

# Environmental Product Declaration

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

## *Half turned wooden staircase*

from

**2 MAX,s.r.o.**



Programme:	"National Environmental Labeling Program" - Czech Republic (NPEZ)
Programme operator:	Ministry of the Environment of the Czech Republic
EPD type:	EPD of a single product from a manufacturer/service provider
EPD registration number:	<b>3015-EPD-030067092</b>
Publication date:	2025-11-18
Valid until:	2030-11-18



*An EPD should provide current information and may be updated if conditions change.*



## General information

### Programme information

<b>Programme:</b>	"National Environmental Labeling Program" - Czech Republic (NPEZ)
<b>Address:</b>	Ministry of the Environment of the Czech Republic Department of Voluntary Instruments 100 10 Praha 10, Vršovická 1442/65
<b>Website:</b>	<a href="http://www.mzp.cz">www.mzp.cz</a> , <a href="http://www.cenia.cz">www.cenia.cz</a> <a href="https://www.ekoznacka.cz/databaze-epd-v-cr/">https://www.ekoznacka.cz/databaze-epd-v-cr/</a>
<b>E-mail:</b>	<a href="mailto:info@mzp.cz">info@mzp.cz</a>

<b>Accountabilities for PCR, LCA and independent, third-party verification</b>	
<b>Product Category Rules (PCR)</b>	
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)	
Product Category Rules (PCR): <i>EN 15804:2012+A2:2019/AC:2021, EF 3.1</i>	
<b>Life Cycle Assessment (LCA)</b>	
LCA accountability: <i>2 MAX,s.r.o.</i>	
<b>Third-party verification</b>	
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:	
<input checked="" type="checkbox"/> EPD verification by accredited certification body	
Third-party verification: <b>Technický a zkušební ústav stavební Praha, s.p.</b> is an approved certification body accountable for the third-party verification. 190 00 Praha 9, Prosecká 811/76a, CZ	
The certification body is accredited by: <b>Českým institutem pro akreditaci, o.p.s., Osvědčení č. 456/2024</b>	
Verifier: Ing. Lenka Vrbová	
	
Procedure for follow-up of data during EPD validity involves third party verifier:	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

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

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

## Company information

### **Owner of the EPD: 2 MAX,s.r.o.**

#### Contact:

798 02 Mostkovice, Mostkovice 529, CZ

Luděk Janeček, [janecek@2max.cz](mailto:janecek@2max.cz), [expedice@2max.cz](mailto:expedice@2max.cz),

<https://www.2max.cz/drevovyroba/>

### **Description of the organisation:**

The company 2 MAX, s.r.o. was founded in 1998. In 2004, as part of business diversification, the company decided to expand its activities to include wood production, more precisely the production of joint boards, or joint. Since 2005, we have been successfully trading Wood panels not only within the Czech Republic, but mainly in the countries of Western Europe, especially in Scandinavia.

We implement these deals with our partner company V.I.S. Export-Import spol. s.r.o.

Since 2010, when we purchased a new CNC machine, we have also been manufacturing complete staircases and their parts from jointer board, including surface treatment and packaging.

As part of the environmental policy, the company processes all wood waste into wood briquettes. We sell wooden briquettes retail and wholesale not only in the Czech Republic, but also abroad.

Our philosophy is the production of a finished product from logs, i.e. complete processing from raw input material to the final product, which is surface treated, packaged and ready for the end customer.

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** 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**. **EN 16449:2014 Wood and wood-based products - Calculation of the biogenic carbon content of wood and conversion to carbon dioxide** is also used.

#### Product-related or management system-related certifications:

When selling, we state that our products comply with the EU standard TR no. 995/2010, which is the standard for the origin of the material. EN 15497:2014 Structural finger jointed solid timber - Performance requirements and minimum production requirements is also partly used.

#### Name and location of production site(s):

798 02 Mostkovice, Mostkovice 529, CZ

The assembly takes place at the customer's premises.

