

## Environmental Product Declaration

Average EPD

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021

# Slope Stabilisation Systems

TRUMER Schutzbauten GmbH



### Programme

EPD Square | [www.epdsquare.com](http://www.epdsquare.com)

### Programme operator

EPD Square, s.r.o.

### EPD Registration number

SQ 00-014

### Publication date

06.11.2024

### Valid until

05.11.2029

## General information

### Product

Slope Stabilization Systems

### Program operator

EPD Square

Karadžičova 16, 811 09, Bratislava, Slovakia

Email: [info@epdsquare.com](mailto:info@epdsquare.com)

### Registration number

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05.11.2029

### Owner of the declaration

Trumer Schutzbauten GmbH

Contact person: Marco Papillion

Email: [marco.papillion@trumer.cc](mailto:marco.papillion@trumer.cc)

### Manufacturer

Trumer Schutzbauten GmbH

Maria-Bühel-Strasse 7,

A-5110 Oberndorf, Austria

Email: [office@trumer.cc](mailto:office@trumer.cc)

### Place of production

Handelsstrasse 6,

A-5162 Obertrum am See,

Austria

### Product Category Rules (PCR)

The CEN standard EN 15804+A2 serves as the core PCR.  
In addition, EPD Square PCR v1.0, 2024 is used.

### Declared Unit

kg

### Mass per DU

1 kg

### UN CPC code

412 – Products of iron and steel

### Geographical scope

Europe

### Year of study

Data representative of 2023

### Comparability

EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in the context of the building.

### EPD author

Sarah Curpen, Silvia Vilčeková

### Verification type

Independent verification of the declaration and data, according to ISO14025:2006

Internal: ☐

External: ☒

### Verified by

Eng. Shai Ben Aharon

### Insert Signature Verifier



*The owner of the declaration shall be liable for the underlying information and evidence.*

*EPD Square shall not be liable with respect to manufacturer, life cycle assessment data and evidence.*

## System boundaries

Cradle to gate with additional modules. That is modules A1-A3, C1-C4, D and additional modules A4-A5 are declared.

### Modules declared and geographical scope

	Product stage			Construction process stage		Use stage								End of life stage			Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction 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	✓	✓	✓	✓	✓	MND	MND	MND	MND	MND	MND	MND	✓	✓	✓	✓	✓
Geography	EU/A S	EU/A S	AT	EU	EU	-	-	-	-	-	-	-	EU	EU	EU	EU	EU

The table is adapted for physical products and may have to be modified when declaring service products.

## Description of Organization

TRUMER Schutzbauten GmbH was founded in the early 1990s near Salzburg, Austria. At the time TRUMER worked closely alongside construction companies and stakeholders to help solve their geohazard mitigation needs. It quickly became apparent that there was much room for improvement with regards to installation efficiency, system functionality and cost of rockfall catchment fences available on the market.

In response, a unique net was developed, which was tested and proven to have lasting effects on the geohazards industry. The Omega-Net was the first high-strength net brought to the market with the strength, deformation capabilities and functional attributes to make the installation of large capacity systems a simple effort. Topping the list was its ability to fold into compact packages that could be easily transported in combination with posts by helicopter or cranes and installed without any shackles or sewing ropes. This removed the need to heave nets into position during installation.

The product spectrum of TRUMER has grown to include systems for mitigating unstable slopes (both passive and active measures), shallow landslide and debris flow mitigation and avalanche protection. TRUMER has also expanded the reach far beyond the borders of Austria to across the world, building a name on quality products known for their robustness and high level of safety.

## Product information

### Product name

Slope Stabilization Systems

### Product description

The use of steel nets or netting is one of the most widely practiced mitigation methods for rockfall throughout the world, particularly for controlling high-frequency, low-magnitude rockfalls on small to medium sized slopes. The type of nets or netting used and the support configuration is dependent on the intended outcome of mitigation as well as the physical characteristics of the site and rockfall events. There are two primary system types: draped and anchored systems. TRUMER rolled meshes consist of galvanized or ZnAl galvanized products.

