products are manufactured from coils or sheets of sheet metal that has already been coated. The coating has a self-repairing capability that will provide progressive protection to the cuts in the material. In the first phase, visible signs of corrosion are possible at the cutting points, which, over time, due to the chemical composition, are covered by the protective layer.

The sheet metal used for KOPOS products has a coating designation of ZM310, which corresponds to 18-31 µm. The coating is used on cable trays, cable ladders, fittings and cable route accessories. Suitable for indoor and outdoor environments. The surface treatment is suitable to replace hot-dip galvanized products. Products with a Magnelis® surface treatment can be used in environments with corrosivity categories C1–C4. According to ISO 12944-2, the surface treatment also meets the requirements for use in a C5 environment.

Tab. 1 – list of products – includes all products from the table label with ZM or POZM. New riveted products will have a digit „2“ following the letters in their designation

Product Group Name	Product Name	Type
Cable tray Jupiter	Perforated cable tray, with integrated coupling	KZI
	Non – perforated cable tray, with integrated coupling	KZIN
	Cable tray cover	V

Accessories Jupiter	Elbow 90°	O 90X...
	Elbow 90° cover	VO 90X...
	Rising elbow 90°	SO 90X...
	Rising elbow 90° cover	VSO 90X...
	Low elbow 90°	KO 90X...
	Low elbow 90° cover	VKO 90X...
	Horizontal adapter	OH
	Horizontal branch cover	VOH
	T-piece	T
	T-piece cover	VT
	Crossover	KR
	Crossover cover	VKR
	End piece – reduction	K-R
	Universal coupling	SU
	Partition	P
	Coupling	S
	Hinged joining	SK
	Angle coupling	SSU
	Supporting corner	UP
	Reinforcement plate	DV
	Side hinged joint horizontal	BSKH
	Mounting plate	MDS
Cable tray Mars	Perforated cable tray	NKZ
	Non-perforated cable tray	NKZN
Accessories Mars	Horizontal branch cover	VOH
	End piece - reduction	K-R
	Partition	NPZ
	Coupling	NS
	Hinged joining	SK
	Angle coupling	NSUK
	Couple fire resistant	NS
Cable ladder	Cable ladder	KL
	Cable ladder cover	V
Cable ladder – accessories	Horizontal bend 90°	KLOBH/KLO
	T-piece	KLT
	Crossover	KLKR
	Coupling	KPBSKL
	Horizontal coupling	BSKH

Mounting accessories	Cover fixture	NUV
	Outer side hanger	ZVNE
	Bracket	KLSU
	Bracket medium	DS
	Bracket medium snap-on	DSDZ
	Suspension piece	NZ
	Load bearing profile	NP
	L-profile	L
	Z-profile	Z
	Supporting corner	NU
	Cable fixing profile	NPKV
	Hanger	DZZ
	Side hanger	DZBZ
	Mounting plate	DZMD
	Shaping tape	DZTP

Technical information

Products from the product line Magnelis® are manufactured in accordance with:

ČSN EN 61537 ed.2 Cable tray systems and cable ladder systems

Heat resistant: -50 to +150 °C

Reaction to fire class of the base material: A1

Class 7 - Magnelis® - Continuous galvanizing with addition of magnesium and aluminium – EN 10346, EN 10143

Tab. 2 – information on composition, range for the entire group

Material	% of representation
Hot dip galvanised steel with Magnelis® coating	89 – 100
Rivet	0 – 11

The products do not contain SVHC (Substances of very high concern) in excess of 0,1 % w/w according to the List of SVHC available at the date of issue of the EPD.

Tab. 3 – Information on packaging, range for the entire group

Packaging	% representation	Biogenic carbon
Paper board	0 – 10,7	0,00E+00 – -1,27E-01
PET tape	0 – 7,7	0,00E+00 – 4,39E-05
PP tape	0 – 2,7	0,00E+00 – 1,67E-02
LDPE	0 – 1,2	0,00E+00 – -6,32E-04

LCA: Calculation rules

Declared unit

1 kg of product line Magnelis® (label ZM or POZM). Since the impacts of individual products do not meet the 10% rule, the worst impacts in each category were used.

Reference service life

A reference service life is not declared given that the products are used in constructions in many different environments. The service life of the product depends entirely on the environment in which it is installed. In general, however, high-quality metal systems are expected to have a long service life, often exceeding 20 years in normal environments. High humidity, salt exposure, or other chemical vapors significantly shorten this service life. Average corrosion loss of the protective layer shows following table (Tab. 4).