## Product information

### **Product name: Half turned wooden staircase**

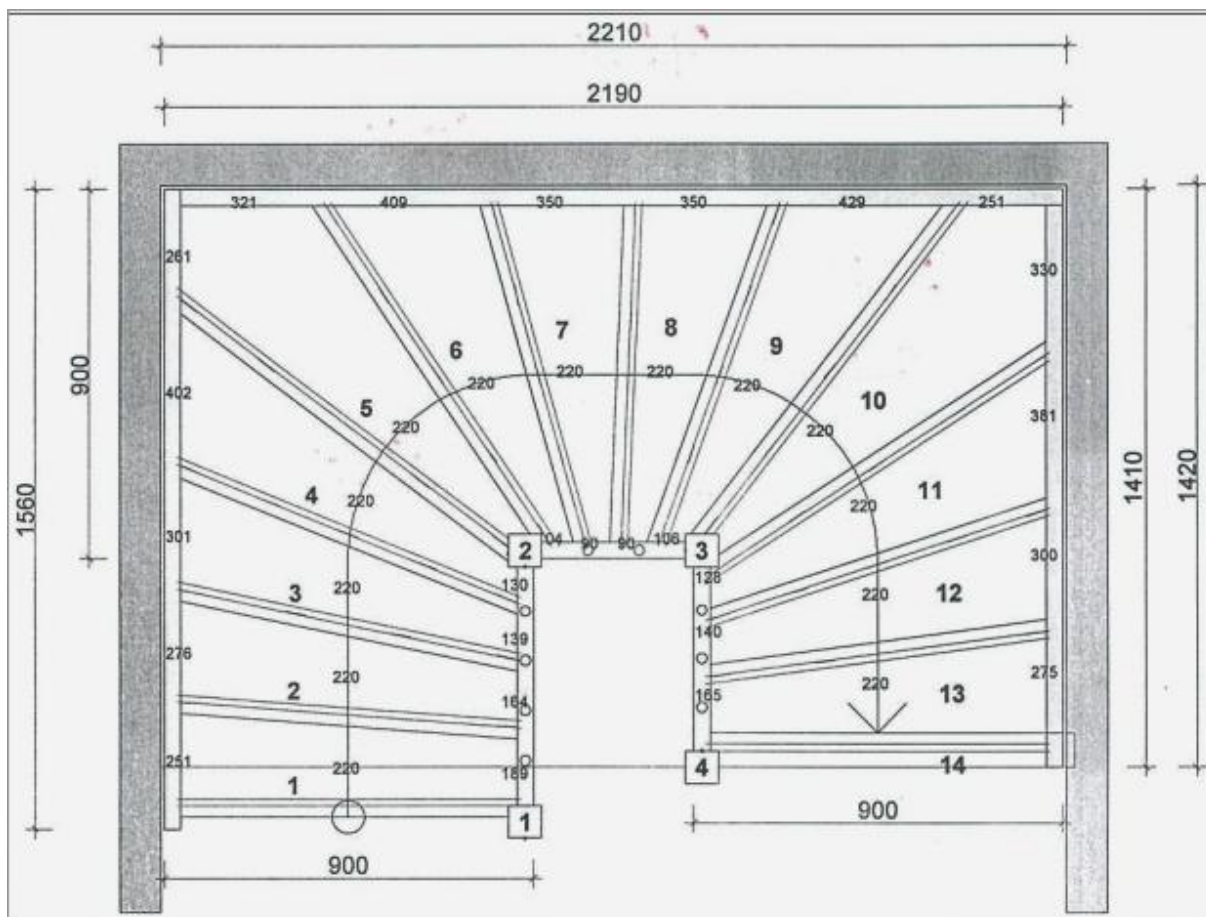
#### Product identification:

Half turned wooden staircase

#### **Product description:**

Type of staircase: Half turned wooden staircase.

Dimensions of the staircase:



We manufacture stair assemblies in our production from jointers produced by us (EPD no. 3015-EPD-030064863 issued 2023-06-05).

Main parts, supporting material:

Strings and posts = 40mm Pine, finger jointed

Steps and handrails = 40 mm Pine, Ash, Oak or Beech, finger jointed (according to client)

Risers = 16mm MDF

Balusters = 25 mm Beech

All components made out of wood panels are PEFC certified.

