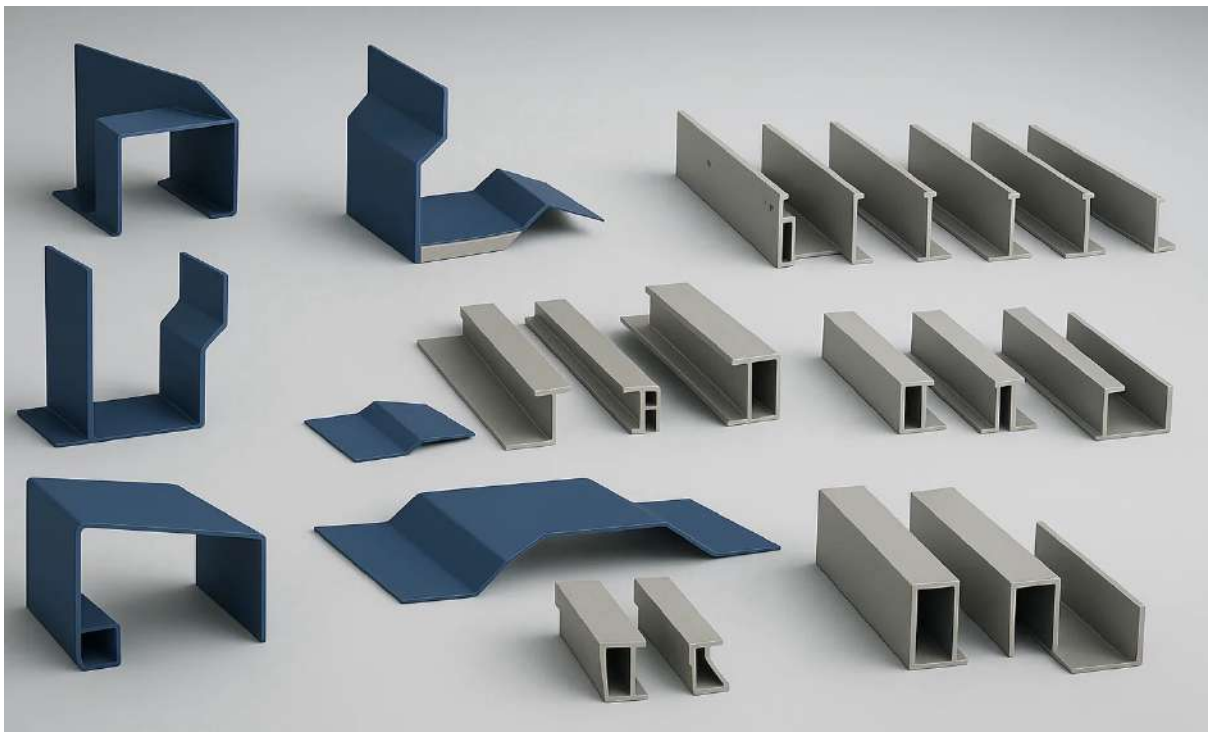
ENVIRONMENTAL PRODUCT DECLARATION

EPD

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025



Product name:

1. Cold-formed steel profiles and
2. Sheet metal flashings

Issued on: 10 June 2025
Valid until: 10 June 2030

Producer:

REX-BUD BUDOWNICTWO SP. z o.o. S.K.A.

GENERAL INFORMATION

EPD OWNER

Manufacturer / EPD Holder	RBT / REX-BUD BUDOWNICTWO SP. z o.o. S.K.A.
Company Address Manufacture Address	ul. Nieszawska 6/8, 93-119 Łódź, Poland ul. Andrzeja Struga 14, 95-100 Zgierz, Poland
Contact details	Przemysław Dobierzewski przemyslaw.dobierzewski@rbt.com.pl
Website	www.rbt.com.pl

PRODUCT IDENTIFICATION

Product name	1. Cold-formed steel profiles 2. Sheet metal flashings
Place(s) of production	Zgierz , Poland

EPD INFORMATION

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.

EPD Poland program operator	Multicert Sp. z o.o. Ul. Mydlarska 47, 04-690 Warszawa, Poland www.epd.org.pl, epd@epd.org.pl
EPD standards	This EPD is in accordance with EN 15804+A2 and ISO 14025 standards.
Product category rules	The CEN standard EN 15804+A2 serves as the core PCR.
EPD verification	Independent verification of this EPD and data, according to ISO 14025: □ Internal certification ■ External verification
EPD verifier	Izabela Sztamberek-Sochan, Ph.D.
EPD number	EPD-P 01.06.2025
Registration	EPD Polska www.epd.org.pl
Publishing date	10 June 2025
EPD valid until	10 June 2030
Reasons for performing LCA	B2B

Accountability

The EPD Holder is responsible for the information provided and evidence. Multicert Sp. z o.o. does not hold responsibility for the manufacturer information, life cycle assessment data nor supporting evidence.

COMPANY INFORMATION

HOLDER OF THE EPD

REX-BUD BUDOWNICTWO SP. z o.o. S.K.A.
ul. Nieszawska 6/8, 93-119 Łódź, Poland

FACTORY PLANT / MANUFACTURER

RBT
ul. Andrzeja Struga 14, 95-100 Zgierz, Poland

COMPANY PROFILE

REX-BUD BUDOWNCTWO SP. z o.o. S.K.A. , the owner of the RBT brand and the managing entity of the Rex-Bud Group, operates in the field of industrial and commercial construction. The RBT brand, established in 2010, specializes in the production of high-quality steel components, including cold-formed steel profiles and sheet metal flashings. The RBT production facility, located in Poland, plays a key role in the supply chain by handling the design, profiling, cutting, and packaging of finished elements. It is an integral part of the Rex-Bud Group and supports the Group's comprehensive offering in the field of prefabricated steel solutions. The plant's specialization contributes to operational synergy, enhanced independence, and increased production flexibility across the Group.

Modern technological solutions and an integrated quality management system in accordance with ISO 9001 are applied throughout the production process. Manufacturing activities are conducted in line with the principles of sustainable development, with implemented procedures for monitoring emissions, energy consumption, and waste management. The steel used in production is sourced from certified suppliers, significantly contributing to the reduction of the carbon footprint of finished products.

An experienced team is responsible for all stages of operation – from technical concept development to final order fulfillment – ensuring high product quality and operational efficiency. Thanks to many years of experience, the company has established a strong position as one of the market leaders in Poland and other EU countries.
The production facility covered by this Environmental Product Declaration represents a model example of a responsible approach to industrial processes, taking into account environmental, social, and economic aspects.

RBT specializes in the production of cold-formed steel sections, manufactured based on individual designs, technical drawings, or customer specifications. These products are primarily used in industrial construction and steel structures. Thanks to an extensive machine park and a flexible production approach, RBT offers both standard solutions and those tailored to individual needs.

