

# ENVIRONMENTAL PRODUCT DECLARATION

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

Organization	<b>Stolarstvo Import-Export Dudek H&amp;H Sp.j.</b>
Industry Program Operator	CENIA, Czech Environmental Information Agency, Executive Body of NPEZ Agency
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Valid until	2028-04-21 in accordance with EN 15804+A2:2019



## I-BEAMS



## 1. General Information Declaration

<b>Stolarstwo Import-Export Dudek H&amp;H Sp.j.</b>	<b>I-BEAMS</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>Stolarstwo Import-Export Dudek H&amp;H Sp.j.</b> ul. Opolska 48 46-045 Kotórz Mały, PL
<b>EPD registration number:</b> <b>3015-EPD-030064486</b>	<b>Declared unit:</b> <b>1 kg of average product – I-BEAMS</b>
<b>Product category rules:</b> EN 15804+A2:2019 as core PCR EN 16485:2014 <b>Publication Date:</b> 2023-04-21 <b>Valid until:</b> 2028-04-21 in accordance with EN 15804+A2:2019	<b>Product:</b> <b>I-BEAMS</b>

Dudek Group is a complex of family-owned production facilities with extensive traditions and experience.

The subject of this Environmental Product Declaration (EPD) are the beams and columns as the light composite wood-based products with I-shaped cross section manufactured by **Stolarstwo Import-Export DUDEK H&H** named as Dudek I-BEAMS (DIB). The products consist of flanges and webs. The web is adhesively bonded to the flanges. The flanges are made from structural soft timber, strength class C24 (S10) which may be finger jointed and the web, which is made from oriented strand board OSB 3, thickness 10 mm..

With regard to the possibility of comparing products as part of the life cycle assessment of buildings based on 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 given building products be processed in accordance with the requirements of the standard **EN 15804+A2:2019 Sustainability buildings - Environmental product declaration - Basic rules for the product category of construction products** and using PCR **EN 16485:2014 Round and sawn timber - Environmental Product Declarations - Product category rules for wood and wood-based products for use in construction**.

### 1. Product data

#### 1.1.1. Product

The beams as the light composite wood-based products with I-shaped cross section manufactured by Stolarstwo Import-Export DUDEK H&H named as Dudek I-beams (DIB). The products consist of flanges and webs. The flanges can be 47, 60, 72 or 90 mm wide. The height of the beams ranges from 200 to 500 mm, according to the guidelines in the European Technical Assessment (ETA 14/0181) and EAD 130367-00-0304.

Every six months, an inspection audit is conducted to verify that the beam manufacturing process complies with the guidelines found in ETA 14/0181 and EAD 130367-00-0304.

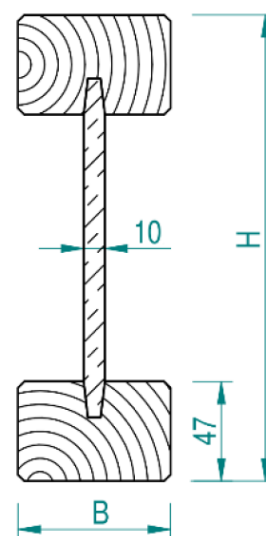
Products are manufactured and declared in accordance with the standards specified in 1.5. The products are subject to EU Regulation No. 305/2011 (CPR) and the manufacturer issues a corresponding declaration of performance.

### 1.1.2. Product data sheet

Light composite wood-based beams and columns produced by Stolarstwo Import-Export DUDEK H&H are intended to be used as a structural element for load-bearing applications in buildings and civil engineering structures. The products are intended to be used in service class 1 and 2 as defined in Eurocode 5 (EN 1995-1-1 Eurocode 5: Design of timber structures - Part 1-1: General - Common rules and rules for buildings).



DIB 47											
B	47	47	47	47	47	47	47	47	47	47	47
H	200	220	240	250	280	300	350	360	400	450	500
DIB 60											
B	60	60	60	60	60	60	60	60	60	60	60
H	200	220	240	250	280	300	350	360	400	450	500
DIB 72											
B	72	72	72	72	72	72	72	72	72	72	72
H	200	220	240	250	280	300	350	360	400	450	500
DIB 90											
B	90	90	90	90	90	90	90	90	90	90	90
H	200	220	240	250	280	300	350	360	400	450	500



#### Product packaging:

Products are transported to construction sites mainly in bulk with wooden spacers. If necessary, they are tied with plastic tape or protected with PE foil.