Surface treatment, colors, varnishes:

White base color, Bluefin Rocketfill

White top color, Bluefin Pigmocryl

Colorless base (varnish), Bluefin Unistar

Colorless top (lacquer), Bluefin Step silent

Connecting, anchoring and installation material, Screws, screws:

Various types of steel screws and caps (plastic, wood)

Packaging and transport material:

Sololit, Miralon, stretch film, disposable wooden pallet.

UN CPC code:

31600 Construction joinery and carpentry products made of wood.

Další kódy pro klasifikaci produktu: [ např. GTIN, CPV, UNSPSC, NACE/CPA, ANZSIC]

Geographical scope:

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

Product packaging:

The products are delivered in accordance with the standards indicated in the product description. The majority of the products are stored on pallets with possible spacers and protected by foil for transport.

Environment and health during use

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.

## LCA information

### Functional unit / declared unit:

The declared unit is 1 pc of the average manufactured product – Half turned wooden staircase.

Designation	Unit	Value
Declared unit	pc	1
Conversion factor to 1 kg	kg	0,00352
<i>The balance is made for a standard Half turned wooden staircase with a total weight of 283.94 kg.</i>		

### Reference service life:

The reference lifetime is not declared. These are construction products with many different application purposes. The lifespan is estimated at 100 years (BUILD lifespan table – version 2021 from Aalborg University).

### Time representativeness:

For specific data, the manufacturer's data for the year 2025 is used. For generic data, data from the Ecoinvent database version 3.11 is used. Based on the evaluation according to EN 15804+A2, Annex E, tab. E.1 the generic data used meet the quality level - very good.

### Database(s) and LCA software used:

SimaPro Craft calculation software, version 10.2, Ecoinvent database version 3.11.

GWP-GHG from electricity production: 0.526 kg CO<sub>2</sub> eq/kWh (CZ residual mix).

### Description of system boundaries:

b) Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3 + C + D and additional modules). The additional modules may be one or more selected from A4–A5 and/or B1–B7.;

### **The production phase 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 the supplier to the manufacturer, waste removal
- **A3** - production of products, production of auxiliary materials and semi-finished products, energy consumption, including waste processing until reaching a state where it ceases to be waste or after removal of the last material residues during the production phase. Supplier EPD No. 3015-EPD-030069989 was used to enter the data for the main component (Wood panels).

### **The construction phase includes the following modules:**

- **A4** - transport to the construction site. Transport is carried out by truck with a capacity of 7.5 - 16 t (EURO 5). Transport of the declared product unit over a distance of 1 km is considered.
- **A5** - Installation of the product in the building, including the production and transport of auxiliary materials and all energy and water required for the installation or operation of the construction site. It also includes activities carried out with the given product at the construction site. The intake of biogenic carbon as biogenic CO<sub>2</sub> in the packaging in module A1-A3 is here balanced by the same amount of biogenic CO<sub>2</sub> emissions.

### **The end-of-life phase includes modules:**

- **C1**, deconstruction, demolition; product from the building, including its dismantling or demolition, including the initial sorting of materials at the construction site. Decomposition and/or dismantling of the product is part of the demolition of the entire building. In this case, it is assumed that the impact on the environment is very small and can be neglected.
- **C2**, transport to the waste processing site; transportation of discarded product as part of waste processing, e.g. to a recycling site, and transportation of waste, e.g. to a final disposal site. The transport from the dismantled building is carried out by a truck with a capacity of 7.5 - 16 t (EURO 5) to the inert material dump as a demolition of a mixed building, estimated transport distance: 100 km to the recycling center or to the dump.

- **C3**, processing waste for reuse, recovery and/or recycling; e.g. collection of fractions of waste from deconstruction, and processing of waste from material flows intended for reuse, recycling and energy use. A scenario is assumed where 100% of the wood components of the product are incinerated.
- **C4**, waste removal, including its pre-treatment and disposal site management. It is not assumed.