Tab. 4 – average corrosion loss of the protective layer

Level of corrosion aggressiveness		Description of the environment	Average corrosion loss of the protective layer (µm / year)
C2	Low	Interior: ventilated spaces with unstable temperature and possible occasional humidity - sports, production and storage halls, garages Exterior: dry, unpolluted places with very moderate occasional humidity - free landscape	<0,5
C3	Medium	Interior: production areas with higher humidity and medium pollution - food areas, dairies, breweries, laundries Exterior: urban and industrial areas with low to medium air pollution, coastal areas with low salinity	<0,5 – 0,8
C4	High	Interior: areas with higher condensation and heavy pollution - swimming pools, chemical areas Exterior: industrial areas, coastal areas with medium salinity	0,8 – 1,8
C5	Very high	Interior: areas with very high condensation or heavy pollution from production processes and mines Exterior: industrial areas with high pollution and humidity, seaside areas with high salinity	1,8 – 3,5

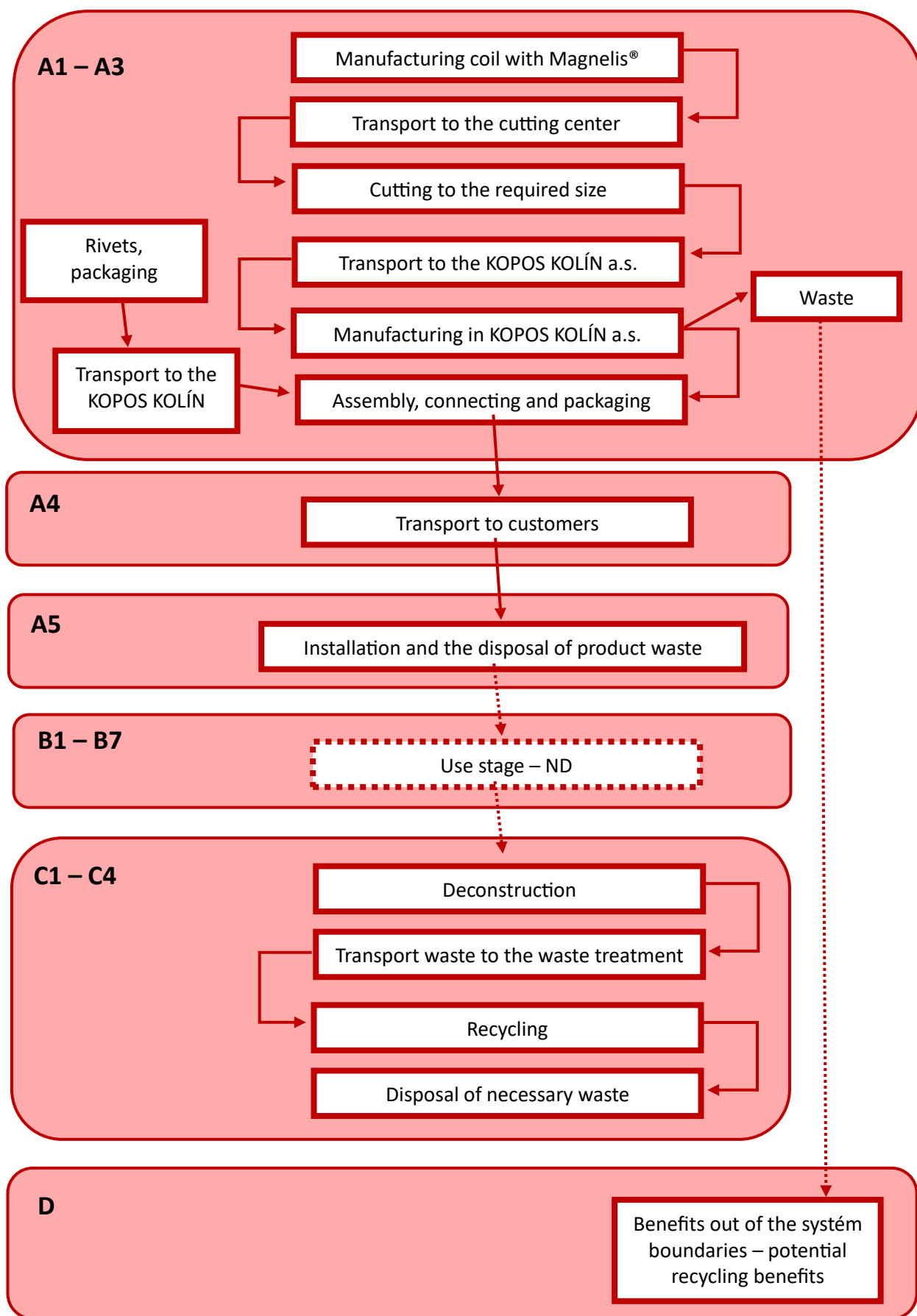
Product system and system boundaries

This EPD is a cradle-to-grave with module D.

