

## ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ČSN ISO 14025:2010  
and EN 15804:2021+A2:2019+AC:2021

Organization	<b>Bravo International CZ s.r.o.</b>
Industry Program Operator	CENIA, Czech Environmental Information Agency, Executive Body of NPEZ Agency
Author	Technický a zkušební ústav stavební Praha, s.p.
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Valid until	2028-12-15 in accordance with EN 15804+A2:2019



## Metal roofing

Bravo International DE GmbH



# 1. General Information Declaration

<b>Bravo International DE GmbH</b>	<b>Metal roofing</b>
<b>Programme:</b> „National programme of environmental labelling “- CR <b>Industry operator:</b> CENIA, Czech Environmental Information Agency, Executive body of the NPEZ Agency, Moskevská 1523/63, Praha 10, 101 00, <a href="http://www.cenia.cz">www.cenia.cz</a> ,	<b>Name and address of the manufacturer:</b> <b>Bravo International DE GmbH</b> 38 Schachtstraße 06406, Bernburg (Saale), Germany
<b>EPD registration number:</b> <b>3015-EPD-030065761</b>	<b>Declared unit:</b> <b>1 kg of average product</b>
<b>Product category rules:</b> EN 15804+A2:2019 as core PCR <b>Publication Date:</b> 2023-12-15 <b>Valid until:</b> 2028-12-15 in accordance with EN 15804+A2:2019	<b>Product:</b> <b>Metal roofing</b>

BRAVO INTERNATIONAL GROUP is a leading European manufacturer of metal roofing. The core product range consists of trapezoidal sheets and metal roofing sheets, which are produced by cold rolling and pressing.

The company has a certified integrated quality management system according to EN ISO 9001, environmental management according to EN ISO 14001 from the certification company TÜV RHEINLAND.

With regard to the possibility of comparing products **in the life cycle assessment of buildings** on the basis of their EPD, which is carried out by determining their contribution to the environmental properties of the building, it is necessary that the EPD of the construction products in question be prepared in accordance with the requirements of the standard **EN 15804+A2:2019 Sustainability of construction works – Environmental product declaration – Core rules for the product category of construction products**.

## 1.1. Product data

### 1.1.1. Product

Main product range:

- trapezoidal sheet,
- corrugated sheet,
- metal roofing

### 1.1.2. Product data sheet

The technical data of the product are declared by the manufacturer in the respective Declarations of Performance and Technical Data Sheets.

**The following standards apply to the products:**

EN 505:2013 *Roofing products from metal sheet - Specification for fully supported roofing products of steel sheet.*

EN 508-1:2021 *Roofing and cladding products from metal sheet - Specification for self-supporting products of steel, aluminium or stainless steel sheet - Part 1: Steel*

EN 14782:2006 *Self-supporting metal sheet for roofing, external cladding and internal lining - Product specification and requirements.*

Comprehensive product descriptions can be found at <https://www.bravo-europa.eu/domu/>, <https://www.bravo-europa.eu/nase-spolocnosti/bravo-europa-nemecko/>, <https://www.bravo-europa.eu/nase-spolocnosti/bravo-europa-rumunsko/>.

### **Product packaging:**

Metal roofing is stored horizontally on space-rigid and custom-made wooden profiles. The edges are protected by paper corners, the whole is protected by stretch film and reinforced with PP tape.

### **1.1.3. Rules for use**

#### **Rules for use:**

Roofing and sheathing of buildings, garden houses and outbuildings.

The products are manufactured and declared in accordance with the standards mentioned in point 1.1.1. The products are subject to EU Regulation No. 305/2011 (CPR) and the manufacturer issues a corresponding declaration of performance.

#### **Environment and health during use**

Under normal conditions of use, the products do not create any adverse health effects or release volatile organic compounds into indoor air.

Due to the areas of use of the product, no impacts on the environment and emissions to water, air or soil are expected.

#### **Reference lifetime**

Reference lifetime (RSL) for products is not declared. For this product, a typical service life (RSL) of 50 years is estimated.

### **1.1.4. Delivery method**

The products are delivered in accordance with the standards specified in Article 1.1.2.

Product quality is ensured by an effective quality management system according to EN ISO 9001 and in accordance with technical regulations regarding the type of product.