**Benefits and costs beyond the product system boundary are presented in module D.**

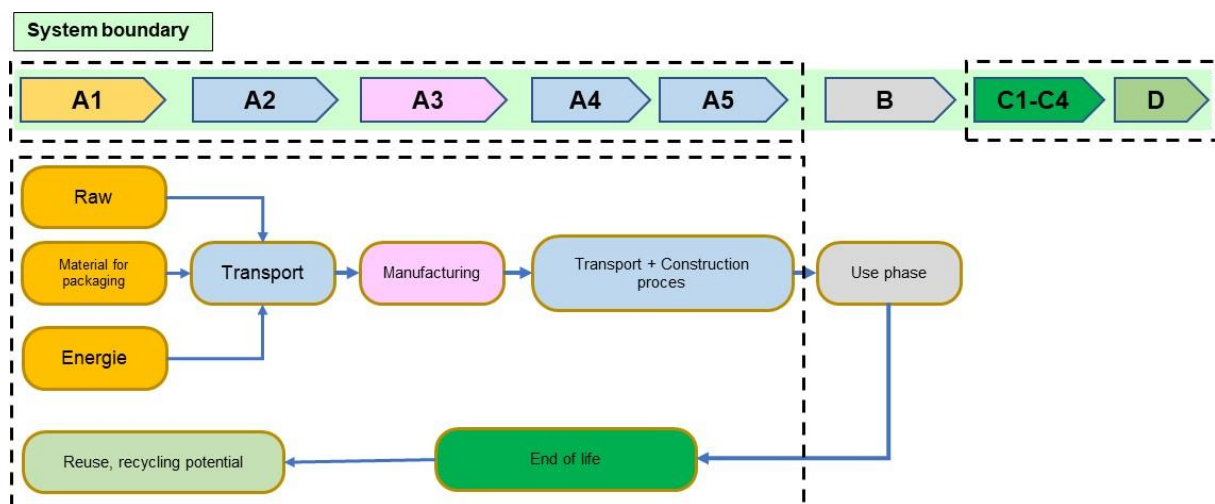
Module D includes:

- **D**, potential for reuse, recovery and/or recycling, expressed in terms of net impacts or benefits. In the module D scenario, the energy use of wood is considered. The biogenic carbon content is balanced.

Production:

Individual components are purchased or self-made joints are used. Assembly is carried out at the customer's location.

System diagram:



More information:

Information modules from the use phase **B1 to B7** are also not declared, as these types of products, assuming correct use, do not require maintenance, repair or replacement during the normal life time in the use phase. They also do not require energy or water consumption during the use phase.

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 production and emissions according to plant records were taken. In terms of produced waste, only those wastes that are clearly related to production activities were included in the analysis.

The processes required for the installation of production equipment and the construction of infrastructure were not included in the analysis. Also, administrative processes are not included – inputs and outputs are balanced per production phase.

**Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results)::**

	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	x	x	x	x	x	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	x
Geography	GLO	GLO, EU	EU, CZ	EU	EU								EU	EU	EU	EU	GLO, EU
Specific data used	> 90 %					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	0 %					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0 %					-	-	-	-	-	-	-	-	-	-	-	-

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

**Technological point of view:** Data corresponding to the current production of individual types of partial products of the plant and corresponding to the current state of the technologies used are used. Based on the evaluation according to EN 15804+A2, Annex E, tab. E.1 the generic data used meet the quality level - very good.

**The aspect of completeness and completeness:** Most of the input data is based on consumption balances, which are precisely recorded in the manufacturer's information system. The reliability of the source of specific data is determined by the uniformity of the collection methodology of the information system.

The GWP-GHG variability between the sub-products included (see Product Description) is less than 10%. Production takes place at only one production site.

**Consistency point of view:** Uniform points of view are used throughout the report (allocation rules, age of data, technological scope of validity, temporal scope of validity, geographical scope of validity).

Credibility aspect: All important data were checked for adherence to cross-comparison of mass balances.

