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Environmental Product Declaration

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

Stainless Steel Pipes

Organization	ACO Industries k.s.
Industry Program Operator	CENIA, Czech Environmental Information Agency, Executive Body of NPEZ Agency
Author	Technický a zkušební ústav stavební Praha, s.p.
Declaration No.:	7240004
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Valid until	2029-01-09 in accordance with EN 15804+A2:2019

1. General Information Declaration

Product:	**Stainless Steel Pipes**
Programme:	"National programme of environmental labelling"- CZ
Industry operator:	CENIA, Czech Environmental Information Agency, Executive body of the NPEZ Agency, Moskevská 1523/63, Praha 10, 101 00, www.cenia.cz
Name and address of the manufacturer:	ACO Industries k.s. Havlíčkova 260 582 22 Přibyslav, CZ IČO: 48119458
EPD registration number:	7240004
Declared unit:	1 kg of average product
Product category rules:	N 15804+A2:2019 as core PCR
Publication Date:	2024-01-10
Valid until:	2029-01-09 in accordance with EN 15804+A2:2019

ACO Group is a world leader in drainage technologies and water management in general. Whether it's buildings, outdoor areas or even the marine industry, we develop and design solutions to maintain sustainable access to water. This is the essence of our work.

ACO Industries k.s. in Přibyslav is the largest production plant in the ACO Group and at the same time it is one of the largest production enterprises in the region Vysocina with a tradition since 1993. It mainly produces professional stainless steel drainage systems that serve, for example, in industrial buildings or drain outdoor paved surfaces. In addition to production itself, research & development is increasingly important to us. We work on unique projects from initial designs to their implementation.

Especially in recent years, the Pribyslav plant has advanced in innovation and development and has become the competence center of the ACO group. It houses the management of the strategic business area, which is the Internal Drainage of Buildings. Employees from product management, marketing and other departments are thus involved in the work of international teams, they develop and then introduce new product lines into production, they prepare broad sales and marketing support for them. It is no longer just about production as such.

New technologies and new requirements for the greatest possible sustainability of products and solutions are reflected in the further development of products and innovations. The essence of the developed solutions has always been, and continues to be, water. Especially recently, its protection has become more

and more urgent, so our experts are looking for modern and sustainable solutions that contribute to water protection.

More at: https://www.aco-industries.cz/

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 of constructions - Environmental product declaration - Basic rules for the product category of construction products*.

1.1. Product data

Stainless Steel Pipes

High resistance and hygiene is one of the main reasons why customers prefer stainless steel pipes in their operations. Another indisputable advantage of this material is its reaction to fire and fire properties, which strengthen the safety of buildings. The use of stainless steel pipes with a push-fit joint system is easy to install and at the same time guarantees a perfect tightness for overpressure and underpressure applications. Pipes are also widely used in the marine industry or as a design accessory for architecturally interesting objects. They are also suitable for infrastructure projects such as bridges or tunnels, where they are preferred for their fire-resistant properties.

1.1.1. Product specifications

The products are delivered in particular according to the following norms:

- **EN 1366-1+A1** Fire resistance tests for service installations - Part 1: Ventilation ducts
- **EN 1366-3** Fire resistance tests for service installations - Part 3: Penetration seals
- **EN 1366-4** Fire resistance tests for service installations - Part 4: Linear joint seals
- **EN 1366-5** Fire resistance tests for service installations - Part 5: Service ducts and shafts
- **EN 1123** Pipes and fittings of longitudinally welded hot-dip galvanized steel pipes with spigot and socket for waste water systems (ACO GM-X pipe)
- **EN 1124-1** Pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket for waste water systems - Part 1: Requirements, testing, quality control (ACO PIPE)
- **EN 1124-2** Pipes and fittings of longitudinally welded stainless steel pipes with spigot and socket for waste water systems - Part 2: System S, forms and dimensions
- **EN 1672-2** Food processing machinery - Basic concepts - Part 2: Hygiene and cleanability requirements
- **EN ISO 14159** Safety of machinery – Hygiene requirements for design of machinery

More detailed product information can be found at: https://www.aco-industries.cz/

1.1.2. Rules for use

Use of products

- Commercial kitchen
- Food and beverage industry
- Pharmaceutical industry
- Chemical industry
- Environments demanding temperatures and aggressive media
- Drainage of balconies, roofs and terraces

Environment and health in 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 extremely low release of metal from the steel and the low maintenance requirements, no environmental impacts to water, air or soil are expected.

ACO sanitary drainage meets the strictest hygiene requirements to prevent contamination with harmful bacteria. The company applies the relevant hygienic design principles reserved for food processing equipment EN 1672-2, EN ISO 14159 and EHEDG.

