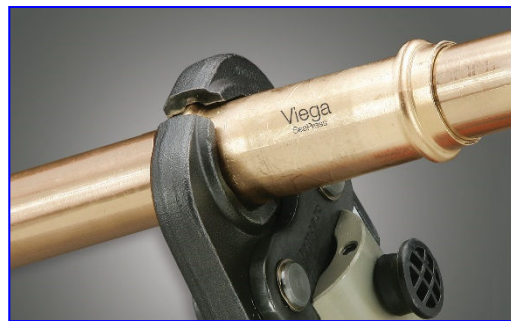


Environmental Product Declaration (EPD)



Declaration code EPD-VSE-GB-67.0



Viega GmbH
& Co. KG

connecting technology

SeaPress



Basis:

DIN EN ISO 14025
EN 15804 + A2

Company EPD
Environmental
Product Declaration

Publication date:
14.12.2023

Valid until:
14.12.2028



[www.ift-rosenheim.de/
published EPDs](http://www.ift-rosenheim.de/published-EPDs)

Environmental Product Declaration (EPD)



Declaration code EPD-VSE-GB-67.0

Programme operator	ift Rosenheim GmbH Theodor-Gietl-Straße 7-9 83026 Rosenheim, Germany		
Practitioner of the LCA	Viega GmbH & Co. KG Viega Platz 1 57439 Attendorn, Germany		
Declaration holder	Viega GmbH & Co. KG Viega Platz 1 57439 Attendorn, Germany www.viega.de		
Declaration code	EPD-VSE-GB-67.0		
Designation of declared product	SeaPress		
Scope	Transportation of Medicine inside/outside of buildings.		
Basis	This EPD was prepared on the basis of EN ISO 14025:2011 and DIN EN 15804:2012+A2:2019. In addition, the "Allgemeiner Leitfaden zur Erstellung von Typ III Umweltproduktdeklarationen" (General guideline for preparation of Type III Environmental Product Declarations) applies. The declaration is based on the PCR documents "PCR Part A" PCR-A-0.3:2018 and "Piping systems including connecting and fitting technology" PCR-RS-1.0:2022.		
Validity	Publication date: 14.12.2023	Last revision: 14.12.2023	Valid until: 14.12.2028
	This verified Company Environmental Product Declaration (company EPD) applies solely to the specified products and is valid for a period of five years from the date of publication in accordance with DIN EN 15804.		
LCA Basis	The LCA was prepared in accordance with DIN EN ISO 14040 and DIN EN ISO 14044. The base data includes the data collected at one production plant of Viega GmbH & Co. KG, and the generic data derived from the Ecoinvent 3 data base (v3.8 with aggregated inputs) and Ecoinvent EN 15804. LCA calculations were carried out for the included "cradle to grave" including all upstream chains (e.g. raw material extraction, etc.).		
Notes	The ift-Guidance Sheet "Conditions and Guidance for the Use of ift Test Documents" applies. The declaration holder assumes full liability for the underlying data, certificates and verifications.		

Christian Kehrer
Head of Certification and Surveillance Body

Dr. Torsten Mielecke
Chairman of Expert Committee
ift-EPD and PCR

Prof. Dr. Eric Brehm
External verifier

1 General Product Information

Product definition

The EPD relates to the product group connecting technology and applies to:

**1 kg SeaPress
 of company Viega GmbH & Co. KG**

These are divided into the following product groups

Product group (PG)		Unit weight
PG1	SeaPress	0.034 - 2.850 kg

Table 1 Product groups*

*The relevant piece weights [kg/piece] are specified in the conversion table of Annex B in accordance with PCR Part B. Specification of weights per unit length is not possible.

The declared unit is obtained by summing up:

PG	Assessed product	Unit weight	declared unit
1	Elbow 90° (Item no. 556549)	3.91 kg	1 kg

Table 2 Functional unit per reference product

The average unit is declared as follows:

Directly used material flows are determined by means of manufactured masses (kg) and allocated to the declared unit. All other inputs and outputs in the production were scaled to the declared unit in their entirety since there is no typical functional unit due to the high number of variants. The reference period is the year 2022.