## Content information

Product components	Weight %	Post-consumer material, weight-%	Biogenic carbon content in kg C/DU
Wood panels	79,9	0	9,19E+01
MDF	14,5	0	1,67E+01
Solid wood (balusters)	1,8	0	2,11E+00
Chemical additives	3,2	0	0
Screwing and others	0,6	0	0
TOTAL	100	0	1,11E+02
Packaging materials	Weight %	Weight-% (versus the product)	Biogenic carbon content in kg C/DU
HDF protection by steps	45,0	4,1	4,62E+00
Packaging - PE plastic	26,0	2,4	0,00E+00
Packaging - pallets	29,0	2,7	2,97E+00
TOTAL	100	9,2	7,59E+00
Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per functional or declared unit (DU)
They are not	-	-	-

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.

## Results of the environmental performance indicators

Mandatory impact category indicators according to EN 15804:2012+A2:2019/AC:2021 (characterisation factors based on EF 3.1 package)

### Results per functional or declared unit

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO <sub>2</sub> ekv.	1,19E+02	1,59E-01	7,80E+00	ND	ND	ND	ND	ND	ND	ND	6,96E-03	3,01E+00	2,00E+00	8,70E-03	-6,19E+02
GWP-biogenic	kg CO <sub>2</sub> ekv.	-3,98E+02	7,42E-05	2,90E+01	ND	ND	ND	ND	ND	ND	ND	2,38E-04	1,38E-03	3,70E+02	1,78E-05	3,64E+02
GWP- luluc	kg CO <sub>2</sub> ekv.	5,90E-01	5,96E-05	2,82E-04	ND	ND	ND	ND	ND	ND	ND	2,07E-05	9,40E-04	5,95E-03	1,62E-06	-1,62E-01
GWP - total	kg CO <sub>2</sub> ekv.	-2,79E+02	1,59E-01	3,68E+01	ND	ND	ND	ND	ND	ND	ND	7,21E-03	3,01E+00	3,72E+02	8,72E-03	-2,55E+02
ODP	kg CFC 11 ekv.	1,40E-06	3,46E-09	3,73E-09	ND	ND	ND	ND	ND	ND	ND	1,16E-10	6,62E-08	3,33E-08	3,09E-10	-1,59E-06
AP	mol H <sup>+</sup> ekv.	7,95E-01	3,32E-04	1,74E-03	ND	ND	ND	ND	ND	ND	ND	3,46E-05	6,12E-03	9,91E-03	5,80E-05	-1,51E+00
EP-freshwater	kg P ekv.	3,55E-02	1,31E-05	8,82E-05	ND	ND	ND	ND	ND	ND	ND	6,41E-06	2,02E-04	1,84E-03	4,52E-07	-1,34E+00
EP- marine	kg N ekv.	1,78E-01	7,33E-05	1,14E-03	ND	ND	ND	ND	ND	ND	ND	6,11E-06	1,45E-03	1,75E-03	2,48E-05	-6,36E-01
EP - terrestrial	mol N ekv.	1,86E+00	7,91E-04	7,20E-03	ND	ND	ND	ND	ND	ND	ND	5,23E-05	1,56E-02	1,50E-02	2,71E-04	-3,97E+00
POCP	kg NMVOC ekv.	6,71E-01	5,00E-04	2,29E-03	ND	ND	ND	ND	ND	ND	ND	1,68E-05	9,79E-03	4,81E-03	1,01E-04	-2,18E+00
ADP- minerals& metals*	kg Sb ekv.	4,81E-04	7,40E-07	4,95E-07	ND	ND	ND	ND	ND	ND	ND	1,48E-08	1,03E-05	4,24E-06	1,08E-08	-2,34E-04
ADP-fossil*	MJ	1,92E+03	2,24E+00	3,56E+00	ND	ND	ND	ND	ND	ND	ND	1,62E-01	4,25E+01	4,64E+01	2,29E-01	-6,80E+03
WDP*	m <sup>3</sup>	1,05E+03	8,91E-03	-1,32E-01	ND	ND	ND	ND	ND	ND	ND	1,53E-03	1,51E-01	4,38E-01	7,90E-04	-2,07E+01

Acronyms **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; **EP-marine** = Eutrophication potential, fraction of nutrients reaching marine end compartment; **EP-terrestrial** = Eutrophication potential, Accumulated Exceedance; **POCP** = Formation potential of tropospheric ozone; **ADP-minerals&metals** = Abiotic depletion potential for non-fossil resources; **ADP-fossil** = Abiotic depletion for fossil resources potential; **WDP** = Water (user) deprivation potential, deprivation-weighted water consumption