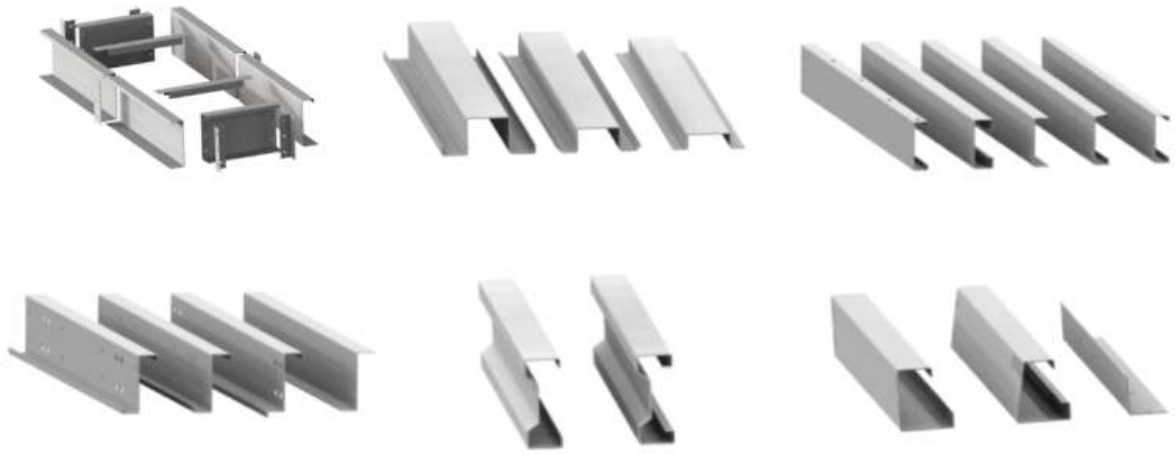
One of the key areas of the company's operations is the production of steel substructures for photovoltaic farms, covering both ground-mounted and rooftop systems. Manufactured from high-quality corrosion-protected steel (including Magnelis® coatings), these structures ensure durability, weather resistance, and stability for PV module installation. RBT offers both ready-to-install PV mounting kits and custom-engineered solutions tailored to specific renewable energy projects.

PRODUCT INFORMATION

PRODUCT DESCRIPTION

The main product groups covered by this EPD declaration include:

1. **Cold-formed steel profiles**

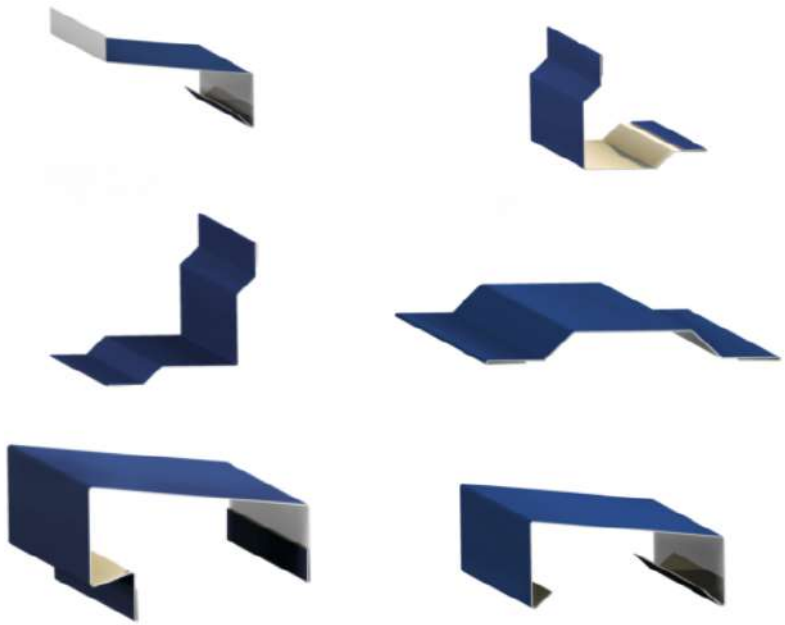


These are structural profiles manufactured from metal strips by cold forming. Available profile types include C, C+, G, L, Z, Σ (sigma), and Ω (omega). The range also includes bracing elements, struts, connectors, and support components. All profiles are produced according to customer specifications, technical drawings, or standard designs.

Materials used in production of profiles include:

- Black steel: S235, S355, DC01
- Galvanized steel Z275: DX51D, S320GD, S350GD, S390GD, S420GD
- Stainless steel
- Aluminum

2. Sheet metal flashings



These are finishing components for façades and roofs, manufactured from galvanized or polyester-coated steel. Typical types include corners, parapet caps, ridge caps, windowsills, drips, starter strips, window and door flashings, and guttering elements. Flashings are designed to protect building edges and ensure proper water drainage.

Materials used in production of flashings include:

- Polyester-coated steel (RAL palette)
- Galvanized steel Z275: DX51D, S320GD, S350GD, S390GD, S420GD

PRODUCT RAW MATERIAL COMPOSITION

PRODUCT VARIANT	STEEL	STAINLESS STEEL	ALUMINUM	ZINC	POLYESTER
COLD-FORMED STEEL PROFILE – BLACK STEEL	100%	-	-	-	-
COLD-FORMED STEEL PROFILE – GALVANIZED STEEL	98%	-	-	2%	-
COLD-FORMED STEEL PROFILE – STAINLESS STEEL	-	100%	-	-	-
COLD-FORMED STEEL PROFILE – ALUMINUM	-	-	100%	-	-
SHEET METAL FLASHING - POLYESTER-COATED STEEL	97%	-		2%	1%
SHEET METAL FLASHING - GALVANIZED STEEL	98%	-	-	2%	-

REFERENCE STANDARDS

The products covered by this Environmental Product Declaration are manufactured in accordance with the following standards:

- EN 1090-1:2012 - *Execution of steel structures and aluminium structures – Part 1: Requirements for conformity assessment of structural components*
- EN 1090-2:2018 - *Execution of steel structures and aluminium structures – Part 2: Technical requirements for steel structures*
- EN 1090-4:2018 - *Execution of steel structures and aluminium structures – Part 4: Technical requirements for cold-formed structural steel elements and sheeting for roofing, ceiling, flooring and walling*
- EN 10162:2003 - *Cold rolled steel sections – Technical delivery conditions – Dimensional and cross-sectional tolerances*
- EN 14782:2006 - *Self-supporting metal sheet for roofing, external cladding and internal lining – Product specification and requirements.*

The products meet the quality, execution and conformity assessment requirements as specified in the above standards.

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

RAW MATERIALS PROCUREMENT (A1-A2)

Modules A1 and A2 cover the extraction, processing, and delivery of raw materials used in the production of steel structures and associated components.