#### 1.1.3. Rules for use

Used for timber frame and traditional constructions as: floor beams, roof beams (rafters), wall studs.

Especially recommended for energy-efficient buildings and passive houses.



### **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**

The reference lifetime (RSL) for the I-BEAMS is not declared. Reference service life is the same as the building, which is typically set to 50 or 60 years.

#### **1.1.4. Delivery method**

The beams as the light composite wood-based products with I-shaped cross section manufactured by Stolarstwo Import-Export DUDEK H&H named as Dudek I-beams (DIB). The products consist of flanges and webs. The flanges can be 47, 60, 72 or 90 mm wide. The height of the beams ranges from 200 to 500 mm, according to the guidelines in the European Technical Assessment (ETA 14/0181) and EAD 130367-00-0304.

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

Timber	55-60 %
OSB	38-45 %
Resin	0,5 %

Substances on the List of Substances of Very High Concern subject to authorisation by the European Chemicals Agency are not present in I-BEAMS in declarable quantities.

#### **1.1.6. Production**

The products consist of flanges and webs. The web is adhesively bonded to the flanges. The flanges are made from structural soft timber, strength class C24 (S10) which may be finger jointed and the web, which is made from oriented strand board OSB 3, thickness 10 mm.

The flanges are made from structural soft timber in accordance with EN 14081-1+A1.

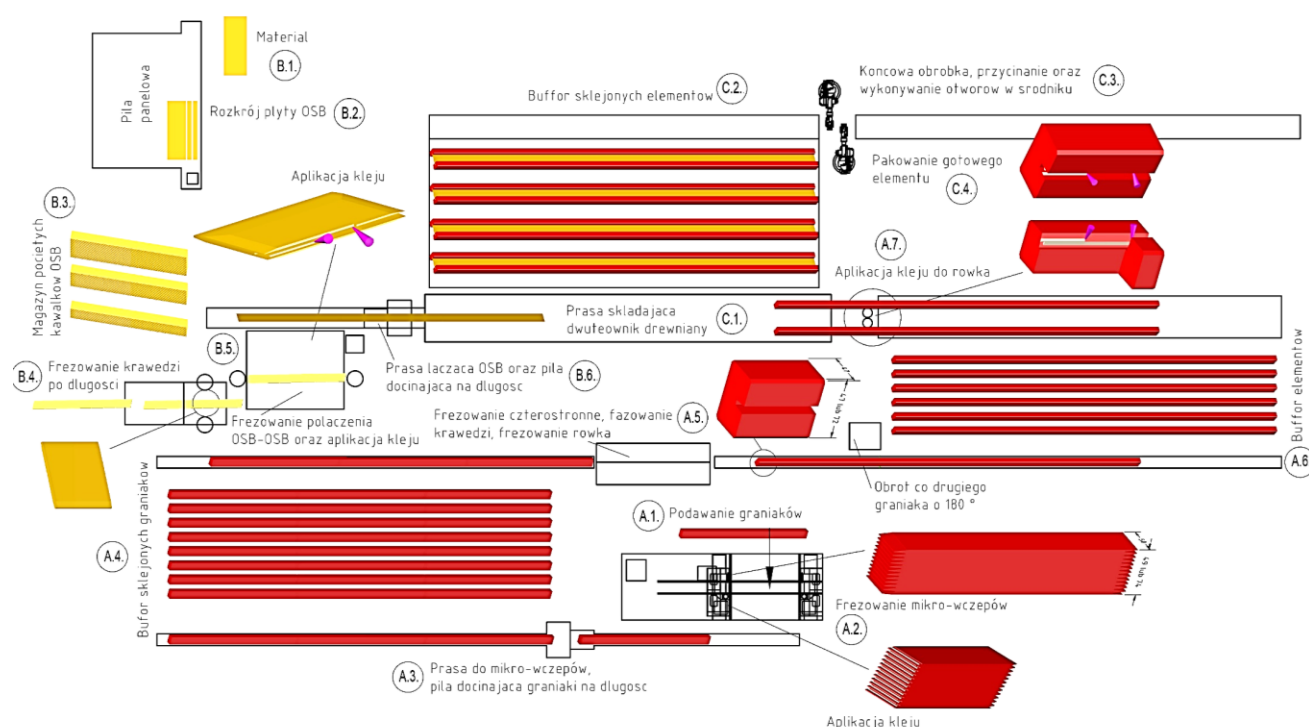
Finger joint is performed in accordance with EN 15497.