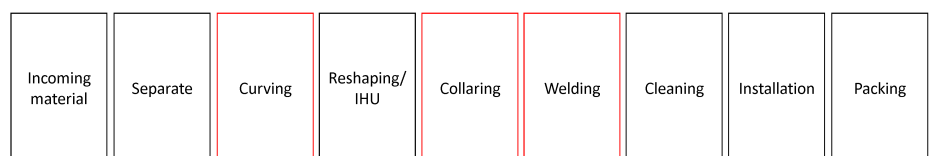
The validity of the EPD is restricted to the systems listed in Table 1.

Product description

Flow-optimized press connector system made of CuNiFe alloy for CuNiFe pipes. Particularly suitable for seawater applications. The press connector features a cylindrical pipe guide to protect the sealing element. Press connector sizes ranging from d76.1 diameter with stainless steel cutting ring to ensure the mechanical strength of the connection. The pressing force is applied in front and behind the sealing element seat. Suitable for installations of distribution lines and risers.

For a detailed product description refer to the manufacturer specifications or the product specifications of the respective offer/quotation.

Product manufacture



does not apply to all articles does not apply to all articles

Illustration 1 Manufacturing process

Product group connecting technology

Application	<ul style="list-style-type: none">• Drinking water• Rainwater• Compressed air systems• Agriculture• Industrial applications
Test evidence / reports	For information on updated verifications (incl. other national approvals) refer to SeaPress viega.de .
Management systems	The following management systems are held: <ul style="list-style-type: none">• Quality management system as per DIN EN ISO 9001:2015• Energy management system as per DIN EN ISO 50001:2018• Environmental management system as per DIN EN ISO 14001:2015• Occupational health and safety management system as per DIN EN ISO 45001:2018
Additional information	For additional verifications of applicability or conformity refer to the CE marking and the documents accompanying the product, if applicable.

2 Materials used

Primary materials	The raw materials used can be found in chapter 6.2 Inventory analysis (Inputs). The raw materials used can be found in chapter 6 Life Cycle Assessment.
Declarable substances	No substances according to REACH candidate list are included (declaration of 04.10.2023). All relevant safety data sheets are available from Viega GmbH & Co. KG.

3 Construction process stage

Processing recommendations, installation	Observe the instructions for assembly/installation, operation, maintenance and disassembly, provided by the manufacturer. For this refer to www.viega.de or www.viega.us .
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4 Use stage

Emissions to the environment	No emissions to indoor air, water and soil are known. There may be VOC emissions. There is no contact with the indoor/outdoor air.
Reference service life (RSL)	The RSL information was provided by the manufacturer. The RSL must be established under specified reference conditions of use and relate to the declared technical and functional performance of the product within the building. It must be determined according to all specific rules given in European product standards or, if none are available, according to a c-PCR. It must also take into account ISO 15686-1, -2, -7 and -8. If there is guidance on deriving RSLs from European Product Standards or a c-PCR, then such guidance must take precedence.

If it is not possible to determine the service life as the RSL in accordance with ISO 15686, the BBSR table “Nutzungsdauer von Bauteilen zur Lebenszyklusanalyse nach BNB” (service life of building components for life cycle assessment in accordance with the sustainable construction evaluation system) can be used. For further information and explanations refer to www.nachhaltigesbauen.de.

For this EPD the following applies:

A reference service life (RSL) must be stated for the “cradle to grave” EPD and module D (A + B + C + D).

The service life for SeaPress Press connector of company Viega GmbH & Co. KG is specified as 50 years according to the manufacturer.

The service life is dependent on the characteristics of the product and in-use conditions. The conditions and characteristics described in the EPD are applicable, in particular the characteristics listed below:

- Outdoor environment: Climatic influences may have a negative impact on the service life.
- Indoor environment: No impacts known that have a negative effect on the service life

The service life solely applies to the characteristics specified in this EPD or the corresponding references.

The RSL does not reflect the actual life time, which is usually determined by the service life and the redevelopment of a building. It does not give any information on the useful life, warranty referring to performance characteristics or guarantees.