Product certification:

Products are assessed in accordance with the standards that apply to them.

Reference lifetime

The reference lifetime for the product group is not declared. For these types of products, a typical estimated service life (RSL) is 50 years.

1.1.3. Method of delivery

The products are delivered in accordance with the standards listed in point 1.1.1. Fittings and pipes up to 1 m inclusive are packed in euro pallets with a fence. Pipes longer than 1 m on pallets with wooden spacers.

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.

1.1.4. Basic raw materials and auxiliary substances

The main raw material for the production of stainless steel pipes is stainless steel coil/tape made of material 1.4301 or 1.4404.

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 Stainless steel coil in declarable quantities.

1.1.5. Production

Typical production technologies/processes are:

- Roll-forming of the coil to pipe
- Cutting and sawing
- Shaping of the divided material by bending on press brakes, in some cases by deep drawing on deep drawing presses
- As needed, punching holes or shaping bottom reinforcements on punching machines
- Cleaning of contact surfaces for further processing on a lathe or milling machine
- Degreasing of products in the washer
- Depending on the type of product, spotting, full welding (by TIG, MIG, SAP), resistance welding or mechanical connection, the so-called clinching
- Carrying out surface treatment according to the type of production - pickling and passivation, electrochemical polishing, blasting, sanding of appearance surfaces, blasting with a ballotine, hot-dip galvanizing, painting with water-based paint
- Final assembly and packaging of the product

1.1.6. Waste management

Wastes generated during the production process are collected according to type and reported according to regulations.

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

Its ability to restore its original properties without loss of quality after melting makes steel the most recycled material in the world.

In the built environment, up to 100% of products can be reused or recycled at the end of their useful life.

1.2. LCA: Calculation rules

1.2.1. Declared unit

The declared unit shall be 1 kg of the average product – Steel Pipes

All inputs and outputs of this report were considered as consumption or production related to the production of 1 kg of the named product. In the average product, the production of all partial types of products is considered.

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*** *"*.

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 ACO Industries k.s. 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 products are 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.

Module C2

The transport from the dismantled building takes place by a truck with a capacity of 7.5 - 16 t (EURO 5) to the recycling center, estimated transport distance: 20 km to the recycling centre.

Module C3

100% is considered for the use of products as recyclable material (as steel scrap for input into steel production).

Module C4

The landfilling process is not considered.

Potential for reuse, recovery and recycling (D)

In the module D scenario, the saving of primary raw material inputs – pig iron in another product system (steel production) is 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 16757 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.

Within the studied product system, no co-products are formed.

For the study, all operational data related to the consumption of main and auxiliary materials 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 were converted to units that were needed for selected generic process data in the environmental impact assessment calculation program.

These are:

- Energy data relating to **diesel** expressed in MJ – 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 waste production were taken from the ongoing waste register for the monitored 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.

The analysis also did not include non-returnable packaging from input raw materials (for example lubricants), the amount of which is very small compared to other material inputs.

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, m3
- 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 m3

- 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 ACO Industries k.s., for the purpose of this report was set as a representative period **2021**. For this period, all available data were provided by the organization for their further processing.

Data on energy inputs were based on data valid for the Czech Republic - electricity production - national mix CZ, year 2021, Ecoinvent database 3.8. The division into individual energy sources was made according to OTE data.

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 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 ACO industries k.s. 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 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

As the period of the required specific data, provided by ACO Industries k.s. for the purpose of this report, a calendar period **2021** was determined as a representative period.

2.6. Allocation

In the balance of inputs, their direct monitoring was used at individual centres, or allocation based on weight was used.

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**.

2.9. LCA: Results

Information on environmental impacts is expressed in the following tables:

- Parameters describing basic environmental impacts
- Parameters describing additional environmental impacts
- Parameters describing resource consumption
- Additional environmental information – description of the waste category
- Additional environmental information – description of output flows
- Information describing the content of biogenic carbon in the factory gate

The data are always related to the declared unit (DJ) - 1 kg of average product.

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.