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

## Additional mandatory and voluntary impact category indicators

### Results per functional or declared unit

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG <sup>1</sup>	kg CO <sub>2</sub> ekv.	1,20E+02	1,59E-01	7,80E+00	ND	ND	ND	ND	ND	ND	ND	7,00E-03	3,01E+00	2,01E+00	8,71E-03	-6,19E+02
PM	Disease incidence	2,07E-05	8,53E-09	1,32E-08	ND	ND	ND	ND	ND	ND	ND	1,19E-10	1,90E-07	3,41E-08	1,46E-09	-4,38E-05
IRP	kBq U235 ekv.	1,36E+01	4,07E-03	5,39E-02	ND	ND	ND	ND	ND	ND	ND	4,55E-03	6,18E-02	1,30E+00	2,14E-04	-1,99E+01
ETP- fw	CTUe	5,65E+02	4,05E-01	3,50E+00	ND	ND	ND	ND	ND	ND	ND	1,54E-02	6,17E+00	4,42E+00	1,22E-02	-2,42E+03
HTP-c	CTUh	8,02E-08	2,85E-11	3,41E-10	ND	ND	ND	ND	ND	ND	ND	1,01E-12	4,65E-10	2,91E-10	1,11E-12	-5,73E-07
HTP- nc	CTUh	9,38E-07	1,34E-09	1,49E-08	ND	ND	ND	ND	ND	ND	ND	4,80E-11	2,46E-08	1,38E-08	3,14E-11	-9,48E-06
SQP	dimensionless	3,87E+04	9,22E-01	2,12E+00	ND	ND	ND	ND	ND	ND	ND	2,28E-02	2,16E+01	6,55E+00	4,66E-01	-9,01E+02
Acronyms	<p><b>GWP-GHG</b> = this indicator includes all greenhouse gases except biogenic uptake and emissions of carbon dioxide and biogenic carbon stored in the product; as such the indicator is identical to GWP-total except that the CF for biogenic CO<sub>2</sub> is set to zero, <b>PM</b> = Potential incidence of disease due to PM emissions, <b>IRP</b> = Potential Human exposure efficiency relative to U235, <b>ETP-fw</b> = Potential Comparative Toxic Unit for ecosystems, <b>HTP-c</b> = Potential Comparative Toxic Unit for humans, <b>HTP-nc</b> = Potential Comparative Toxic Unit for humans, <b>SQP</b> = Potential soil quality index</p>															

<sup>1</sup> This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO<sub>2</sub> is set to zero.

## Resource use indicators

### Results per functional or declared unit

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	2,66E+03	5,10E-02	4,41E-01	ND	ND	ND	ND	ND	ND	ND	3,58E-02	7,78E-01	1,03E+01	4,65E-03	-2,51E+02
PERM	MJ	4,51E+03	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PERT	MJ	7,17E+03	5,10E-02	4,41E-01	ND	ND	ND	ND	ND	ND	ND	3,58E-02	7,78E-01	1,03E+01	4,65E-03	-2,51E+02
PENRE	MJ	1,10E+03	2,09E-01	1,57E+00	ND	ND	ND	ND	ND	ND	ND	1,19E-01	3,27E+00	3,41E+01	8,77E-03	-5,64E+03
PENRM	MJ	7,71E+01	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	1,18E+03	2,09E-01	1,57E+00	ND	ND	ND	ND	ND	ND	ND	1,19E-01	3,27E+00	3,41E+01	8,77E-03	-5,64E+03
SM	kg	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m <sup>3</sup>	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

#### Acronyms

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

## Additional environmental information - Waste indicators

### Results per functional or declared unit

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	3,75E-01	5,76E-05	5,16E-02	ND	ND	ND	ND	ND	ND	ND	5,17E-06	9,90E-04	1,48E-03	3,82E-06	-1,92E-01
Non-hazardous waste disposed	kg	1,93E+01	6,94E-02	1,30E+00	ND	ND	ND	ND	ND	ND	ND	3,48E-04	1,72E+00	9,98E-02	1,57E+00	-2,71E+01
Radioactive waste disposed	kg	2,73E-03	1,01E-06	1,38E-05	ND	ND	ND	ND	ND	ND	ND	1,17E-06	1,54E-05	3,35E-04	4,95E-08	-5,57E-03