Tab. 5 – Declared modules

	Product stage			Construct ion process stage	Use stage								End of life stage				Suppleme ntary informati on beyond constructi on works life cycle
	Raw material supply	Transport	Manufacturing	Transport	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction, demolition	Transport	Waste processing	Disposal	Reuse, recovery, recycling potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	RER	RER	CZ										RER	RER	RER	RER	RER
Variation – products	15 %												-	-	-	-	-
Variation – sites	0 %												-	-	-	-	-
Share of specific data	90 %												-	-	-	-	-

ND – not declared



Picture 1 – systém boundaries

Raw material and its transport, A1 + A2

Coils and sheets with a Magnelis® coating are purchased for production. These are transported from the manufacturer to the cutting center, where they are cut to the required size. Other raw materials, such as packaging and fasteners, as well as electricity, are also purchased.

Manufacturing A3

Products from the product line Magnelis® (label ZM or POZM) included in this EPD are made in KOPOS KOLÍN a.s. in Kolín.

The manufacturing process consists of several sequential steps that can be performed on one or more machines. First, the raw material (a coil or sheet) is loaded into the machine, where it is cut to the desired shape (including holes); the sheet is then bent into its final form. This process can result in a finished product, which is then packaged, or a semi-finished product that can be further processed or riveted into its final form.

Waste treatment

Waste generated during production (metal, packaging materials) is fully recycled by a business partner. Any hazardous waste generated is transported by a party authorized to process such waste.

Transport, A4

The products are distributed worldwide, typically via a central warehouse, which subsequently manages further distribution to customers.

Installation, A5

For the installation, the use of a power-driven hand tool – a drill with a power consumption of 0.7 kWh – was considered. In addition, the disposal of product waste was modeled.

Use stage, module B, ND

Product from the product line Magnelis® (label ZM or POZM) are long-life products. However, due to the declared limits of the system, durability was not taken into account.

No maintenance is required during the use phase and a complete replacement is assumed as a repair. This phase was not included in the LCA.

End of life stage, module C

Module C1 – deconstruction, hand tools powered by electricity are again required for deconstruction; here, too, a drill with a power consumption of 0.7 kWh was factored in.

Module C2 – transport of the waste to waste treatment facilities was assumed over a distance of 20 km.

Module C3 – recycling and module C4 – disposal of necessary waste; for processing waste from the product, a model provided by the manufacturer of Magnelis® coated sheet metal was used. Specifically, 98 % of the waste is recycled, and 2 % must be landfilled.

Module D

In module D, the sorting of production waste at the Kolín manufacturing plant and its transfer for recycling is considered a benefit. The recycling model was adopted from a manufacturer of Magnelis® coated sheet metal. Specifically, 98 % of the waste is recycled, while 2 % must be landfilled. For this model, 1 kg of waste was considered, or rather 0.98 kg of waste after accounting for the necessary residual waste.

Preconditions and measures taken

Administrative processes were not included in the analysis. In addition, processes related to the production of production equipment were not included.

The analysis also includes products that are in the final stages of production. These products are identical to the current ones, except that the parts are riveted together. Therefore, this rivet was included in the impact assessment, as was the electrical energy required to install it in the final product. These new products were modeled, and their impacts are lower than the worst-case scenarios presented in this EPD.

Exclusion rules

No relevant flows were excluded from the model. Data completeness is ensured in accordance with the cut-off criterion of ČSN EN 15804+A2:2022. Model covering more than 95 % of all input and output flows. Stickers, printed materials, and hazardous waste generated during this activity were excluded from the model; their volume is completely negligible in comparison with other inputs, accounting for less than 5 % in total.

Data sources

Product formulas were used as the primary source of information on the raw materials used and their quantities. The environmental impacts of Magnelis® coated sheet metal are based on the manufacturer's EPD, as are the end-of-life phase and benefits beyond the system boundary. Information on the slitting of the parent coil into sheets or coils of the required dimensions comes from the supplier. Other inputs, such as packaging material, rivets, and electricity, are sourced from the Ecoinvent database.