5 End-of-life stage

Possible end-of-life stages

SeaPress Press connector are sent to central collection points. There the products are usually shredded and sorted into their constituents. The end-of-life stage depends on the site where the products are used and is therefore subject to the local regulations. Observe the locally applicable regulatory requirements.

In this EPD, the modules of after-use are presented according to the market situation.

Metal and plastics are recycled to certain parts. Residual fractions are sent to landfill or, in part, thermally recycled.

Disposal routes

The LCA includes the average disposal routes.

All life cycle scenarios are detailed in the Annex.

6 Life Cycle Assessment (LCA)

Environmental product declarations are based on life cycle assessments (LCAs) which use material and energy flows for the calculation and subsequent representation of environmental impacts.

As a basis for this, a life cycle assessment (LCA) has been prepared for SeaPress Press connector. These LCAs are in conformity with the requirements set out in DIN EN 15804 and the international standards DIN EN ISO 14040, DIN EN ISO 14044, ISO 21930 and EN ISO 14025.

The LCA is representative of the products presented in the Declaration and the specified reference period.

6.1 Definition of goal and scope

Aim The goal of the LCA is to demonstrate the environmental impacts of the products. In accordance with DIN EN 15804, the environmental impacts covered by this Environmental Product Declaration are presented for the entire product life cycle in the form of basic information. In addition, environmental impacts of selected environmental impact indicators are indicated according to the TRACI method.

Data quality, data availability and geographical and time-related system boundaries The specific data originate exclusively from the 2022 fiscal year. They were collected on-site at the plant located in Großheringen and originate in parts from company records and partly from values directly obtained by measurement. Validity of the data was checked by the ift Rosenheim.

The generic data originate from the Ecoinvent 3 data base (v3.9.1 with aggregated inputs from 2022) and Ecoinvent EN 15804. The last update of both databases was in 2023. Data from before this date originate also from these databases and are not more than ten years old. No other generic data were used for the calculation.

Generic data are selected as accurately as possible in terms of geographic reference. If no country-specific data sets are available or if the regional reference cannot be determined, European or globally valid data sets are used.

Data gaps were either filled with comparable data or conservative assumptions, or the data were cut off in compliance with the 1% rule.

The life cycle was modelled using the sustainability software tool "Umberto 11" for the development of life cycle assessments.

The data quality complies with the requirements of prEN 15941:2022.

Scope / system boundaries The system boundaries refer to the supply of raw materials and purchased parts, manufacture/production, use and end-of-life stage of the SeaPress Press connector products. No additional data from pre-suppliers/subcontractors or other sites were taken into consideration.

Product group connecting technology

Cut-off criteria

All company data collected, i.e. all commodities/input and raw materials used, the thermal energy and electricity consumption, were taken into consideration.

The boundaries cover only the product-relevant data. Building sections/parts of facilities that are not relevant to the manufacture of the products, were excluded.

The transport distances of the pre-products used were taken into consideration as a function of 100% of the mass of the products. The following means of transportation was adopted.

- >32 t truck/semitrailer, Euro 6, diesel, 53 % capacity utilization

Other transport distances of the pre-products were not taken into consideration.

The criteria for the exclusion of inputs and outputs as set out in DIN EN 15804 are fulfilled. From the data analysis it can be assumed that the total of negligible processes per life cycle stage does not exceed 1% of the mass/primary energy. This way the total of negligible processes does not exceed 5% of the energy and mass input. The life cycle calculation also includes material and energy flows that account for less than 1%.

6.2 Inventory analysis

Aim

All material and energy flows are described below. The processes covered are presented as input and output parameters and refer to the declared units.

Life cycle stages

The Annex shows the entire SeaPress Press connector life cycle. The product stage "A1 – A3", construction process stage "A4 – A5", use stage "B1 – B7", end-of-life stage "C1 – C4" and the benefits and loads beyond the system boundaries "D" are considered.

Benefits

The below benefits have been defined as per DIN EN 15804:

- Benefits from recycling
- Benefits (thermal and electrical) from incineration

Allocation of co-products

Allocations occur during production.
Allocation was based on the masses (units) of products produced.