### Product application

#### Rectangular Netting

Rectangular netting is used for both draped and anchored mesh applications. Unlike hexagonal mesh, it has no roll "memory" and can more easily adapt to changes in topography. This allows the mesh to maximize the contact surface area which dictates the active portion of the mesh system. Like all mesh products from TRUMER, it is available with the highest class of galvanization according to EN 10223-6. Its low cost, ease of handling and large variety of available products makes it a staple for low-strength applications. Anchors for slope retention systems can be drilled either prior to mesh installation or afterwards. This allows changes to be made during construction to increase the efficiency of the stabilization.

#### High performance Netting (HPN) and HPN +

High Performance Netting by Trumer has 150 kN/m tensile strengths of the mesh in both horizontal and vertical directions and a tight mesh opening. In addition, it was tested with higher values during unsupported pull-through tests (78 kN) when compared to the next most similar product on the market. Combined with its 4.6 mm diameter wire, small mesh size (50 mm x 50 mm) and highest galvanization coating available (Class A according to EN 10244-2), the mesh is a very durable and efficient alternative to similar high-tensile wire mesh products that have lower tensile strengths of the system, lower puncture resistance, lower galvanization and made from thinner diameter wire. High Performance Netting Plus (HPN+) has evolved to be an even stronger product. A higher tensile wire is used that still gives it the desirable malleable characteristics but which yields a higher strength product. Puncture strength has increased to 102 kN when tested in open-air, 150 kN as per the ASTM A975 test and 392 kN with the supported puncture test. With a mesh opening of 60 x 60 mm, it is still small enough to work well with fine grained material. The wire maintains its highest class of zinc-aluminium galvanization (Class A according to EN 10244-2) for optimum corrosion protection.

#### SIGMA netting

SIGMA netting by Trumer is available with a 50x50 mesh opening and a wire diameter of either 2,8 or 3,2 mm. The individual wire has a tensile strength of 1770 N/mm<sup>2</sup>. These characteristics make it the perfect combination between ease of installation and extraordinary performance values.

#### Omega Nets

The Omega-Net by TRUMER is the solution to higher strength applications. Various rope diameters are used to construct the nets, starting at 6 mm up to 10.5 mm, with a minimum mesh size of 100 mm. The nets are extremely flexible and panel sizes can be suited to individual projects, making it ideal for highly irregular rock slopes. The structure of the Omega-Net is unique, consisting of pre-formed waves and interwoven strands of high-strength rope. The strands themselves are thick galvanized spiral ropes that - although meet at intersecting points - are not connected to each other, since no clamps are used

Standards:

ONR 24810: TECHNICAL PROTECTION AGAINST ROCKFALL – TERMS AND DEFINITIONS, EFFECTS OF ACTIONS, DESIGN, MONITORING AND MAINTENANCE (2017)

ISO 17746 STEEL WIRE ROPE NET PANELS AND ROLLS – DEFINITIONS AND SPECIFICATIONS (2016)

### Geographical scope

Europe

### Technical Characteristics of Slope Stabilisation Systems

Product	Mesh Wire Diameter Zn-Al	Mesh Size [mm]	Unit Weight [kg/m <sup>2</sup> ]	Min. tensile strength [kN/m]
Rectangular Mesh	2.5-3.8	50*50/60*60	1.6-3.85	23-65
HPN	4.6	50*50	5.6	150
HPN+	4.6	60*60	5.6	150
SIGMA	3.2	50*50	2.75	150
Omega Nets	6	135	3,6	246
	7.5	135	5.6	386
	9	135	6.8	465
	10,5	135	10.5	756

### Product contents information

Product components	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
Steel	0.977	52	[-]
Coating	0.023		
TOTAL	1.00	51	
Packaging materials	Weight, kg	Weight-% (versus the product)	
Carton	0.000022	0.0022	
Plastic	0.0000031	0.00031	
Wood Reels	0.01	1	
Wooden Pallets	0.0023	0.23	