The web consists of 10 mm Oriented Strand Board of class 3 according to EN 13986+A1, with characteristic values for structural design according to EN 300.

The adhesive is of type I (full exposure to the weather) as defined in EN 15425. The bonding quality and durability of bonding strength have been assessed with the shear test method described in EN 13377, D.4 to be suitable for use class 1 and 2 conditions.

## Diagram of the production process

Fig.1: Scheme of the manufacturing process



During the entire production process, it is not necessary to take any special health protection measures beyond the legally specified industrial protection measures for production employees. All dust generated during formatting or grinding of products before shipment is collected in filter systems.

### 1.1.7. Waste management

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

### Possibility to recycle used products (at the end of their service life)

At the end of the building's useful life, the I-BEAMS are dismantled and most can be used for energy purposes after being crushed.

## 1.2. LCA: Calculation rules

### 1.2.1. Declared unit

**The declared unit is 1 kg of the average manufactured product – I-BEAMS.**

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

Table 1 Declared unit and conversion factors

Designation	Unit	Value
Declared unit (DU)	kg	1
Conversion factor to length	1 m	catalog
In the technical documentation, the manufacturer states the weight of 1 m length of specific types of I-BEAMS.		



## 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 2022 provided by Stolarstwo Import-Export DUDEK H&H 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**.

As **end-of-life scenarios** for products (C1-C4, D), data resulting from an expert estimate of the possibility of reprocessing part of this glass insulation after the deconstruction of the building (as part of the take-back as a replacement for part of the inputs to production, reprocessing into another product – e.g., blown-in insulation, etc.) were used. These schemes are:

#### **Module C1**

Decomposition and/or dismantling of paving and cladding are part of the demolition of the entire building. Estimated consumption for disassembly.

#### **Module C2**

Transport from the dismantled building is executed by a truck with a load capacity of 7.5-16 t (EURO 6) to the landfill of inert material as demolition of a mixed building, the estimated transport distance according to calculations: 100 km to the recycling centre or to the landfill.

#### **Module C3**

A scenario where 15% of the product is disposed of in an inert landfill is assumed. In order to use 85% of the product as intended for energy use, it is considered to treat it by crushing it into wood chips.

#### **Module C4**

15 % of the dismantled product is disposed of in an inert material landfill, without taking into account the energy use of landfill gas from (minor) organic components.

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

In the module D scenario, benefits from energy use are taken into account.

### **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 according to EN 16485 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.

For some input data, due to their complexity in obtaining them, alternative methods have been chosen in the form of a qualified calculation based on the available information. 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 range of the required specific data provided by Stolarstwo Import-Export DUDEK H&H, for the purpose of this report was set as a representative period **2022**. For this period, all available data were provided by the organization for their further processing.

The basic source of the necessary data from the area of production, purchasing, maintenance, etc. was the information system, or operational records from maintenance activities. To determine waste production, the annual report on waste production from the operational records for the given production plant were used. Only those types of waste related to the production phase were included in this report, as waste destined for 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 2022 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 complexness aspect:** Most of the input data is based on consumption balances, which are precisely recorded in the information system. As part of the completeness check, the company Stolarstwo Import-Export DUDEK H&H was visited, and it was checked whether all used inputs/outputs are entered in the records. 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 Poland (e.g., energy inputs) and if data are not available for the Poland, 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

As the period of the required specific data, provided by Stolarstwo Import-Export DUDEK H&H for the purpose of this report, a calendar period **2022** was determined as a representative period.



## **2.6. Allocation**

An allocation of inputs and output products was made within the report. A uniform method based on mass fractions was used for allocation. Data **converted to the declared unit - 1 kg of average product - I-BEAMS** were considered for the inventory and evaluation.