Allocations for re-use, recycling and recovery

If the products are reused/recycled and recovered during the product stage (rejects), the elements are shredded, if necessary and then sorted into their constituents. This is done by various process plants, e.g. magnetic separators.
The system boundaries were set following their disposal, reaching the end-of-waste status.

Product group connecting technology

Allocations beyond life cycle boundaries

The use of recycled materials in the manufacturing process was based on the current market-specific situation. In parallel to this, a recycling potential was taken into consideration that reflects the economic value of the product after recycling (recyclate).
 The system boundary set for the recycled material refers to collection.

Secondary material

The use of secondary material in module A3 by Viega GmbH & Co. KG was considered. Secondary material is not used.

Inputs

The LCA includes the following production-relevant inputs per of 1 kg SeaPress:

Energy

For the input material natural gas, "natural gas, high pressure, GER, domestic supply with seasonal storage" was assumed. For the electricity mix, the "Electricity Mix Germany" was assumed.

A portion of the process heat is used for space heating. This can, however, not be quantified, hence a "worst case" figure was taken into account for the product.

Water

There is no water consumption in the individual process steps for production.

The consumption of fresh water specified in Section 6.3 originates (among others) from the process chain of the pre-products and the process water for cooling.

Raw material/Pre-products

The chart below shows the share of raw materials/pre-products in percent.



Illustration 2 Percentage of individual materials per declared unit

No.	Material	Mass in %
1	CuNiFe	99.85
2	PE	0.15

Table 3 Percentage of individual materials per declared unit

Ancillary materials and consumables

143 g of ancillary materials and consumables are used.

Product packaging

The amounts used for product packaging are as follows:

No.	Material	Mass in kg
1	PE film, PE foam	0.00
2	Paper, cardboard, carton	0.00

Table 4 Weight in kg of packaging per declared unit

Biogenic carbon content

The biogenic carbon content is neglected and not reported, as the total mass of biogenic carbon-containing materials is less than 5% of the total mass of the product and associated packaging and the mass of biogenic carbon-containing materials in the packaging is less than 5 % of the total mass of the packaging.

Outputs

The LCA includes the following production-relevant outputs per of 1 kg SeaPress Press connector:

Waste

Secondary raw materials were included in the benefits.
See Section 6.3 Impact assessment.

Waste water

No waste water is produced during the manufacturing process.

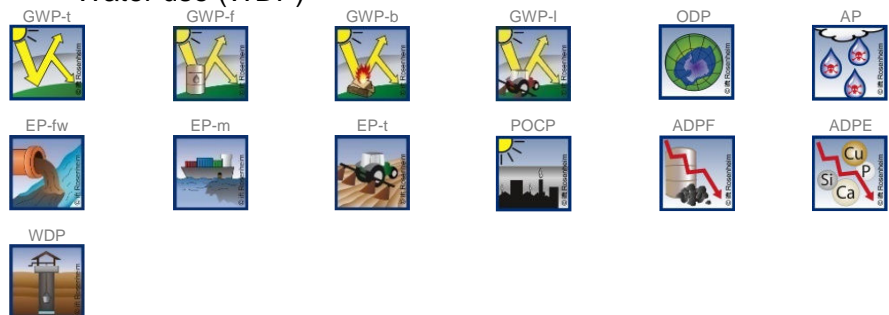
6.3 Impact assessment

Aim The impact assessment covers both inputs and outputs. The impact categories applied are stated below:

Core indicators The models for impact assessment were applied as described in DIN EN 15804-A2.

The core indicators presented in the EPD are as follows:

- Climate change - total (GWP-t)
- Climate change - fossil (GWP-f)
- Climate change - biogenic (GWP-b)
- Climate change - land use & land use change (GWP-l)
- Ozone depletion (ODP)
- Acidification (AP)
- Eutrophication freshwater (EP-fw)
- Eutrophication salt water (EP-m)
- Eutrophication land (EP-t)
- Photochemical ozone creation (POCP)
- Depletion of abiotic resources - fossil fuels (ADPF)
- Depletion of abiotic resources - minerals and metals (ADPE)
- Water use (WDP)



Resource management

The models for impact assessment were applied as described in DIN EN 15804-A2.