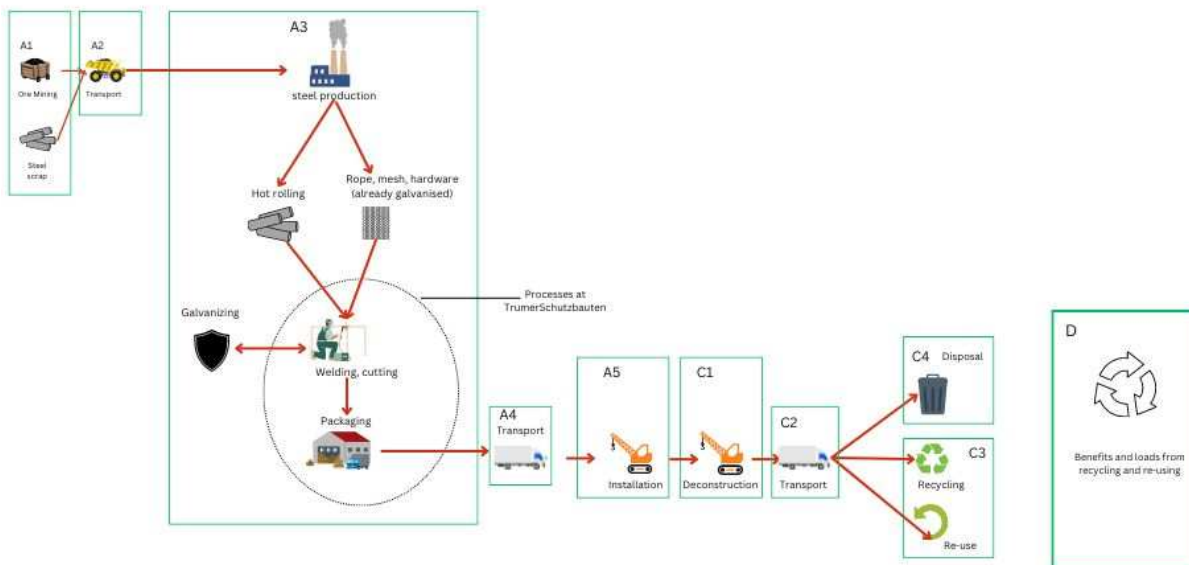
## Manufacturing process (A1-A3)

The manufacturer gathers steel components which are made from primary steel (48%) and recycled steel (52%). The raw material is iron ore which is mined and then processed into different steel components. The manufacturer does not mine for the primary materials but imports steel parts that are already processed. Different steel parts are brought to the manufacturing plant where they are processed. The different steel components are brought by sea freight and truck. The different steel components are processed at the assembly plant where they are folded, cut, welded and assembled to form the slope stabilization systems. They are placed on wooden pallets and secured by wooden reels before being loaded on trucks for delivery.

The end products consist of various modular components. Typically, the main components are:

- Netting: individual wires or strands are woven together
- Connection elements: connection elements can either be steel clips or sewing rope that are outsourced and configured in-house for project specific requirements.
- Plates: each system uses plates made out of steel. The raw steel is being purchased. The cutting/drilling/welding takes place in-House. Galvanization is outsourced.

The entire system is then assembled and shipped to the clients.



## Life cycle assessment (LCA)

### 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.

### Allocation, estimations, and assumptions

Allocation is based on annual production rate and made with high accuracy and precision. The values for 1 tonne of the products which are used within this study are calculated by considering the total product weight per annual production. In the production plant, several kinds of products are produced; since the production processes of these products are similar, the annual production percentages are taken into consideration for allocation. According to the ratio of the annual production of the declared product to the total annual production at the factory, the annual total energy consumption, packaging materials and the generated waste per the declared product are allocated. Subsequently, the produced products output fixed to 1 tonne and the corresponding amount of product is used in the calculations.