Data quality

Geographic representativeness – the data were used as reported by suppliers and customers. For analysis in the Czech Republic, data from the Czech Republic were used (e.g., the Czech energy mix); for suppliers from Europe, European data were used (e.g., supplied packaging materials). Everything is based on the information available to us. Geographical representativeness is also indicated in Table 5 – Declared Modules.

Temporal representativeness – the production data and purchase order data used are for the year 2025. The energy mix in the Ecoinvent database corresponds to the average for 2023. The supplier's EPD is issued in 2024; data is collected for 2022.

Technological representativeness – information on the technology used was obtained from production data or, where applicable, based on information from suppliers.

Allocation

The GWP-GHG of electricity used in module A3 includes the electricity required for the production of the final product as well as for the production of intermediate products that form part of the final product.

If a product can be manufactured on multiple pieces of machinery, the average energy consumption is applied. Where a specific input is supplied by multiple suppliers, the values used for this input represent an average of all relevant suppliers.

Variability of products

The products differ in their diameter and the thickness of the sheet metal used (and therefore weight) and packaging. Their impacts do not meet the 10% rule (according to ČSN ISO 21930:2018), therefore the worst values in each impact category are used as the presented results. The products that contribute most to the worst impacts in each indicator are NUV_ZM, SK 35_ZM, DZBZ_ZM and VKR 50_ZM.

LCA: Results

Tab. 6 – impact categories

Impact category	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D **
GWP – fossil	kg CO2 eq	1,40E+01	1,58E-02	7,04E-01	5,13E-01	2,11E-07	1,34E-03	2,96E-04	-1,70E+00
GWP – biogenic	kg CO2 eq	4,84E-03	9,67E-06	2,18E-01	-4,56E-04	1,29E-10	9,82E-06	-1,02E-05	1,00E-02
GWP – luluc	kg CO2 eq	5,67E-03	5,68E-06	1,33E-04	1,31E-04	7,57E-11	1,04E-06	9,33E-07	-2,27E-04
GWP – total	kg CO2 eq	1,39E+01	1,58E-02	9,22E-01	5,13E-01	2,11E-07	1,36E-03	2,87E-04	-1,69E+00
ODP	kg CFC11 eq	7,33E-09	7,42E-12	4,56E-10	4,40E-10	9,90E-17	2,20E-14	7,64E-16	2,29E-12
AP	mol H+ eq	3,57E-02	5,23E-05	1,61E-03	1,53E-03	6,98E-10	3,30E-06	2,13E-06	-4,16E-03
EP – freshwater	kg P eq	2,34E-03	1,12E-06	1,97E-04	1,95E-04	1,49E-11	4,80E-09	6,05E-10	-3,96E-07
EP – marine	kg N eq	9,69E-03	1,78E-05	5,75E-04	4,35E-04	2,37E-10	9,70E-07	5,51E-07	-6,69E-04
EP – terrestrial	mol N eq	1,03E-01	1,93E-04	4,78E-03	4,41E-03	2,58E-09	1,04E-05	6,06E-06	-6,00E-03
POCP	kg NMVOC eq	3,21E-02	8,30E-05	1,28E-03	1,14E-03	1,11E-09	2,63E-06	1,66E-06	-2,72E-03
ADP – minerals and metals *	kg Sb eq	1,94E-04	4,44E-08	2,87E-06	2,85E-06	5,93E-13	1,95E-10	1,39E-11	-9,64E-06
ADP – fossil *	MJ	1,45E+02	1,83E-02	8,94E+00	8,93E+00	2,44E-07	2,71E-02	4,00E-03	-1,69E+01
WDP *	m3 depriv.	2,02E+00	1,05E-03	7,71E-02	8,26E-02	1,40E-08	2,66E-04	3,30E-05	-1,15E-01
GWP – fossil – Global warming potential fossil fuels; GWP – biogenic – Global warming potential biogenic; GWP – luluc – Global warming potential land use and land use change; GWP – total – Global warming potential; ODP – Depletion potential of the stratospheric ozone; AP – Acidification potential; EP – freshwater – Freshwater eutrophication potential; EP – marine – Marine eutrophication potential; EP – terrestrial – Terrestrial eutrophication potential; POCP – Formation potential of tropospheric ozone; ADP – minerals and metals – Abiotic depletion potential for non-fossil resources; ADP – fossil – Abiotic depletion potential for fossil resources potential; WDP – Water (user) deprivation potential									