### **1.1.5. Basic raw materials and auxiliary materials**

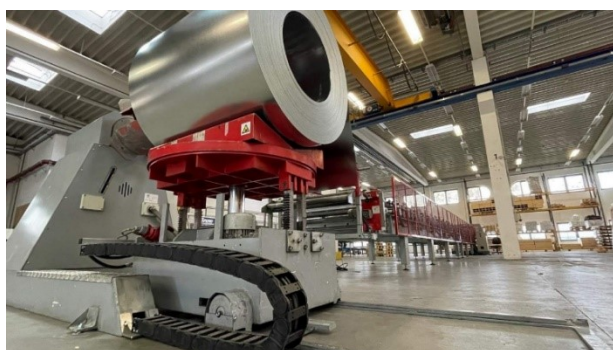
Steel S220GD, DX51D, ZN 275 g/m<sup>2</sup>,

Polyester 25 µm

Substances listed on the list of substances of very high concern subject to authorization by the European Chemicals Agency are not contained in the product in declarable quantities.

### **1.1.6. Production**

Production takes place by cold rolling and pressing of sheet metal. 0.4 or 0.5 mm S220GD / DX51D sheet with zinc treatment 275g/m<sup>2</sup> + polyester coating 25µm thick is used as input raw material.



### 1.1.7. Waste management

Waste generated during the production process is collected according to type and reported according to regulations.

#### Možnost recyklace použitých výrobků (po skončení své životnosti)

Steel is 100% recyclable.

## 1.2. LCA: Calculation rules

### 1.2.1. Declared unit

The declared unit shall be 1 kg of the average product — Metal roofing.

All inputs and outputs of this report were considered as consumption or production related to the production of 1 kg of the mentioned product.

Table 1 Declared unit and conversion factors

Identification	Unit	Value
Declared unit	kg	1
Conversion factor from kg	kg	1

## 2. System boundary according to the modular approach

The boundary of the product life cycle system consists of **the information module A1 – A3 "Production phase", "End of life cycle phase" C1-C4 and D** in accordance with EN 15804+A2:2019. The project report includes all relevant processes for the EPD type "**From cradle to gate with modules C1-C4 and module D**" (cradle to gate with modules C1–C4 and module D).

Information on product system boundaries is shown in Table 2.

Table 2: Information about product system boundaries – information modules

Information about product system boundaries – information modules (X = Included, ND = module not declared)																	
Production stage			Construction stage		Usage stage							End-of-life stage				Additional information beyond the life cycle	
Supply of mineral resources	Transport	Production	Transport to the construction site	Construction/Installation process	Usage	Maintenance	Repair	Replacement	Reconstruction	Operational energy consumption	Operating water consumption	Demolition/deconstruction	Transport	Waste treatment	Removal	Benefits and costs beyond the system. Potential for reuse, recovery, and recycling	
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X	

The **system boundary** is set to include both those processes that provide material and energy inputs to the system and subsequent production and transport processes up to the factory gate, and the treatment of all waste resulting from these processes.

The **production stage** includes the following modules:

- **A1** – extraction and processing of raw materials and production of packaging from input raw materials
- **A2** - transport of input raw materials from supplier to manufacturer, waste collection
- **A3** - production of products, production of auxiliary materials and semi-finished products, energy consumption, including treatment of waste, up to reaching end-of-waste or after the last material residues have been removed during the production phase.

Data for the period 2021 provided by Bravo International DE GmbH is used.

**The end-of-life stage** includes modules:

- **C1**, deconstruction, demolition; of the product from the building, including its dismantling or demolition, including the initial classification of materials at the site of construction
- **C2**, transport to the waste treatment site; transport of the discarded product as part of the waste treatment, e.g., to the recycling site, and transport of the waste, e.g., to the final disposal site.
- **C3**, treatment of waste for re-use, recovery and/or recycling, e.g., collection of waste fractions from deconstruction, treatment of waste from material flows intended for re-use, recycling, and energy recovery.
- **C4**, disposal of waste, including its pre-treatment and management of the disposal site

**The benefits and costs beyond** the product system are set out in Module D.

Module D includes:

- **D**, potential for reuse, recovery and/or recycling, expressed in net impacts or benefits.

The boundaries of the product system are considered in such a way that they **include only production processes, not administrative activities**.