Parameters describing **the basic environmental impacts**

Ultimately LCA – 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_2 ekv.	2,86E+00	0,00E+00	2,04E-02	2,46E-02	0,00E+00	-4,37E-01
Global warming potential (**GWP-fossil**)	kg CO_2 ekv.	2,86E+00	0,00E+00	2,04E-02	2,50E-02	0,00E+00	-4,37E-01

Ultimately LCA – Parameters describing basic environmental impacts (DJ = 1 kg of the product)							
Indicator	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Global warming potential (**GWP-biogenic)**)	kg CO_2 ekv.	-8,06E-03	0,00E+00	2,07E-05	-4,40E-04	0,00E+00	-4,81E-05
Global warming potential from land use and land-use change (**GWP-luluc**)	kg CO_2 ekv.	3,36E-03	0,00E+00	1,22E-05	4,76E-05	0,00E+00	-2,32E-04
Stratospheric ozone depletion potential (**ODP**)	kg CFC 11 ekv.	1,58E-07	0,00E+00	4,45E-09	3,32E-09	0,00E+00	-2,08E-08
Acidification potential, Cumulative exceedance (**AP**)	mol H+ ekv.	1,29E-02	0,00E+00	7,94E-05	2,97E-04	0,00E+00	-2,81E-03
Eutrophication potential, proportion of nutrients entering fresh water (**freshwater EP**)	kg P ekv.	1,32E-03	0,00E+00	1,89E-06	1,58E-05	0,00E+00	-7,40E-05
Eutrophication potential, proportion of nutrients entering seawater (**seawater EP**)	kg N ekv.	3,06E-03	0,00E+00	2,18E-05	6,74E-05	0,00E+00	-6,70E-04
Eutrophication potential, Cumulative overshoot (**soil EP**)	mol N ekv.	2,82E-02	0,00E+00	2,38E-04	7,55E-04	0,00E+00	-7,54E-03
Ground-level ozone formation potential (**POCP**)	kg NMVOC ekv.	1,14E-02	0,00E+00	7,42E-05	2,08E-04	0,00E+00	-3,17E-03
Raw material depletion potential for **non-fossil sources (ADP-minerals and metals)**)	kg Sb ekv.	4,30E-05	0,00E+00	1,27E-07	2,96E-06	0,00E+00	-3,27E-07
Raw material depletion potential for fossil resources (**ADP-fossil fuels**)	MJ, calorific value	3,19E+01	0,00E+00	3,03E-01	3,45E-01	0,00E+00	-2,72E+00
Water scarcity potential (for users), water scarcity weighted by water scarcity (**WDP**)	m3 eq. scarcity	9,43E-01	0,00E+00	1,18E-03	4,55E-03	0,00E+00	-1,99E-02

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	2,03E-07	0,00E+00	1,29E-09	3,99E-09	0,00E+00	-4,84E-08
Potential effect of human exposure to the isotope U235 (**IRP**)	kBq U235 eq.	2,10E-01	0,00E+00	1,69E-03	3,54E-03	0,00E+00	-1,61E-02
Potential comparative toxic unit for ecosystems (**ETP-fw**)	CTUe	7,86E+01	0,00E+00	2,66E-01	1,27E+00	0,00E+00	-1,46E+01
Potential comparative toxic unit for humans (**HTP-c**)	CTUh	6,44E-08	0,00E+00	2,63E-10	1,87E-09	0,00E+00	-2,27E-08
Potential comparative toxic unit for humans (**HTP-nc**)	CTUh	2,92E-08	0,00E+00	1,12E-11	4,27E-11	0,00E+00	-1,15E-09
Potential Soil Quality Index (**SQP**)	dimensionless	1,29E+01	0,00E+00	1,48E-01	6,37E-01	0,00E+00	-7,35E-01

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 **(PERE)**	MJ	4,04E+00	0,00E+00	6,44E-03	5,36E-02	0,00E+00	-1,24E-01
Consumption of renewable primary energy sources used as raw materials (**PERM**)	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) (**PERT**)	MJ	4,04E+00	0,00E+00	6,44E-03	5,36E-02	0,00E+00	-1,24E-01
Consumption of non-renewable primary energy, excluding energy sources used as raw materials (**PENRE**)	MJ	3,39E+01	0,00E+00	3,22E-01	3,66E-01	0,00E+00	-2,88E+00
Consumption of non-renewable primary energy sources used as raw materials (**PENRM**)	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) (**PENRT**)	MJ	3,39E+01	0,00E+00	3,22E-01	3,66E-01	0,00E+00	-2,88E+00
Consumption of secondary raw materials (**SM**)	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Consumption of renewable secondary fuels (**RSF**)	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 (**NRSF**)	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net potable water consumption (**FW**)	m3	2,63E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

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 (**HWD**)	kg	8,21E-02	0	0	0	0	0
Other waste disposed of (**NHWD**)	kg	0	0	0	0	0	0
Radioactive waste disposed of (**RWD**)	kg	0	0	0	0	0	0

Other environmental information - **description of production 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 (**MFR**)	kg	0	0	0	0	0	0
Materials for recycling (**MER**)	kg	2,69E-01	0	0	1,00E+00	0	1,00E+00