## Additional environmental information - Output flow indicators

### Results per functional or declared unit

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Material for recycling	kg	0,00E+00	0,00E+00	4,33E+00	ND	ND	ND	ND	ND	ND	ND	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	1,70E+01	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	2,55E+02	0,00E+00	0,00E+00
Exported energy, electricity	MJ	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,06E+02
Exported energy, thermal	MJ	0,00E+00	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	ND	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,44E+03

The result tables shall only contain values or the letters "ND" (Not Declared). It is not possible to specify ND for mandatory indicators. ND shall only be used for voluntary parameters that are not quantified because no data is available.

## Other environmental performance indicators

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## Additional environmental information

-

## Differences versus previous versions

*Original version of EPD* – 2025-11-18

Values recalculated according to EF 3.1.

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# ABBREVIATIONS

Abbreviation	Definition
<b>General abbreviations</b>	
EN	European standard
EPD	Environmental product declaration
EF	Environmental footprint
GPI	General guidelines for the environmental labelling program (in the Czech Republic – NPEZ)
ISO	International Organization for Standardization
LCA	Life cycle assessment
LCI	Life cycle inventory analysis
LCIA	Life cycle impact assessment
DJ / DU	Declared unit
ILCD	International Reference Life cycle data system
PCR	Product category rules
c-PCR	Additional rules for product categories
PRICE	European Committee for Standardization
CPC	Central Product Classification (Central Product Classification)
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
GRI	Global Reporting Initiative
National	Undeclared
<b>Environmental impact indicators (EN 15804)</b>	
Greenhouse gas	a gas in the atmosphere that absorbs and emits infrared radiation, thereby contributing to the warming of the planet (CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O and others)
GWP	Global warming potential (kg CO <sub>2</sub> eq.)
GWP-fossil	Global warming potential from fossil fuels (kg CO <sub>2</sub> eq.)
GWP-biogenic	Global warming potential from biogenic sources (kg CO <sub>2</sub> eq.)
GWP- luluc	Global warming potential due to land use and land use change (kg CO <sub>2</sub> (eq.))
ODP	Stratospheric ozone depletion potential (kg CFC-11 equivalent)
AP	Acidification potential, cumulative exceedance (mol H <sup>+</sup> (eq.))
EP	Eutrophication potential
EP-freshwater	Freshwater eutrophication potential (kg P eq.)
EP-seawater	Seawater eutrophication potential (kg N eq.)
EP-soils	Land eutrophication potential (mol N eq.)
POCP	Ground-level ozone formation potential (kg NMVOC equivalent)
ADP	Potential for resource/raw material depletion
ADP - minerals and metals	Potential for depletion of non-fossil resources/raw materials (kg Sb equivalent)
ADP-fossil	Fossil resource/raw material depletion potential (MJ)
WDP	Water shortage potential (m <sup>3</sup> )
<b>Additional environmental impact indicators (EN 15804)</b>	
GWP-GHG	Global warming potential for greenhouse gases (kg CO <sub>2</sub> eq.). The indicator includes all greenhouse gases except biogenic uptake and emissions of carbon dioxide and biogenic carbon stored in the product; as such, the indicator is identical to GWP- total except that the CF for biogenic CO <sub>2</sub> is set to zero.