### Database(s) and LCA software

This EPD has been created using One Click LCA Pre-Verified EPD Generator. Ecoinvent v3.8 and One Click LCA databases were used as sources of environmental data.

## LCA scenario and additional environmental information

The following information describes scenarios in different modules of the EPD.

### Manufacturing A3

#### Manufacturing energy scenario

Electricity data source and quality	Austria, residual mix
Electricity CO2e / kWh	0.2
Energy data source and quality	LCA study for country specific electricity mixes based on IEA, OneClickLCA 2024
Heating CO2e / MJ (Natural gas)	0.0781
Energy data source and quality	Ecoinvent 3.8
Heating CO2e / MJ (Biomethane)	0.013
Energy data source and quality	Ecoinvent 3.8
Heating CO2e / MJ (Fuel)	0.088
Energy data source and quality	Ecoinvent 3.8
Heating CO2e / MJ (Coal)	0.062
Energy data source and quality	Ecoinvent 3.8
Heating CO2e / MJ (Municipal waste incineration)	-
Energy data source and quality	Ecoinvent 3.8

### Transportation scenario (A4)

Transportation impacts that occurred from final product delivery to the construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions. The transport distances to various delivery sites are based on delivery records for 2023.

Vehicle type used for transport	Truck>32 ton, euro 6

### Assembly (A5)

The installation of the slope stability system requires lifting and transportation by crane. The crane time required for installation is 450 kg/hour.

### Use Phase (B1-B7)

The modules for use phase (B1-B7) are not included in the LCA.

### End of Life (C1, C2, C3, C4)

The avalanche fences are de-constructed by similar methods as its installation that is by crane. The different steel parts are then taken to different treatment facilities located 50 km away by trucks. The steel ropes and strands of the avalanche fences can be reused. They are taken to a treatment facility for re-use. The other steel parts of the avalanche fences are transported to a recycling facility.

	Value	Unit
Collected separately	-	kg
Collected as mixed construction waste	-	kg
Reuse	0.41	kg
Recycling	0.54	kg
Energy recovery	-	kg
To landfill	-	kg

## LCA results

Results presented below are given per declared unit – 1 kg

Mandatory impact category indicators – EN 15804+A2, PEF 3.0

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO <sub>2</sub> eq.	1.72E+00	7.49E-02	1.98E-01	1.99E+00	1.36E-01	2.74E-02	1.29E-02	2.47E-02	5.47E-02	2.64E-04	-5.89E-02
GWP-fossil	kg CO <sub>2</sub> eq.	1.70E+00	7.49E-02	1.72E-01	1.95E+00	1.36E-01	1.30E-02	1.29E-02	2.47E-02	5.47E-02	2.63E-04	-5.66E-02
GWP-biogenic	kg CO <sub>2</sub> eq.	7.82E-03	1.93E-07	2.58E-02	3.36E-02	5.50E-05	1.44E-02	2.36E-06	1.12E-05	-4.17E-03	-2.20E-04	-2.41E-03
GWP-LULUC	kg CO <sub>2</sub> eq.	8.64E-03	3.07E-05	2.83E-05	8.70E-03	5.43E-05	1.47E-06	1.28E-06	1.17E-05	5.44E-06	2.49E-07	1.37E-04
ODP	kg CFC11 eq.	1.21E-07	1.67E-08	2.19E-08	1.59E-07	3.16E-08	2.76E-09	2.75E-09	5.58E-09	1.17E-08	1.07E-10	-8.78E-10
AP	mol H <sup>+</sup> eq.	1.72E-02	2.19E-04	1.27E-03	1.87E-02	4.69E-04	1.34E-04	1.34E-04	7.00E-05	5.68E-04	2.48E-06	-9.43E-05
EP-freshwater	kg P eq.	1.21E-04	5.88E-07	1.48E-05	1.36E-04	9.69E-07	5.10E-08	4.26E-08	2.02E-07	1.81E-07	2.76E-09	8.98E-07
EP-marine	kg N eq.	1.76E-03	4.42E-05	3.53E-04	2.16E-03	1.21E-04	5.93E-05	5.92E-05	1.34E-05	2.51E-04	8.57E-07	4.54E-05
EP-terrestrial	mol N eq.	6.04E-02	4.91E-04	4.76E-03	6.56E-02	1.33E-03	6.50E-04	6.49E-04	1.49E-04	2.76E-03	9.43E-06	-4.81E-04
POCP	kg NMVOC eq.	6.62E-03	1.85E-04	1.07E-03	7.87E-03	4.45E-04	1.79E-04	1.79E-04	5.72E-05	7.58E-04	2.74E-06	-4.12E-04
ADP-M&M	kg Sb eq.	8.48E-05	2.68E-07	2.68E-07	8.59E-05	4.91E-07	6.76E-09	6.52E-09	1.15E-07	2.77E-08	6.05E-10	2.86E-07
ADP-fossil	MJ	1.85E+01	1.10E+00	2.35E+00	2.20E+01	2.03E+00	1.75E-01	1.73E-01	3.64E-01	7.36E-01	7.22E-03	-3.76E-01
WDP	m <sup>3</sup>	1.23E+00	5.01E-03	5.33E-01	1.77E+00	9.46E-03	5.11E-04	4.65E-04	1.90E-03	1.98E-03	2.29E-05	5.20E-02