The following resource use indicators are presented in the EPD:

- Renewable primary energy as energy source (PERE)
- Renewable primary energy for material use (PERM)
- Total use of renewable primary energy (PERT)
- Non-renewable primary energy as energy source (PENRE)
- Renewable primary energy for material use (PENRM)
- Total use of non-renewable primary energy (PENRT)
- Use of secondary materials (SM)
- Use of renewable secondary fuels (RSF)
- Use of non-renewable secondary fuels (NRSF)
- Net use of freshwater resources (FW)



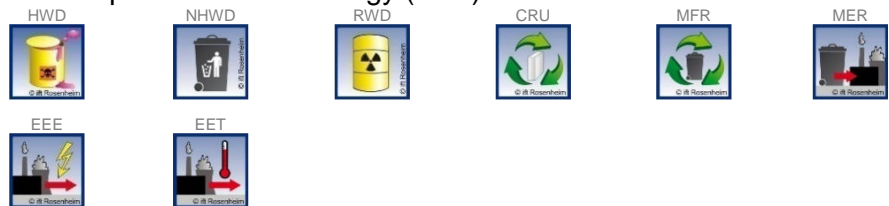
Waste

The waste generated during the production of 1 kg SeaPress press connector is evaluated and shown separately for the fractions trade wastes, special wastes and radioactive wastes. Since waste handling is modelled within the system boundaries, the amounts shown refer to the deposited wastes. A portion of the waste indicated is generated during the manufacture of the pre-products.

The models for impact assessment were applied as described in DIN EN 15804-A2.

The following waste categories and indicators for output closures are presented in the EPD:

- Disposed hazardous waste (HWD)
- Non-hazardous waste disposed (NHWD)
- Radioactive waste disposed (RWD)
- Components for re-use (CRU)
- Materials for recycling (MFR)
- Materials for energy recovery (MER)
- Exported electrical energy (EEE)
- Exported thermal energy (EET)

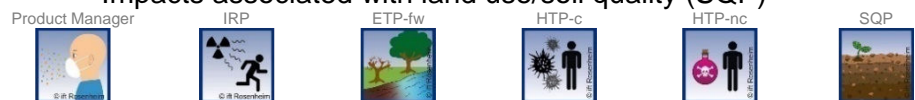


Additional environmental impact indicators

The models for impact assessment were applied as described in DIN EN 15804-A2.


The additional impact categories presented in the EPD are as follows:

- Particulate matter emissions (PM)
- Ionizing radiation, human health (IRP)
- Ecotoxicity – freshwater (ETP-fw)
- Human toxicity, carcinogenic effects (HTP-c)
- Human toxicity, non-carcinogenic effects (HTP-nc)
- Impacts associated with land use/soil quality (SQP)



Impact assessment according to TRACI

TRACI - a Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts - is a midpoint-oriented life cycle impact assessment method, developed specifically for the US and provided by the United States EPA. A distinction is made between two categories in this application: Effects on human health and effects on the environment. This implementation distinguishes two categories: human health and environmental impacts implementation of TRACI and excludes the impact categories 'fossil fuel depletion', 'land use' and 'water use'. **The results listed below refer to 1 lbs.**