Module A1 includes the entire production process of raw materials, starting from the extraction of natural resources, through their processing and refining, up to the manufacturing of metal materials supplied to RBT factory. The main raw materials used in the production of cold-formed steel profiles include black steel, galvanized steel, stainless steel, and aluminum. For the production of sheet metal flashings, the primary materials are polyester-coated steel and galvanized steel. These materials are sourced from both domestic and EU suppliers.

For black steel, galvanized steel and sheet metal flashings, environmental data have been modeled in 90% based on EPDs from material suppliers and in 10% using background data from the ecoinvent database and for all other materials, background data from ecoinvent have been used.

Module A2 comprises the transportation of all raw materials and semi-finished products to the RBT manufacturing site in Zgierz, Poland. Transportation is performed mainly by road (truck transport) and modeled using Polish and European average data for fuel consumption and emissions.
Only inputs exceeding the 1% threshold of total mass or environmental impact are included, in line with EN 15804+A2 requirements.

MANUFACTURING AND PACKAGING (A3)

The production process of cold-formed steel profiles and sheet metal flashings at RBT factory begins with the delivery of steel coils, which are either cut to the required width at external steel service centers or, in the case of some product lines, cut internally at the RBT facility. The coils, with thicknesses ranging from 0.5 mm to 4 mm, are then processed further as the pre-cut steel strips are fed into CNC press brakes, where they are bent into the final profile shapes and cut to the required lengths. At this stage, necessary holes and perforations are made according to design specifications, using advanced machinery to ensure accuracy and consistency.

Upon completion of the production process, the finished products are prepared for shipment. The elements are arranged on pallets and secured for transport using PET straps and wood spacers to prevent damage during handling and delivery. Each shipment is appropriately labeled and prepared to ensure that the products reach their destination in optimal condition.

TRANSPORT TO CUSTOMER (A4)

The finished steel structures transported from the RBT factory to construction sites are using road transport. Depending on the shipment size, three types of vehicles are utilized: small trucks with a payload of less than 10 tonnes, medium trucks with a payload of 10–16 tonnes, and large trucks with a payload exceeding 16 tonnes. On average, 21% of the shipped volume is transported by small trucks over an average distance of 211 km, 15% by medium trucks over 224 km, and 64% by large trucks over 247 km.

During transport, the steel structures are securely fastened using belts or chains, and wooden spacers placed beneath the elements to protect the anti-corrosion coating from mechanical damage. Each load is appropriately secured to prevent shifting during transit. The selection of transport mode and route is based on the size and specifications of the shipment, as well as customer requirements.

Emissions from transport are modeled based on the actual vehicle mix and average distances recorded for deliveries from the Rex-Bud manufacturing facility to construction sites.

PRODUCT END OF LIFE (C1-C4, D)

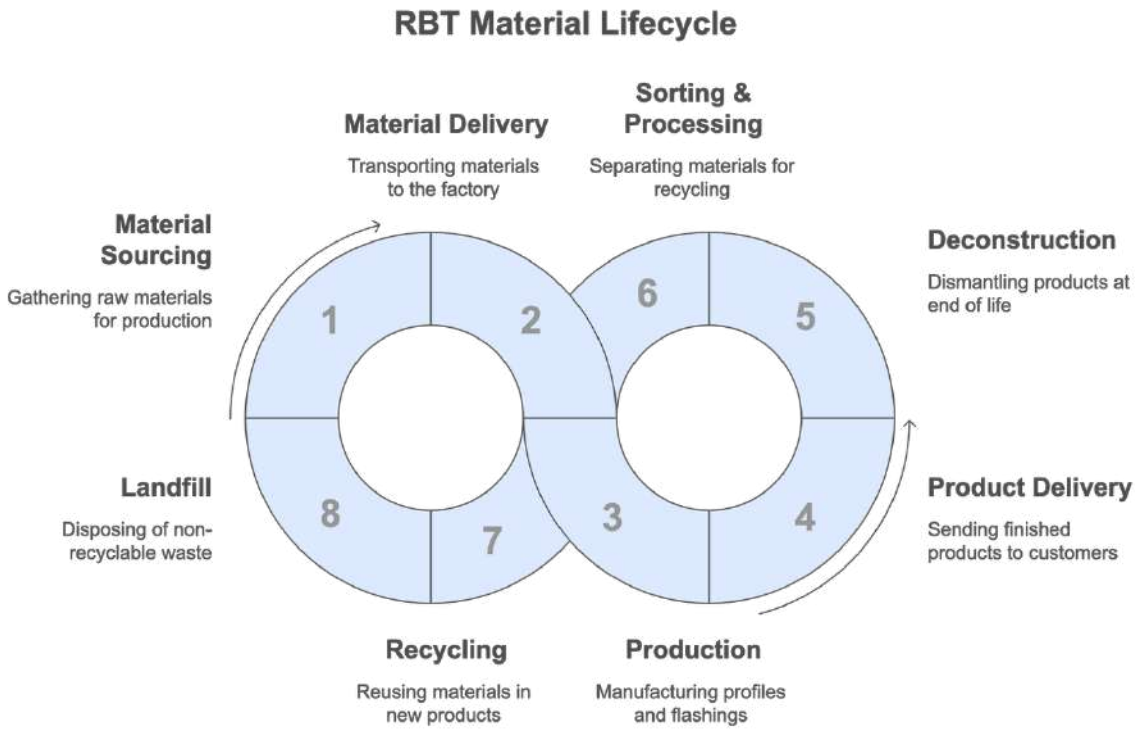
Due to the wide range of steel products manufactured by RBT factory and their diverse applications, Module C1 (deconstruction) has been modeled using a generic assumption. Specifically, it is assumed that the demolition of RBT products requires the use of 10 Wh of energy (diesel) per 1 kg of the product. Given the variability in deconstruction technologies, this value represents a conservative average for disassembly operations.

Module C2 assumes that, after deconstruction, the steel products are transported 100 km to a scrap processing facility using a large lorry (>16 t, EURO 6 standard) and further 200km to the landfilling site from scrap processing facility.

Module C3 considers that, at the end of life, 98% of the steel material is collected and recycled as scrap for use in new steel production. The recycling process takes place in accordance with standard industry practices, maximizing resource recovery.

Module C4 accounts for the remaining 2% of the product, which is assumed to be disposed of in landfill, together with any residual packaging materials or coatings.

In Module D, environmental credits are calculated for the net amount of steel scrap generated at the end of life, i.e. the difference between the quantity of scrap sent for recycling (C3) and the amount of scrap already included in the raw materials used during the production phase (A1). This approach ensures that only the additional recycling benefits beyond the recycled content already present in the steel are reported, in accordance with EN 15804+A2 and the World Steel Association methodology.