The **end-of-life scenarios** for the products (C1-C4, D) were based on the data resulting from the expert estimation of the possibility of reprocessing part of these products after the deconstruction of the building (in the framework of take-back as replacement of part of the inputs to production, reprocessing into another product). These schemes are as follows:

#### **Module C1**

Decomposition and/or dismantling of products are part of the demolition of the whole building. In this case, the environmental impact is assumed to be very low, no energy consumption for dismantling is foreseen.

#### **Module C2**

Transport from the dismantled building is carried out by a truck with a capacity of 7.5 t (EURO 5) to the recycling centre, estimated transport distance according to calculations: 25 km, transport of 1 kg, one-way load.

#### **Module C3**

A scenario where 98.22% of the product is recycled in the production of steel (coating) is assumed.

#### **Module C4**

Not relevant.

#### **Potential for reuse, recovery, and recycling (D)**

In the Module D scenario, savings in pig iron production are considered.

### **2.1. Preconditions and measures taken**

Information modules **A4 to A5**, which are intended to provide additional information beyond the production stage, have not been included in the LCA due to the difficult availability of input data and are therefore not declared.

Information modules from the **usage stage B1 to B7** are also not declared because these types of products do not require maintenance, repair, or replacement during the normal life in the usage stage, provided that they are used correctly. Also, during the usage stage, they do not require consumption of energy or water.

The reference lifetime of the products is also not declared because of unavailability of representative data on the operating conditions in the usage stage of the product.

For the study, all operational data related to the consumption of main and auxiliary materials for the production of the product, energy data, diesel consumption and the distribution of annual waste and emissions according to the plant records were taken. For all inputs and outputs considered, transport costs were considered or differences in transport distances were recognised.

From the point of view of the waste produced, only the waste clearly related to production activities was included in the analysis.

Some input data was converted into units that were needed for the selected generic process data in the environmental impact assessment calculation program.

These are:

- Energy data relating to **diesel** expressed in CU – were determined by calculation based on data on diesel consumption in litres and a coefficient of 0,845 kg/l for diesel and an energy value of 42,6 MJ/kg.
- Data on **natural gas** consumption in Kwh – were determined by conversion from the consumed quantity to MJ (1 kWh = 3,6 MJ)
- Data on the production of **waste** were taken from the continuous register of waste for the reference period.

## 2.2. Cut-off criteria

The processes required for the installation of production equipment and the construction of infrastructure were not included in the analysis. Administrative processes are not included either – inputs and outputs are balanced on the production stage.

## 2.3. Sources of environmental data

All inputs and outputs were entered in SI units, namely:

- Material and auxiliary inputs and product outputs in kg, pcs, m<sup>3</sup>
- Sources used as energy input (primary energy), in MWh or MJ and GJ, including renewable energy sources (hydropower, wind energy)
- Water consumption in kg or m<sup>3</sup>
- Inputs related to transport in km (distance), tkm (material transfer) and in kg (diesel consumption)
- Time was stated in practical units depending on the scale of the assessment: minutes, hours, days, years.

The time span of the specific data required, provided by Bravo International CZ s.r.o., for the preparation of this report was set as the representative time period for the calendar year **2021**. For this period, all available data for further processing were provided by the organisation.

The basic source of the necessary data in the area of production, purchasing, maintenance, etc. was the information system, or operational records from maintenance activities. The annual waste production report from the information system and operational records for the production site were used to assess waste production. Only waste types related to the production phase were included in this report as waste to be disposed of in landfill..

For the following inputs it was proceeded this way (direct data not available):

- Distances on the transport of inputs and outputs (waste) – data from Google maps were used

For the complete analysis of environmental parameters were used:

- computing software SimaPro, version 9.4 SimaPro Analyst (database Ecoinvent version 3.8)

## 2.4. Data quality

The data used to calculate the EPD meet the following principles:

**Time period:** For specific data, manufacturer's data from 2021 have been used. This is due to significant technological changes in the production process. For generic data, the data of the Ecoinvent version database 3.8 have been used. Based on the evaluation in accordance with EN 15804+A2, Annex E, tab. E.1 the generic data used meet the quality level - very good.

**Technological aspect:** Data corresponding to the current production of individual types of sub-products and corresponding to the current state of new technologies in the plant used have been used.

Based on the evaluation in accordance with EN 15804+A2, Annex E, tab. E.1 the generic data used meet the level of quality - very good.

**Completeness and completeness:** most of the input data is based on consumption balances that are accurately recorded in the information system. As part of the completeness check, it was verified that all inputs/outputs used are present in the records. The reliability of the specific data source is due to the uniformity of the collection methodology of the information system.