 Results per 1 kg SeaPress																
	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Core indicators																
GWP-t	kg CO ₂ equivalent	7.80E+00	6.30E-02	4.68E-03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05E-02	2.76E-02	4.68E-04	-1.17E-01
GWP-f	kg CO ₂ equivalent	7.67E+00	6.30E-02	4.46E-03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05E-02	2.82E-02	4.65E-04	-1.14E-01
GWP-b	kg CO ₂ equivalent	9.26E-02	2.20E-05	2.17E-04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.47E-06	-6.53E-04	2.83E-06	-1.95E-03
GWP-l	kg CO ₂ equivalent	3.74E-02	3.23E-05	1.20E-06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.21E-06	4.16E-05	3.38E-07	-7.79E-04
ODP	kg CFC-11-eq.	2.15E-07	1.07E-09	2.53E-11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.72E-10	3.80E-10	1.10E-11	-3.90E-09
AP	mol H ⁺ -eq.	7.03E-02	2.46E-04	1.35E-05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.47E-05	2.28E-04	4.47E-06	-5.11E-04
EP-fw	kg P-eq.	3.45E-03	5.27E-06	2.77E-07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.52E-07	1.46E-05	1.22E-07	-5.17E-05
EP-m	kg N-eq.	8.37E-03	4.50E-05	1.17E-05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.68E-05	6.87E-05	1.24E-06	-1.43E-04
EP-t	mol N-eq.	7.45E-02	4.65E-04	4.06E-05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.80E-04	7.65E-04	1.32E-05	-1.22E-03
POCP	kg NMVOC-eq.	2.95E-02	1.72E-04	1.03E-05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.59E-05	2.94E-04	3.30E-06	-1.33E-03
ADPF*2	MJ	1.51E+02	0.00E+00	5.49E-09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.91E-08	1.53E-06	9.73E-10	-2.74E-05
ADPE*2	kg Sb equivalent	1.41E-03	9.54E-01	1.94E-02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.54E-01	3.50E-01	1.01E-02	-2.47E+00
WDP*2	m ³ world-eq. deprived	6.09E+01	4.76E-03	1.29E-03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.74E-04	5.45E-03	5.61E-05	-1.30E+00
Resource management																
PERE	MJ	1.77E+02	1.20E-02	9.72E-04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.94E-03	4.84E-02	1.73E-04	-3.77E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	1.77E+02	1.20E-02	9.72E-04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.94E-03	4.84E-02	1.73E-04	-3.77E+00
PENRE	MJ	1.51E+02	9.54E-01	2.24E-01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.54E-01	3.90E-01	1.18E-02	-2.47E+00
PENRM	MJ	3.18E+02	0.00E+00	-2.05E-01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00E+00	-3.94E-02	-1.64E-03	0.00E+00
PENRT	MJ	1.51E+02	9.54E-01	1.94E-02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.54E-01	3.50E-01	1.01E-02	-2.47E+00
SM	kg	4.86E-02	4.00E-04	8.72E-05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.48E-05	3.58E-04	3.87E-06	-8.13E-04
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m ³	1.25E+00	1.31E-04	-2.65E-06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.13E-05	1.43E-04	1.02E-05	-2.64E-02
Categories of waste																
HWD	kg	8.63E-01	7.00E-04	3.32E-05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13E-04	1.02E-03	8.71E-06	-1.39E-02
NHWD	kg	1.33E+01	2.24E-02	1.27E-03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.62E-03	5.72E-02	2.59E-04	-1.86E-01
RWD	kg	9.94E-04	0.00E+00	1.35E-08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.34E-08	3.71E-07	3.20E-09	-1.92E-05
Output material flows																
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	kg	2.97E-02	0.00E+00	9.29E-03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20E-06	9.58E-01	7.07E-08	-3.24E-04
MER	kg	4.02E-05	0.00E+00	7.22E-10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.52E-09	5.16E-08	3.18E-10	-8.40E-07
EE	MJ	8.67E-02	0.00E+00	7.71E-03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.76E-05	2.03E-04	1.75E-06	-1.40E-03

Key:
GWP-t – global warming potential - total **GWP-f** – global warming potential fossil fuels **GWP-b** – global warming potential - biogenic **GWP-l** – global warming potential - land use and land use change
ODP – ozone depletion potential **AP** - acidification potential **EP-fw** - eutrophication potential - aquatic freshwater **EP-m** - eutrophication potential - aquatic marine **EP-t** - eutrophication potential - terrestrial
POCP - photochemical ozone formation potential **ADPF*2** - abiotic depletion potential – fossil resources **ADPE*2** - abiotic depletion potential - minerals&metals
WDP*2 - Water (user) deprivation potential **PERE** - Use of renewable primary energy **PERM** - use of renewable primary energy resources **PERT** - total use of renewable primary energy resources
PENRE - use of non-renewable primary energy **PENRM** - use of non-renewable primary energy resources **PENRT** - total use of non-renewable primary energy resources **SM** - use of secondary material
RSF - use of renewable secondary fuels **NRSF** - use of non-renewable secondary fuels **FW** - net use of fresh water **HWD** - hazardous waste disposed **NHWD** - non-hazardous waste disposed
RWD - radioactive waste disposed **CRU** - components for re-use **MFR** - materials for recycling **MER** - materials for energy recovery **EE** - exported energy