**GWP-total:** Global Warming Potential; **GWP-fossil:** Global Warming Potential fossil fuels; **GWP-biogenic:** Global Warming Potential biogenic; **GWP-LULUC:** Global Warming Potential land use and land use change; **ODP:** Depletion potential of the stratospheric ozone layer; **AP:** Acidification potential, Accumulated Exceedance; **EP-freshwater:** Eutrophication potential, fraction of nutrients reaching freshwater end compartment; See “additional requirements” for indicator given as PO<sub>4</sub> eq. **EP-marine:** Eutrophication potential, fraction of nutrients reaching freshwater end compartment; **EP-terrestrial:** Eutrophication potential, Accumulated Exceedance; **POCP:** Formation potential of tropospheric ozone; **ADP-M&M:** Abiotic depletion potential for non-fossil resources (minerals and metals); **ADP-fossil:** Abiotic depletion potential for fossil resources; **WDP:** Water deprivation potential, deprivation weighted water consumption

## Additional voluntary impact indicators – EN 15804+A2, PEF 3.0

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
PM	Disease incidence	2.04E-07	6.03E-09	1.75E-08	2.28E-07	1.18E-08	3.59E-09	3.58E-09	1.69E-09	1.52E-08	4.99E-11	1.00E-09
IRP	kBq U235 eq.	1.33E-01	5.45E-03	4.15E-03	1.42E-01	1.06E-02	8.41E-04	7.96E-04	1.97E-03	3.38E-03	3.27E-05	2.59E-03
ETP-fw	CTUe	8.00E+01	9.65E-01	1.46E+00	8.25E+01	1.69E+00	1.05E-01	1.04E-01	3.15E-01	4.42E-01	4.71E-03	-2.68E-01
HTP-c	CTUh	9.17E-09	2.84E-11	5.33E-11	9.25E-09	5.70E-11	4.04E-12	3.99E-12	1.09E-11	1.69E-11	1.18E-13	1.32E-09
HTP-nc	CTUh	5.89E-08	9.09E-10	1.12E-09	6.09E-08	1.72E-09	7.63E-11	7.53E-11	2.96E-10	3.20E-10	3.08E-12	7.69E-09
SQP	Dimensionless	5.35E+00	7.81E-01	9.48E-01	7.08E+00	1.44E+00	2.28E-02	2.25E-02	2.20E-01	9.56E-02	1.54E-02	-4.20E-02

*PM: Particulate matter emissions; IRP: Ionising radiation, human health; ETP-fw: Ecotoxicity (freshwater); ETP-c: Human toxicity, cancer effects; HTP-nc: Human toxicity, non-cancer effects; SQP: Land use related impacts / soil quality*