Abbreviation	Definition
PM	Potential incidence of diseases due to particulate matter emissions
IRP	Potential effect of human exposure to the isotope U235
ETP- fw	Potential toxicity benchmark for ecosystems
HTP-c	Potential human toxicity comparator – carcinogenic effects
HTP- oc	Potential human toxicity comparator - non-carcinogenic effects
SQP	Potential Soil Quality Index
<b>Resource utilization indicators</b>	
PERE	Renewable primary energy consumption excluding energy sources used as raw materials (MJ)
PERM	Consumption of renewable primary energy sources used as raw materials (MJ)
PERT	Total consumption of renewable primary energy sources (primary energy and primary energy sources used as raw materials) (MJ)
PENRE	Consumption of non-renewable primary energy excluding energy sources used as raw materials (MJ)
PENRM	Consumption of non-renewable primary energy sources used as raw materials (MJ)
PENRT	Total consumption of non-renewable primary energy sources (primary energy and primary energy sources used as raw materials) (MJ)
SM	Consumption of secondary raw materials (kg)
RSF	Consumption of renewable secondary fuels (MJ)
NRSF	Consumption of non-renewable secondary fuels (MJ)
FW	Net drinking water consumption (m <sup>3</sup> )
<b>Waste indicators</b>	
HWD	Hazardous waste removed (kg)
NHWD	Other waste removed (kg)
RWD	Radioactive waste removed (kg)
<b>Output flow indicators</b>	
CRU	Reusable building elements (kg)
MR	Materials to be recycled (kg)
MER	Materials for energy recovery (kg)
EEE	Exported energy, electricity (MJ)
EET	Exported thermal energy (MJ)
<b>Lifecycle phases/modules</b>	
A1	Mining and processing of raw materials, processing of input secondary raw materials
A2	Transport to the manufacturer
A3	Production
A4	Transport to the construction site
A5	Installation in a building
B1	Use or application of the installed product
B2	Maintenance
B3	Repair
B4	Exchange
B5	Reconstruction
B6	Operating energy consumption

Abbreviation	Definition
B7	Operating water consumption
C1	Deconstruction / Demolition
C2	Transportation to the waste processing site
C3	Waste treatment for reuse, recovery and/or recycling
C4	Removal
D	Reuse, recovery and recycling potential
<b>Other relevant terms</b>	
Substances of Very High Concern (SVHC)	Substances of very high concern
CAS number	An internationally recognized unique numerical code used in chemistry for chemical substances
CF	Characterization factor
RSL	Reference life span
MJ	Megajoule
kg	Kilogram
m <sup>3</sup>	Cubic meter
NMVOC	methane volatile organic compounds
Sat eq .	Antimony equivalents
P eq .	Phosphorus equivalents
Not equal .	Nitrogen equivalents
Equivalent to CFC-11	Chlorofluorocarbon-11 equivalents
CO <sub>2</sub> equivalent	Carbon dioxide equivalents
kg C	Kilograms of carbon
kg CO <sub>2</sub> eq .	Kilograms of carbon dioxide equivalent
OTE	OTE, as (in the Czech Republic) – energy market operator

## References

- EN ISO 14025:2010 Environmental labels and declarations - Type III environmental declarations - Principles and procedures
- EN 15804:2012+A2:2019/AC:2021 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products
- EN ISO 14040:2006 Environmental management - Life Cycle Assessment - Principles and Framework
- EN ISO 14044:2006 Environmental management - Life Cycle Assessment – Requirements and guidelines
- EN ISO 14063:2020 Environmental management - Environmental communication - Guidelines and examples
- EN 15643:2021 Sustainability of construction works - Framework for assessment of buildings and civil engineering works
- EN 15941:2024 Sustainability of construction works - Data quality for environmental assessment of products and construction work - Selection and use of data
- EN 15942:2021 Sustainability of construction works - Environmental product declarations - Communication format business-to-business
- EN 17672:2022 Sustainability of construction works - Environmental product declarations - Horizontal rules for business-to-consumer communication
- EN 16908:2017+A1:2022 Cement and building lime - Environmental product declarations - Product category rules complementary to EN 15804
- EN 16449:2014 Wood and wood-based products - Calculation of the biogenic carbon content of wood and conversion to carbon dioxide
- ILCD General guide for Life Cycle Assessment (2010) - JRC EU
- Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives; CZ - Act No. 541/2020 Coll., as amended (Waste Act)
- Decree No. 8/2021 Coll. Waste catalogue – Waste catalogue
- 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)
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 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
- 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)
- EU PEF (EF reference package) - <https://eplca.jrc.ec.europa.eu/LCDN/EN15804.html>
- Explanatory documents are available from the head of Technical Support of the EPD owner.