**Completeness and complexity aspect:** generic data from the Ecoinvent database are used with validity for the CZ-DE-RO production site (e.g. energy inputs) and in case of unavailability of data for the country, the data valid for the EU or according to the location of the supplier are used. The reliability of the source of specific data is determined by the uniformity of the methodology of the information system collection method.

**Geographical aspect:** The generic data used from the Ecoinvent database are used with validity for the Czech Republic (e.g., energy inputs) and if data are not available for the Czech Republic, data valid for the EU or according to the supplier's location are used. Based on the evaluation according to EN 15804+A2, Annex E, tab. E.1 used generic data meet the level of quality - medium.

**Consistency aspect:** Uniform aspects are used throughout the scope of the report (allocation rules, age of data, technological scope of validity, time scope of validity, geographical scope of validity).

**Credibility aspect:** All important data were checked to ensure cross-comparison of weight balances.

## 2.5. Period considered

The time span of the specific data required, provided by Bravo International CZ s.r.o., for the preparation of this report was set as the representative time span of the calendar year **2021**.

## 2.6. Allocation

The balance of inputs used direct tracking to individual centres or weight - based allocation.

## 2.7. Comparability

Environmental product declarations from different programmes may not be comparable. Comparison or assessment of EPD data is only possible if all compared data reported in accordance with EN 15804+A2:2019 have been determined according to the same rules.

## 2.8. Product variability

The resulting data are always for **1 kg of the average product – Metal roofing**.

## 2.9. LCA: Results

Information on environmental impacts is indicated in the following tables. The individual results for the impact categories are presented in Tables 3 and 4. Tables 5 to 7 provide additional environmental information. They are related to the declared unit (DJ) – **1 t of the average product - Metal roofing**.

The impact assessment was carried out using the characterisation factors used in the European Life Cycle Reference Database (ELCD) provided by the European Commission – Directorate-General of the Joint Research Centre – Institute for Environment and Sustainability.



Table 3: Parameters describing the basic environmental impacts

LCA result – Parameters describing basic environmental impacts (DJ = 1 kg of the product)							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Global warming potential (GWP-total)	kg CO <sub>2</sub> Eq.	3,55E+00	0,00E+00	1,07E-02	2,42E-02	0,00E+00	-4,30E-01
Global warming potential (GWP-fossil)	kg CO <sub>2</sub> eq.	3,57E+00	0,00E+00	1,07E-02	2,45E-02	0,00E+00	-4,29E-01
Global warming potential (GWP-biogenic)	kg CO <sub>2</sub> eq.	-2,24E-02	0,00E+00	9,73E-06	-4,32E-04	0,00E+00	-4,73E-05
Global warming potential from land use and land-use change (GWP-luluc)	kg CO <sub>2</sub> eq.	9,94E-04	0,00E+00	5,04E-06	4,68E-05	0,00E+00	-2,28E-04
Stratospheric ozone depletion potential (ODP)	kg CFC 11 eq.	1,48E-05	0,00E+00	2,41E-09	3,26E-09	0,00E+00	-2,04E-08
Acidification potential, Cumulative exceedance (AP)	mol H+ eq.	8,84E-03	0,00E+00	4,26E-05	2,92E-04	0,00E+00	-2,76E-03
Eutrophication potential, proportion of nutrients entering fresh water (freshwater EP)	kg P eq.	5,00E-05	0,00E+00	8,05E-07	1,56E-05	0,00E+00	-7,27E-05
Eutrophication potential, proportion of nutrients entering seawater (seawater EP)	kg N eq.	2,01E-03	0,00E+00	1,24E-05	6,62E-05	0,00E+00	-6,59E-04
Eutrophication potential, Cumulative overshoot (soil EP)	mol N eq.	2,15E-02	0,00E+00	1,35E-04	7,41E-04	0,00E+00	-7,40E-03
Ground-level ozone formation potential (POCP)	kg NMVOC eq.	6,57E-03	0,00E+00	4,16E-05	2,05E-04	0,00E+00	-3,12E-03
Raw material depletion potential for non-fossil sources (ADP-minerals and metals)	kg Sb eq.	1,44E-05	0,00E+00	4,88E-08	2,91E-06	0,00E+00	-3,21E-07
Raw material depletion potential for fossil resources (ADP-fossil fuels)	MJ, calorific value	3,26E+01	0,00E+00	1,60E-01	3,39E-01	0,00E+00	-2,67E+00
Water scarcity potential (for users), water scarcity weighted by water scarcity (WDP)	m <sup>3</sup> eq. scarcity	-9,96E-02	0,00E+00	5,30E-04	4,47E-03	0,00E+00	-1,96E-02