ift ROSENHEIM																
Results per 1 kg SeaPress																
Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Additional environmental impact indicators																
PM	Disease incidence	7.47E-07	6.11E-09	3.22E-09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08E-09	4.19E-09	7.12E-11	-1.49E-08
IRP*1	kBq U235-eq.	3.19E+00	8.66E-04	6.28E-05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41E-04	1.49E-03	1.33E-05	-6.12E-02
ETP-fw*2	CTUe	1.07E+02	5.04E-01	3.96E-02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.13E-02	2.72E-01	4.41E-03	-2.09E+00
HTP-c*2	CTUh	1.15E-08	0.00E+00	2.01E-11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.57E-12	4.00E-11	2.61E-13	-1.50E-10
HTP-nc*2	CTUh	3.80E-07	2.80E-11	7.69E-11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12E-10	1.74E-09	2.95E-12	-7.15E-09
SQP*2	dimensionless	3.18E+01	9.38E-01	1.44E-02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.55E-01	6.11E-01	2.30E-02	-5.92E-01

Key:
PM – particulate matter emissions potential **IRP*1** – ionizing radiation potential – human health **ETP-fw*2** - Eco-toxicity potential – freshwater **HTP-c*2** - Human toxicity potential – cancer effects **HTP-nc*2** - Human toxicity potential – non-cancer effects **SQP*2** – soil quality potential

ift ROSENHEIM																
Results per 1 lbs SeaPress according to TRACI																
Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
Core indicators																
GWP-t	kg CO ₂ equivalent	1.95E+00	1.59E-02	3.02E-04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.65E-03	0.00E+00	4.56E-04	-1.14E-01
ODP	kg CFC-11-eq.	5.73E-08	2.91E-10	6.46E-12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.73E-11	0.00E+00	1.17E-11	-4.03E-09
POCP	kg O ₃ -eq.	1.15E-01	7.90E-04	2.66E-05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.85E-04	0.00E+00	8.08E-05	-7.48E-03
EP-t	kg N-eq.	8.89E-03	1.37E-05	6.17E-07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.51E-06	0.00E+00	1.17E-06	-5.71E-04
AP	kg CO ₂ equivalent	1.44E-02	3.77E-05	1.34E-06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05E-05	0.00E+00	2.96E-06	-1.06E-03
Additional environmental impact indicators																
PM	kg PM2.5-eq.	2.08E-03	9.81E-06	3.10E-07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.69E-06	0.00E+00	4.57E-07	-1.38E-04
ETP-fw*2	CTUe	0.00E+00	1.49E-01	2.93E+02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.43E-02	0.00E+00	1.61E-01	-7.81E+00
HTP-c*2	CTUh	1.15E+02	0.00E+00	3.84E-11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.87E-10	0.00E+00	1.63E-10	-1.54E-08
HTP-nc	CTUh	6.24E-07	1.15E-09	4.63E-09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.44E-10	0.00E+00	7.35E-09	-2.16E-07

Key:
GWP-t – global warming potential - total **ODP** – ozone depletion potential **POCP** - photochemical ozone formation potential **EP-t** - eutrophication potential - total **AP** - acidification potential
ETP-fw*2 - Eco-toxicity potential – freshwater **HTP-c*2** - Human toxicity potential – cancer effects **HTP-nc*2** - Human toxicity potential – non-cancer effects **PM** – particulate matter emissions potential

Disclaimers:

*1 This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionising radiation from the soil, from radon and from some building materials is also not measured by this indicator.