## Resource use indicators

Parameter	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
RPEE	MJ	1.97E+00	1.45E-02	1.98E+00	3.97E+00	2.94E-02	1.28E-03	9.90E-04	6.24E-03	4.20E-03	6.27E-05	4.09E-02
RPEM	MJ	0.00E+00	0.00E+00	9.41E-02	9.41E-02	0.00E+00	-1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TPE	MJ	1.97E+00	1.45E-02	2.08E+00	4.07E+00	2.94E-02	-1.29E-01	9.90E-04	6.24E-03	4.20E-03	6.27E-05	4.09E-02
NRPE	MJ	1.82E+01	1.10E+00	2.34E+00	2.17E+01	2.03E+00	1.75E-01	1.73E-01	3.64E-01	7.36E-01	7.22E-03	-3.76E-01
NRPM	MJ	4.76E-01	0.00E+00	5.72E-03	4.82E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TRPE	MJ	1.87E+01	1.10E+00	2.35E+00	2.22E+01	2.03E+00	1.75E-01	1.73E-01	3.64E-01	7.36E-01	7.22E-03	-3.76E-01
SM	kg	1.35E-01	3.71E-04	6.07E-04	1.36E-01	6.88E-04	6.84E-05	6.78E-05	1.49E-04	2.88E-04	1.52E-06	6.50E-02
RSF	MJ	1.03E-04	4.44E-06	3.13E-03	3.24E-03	7.57E-06	2.23E-07	2.21E-07	1.72E-06	9.41E-07	3.96E-08	7.36E-06
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	0.00E+00	0.00E+00	0.00E+00
W	m <sup>3</sup>	2.99E-02	1.36E-04	2.45E-04	3.03E-02	2.58E-04	1.19E-05	1.05E-05	5.11E-05	4.47E-05	7.90E-06	-2.46E-03

*RPEE*: Renewable primary energy resources used as energy carrier; *RPEM*: Renewable primary energy resources used as raw materials; *TPE*: Total use of renewable primary energy resources; *NRPE*: Non-renewable primary energy resources used as energy carrier; *NRPM*: Non-renewable primary energy resources used as materials; *TRPE*: Total use of non-renewable primary energy resources; *SM*: Use of secondary materials; *RSF*: Use of renewable secondary fuels; *NRSF*: Use of non-renewable secondary fuels; *W*: Use of net fresh water

## Waste indicators

Parameter	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
HW	Kg	3.86E-01	1.43E-03	3.55E-03	3.91E-01	2.30E-03	2.39E-04	2.32E-04	4.73E-04	0.00E+00	0.00E+00	4.97E-03
NHW	Kg	3.18E+00	2.39E-02	1.11E-01	3.32E+00	4.08E-02	2.01E-03	1.63E-03	8.56E-03	0.00E+00	5.00E-02	-1.16E-01
RW	Kg	5.06E-05	7.44E-06	5.93E-06	6.39E-05	1.40E-05	1.23E-06	1.22E-06	2.48E-06	0.00E+00	0.00E+00	9.23E-07

*HW*: Hazardous waste disposed; *NHW*: Non-hazardous waste disposed; *RW*: Radioactive waste disposed

## Output flow indicators

Parameter	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
CR	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.10E-01	0.00E+00	0.00E+00
MR	kg	0.00E+00	0.00E+00	2.20E-02	2.20E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.40E-01	0.00E+00	0.00E+00
MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	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	0.00E+00	0.00E+00	0.00E+00
ETE	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	0.00E+00	0.00E+00	0.00E+00

*CR*: Components for reuse; *MR*: Materials for recycling; *MER*: Materials for energy recovery; *EEE*: Exported electric energy; *ETE*: Exported thermal energy

## Environmental impacts – GWP-GHG

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP - GHG	kg CO2e	1.70E+00	7.49E-02	1.72E-01	1.95E+00	1.36E-01	2.74E-02	1.29E-02	2.47E-02	5.47E-02	2.64E-04	-5.89E-02