Table 4 Parameters describing additional environmental impacts

LCA result – Parameters indicating additional environmental impacts (DJ = 1 kg of the product)							
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Potential occurrence of disease due to particulate matter emissions (PM)	Occurrence of the disease	1,32E-07	0,00E+00	7,98E-10	3,92E-09	0,00E+00	-4,76E-08
Potential effect of human exposure to the isotope U235 (IRP)	kBq U235 eq.	5,08E-02	0,00E+00	8,50E-04	3,47E-03	0,00E+00	-1,58E-02
Potential comparative toxic unit for ecosystems (ETP-fw)	CTUe	9,59E+00	0,00E+00	1,31E-01	1,24E+00	0,00E+00	-1,43E+01
Potential comparative toxic unit for humans (HTP-c)	CTUh	3,19E-08	0,00E+00	1,32E-10	1,84E-09	0,00E+00	-2,23E-08
Potential comparative toxic unit for humans (HTP-nc)	CTUh	9,90E-10	0,00E+00	4,77E-12	4,19E-11	0,00E+00	-1,13E-09
Potential Soil Quality Index (SQP)	dimensionless	5,17E+00	0,00E+00	9,45E-02	6,26E-01	0,00E+00	-7,22E-01



Table 5: Parameters describing resource consumption

LCA result – Parameters describing resource consumption (DJ = 1 kg of the product)							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Consumption of renewable primary energy, excluding energy sources used as raw materials ( <b>PERE</b> )	MJ	1,20E+00	0,00E+00	2,70E-03	5,27E-02	0,00E+00	-1,21E-01
Consumption of renewable primary energy sources used as raw materials ( <b>PERM</b> )	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total consumption of renewable primary energy sources (primary energy and primary energy sources used as raw materials) ( <b>PERT</b> )	MJ	1,20E+00	0,00E+00	2,70E-03	5,27E-02	0,00E+00	-1,21E-01
Consumption of non-renewable primary energy, excluding energy sources used as raw materials ( <b>PENRE</b> )	MJ	3,44E+01	0,00E+00	1,70E-01	3,59E-01	0,00E+00	-2,83E+00
Consumption of non-renewable primary energy sources used as raw materials ( <b>PENRM</b> )	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total consumption of non-renewable primary energy sources (primary energy and primary energy sources used as raw materials) ( <b>PENRT</b> )	MJ	3,44E+01	0,00E+00	1,70E-01	3,59E-01	0,00E+00	-2,83E+00
Consumption of secondary raw materials ( <b>SM</b> )	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Consumption of renewable secondary fuels ( <b>RSF</b> )	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Consumption of non-renewable secondary fuels ( <b>NRSF</b> )	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net potable water consumption ( <b>FW</b> )	m <sup>3</sup>	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 6 Other environmental information - waste category description

LCA result — Other environmental information — waste category description (DJ = 1 kg of the product)							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed of ( <b>HWD</b> )	kg	0	0	0	0	0	0
Other waste disposed of ( <b>NHWD</b> )	kg	0	0	0	0	0	0
Radioactive waste disposed of ( <b>RWD</b> )	kg	0	0	0	0	0	0

Table 7 Other environmental information - description of output flows

LCA result - Other environmental information - description of output flows (DJ = 1 kg of the product)							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Construction units for reuse ( <b>MFR</b> )	kg	0	0	0	0	0	0
Materials for recycling ( <b>MER</b> )	kg	5,38E-03	0	0	9,82E-01	0	0
Materials for energy recovery ( <b>EEE</b> )	kg	0	0	0	0	0	0
Exported energy ( <b>EET</b> )	MJ per energy carrier	0	0	0	0	0	0