LIFE-CYCLE ASSESSMENT

LIFE-CYCLE ASSESSMENT INFORMATION

Period for data	2024 year

DECLARED AND FUNCTIONAL UNIT

Declared unit	1 kg
Mass per declared unit	1 kg

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate	0,0015 kg C / kg
Biogenic carbon content in product, kg C	0 kg C / kg
Biogenic carbon content in packaging, kg C	0,0015 kg C / kg

SYSTEM BOUNDARY

The scope of the EPD is "cradle to gate with modules C1-C4 and D". The modules A1 (Raw material supply), A2 (Transport) and A3 (Manufacturing), A4 (Transport) as well as C1 (Deconstruction/ demolition), C2 (Transport at end-of-life), C3 (Waste processing), C4 (Disposal) and D (benefits and loads beyond the system boundary) are included in the study.

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	Deconstr./demo	Transport	Waste processing	Disposal	Reuse Recovery Recycling

Modules not declared = MND. Modules not relevant = MNR.

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the EN 15804:2012+A2:2019. 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 are available are included in the calculations. No individual unit process accounts for more than 1% of the total mass or energy flows has been omitted. The total of all neglected input and output flows does not exceed 5% of total mass or energy usage. The life cycle analysis covers all industrial processes from raw material acquisition through production and distribution.

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.

ALLOCATION

The allocation is carried out in accordance with the provisions of EN 15804. The information provided for the year 2024 includes all cold-formed steel profiles and sheet metal flashings produced at RBT production facility during that year. Due to the similarity in production resources and processing stages, an average based on product weight was applied for each product type. Input and output data from production are inventoried and allocated on a mass basis to the declared functional unit of 1 kilogram.

DATA QUALITY

For foreground data, the LCA study relies on high-quality primary data gathered by RBT for the year 2024, including average transport distances for material supplies and final product shipments. For black steel, galvanized steel, and polyester-coated steel, third-party verified Environmental Product Declarations (EPDs) provided by the respective material suppliers were used as the main data sources for material-related impacts. All relevant background data sets have been sourced from the OpenLCA software's database: ecoinvent 3.10, which includes consistent and well-documented data sets accessible in the ecoinvent online database or through the ecoinvent database documentation.

GEOGRAPHIC REPRESENTATIVENESS

The product system covered by this EPD is manufactured and managed in Poland.

ESTIMATES AND ASSUMPTIONS

Where specific and recent primary data were unavailable, the study relied on established industry averages, background data from the ecoinvent 3.10 database, and verified Environmental Product Declarations (EPDs) from material suppliers (black steel, galvanized steel, polyester-coated steel).

For black steel and galvanized steel, 90% of the environmental impact was modeled using EPDs from suppliers and 10% using ecoinvent data. For polyester-coated steel, 100% of the environmental impact was modeled using the supplier's EPD. For other materials, only ecoinvent data was used.

For the purposes of allocation, a mass-based approach was used for all input and output flows.

Average transport distances for both raw materials and finished products were calculated based on internal company records for the year 2024. Where detailed distances were not available for specific shipments, company-wide averages were applied.

The average consumption of PET straps and wooden spacers used for securing shipments was determined based on internal transport documentation for the year 2024.

The emission factor for electricity consumption during manufacturing was based on the Emission Factors for Electricity in Poland reported by KOBiZE (the National Centre for Emissions Management) in December 2024 (0.701 kg CO2e/kWh).

The energy required for deconstruction/demolition (Module C1) was estimated as 10 Wh per 1 kg of product, representing a conservative average for typical demolition technologies.

In the end-of-life phase, it was assumed that 98% of steel is collected and recycled and 2% is sent to landfill, in accordance with industry standards and available literature.

It was assumed that all transportation at the end-of-life stage (Module C2) is carried out by large lorries (>16 t, EURO 5 standard) over an average distance of 100 km for steel scrap facility and further 200km to the landfilling site.

It was assumed that all major raw material and energy inputs have been accounted for, and any neglected flows represent less than 5% of the total mass or energy consumption, and no single flow exceeds 1% of total mass or energy (in accordance with EN 15804+A2).

MANUFACTURING ENERGY SCENARIO DOCUMENTATION

Scenario parameter	Value
Electricity data source and quality	Emission Factors for Electricity in Poland reported in December 2024 by KOBiZE - the National Centre for Emissions Management in Poland
Electricity CO2e / kWh	0,701 kg CO2e / kWh

TRANSPORT SCENARIO DOCUMENTATION

Scenario parameter	Value
A4 specific transport CO2e emissions, kg CO2e/tkm	0.08 kg CO2e/tkm for large trucks (>16 t, EURO 5)
A4 average transport distance, km	235 km (weighted average)
Transport capacity utilization, %	100%
Bulk density of transported products, kg/m3	800-1200

END OF LIFE SCENARIO DOCUMENTATION

Scenario parameter	Value
Collection process – kg collected separately	0,98 kg
Collection process – kg collected with mixed waste	0,02 kg
Recovery process – kg for re-use	0,98 kg
Recovery process – kg for recycling	0 kg
Recovery process – kg for energy recovery	0 kg
Disposal (total) – kg for final deposition	0,02 kg

ENVIRONMENTAL IMPACT DATA

I) COLD-FORMED STEEL PROFILES – BLACK STEEL (DU = 1kg)

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Acidification	mol H+e	5,83E-03	3,10E-04	5,27E-05	1,00E-04	MND	3,22E-05	3,32E-05	5,60E-04	8,40E-07	-6,66E-03
Climate change – total	kg CO2e	2,49E+00	1,87E-01	3,11E-02	6,35E-02	MND	3,61E-03	1,98E-02	6,43E-02	1,30E-04	-1,96E+00
Climate change – fossil	kg CO2e	2,49E+00	1,87E-01	3,98E-02	6,34E-02	MND	3,61E-03	1,98E-02	6,43E-02	1,30E-04	-1,95E+00
Climate change – biogenic	kg CO2e	1,48E-03	1,30E-04	-8,69E-03	4,22E-05	MND	3,94E-07	1,37E-05	1,02E-05	1,72E-08	-2,40E-03
Climate change – LULUC	kg CO2e	9,60E-04	6,21E-05	2,06E-05	2,22E-05	MND	3,13E-07	6,56E-06	9,00E-06	6,44E-08	-7,10E-04
Abiotic depletion of fossil resources	MJ	2,30E+01	2,63E+00	5,56E-01	8,88E-01	MND	4,72E-02	2,78E-01	8,40E-01	3,07E-03	-2,01E+01
Eutrophication, aquatic freshwater	kg PO4e	1,10E-04	1,27E-05	2,97E-05	4,58E-06	MND	1,05E-07	1,34E-06	3,03E-06	1,04E-08	-8,80E-04
Eutrophication, aquatic marine	kg Ne	1,53E-03	6,58E-05	1,69E-05	2,08E-05	MND	1,50E-05	6,95E-06	2,60E-04	3,23E-07	-1,32E-03
Eutrophication, terrestrial	mol Ne	1,65E-02	6,90E-04	1,20E-04	2,20E-04	MND	1,60E-04	7,32E-05	2,83E-03	3,51E-06	-1,38E-02
Abiotic depletion, minerals & metals	kg Sbe	2,06E-06	6,23E-07	1,06E-07	2,39E-07	MND	1,32E-09	6,58E-08	3,82E-08	1,99E-10	-1,60E-05
Ozone depletion	kg CFC11e	1,64E-09	3,72E-09	2,89E-09	1,26E-09	MND	5,52E-11	3,93E-10	9,60E-10	3,62E-12	-1,02E-08
Photochemical ozone formation	kg NMVOCe	5,42E-03	5,70E-04	6,94E-05	1,90E-04	MND	4,92E-05	6,08E-05	8,50E-04	1,28E-06	-5,20E-03
Water use	m3e depr.	2,30E-01	1,29E-02	7,72E-03	4,60E-03	MND	1,20E-04	1,36E-03	2,58E-03	8,58E-06	-5,04E-01