LCA result - Other environmental information - description of output flows (DJ = 1 kg of the product)							
Parameter	**Unit**	**A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Materials for energy recovery (**EEE**)	kg	4,61E-03	0	0	0	0	0
Exported energy (**EET**)	MJ per energy carrier	0	0	0	0	0	0

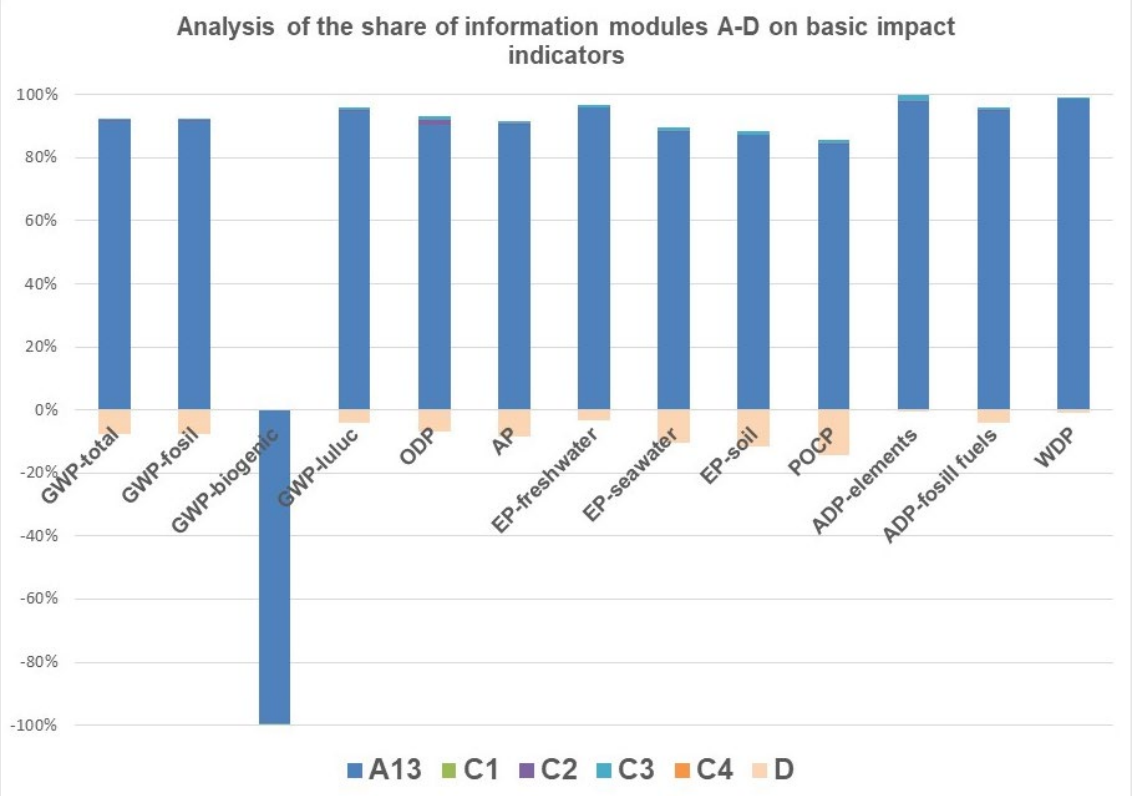
Information describing the **biogenic carbon content** of the plant gate

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	8,56E-02

2.9.1. LCA: Interpretation

The influence of the share of information modules A-D on the basic environmental impacts is shown in the following figure 2:

Fig. 2 The influence of the share of information modules A-D on the basic indicators in module A1-A3



The consumption **of steel** and partially also the **consumption of electricity** (energy mix of the Czech Republic) have a very significant influence on environmental impacts. To a lesser extent, the effect of **transport** is also applied.

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

Ecoinvent Centre, www.Ecoinvent.org

Explanatory documents are available at the sales department of ACO Industries k.s.

6. EPD verification

Independent verification of declaration in accordance with ČSN ISO 14025:2010			
The ČSN EN 15804+A2 standard produced by CEN serves as the basic PCR[a]			
☐	internal	☒	external
Third party verifier [b]:			
Elektrotechnický zkušební ústav, s. p. Pod lisem 129/2, Troja, 182 00 Praha 8 Czech Republic ezú elektrotechnický zkušební ústav		Mgr. Miroslav Sedláček *Head of certification body*	
Certification body for EPD, accredited by CIA, Czech Accreditation Institute under no. 3018			
[a] *Product category rules* [b] Optional for business communication, mandatory for business-to-consumer communication (see *ISO 14025:2010, clause 9.4).*			

This document is a translation of the EPD issued in Czech.in cause of doubt use the Czech version of this EPD as a reference.

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