## **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 given for **1 kg of average product – I-BEAMS**.

## **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 (DU) – **1 kg of the average product – I-BEAMS**.

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

Ultimately LCA – Parameters describing basic environmental impacts (DU = 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.	-5,92E-01	8,91E-05	3,22E-02	1,66E-02	6,40E-04	1,35E-04
Global warming potential (GWP-fossil)	kg CO <sub>2</sub> eq.	9,38E-01	8,91E-05	3,21E-02	1,45E-02	6,37E-04	1,80E-03
Global warming potential (GWP-biogenic)	kg CO <sub>2</sub> eq.	-1,53E+00	-4,60E-08	2,92E-05	2,10E-03	2,69E-06	-1,67E-03
Global warming potential from land use and land-use change (GWP-luluc)	kg CO <sub>2</sub> eq.	2,33E-04	0,00E+00	1,51E-05	1,94E-05	1,43E-07	0,00E+00
Stratospheric ozone depletion potential (ODP)	kg CFC 11 eq.	1,03E-07	5,88E-15	7,23E-09	2,06E-09	3,15E-10	1,25E-11
Acidification potential, Cumulative exceedance (AP)	mol H+ eq.	3,79E-03	6,15E-07	1,32E-04	8,08E-05	6,24E-06	1,98E-06
Eutrophication potential, proportion of nutrients entering fresh water (freshwater EP)	kg P eq.	2,72E-04	1,18E-12	2,41E-06	7,35E-06	3,63E-08	6,64E-11
Eutrophication potential, proportion of nutrients entering seawater (seawater EP)	kg N eq.	9,57E-04	6,97E-08	3,94E-05	2,22E-05	2,36E-06	7,73E-07
Eutrophication potential, Cumulative overshoot (soil EP)	mol N eq.	9,83E-03	7,58E-07	4,30E-04	2,30E-04	2,59E-05	8,46E-06
Ground-level ozone formation potential (POCP)	kg NMVOC eq.	2,82E-03	2,10E-07	1,31E-04	6,52E-05	7,41E-06	2,03E-06
Raw material depletion potential for non-fossil sources (ADP-minerals and metals)	kg Sb eq.	1,99E-06	5,83E-13	1,47E-07	4,67E-08	1,24E-09	1,52E-10
Raw material depletion potential for fossil resources (ADP-fossil fuels)	MJ, calorific value	1,18E+01	8,71E-04	4,80E-01	2,60E-01	2,06E-02	2,82E-03
Water scarcity potential (for users), water scarcity weighted by water scarcity (WDP)	m <sup>3</sup> eq. scarcity	1,20E-01	5,15E-05	1,59E-03	7,57E-04	6,52E-05	3,74E-05

Table 4 Parameters describing additional environmental impacts

LCA result – Parameters indicating additional environmental impacts (DU = 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	5,36E-08	7,18E-12	2,40E-09	9,68E-10	1,38E-10	5,95E-11
Potential effect of human exposure to the isotope U235 (IRP)	kBq U235 eq.	3,99E-02	5,84E-07	2,55E-03	4,51E-03	9,91E-05	1,96E-05
Potential comparative toxic unit for ecosystems (ETP-fw)	CTUe	9,94E+00	2,57E-04	3,92E-01	1,78E-01	1,14E-02	5,82E-04
Potential comparative toxic unit for humans (HTP-c)	CTUh	1,06E-08	3,58E-13	3,96E-10	1,86E-10	5,40E-12	2,84E-12
Potential comparative toxic unit for humans (HTP-nc)	CTUh	4,76E-10	6,10E-15	1,43E-11	1,10E-11	2,60E-13	1,20E-13
Potential Soil Quality Index (SQP)	dimensionless	5,17E+00	1,67E-05	2,83E-01	1,26E-01	4,58E-02	0,00E+00

Table 5: Parameters describing resource consumption

LCA result – Parameters describing resource consumption (DU = 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	4,04E-01	1,03E-05	8,11E-03	2,76E-02	4,19E-04	4,99E-05
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	4,04E-01	1,03E-05	8,11E-03	2,76E-02	4,19E-04	4,99E-05
Consumption of non-renewable primary energy, excluding energy sources used as raw materials ( <b>PENRE</b> )	MJ	1,26E+01	9,41E-04	5,10E-01	2,74E-01	2,19E-02	2,99E-03
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	1,26E+01	9,41E-04	5,10E-01	2,74E-01	2,19E-02	2,99E-03
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 (DU = 1 kg of the product)							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed of ( <b>HWD</b> )	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Other waste disposed of ( <b>NHWD</b> )	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,50E-01	0,00E+00
Radioactive waste disposed of ( <b>RWD</b> )	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Table 7: Other environmental information - description of output flows

LCA result - Other environmental information - description of output flows (DU = 1 kg of the product)							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Construction units for reuse ( <b>MFR</b> )	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling ( <b>MER</b> )	kg	0,00E+00	0,00E+00	0,00E+00	8,50E-01	0,00E+00	0,00E+00
Materials for energy recovery ( <b>EEE</b> )	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,50E-01