*GWP- GHG*: Global Warming Potential, greenhouse gases

### Information describing biogenic carbon content at factory gate

Biogenic carbon content	Value	Unit
Biogenic carbon content in product	[-]	kg C
Biogenic carbon content in the accompanying packaging	0.036	kg C

### Specific data (GWP-GHG) and data variation for A1-A3

Specific data and data variation	
Specific data	<60%
Variation - product	<10%
Variation - site	Not relevant

### Hazardous substances

- ☒ The product does not contain any REACH SVHC substances in amounts greater than 0.1 %.

## Contact information

### **Programme operator**

EPD Advisory Services  
Karadžičova 16, 811 09, Bratislava, Slovakia  
Email: [info@epdsquare.com](mailto:info@epdsquare.com)

### **EPD owner**

Trumer Schutzbauten GmbH  
Contact person: Marco Papillion  
Email: [marco.papillion@trumer.cc](mailto:marco.papillion@trumer.cc)

### **Author of Life Cycle Assessment (LCA)**

Sarah Curpen, Silvia Vilčeková, SALVIS s.r.o.  
Email: [curpen@salvis.sk](mailto:curpen@salvis.sk), [vilcekova@salvis.sk](mailto:vilcekova@salvis.sk)

### **EPD verifier**

Eng. Shai Ben Aharon, KVS  
Email: [shai@kvs.co.il](mailto:shai@kvs.co.il)

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## Annex

## Environmental impacts – EN 15804+A1, CML/ISO 21930

Indicator	Unit	A1	A2	A3	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP	kg CO <sub>2</sub> eq.	1.66E+00	7.42E-02	1.72E-01	1.90E+00	1.35E-01	1.28E-02	1.27E-02	2.45E-02	5.41E-02	2.58E-04	-5.03E-02
ODP	kg CFC11 eq.	1.18E-07	1.33E-08	1.73E-08	1.49E-07	2.50E-08	2.18E-09	2.18E-09	4.43E-09	9.25E-09	8.43E-11	-2.44E-09
AP	kg SO <sub>2</sub> eq.	1.12E-02	1.79E-04	9.14E-04	1.23E-02	3.73E-04	9.57E-05	9.53E-05	5.77E-05	4.05E-04	1.87E-06	-6.45E-05
EP	kg PO <sub>4</sub> eq.	4.92E-03	3.91E-05	2.12E-04	5.17E-03	8.27E-05	2.24E-05	2.21E-05	1.31E-05	9.39E-05	4.03E-07	-6.92E-05
POCP	kg C <sub>2</sub> H <sub>4</sub> eq.	6.50E-04	8.92E-06	3.22E-05	6.91E-04	1.67E-05	2.10E-06	2.09E-06	2.95E-06	8.86E-06	7.84E-08	-6.31E-05
ADP-M&M	kg Sb eq.	8.44E-05	2.62E-07	7.85E-07	8.55E-05	4.79E-07	6.65E-09	6.42E-09	1.12E-07	2.73E-08	5.96E-10	2.82E-07
ADP-fossil	MJ	1.85E+01	1.10E+00	2.35E+00	2.19E+01	2.03E+00	1.75E-01	1.73E-01	3.64E-01	7.36E-01	7.22E-03	-3.74E-01

**GWP:** Global Warming Potential; **ODP:** Depletion potential of the stratospheric ozone layer; **AP:** Acidification potential, Accumulated Exceedance; **EP-freshwater:** Eutrophication potential, fraction of nutrients reaching freshwater end compartment; See "additional requirements" for indicator given as PO<sub>4</sub> eq. **EP:** Eutrophication potential, fraction of nutrients reaching freshwater end compartment; **POCP:** Formation potential of tropospheric ozone; **ADP-non fossil:** Abiotic depletion potential for non-fossil resources (minerals and metals); **ADP-fossil:** Abiotic depletion potential for fossil resource