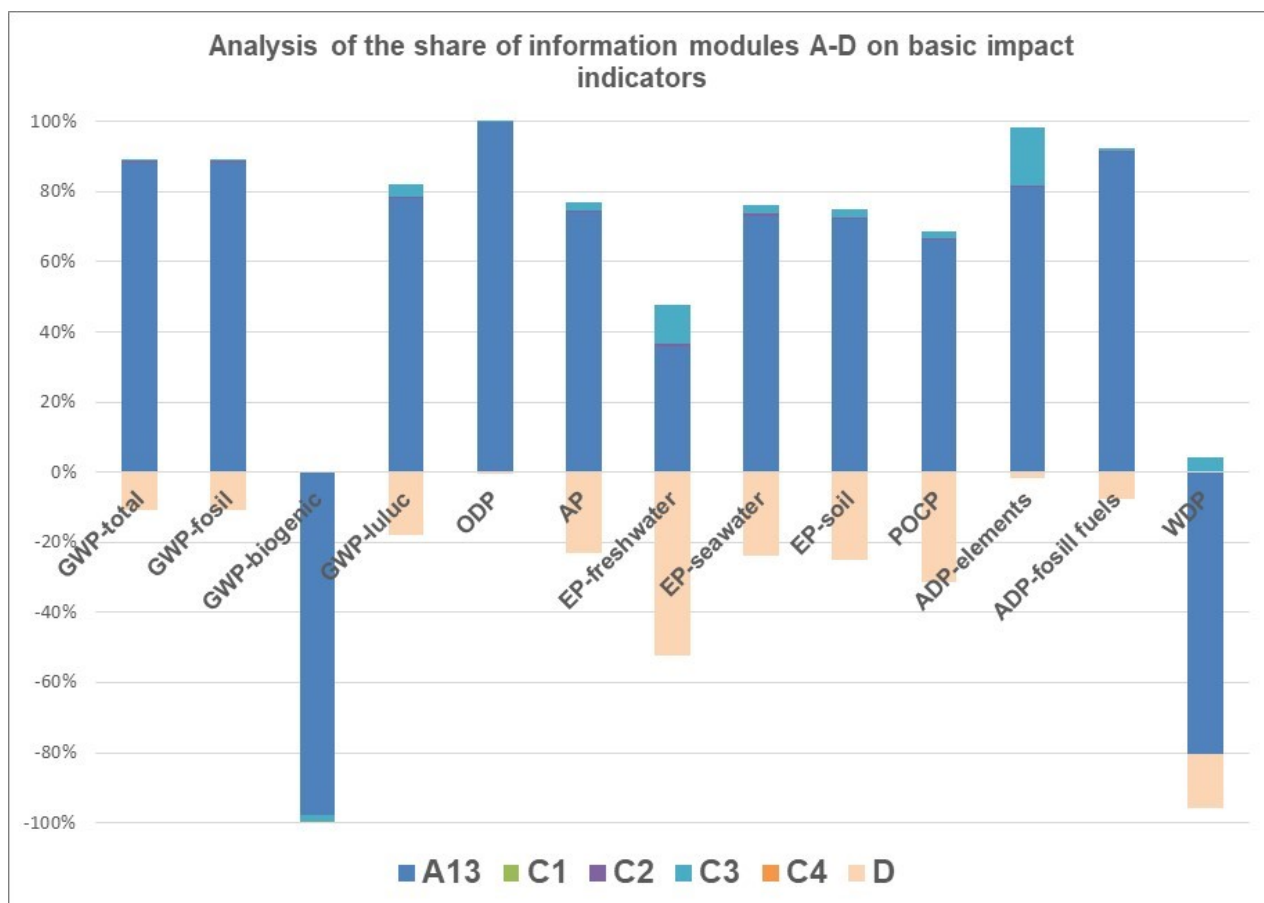
Table 8 Information describing the **biogenic carbon content** of the plant gate

LCA result – Information describing the biogenic carbon content at the plant gate (DJ = 1 kg of the product)		
Parameter	Unit	At the plant gate
Biogenic carbon content of the product	kg C	0
Biogenic carbon content in the appropriate packaging	kg C	1,54E-02

### 2.9.1. LCA: Interpretation

The impact of basic groups of inputs on basic environmental impacts is shown in Figure 3:

Figure. 3 Impact of the share of basic inputs on the basic impacts



The results show that the content of the main **raw material** (steel) has a very significant influence on environmental impacts. Other input components (varnish) and **transport** also have a partial influence.

### 3. LCA: scenarios and other technical information

Information modules A4, A5 and B1-B7 were not included in the LCA analysis.

### 4. LCA: Additional information

EPD does not include additional documentation related to the declaration of supplementary information.