EN 15804+A2 disclaimer for Abiotic depletion and Water use indicators and all 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 experienced with the indicator.

ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Eco-toxicity (freshwater)	CTUe	1,40E+01	7,16E-01	1,40E-01	2,60E-01	MND	6,69E-03	7,56E-02	1,23E-01	4,20E-04	-1,18E+02
Human toxicity, cancer effects	CTUh	5,24E-08	1,33E-09	1,45E-10	4,56E-10	MND	1,41E-11	1,40E-10	2,46E-10	5,65E-13	-4,40E-07
Human toxicity, non-cancer effects	CTUh	3,25E-09	1,70E-09	4,58E-10	5,76E-10	MND	6,43E-12	1,80E-10	1,36E-10	5,52E-13	-2,62E-08
Ionizing radiation, human health	kBq U235-Eq	1,25E-02	3,41E-03	1,32E-03	1,38E-03	MND	2,11E-05	3,60E-04	7,30E-04	1,96E-06	-6,44E-02
Particulate matter	disease incidence	2,19E-08	1,36E-08	8,35E-10	4,17E-09	MND	9,24E-10	1,44E-09	1,59E-08	2,00E-11	-1,43E-07

USE OF NATURAL RESOURCES

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Total use of non-renewable PER	MJ	2,31E+01	2,63E+00	5,56E-01	8,88E-01	MND	4,72E-02	2,78E-01	8,40E-01	3,07E-03	-2,01E+01
Total use of renewable PER	MJ	1,14E+00	4,52E-02	2,02E-01	1,79E-02	MND	2,90E-04	4,77E-03	9,83E-03	2,85E-05	-2,03E+00
Use of net fresh water	m3	4,67E-03	6,56E-05	4,38E-05	2,52E-05	MND	3,72E-07	6,94E-06	8,75E-06	4,38E-08	-1,76E-03
Use of renewable secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of secondary materials	kg	9,27E-02	0,00E+00	4,98E-02	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

END OF LIFE – WASTE

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Hazardous waste	kg	8,67E-02	2,61E-03	1,31E-03	8,90E-04	MND	4,09E-05	2,80E-04	8,20E-04	2,29E-06	-7,12E-01
High Level Radioactive waste	kg	1,10E-04	8,48E-07	3,29E-07	3,45E-07	MND	5,19E-09	8,96E-08	1,78E-07	4,77E-10	-1,63E-05
Non-hazardous waste	kg	1,95E-01	2,89E-02	6,42E-03	1,09E-02	MND	3,10E-04	3,05E-03	5,50E-03	3,31E-05	-1,42E+00

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

II) COLD-FORMED STEEL PROFILES – GALVANIZED STEEL (DU = 1kg)

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Acidification	mol H+e	6,48E-03	3,10E-04	5,27E-05	1,00E-04	MND	3,22E-05	3,32E-05	5,60E-04	8,40E-07	-6,68E-03
Climate change – total	kg CO2e	2,56E+00	1,87E-01	3,11E-02	6,35E-02	MND	3,61E-03	1,98E-02	6,43E-02	1,30E-04	-1,96E+00
Climate change – fossil	kg CO2e	2,56E+00	1,87E-01	3,98E-02	6,34E-02	MND	3,61E-03	1,98E-02	6,43E-02	1,30E-04	-1,96E+00
Climate change – biogenic	kg CO2e	1,49E-03	1,30E-04	-8,69E-03	4,22E-05	MND	3,94E-07	1,37E-05	1,02E-05	1,72E-08	-2,41E-03
Climate change – LULUC	kg CO2e	9,50E-04	6,21E-05	2,06E-05	2,22E-05	MND	3,13E-07	6,56E-06	9,00E-06	6,44E-08	-7,10E-04
Abiotic depletion of fossil resources	MJ	2,53E+01	2,63E+00	5,56E-01	8,88E-01	MND	4,72E-02	2,78E-01	8,40E-01	3,07E-03	-2,01E+01
Eutrophication, aquatic freshwater	kg PO4e	1,10E-04	1,27E-05	2,97E-05	4,58E-06	MND	1,05E-07	1,34E-06	3,03E-06	1,04E-08	-8,80E-04
Eutrophication, aquatic marine	kg Ne	1,62E-03	6,58E-05	1,69E-05	2,08E-05	MND	1,50E-05	6,95E-06	2,60E-04	3,23E-07	-1,32E-03
Eutrophication, terrestrial	mol Ne	1,76E-02	6,90E-04	1,20E-04	2,20E-04	MND	1,60E-04	7,32E-05	2,83E-03	3,51E-06	-1,38E-02
Abiotic depletion, minerals & metals	kg Sbe	2,92E-05	6,23E-07	1,06E-07	2,39E-07	MND	1,32E-09	6,58E-08	3,82E-08	1,99E-10	-1,60E-05
Ozone depletion	kg CFC11e	1,64E-09	3,72E-09	2,89E-09	1,26E-09	MND	5,52E-11	3,93E-10	9,60E-10	3,62E-12	-1,03E-08
Photochemical ozone formation	kg NMVOCe	5,79E-03	5,70E-04	6,94E-05	1,90E-04	MND	4,92E-05	6,08E-05	8,50E-04	1,28E-06	-5,20E-03
Water use	m3e depr.	1,96E-01	1,29E-02	7,72E-03	4,60E-03	MND	1,20E-04	1,36E-03	2,58E-03	8,58E-06	-5,05E-01

EN 15804+A2 disclaimer for Abiotic depletion and Water use indicators and all 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 experienced with the indicator.

ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Eco-toxicity (freshwater)	CTUe	1,40E+01	7,16E-01	1,40E-01	2,60E-01	MND	6,69E-03	7,56E-02	1,23E-01	4,20E-04	-1,18E+02
Human toxicity, cancer effects	CTUh	5,25E-08	1,33E-09	1,45E-10	4,56E-10	MND	1,41E-11	1,40E-10	2,46E-10	5,65E-13	-4,41E-07
Human toxicity, non-cancer effects	CTUh	3,25E-09	1,70E-09	4,58E-10	5,76E-10	MND	6,43E-12	1,80E-10	1,36E-10	5,52E-13	-2,62E-08
Ionizing radiation, human health	kBq U235-Eq	1,25E-02	3,41E-03	1,32E-03	1,38E-03	MND	2,11E-05	3,60E-04	7,30E-04	1,96E-06	-6,45E-02
Particulate matter	disease incidence	2,24E-08	1,36E-08	8,35E-10	4,17E-09	MND	9,24E-10	1,44E-09	1,59E-08	2,00E-11	-1,43E-07

USE OF NATURAL RESOURCES

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Total use of non-renewable PER	MJ	2,54E+01	2,63E+00	5,56E-01	8,88E-01	MND	4,72E-02	2,78E-01	8,40E-01	3,07E-03	-2,01E+01
Total use of renewable PER	MJ	1,65E+00	4,52E-02	2,02E-01	1,79E-02	MND	2,90E-04	4,77E-03	9,83E-03	2,85E-05	-2,03E+00
Use of net fresh water	m3	4,37E-03	6,56E-05	4,38E-05	2,52E-05	MND	3,72E-07	6,94E-06	8,75E-06	4,38E-08	-1,77E-03
Use of renewable secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of secondary materials	kg	5,83E-02	0,00E+00	4,98E-02	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

END OF LIFE – WASTE

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Hazardous waste	kg	8,67E-02	2,61E-03	1,31E-03	8,90E-04	MND	4,09E-05	2,80E-04	8,20E-04	2,29E-06	-7,13E-01
High Level Radioactive waste	kg	4,70E-04	8,48E-07	3,29E-07	3,45E-07	MND	5,19E-09	8,96E-08	1,78E-07	4,77E-10	-1,63E-05
Non-hazardous waste	kg	2,32E-01	2,89E-02	6,42E-03	1,09E-02	MND	3,10E-04	3,05E-03	5,50E-03	3,31E-05	-1,42E+00

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

III) COLD-FORMED STEEL PROFILES – STAINLESS STEEL (DU = 1kg)

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Acidification	mol H+e	2,43E-02	4,11E-05	5,27E-05	1,00E-04	MND	3,22E-05	3,32E-05	5,60E-04	8,40E-07	-7,12E-03
Climate change – total	kg CO2e	4,99E+00	2,45E-02	3,11E-02	6,35E-02	MND	3,61E-03	1,98E-02	6,43E-02	1,30E-04	-2,09E+00
Climate change – fossil	kg CO2e	4,93E+00	2,45E-02	3,98E-02	6,34E-02	MND	3,61E-03	1,98E-02	6,43E-02	1,30E-04	-2,09E+00
Climate change – biogenic	kg CO2e	5,45E-02	1,70E-05	-8,69E-03	4,22E-05	MND	3,94E-07	1,37E-05	1,02E-05	1,72E-08	-2,57E-03
Climate change – LULUC	kg CO2e	3,99E-03	8,13E-06	2,06E-05	2,22E-05	MND	3,13E-07	6,56E-06	9,00E-06	6,44E-08	-7,50E-04
Abiotic depletion of fossil resources	MJ	5,71E+01	3,44E-01	5,56E-01	8,88E-01	MND	4,72E-02	2,78E-01	8,40E-01	3,07E-03	-2,15E+01
Eutrophication, aquatic freshwater	kg PO4e	1,70E-03	1,66E-06	2,97E-05	4,58E-06	MND	1,05E-07	1,34E-06	3,03E-06	1,04E-08	-9,40E-04
Eutrophication, aquatic marine	kg Ne	4,25E-03	8,61E-06	1,69E-05	2,08E-05	MND	1,50E-05	6,95E-06	2,60E-04	3,23E-07	-1,41E-03
Eutrophication, terrestrial	mol Ne	4,40E-02	9,05E-05	1,20E-04	2,20E-04	MND	1,60E-04	7,32E-05	2,83E-03	3,51E-06	-1,47E-02
Abiotic depletion, minerals & metals	kg Sbe	1,30E-04	8,17E-08	1,06E-07	2,39E-07	MND	1,32E-09	6,58E-08	3,82E-08	1,99E-10	-1,71E-05
Ozone depletion	kg CFC11e	3,85E-08	4,87E-10	2,89E-09	1,26E-09	MND	5,52E-11	3,93E-10	9,60E-10	3,62E-12	-1,09E-08
Photochemical ozone formation	kg NMVOCe	1,50E-02	7,52E-05	6,94E-05	1,90E-04	MND	4,92E-05	6,08E-05	8,50E-04	1,28E-06	-5,55E-03
Water use	m3e depr.	1,64E+00	1,68E-03	7,72E-03	4,60E-03	MND	1,20E-04	1,36E-03	2,58E-03	8,58E-06	-5,38E-01

ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Eco-toxicity (freshwater)	CTUe	5,33E+01	9,38E-02	1,40E-01	2,60E-01	MND	6,69E-03	7,56E-02	1,23E-01	4,20E-04	-1,26E+02
Human toxicity, cancer effects	CTUh	1,39E-07	1,74E-10	1,45E-10	4,56E-10	MND	1,41E-11	1,40E-10	2,46E-10	5,65E-13	-4,70E-07
Human toxicity, non-cancer effects	CTUh	1,07E-07	2,23E-10	4,58E-10	5,76E-10	MND	6,43E-12	1,80E-10	1,36E-10	5,52E-13	-2,80E-08
Ionizing radiation, human health	kBq U235-Eq	4,31E-01	4,50E-04	1,32E-03	1,38E-03	MND	2,11E-05	3,60E-04	7,30E-04	1,96E-06	-6,88E-02
Particulate matter	disease incidence	4,02E-07	1,78E-09	8,35E-10	4,17E-09	MND	9,24E-10	1,44E-09	1,59E-08	2,00E-11	-1,53E-07