LCA result - Other environmental information - description of output flows (DU = 1 kg of the product)							
Parameter	Unit	A1-A3	C1	C2	C3	C4	D
Exported energy (EET)	MJ per energy carrier	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,19E+01

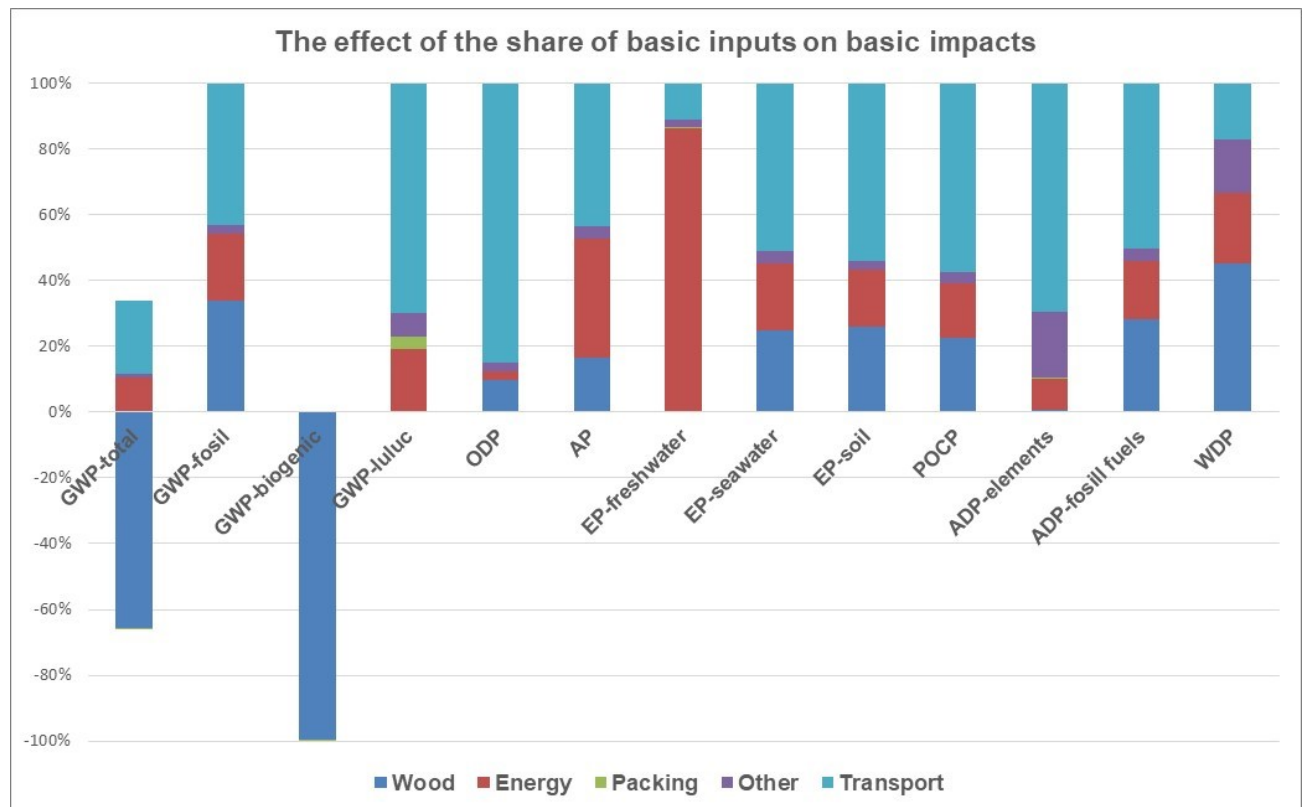
Table 8: Information describing the **biogenic carbon content** of the plant gate

LCA result – Information describing the biogenic carbon content at the plant gate (DU = 1 kg of the product)		
Parameter	Unit	At the plant gate
Biogenic carbon content of the product	kg C	1,64E+00
Biogenic carbon content in the appropriate packaging	kg C	6,81E-03

### 2.9.1. LCA: Interpretation

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

Fig. 2 Influence of the share of basic inputs on basic impacts



It can be seen from the figure that the consumption of wood, the transport of input raw materials and the consumption of energy have a very significant influence on the environmental impact.

### 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)

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 of Stolarstwo Import-Export DUDEK H&H.

## 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: <a href="mailto:info@cenia.cz">info@cenia.cz</a> Web: <a href="http://www.cenia.cz">www.cenia.cz</a>
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