### 5. References

ČSN ISO 14025:2010 Environmentální značky a prohlášení - Environmentální prohlášení typu III - Zásady a postupy (Environmental labels and declarations - Type III environmental declarations - Principles and procedures)

ČSN EN 15804+A2:2020 Udržitelnost staveb - Environmentální prohlášení o produktu - Zásadní pravidla pro produktovou kategorii stavebních výrobků (Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products)

ČSN EN ISO 14040:2006 Environmentální management - Posuzování životního cyklu - Zásady a osnova (Environmental management - Life Cycle Assessment - Principles and Framework)

ČSN EN ISO 14044:2006 Environmentální management - Posuzování životního cyklu – Požadavky a směrnice (Environmental management - Life Cycle Assessment – Requirements and guidelines)

ČSN ISO 14063:2007 Environmentální management - Environmentální komunikace - Směrnice a příklady (Environmental management - Environmental communication - Guidelines and examples)

ČSN EN 15643-1:2011 Udržitelnost staveb - Posuzování udržitelnosti budov - Část 1: Obecný rámec (Sustainability of construction works - Sustainability assessment of buildings - Part 1: General framework)

ČSN EN 15643-2:2011 Udržitelnost staveb - Posuzování udržitelnosti budov - Část 2: Rámec pro posuzování environmentálních vlastností (Sustainability of construction works - Assessment of buildings - Part 2: Framework for the assessment of environmental performance)

ČSN EN 15942:2013 Udržitelnost staveb - Environmentální prohlášení o produktu - Formát komunikace mezi podniky (Sustainability of construction works - Environmental product declarations - Communication format business-to-business)

TNI CEN/TR 15941:2012 Udržitelnost staveb - Environmentální prohlášení o produktu - Metodologie výběru a použití generických dat (Sustainability of construction works - Environmental product declarations - Methodology for selection and use of generic data)

ČSN EN 16449:2014 Dřevo a výrobky na bázi dřeva - Výpočet obsahu biogenního uhlíku ve dřevě a přeměny na oxid uhličitý (Wood and wood-based products - Calculation of the biogenic carbon content of wood and conversion to carbon dioxide)ILCD handbook - JRC EU, 2011

Zákon č. 541/2020 Sb. v platném znění (Zákon o odpadech) / Act. No. 541/2020 Coll., as amended (Waste Act)

Vyhláška č. 8/2021 Sb. Katalog odpadů – Katalog odpadů / Decree No. 8/2021 Coll. Waste catalogue – Waste catalogue

Nařízení Evropského parlamentu č. 1907/2006 o registraci, hodnocení, povolování a omezování chemických látek a o zřízení Evropské agentury pro chemické látky - REACH (registrace, evaluace a autorizace chemických látek) / Regulation (EC) No 1907/2006 of the European Parliament concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and establishing a European Chemicals Agency - REACH (Registration, Evaluation and Authorisation of Chemicals)


Nařízení Evropského parlamentu a Rady (ES) č. 1272/2008 o klasifikaci, označování a balení látek a směsí, o změně a zrušení směrnic 67/548/EHS a 1999/45/ES a o změně nařízení (ES) č. 1907/2006 (nařízení CLP) / Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC and amending Regulation (EC) No 1907/2006 (CLP Regulation)


SimaPro LCA Package, Pré Consultants, the Netherlands , [www.pre-sustainability.com](http://www.pre-sustainability.com)

Ecoinvent Centre, [www.Ecoinvent.org](http://www.Ecoinvent.org)

Explanatory documents are available from the head of Technical Support at Bravo International CZ s.r.o.

## 6. EPD verification

<b>CEN standard EN 15804+A2 serves as the core PCR</b>	
Independent verification of the declaration and data, according to EN ISO 14025:2010: <input type="checkbox"/> Internal <input checked="" type="checkbox"/> External	
<b>Third party verifier:</b> Technický a zkušební ústav stavební Praha, s.p. Prosecká 811/76a, Praha 9, 190 00 Czech Republic Certification Body for EPD, accredited by CAI - Czech Accreditation Institute, under No. 95/2023	

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	Oborový provozovatel programu: CENIA, Česká informační agentura životního prostředí, výkonná funkce Agentury NPEZ Moskevská 1523/63 100 10 Praha 10	Tel: +420 267 225 226 Fax: - Email: info@cenia.cz Web: <a href="http://www.cenia.cz">www.cenia.cz</a>
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