USE OF NATURAL RESOURCES

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Total use of non-renewable PER	MJ	5,71E+01	3,44E-01	5,56E-01	8,88E-01	MND	4,72E-02	2,78E-01	8,40E-01	3,07E-03	-2,15E+01
Total use of renewable PER	MJ	1,38E+01	5,93E-03	2,02E-01	1,79E-02	MND	2,90E-04	4,77E-03	9,83E-03	2,85E-05	-2,17E+00
Use of net fresh water	m3	5,20E-03	8,61E-06	4,38E-05	2,52E-05	MND	3,72E-07	6,94E-06	8,75E-06	4,38E-08	-1,88E-03
Use of renewable secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of secondary materials	kg	0,00E+00	0,00E+00	4,98E-02	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

END OF LIFE – WASTE

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Hazardous waste	kg	4,82E+00	3,40E-04	1,31E-03	8,90E-04	MND	4,09E-05	2,80E-04	8,20E-04	2,29E-06	-7,61E-01
High Level Radioactive waste	kg	1,10E-04	1,11E-07	3,29E-07	3,45E-07	MND	5,19E-09	8,96E-08	1,78E-07	4,77E-10	-1,74E-05
Non-hazardous waste	kg	2,98E+00	3,79E-03	6,42E-03	1,09E-02	MND	3,10E-04	3,05E-03	5,50E-03	3,31E-05	-1,52E+00

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

IV) COLD-FORMED STEEL PROFILES – ALUMINUM (DU = 1kg)

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Acidification	mol H+e	3,30E-02	4,11E-05	4,14E-05	1,00E-04	MND	2,10E-04	3,32E-05	9,30E-04	2,78E-06	-3,09E-02
Climate change – total	kg CO2e	7,76E+00	2,45E-02	2,39E-02	6,35E-02	MND	2,40E-02	1,98E-02	3,00E-01	5,10E-04	-7,12E+00
Climate change – fossil	kg CO2e	7,55E+00	2,45E-02	3,26E-02	6,34E-02	MND	2,40E-02	1,98E-02	2,98E-01	5,10E-04	-6,92E+00
Climate change – biogenic	kg CO2e	4,68E-02	1,70E-05	-8,70E-03	4,22E-05	MND	2,62E-06	1,37E-05	1,48E-03	3,38E-06	-3,49E-02
Climate change – LULUC	kg CO2e	1,66E-01	8,13E-06	1,79E-05	2,22E-05	MND	2,08E-06	6,56E-06	2,50E-04	6,34E-07	-1,62E-01
Abiotic depletion of fossil resources	MJ	1,18E+02	3,44E-01	4,57E-01	8,88E-01	MND	3,13E-01	2,78E-01	2,24E+00	8,63E-03	-1,08E+02
Eutrophication, aquatic freshwater	kg PO4e	4,08E-03	1,66E-06	2,91E-05	4,58E-06	MND	6,99E-07	1,34E-06	7,17E-05	8,07E-08	-3,78E-03
Eutrophication, aquatic marine	kg Ne	4,89E-03	8,61E-06	1,48E-05	2,08E-05	MND	9,99E-05	6,95E-06	1,70E-04	1,21E-06	-4,51E-03
Eutrophication, terrestrial	mol Ne	4,09E-02	9,05E-05	1,00E-04	2,20E-04	MND	1,09E-03	7,32E-05	1,81E-03	1,06E-05	-3,76E-02
Abiotic depletion, minerals & metals	kg Sbe	1,54E-05	8,17E-08	7,41E-08	2,39E-07	MND	8,79E-09	6,58E-08	6,62E-06	1,36E-09	-1,41E-05
Ozone depletion	kg CFC11e	1,30E-07	4,87E-10	2,77E-09	1,26E-09	MND	3,66E-10	3,93E-10	3,07E-09	9,28E-12	-1,19E-07
Photochemical ozone formation	kg NMVOCe	2,17E-02	7,52E-05	4,91E-05	1,90E-04	MND	3,30E-04	6,08E-05	6,50E-04	3,36E-06	-1,97E-02
Water use	m3e depr.	1,39E+01	1,68E-03	7,16E-03	4,60E-03	MND	7,70E-04	1,36E-03	4,00E-02	2,10E-04	-1,34E+01

EN 15804+A2 disclaimer for Abiotic depletion and Water use indicators and all 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 experienced with the indicator.

ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Eco-toxicity (freshwater)	CTUe	2,52E+01	9,38E-02	1,07E-01	2,60E-01	MND	4,44E-02	7,56E-02	1,64E+00	3,52E+00	-2,34E+01
Human toxicity, cancer effects	CTUh	4,22E-08	1,74E-10	9,02E-11	4,56E-10	MND	9,36E-11	1,40E-10	1,66E-09	2,63E-12	-4,01E-08
Human toxicity, non-cancer effects	CTUh	9,58E-08	2,23E-10	3,96E-10	5,76E-10	MND	4,27E-11	1,80E-10	6,14E-09	8,09E-11	-9,04E-08
Ionizing radiation, human health	kBq U235-Eq	2,02E+00	4,50E-04	1,14E-03	1,38E-03	MND	1,40E-04	3,60E-04	1,66E-02	1,90E-05	-1,85E+00
Particulate matter	disease incidence	5,37E-07	1,78E-09	4,63E-10	4,17E-09	MND	6,13E-09	1,44E-09	1,93E-08	5,37E-11	-5,09E-07

USE OF NATURAL RESOURCES

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Total use of non-renewable PER	MJ	1,18E+02	3,44E-01	4,57E-01	8,88E-01	MND	3,13E-01	2,78E-01	2,24E+00	8,63E-03	-1,08E+02
Total use of renewable PER	MJ	4,49E+01	5,93E-03	1,99E-01	1,79E-02	MND	1,92E-03	4,77E-03	2,67E-01	2,60E-04	-4,28E+01
Use of net fresh water	m3	6,27E-03	8,61E-06	4,05E-05	2,52E-05	MND	2,47E-06	6,94E-06	1,10E-04	3,94E-07	-5,69E-03
Use of renewable secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of secondary materials	kg	0,00E+00	0,00E+00	5,00E-02	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

PER abbreviation stands for primary energy resources

END OF LIFE – WASTE

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Hazardous waste	kg	1,74E+00	3,40E-04	1,21E-03	8,90E-04	MND	2,70E-04	2,80E-04	2,24E-02	5,12E-05	-1,67E+00
High Level Radioactive waste	kg	5,30E-04	1,11E-07	2,82E-07	3,45E-07	MND	3,44E-08	8,96E-08	4,22E-06	4,64E-09	-4,90E-04
Non-hazardous waste	kg	1,22E+00	3,79E-03	5,01E-03	1,09E-02	MND	2,03E-03	3,05E-03	3,14E-01	1,09E-01	-1,10E+00

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

V) SHEET METAL FLASHINGS (DU = 1kg)