* **disclaimer:** The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

** module D provides benefits out of the systém boundaries, its results are not combined with modules A – C

Tab. 7 – GWP used energy

Impact category	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP – GHG	kg CO2 eq	1,39E+01	1,46E-02	6,54E-01	4,67E-01	1,95E-07	1,36E-03	2,97E-04	-1,70E+00

Tab. 8 – composition of electrical energy

Energy	Unit	A1 – A3	A4	A5	C1	C2	C3	C4	D
Renewable	MJ	1,29E+01	3,57E-03	4,06E-01	4,04E-01	4,76E-08	1,51E-02	5,62E-04	6,68E-01
Fossil	MJ	1,15E+02	2,51E-02	7,77E+00	7,75E+00	3,35E-07	1,81E-02	2,67E-03	-1,13E+01
Nuclear	MJ	5,77E+01	4,22E-03	4,26E+00	4,26E+00	5,62E-08	9,03E-03	1,33E-03	-5,64E+00
Other	MJ	3,05E-03	1,20E-05	5,91E-05	5,38E-05	1,60E-10	0,00E+00	0,00E+00	0,00E+00

Tab. 9 – other environmental information

Waste	Unit	A1 – A3	A4	A5	C1	C2	C3	C4	D
Harazdous	kg	1,63E-04	1,54E-06	8,10E-06	7,35E-06	2,05E-11	-1,96E-12	8,72E-14	-1,26E-07
Non-hazardous	kg	1,10E+00	2,00E-02	7,83E-02	2,02E-02	2,66E-07	1,87E-05	2,00E-02	2,05E-01
Radioactive	kg	1,07E-03	6,37E-08	5,56E-05	5,55E-05	8,49E-13	3,99E-06	4,56E-08	1,86E+00

Tab. 10 – parametres describing resource use

Resource use	Unit	A1 – A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	8,52E+00	2,86E-03	1,48E-01	1,46E-01	3,81E-08	1,51E-02	6,52E-04	6,68E-01
PERM	MJ	4,34E+00	7,10E-04	2,58E-01	2,58E-01	9,47E-09	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	1,29E+01	3,57E-03	4,06E-01	4,04E-01	4,76E-08	1,51E-02	6,52E-04	6,68E-01
PENRE	MJ	1,73E+02	2,93E-02	1,20E+01	1,20E+01	3,91E-07	2,71E-02	4,00E-03	-1,69E+01
PENRM	MJ	3,05E-03	1,20E-05	5,91E-05	5,38E-05	1,60E-10	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	1,73E+02	4,23E-03	4,26E+00	4,26E+00	5,64E-08	2,71E-02	4,00E-03	-1,69E+01
SM	kg	4,02E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m ³	8,61E-01	9,16E-08	6,72E-06	7,20E-06	1,22E-12	1,22E-05	1,01E-06	-1,73E-01

PERE – Use of renewable primary energy excluding renewable primary energy resources used as raw materials; **PERM** – Use of renewable primary energy resources used as raw materials; **PERT** – Total use of renewable primary energy resources; **PENRE** – Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials; **PENRM** – Use of non renewable primary energy resources used as raw materials; **PENRT** – Total use of non renewable primary energy resources; **SM** – Use of secondary material; **RSF** – Use of renewable secondary fuels; **NRSF** – Use of non renewable secondary fuels; **FW** – Net use of fresh water

LCA: Interpretation

From the above-mentioned results of the environmental impacts, it can be seen that the most significant of the environmental impact of the assessed modules is in the production module, in phases A1-A3.

The LCIA results are relative and do not predict the ultimate impacts of each category, threshold exceedances, safety margins or risks.

Sources

Ecoinvent, version 3.11.

SimaPro LCA Package, Pré Consultants, the Netherlands , www.pre-sustainability.com, version 3

ČSN EN 15804+A2:2022 Sustainability of construction works – Environmental product declarations – Core rules for the product category

ČSN ISO 21930:2018 Sustainability in buildings and civil engineering works – Core rules for environmental product declarations of construction products and services

EPD Hot Dip Galvanised steel coils with Magnelis® coating from ArcelorMittal Europe – Flat Products, EPD registration number: EPD-IES-0014422, Programme operator: EPD International AB

Catalogues, product documentation.

EPD Verification

Independent verification of declarations and data in accordance with ISO 14025:2006			
Standard ČSN EN 15804+A2 developed by CEN serves as baseline PCR*.			
☐	Internal	☒	External
Verifier:			
		prof. Ing. Vladimír Kočí, PhD, MBA www.lca.cz Approved individual verifier of The International EPD® System	
*PCR – Product Category Rules			