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Acidification	mol H+e	5,79E-03	1,70E-04	5,27E-05	1,00E-04	MND	3,22E-05	3,32E-05	5,60E-04	8,40E-07	-6,41E-03
Climate change – total	kg CO2e	2,65E+00	1,02E-01	3,11E-02	6,35E-02	MND	3,61E-03	1,98E-02	6,43E-02	1,30E-04	-1,88E+00
Climate change – fossil	kg CO2e	2,64E+00	1,02E-01	3,98E-02	6,34E-02	MND	3,61E-03	1,98E-02	6,43E-02	1,30E-04	-1,88E+00
Climate change – biogenic	kg CO2e	7,10E-04	7,09E-05	-8,69E-03	4,22E-05	MND	3,94E-07	1,37E-05	1,02E-05	1,72E-08	-2,31E-03
Climate change – LULUC	kg CO2e	4,60E-04	3,40E-05	2,06E-05	2,22E-05	MND	3,13E-07	6,56E-06	9,00E-06	6,44E-08	-6,80E-04
Abiotic depletion of fossil resources	MJ	2,56E+01	1,44E+00	5,56E-01	8,88E-01	MND	4,72E-02	2,78E-01	8,40E-01	3,07E-03	-1,93E+01
Eutrophication, aquatic freshwater	kg PO4e	5,48E-05	6,94E-06	2,97E-05	4,58E-06	MND	1,05E-07	1,34E-06	3,03E-06	1,04E-08	-8,50E-04
Eutrophication, aquatic marine	kg Ne	7,80E-04	3,60E-05	1,69E-05	2,08E-05	MND	1,50E-05	6,95E-06	2,60E-04	3,23E-07	-1,26E-03
Eutrophication, terrestrial	mol Ne	8,70E-03	3,80E-04	1,20E-04	2,20E-04	MND	1,60E-04	7,32E-05	2,83E-03	3,51E-06	-1,32E-02
Abiotic depletion, minerals & metals	kg Sbe	1,10E-04	3,41E-07	1,06E-07	2,39E-07	MND	1,32E-09	6,58E-08	3,82E-08	1,99E-10	-1,54E-05
Ozone depletion	kg CFC11e	7,88E-10	2,03E-09	2,89E-09	1,26E-09	MND	5,52E-11	3,93E-10	9,60E-10	3,62E-12	-9,84E-09
Photochemical ozone formation	kg NMVOCe	3,24E-03	3,10E-04	6,94E-05	1,90E-04	MND	4,92E-05	6,08E-05	8,50E-04	1,28E-06	-5,00E-03
Water use	m3e depr.	9,43E-02	7,04E-03	7,72E-03	4,60E-03	MND	1,20E-04	1,36E-03	2,58E-03	8,58E-06	-4,85E-01

ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Eco-toxicity (freshwater)	CTUe	6,70E+00	3,92E-01	1,40E-01	2,60E-01	MND	6,69E-03	7,56E-02	1,23E-01	4,20E-04	-1,14E+02
Human toxicity, cancer effects	CTUh	2,52E-08	7,27E-10	1,45E-10	4,56E-10	MND	1,41E-11	1,40E-10	2,46E-10	5,65E-13	-4,23E-07
Human toxicity, non-cancer effects	CTUh	1,56E-09	9,32E-10	4,58E-10	5,76E-10	MND	6,43E-12	1,80E-10	1,36E-10	5,52E-13	-2,52E-08
Ionizing radiation, human health	kBq U235-Eq	5,98E-03	1,87E-03	1,32E-03	1,38E-03	MND	2,11E-05	3,60E-04	7,30E-04	1,96E-06	-6,19E-02
Particulate matter	disease incidence	1,28E-08	7,45E-09	8,35E-10	4,17E-09	MND	9,24E-10	1,44E-09	1,59E-08	2,00E-11	-1,38E-07

USE OF NATURAL RESOURCES

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Total use of non-renewable PER	MJ	2,62E+01	1,44E+00	5,56E-01	8,88E-01	MND	4,72E-02	2,78E-01	8,40E-01	3,07E-03	-1,93E+01
Total use of renewable PER	MJ	1,78E+00	2,47E-02	2,02E-01	1,79E-02	MND	2,90E-04	4,77E-03	9,83E-03	2,85E-05	-1,95E+00
Use of net fresh water	m3	5,66E-03	3,60E-05	4,38E-05	2,52E-05	MND	3,72E-07	6,94E-06	8,75E-06	4,38E-08	-1,70E-03
Use of renewable secondary fuels	MJ	2,74E-15	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of secondary materials	kg	6,31E-02	0,00E+00	4,98E-02	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

END OF LIFE – WASTE

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Hazardous waste	kg	4,16E-02	1,43E-03	1,31E-03	8,90E-04	MND	4,09E-05	2,80E-04	8,20E-04	2,29E-06	-6,85E-01
High Level Radioactive waste	kg	4,50E-04	4,64E-07	3,29E-07	3,45E-07	MND	5,19E-09	8,96E-08	1,78E-07	4,77E-10	-1,57E-05
Non-hazardous waste	kg	1,19E-01	1,58E-02	6,42E-03	1,09E-02	MND	3,10E-04	3,05E-03	5,50E-03	3,31E-05	-1,37E+00

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	Life cycle stages									
		A1	A2	A3	A4	A5 B1-B7	C1	C2	C3	C4	D
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	0,00E+00	0,00E+00	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

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EPD VERIFICATION

The verification procedure for this Environmental Product Declaration (EPD) has been carried out in accordance with the requirements of ISO 14025 standards. Once the verification process is complete, the EPD remains valid for a period of 5 years. There is no need to recalculate the parameters contained in the EPD after this period, provided that the data underlying the declaration have not changed substantially.

EPD CONTRIBUTORS

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Note: The sole ownership, liability, and liability of this declaration are with the EPD Owner. Construction product declarations may not be comparable if they do not comply with EN 15804. For detailed information on comparability, please refer to EN 15804 and ISO 14025.

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EPD CERTIFICATION

Program EPDPoland Operator: MULTICERT Sp. z o.o.

Reg. No. EPD-P 01.06.2025

CERTIFICATE

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EPD TYPE III DECLARATION

(ENVIRONMENTAL PRODUCT DECLARATION)

This document confirms that the Environmental Product Declaration developed by
REX-BUD BUDOWNICTWO SP. z o.o. S.K.A. for cold-formed steel profiles and sheet metal flashings
manufactured in accordance with standard
EN 1090, EN 10162, EN 14782,
meets the requirements of standards
EN 15804 + A2 and ISO 14025,
and that the data contained therein has been prepared correctly.

EPD Environmental Product Declaration
EPD VERIFIED
EPD POLAND

Verification carried out by:
Izabela Sztamberek Sochan, Ph.D.

MULTICERT JEDNOSTKA CERTYFIKACYJNA

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This document is valid until June 10, 2030, or until EPD is deregistered and its publication on the website www.epd.org.pl is discontinued.

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