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

Product group connecting technology

6.4 Interpretation, LCA presentation and critical review

Evaluation

The environmental impacts of SeaPress are set out in this EPD.

The main environmental impact of production is caused by the raw material CuNiFe. This is to be expected as CuNiFe makes up the majority of the product mass at over 95 %.

The LCA covers the complete life cycle. As the products do not generate any emissions in the use stage, here the value is 0.00. The replacement was balanced separately in B4 for 1 year as a scenario. Otherwise, there is no environmental impact during the use phase.

The more CuNiFe in the product, the greater the environmental impact.

At the end of life has a minor role (depending on the environmental indicator).

The charts below show the allocation of the main environmental impacts.

The values obtained from the LCA calculation are suitable for the certification of buildings.

Diagram

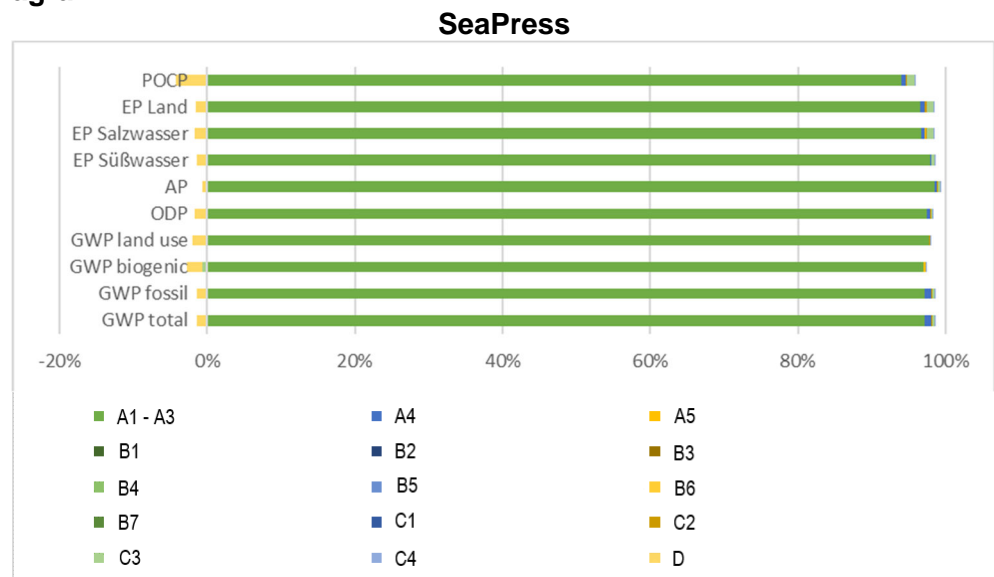


Illustration 3 Percentage of the modules in selected environmental impact indicators

Report

The LCA report underlying this EPD was developed according to the requirements of DIN EN ISO 14040 and DIN EN ISO 14044 as well as DIN EN 15804 and DIN EN ISO 14025. It is deposited with ift Rosenheim. The results and conclusions reported to the target group are complete, correct, without bias and transparent. The results of the study are not designed to be used for comparative statements intended for publication.

Critical review

The critical review of the LCA and of the report took place in the course of verification of the EPD and was carried out by the external auditor Prof. Dr. Eric Brehm.



7 General information regarding the EPD

Comparability

This EPD was prepared in accordance with DIN EN 15804 and is therefore only comparable to those EPDs that also comply with the requirements set out in DIN EN 15804.

Any comparison must refer to the building context and the same boundary conditions of the various life cycle stages.

For comparing EPDs of construction products, the rules set out in DIN EN 15804, Clause 5.3, apply.

The detailed individual results of the products were summarised on the basis of conservative assumptions and differ from the average results. Identification of the product groups and the resulting variations are documented in the background report.

Communication

The communications format of this EPD meets the requirements of EN 15942:2012 and is therefore the basis for B2B communication. Only the nomenclature has been changed according to DIN EN 15804.

Verification

Verification of the Environmental Product Declaration is documented in accordance with the ift "Richtlinie zur Erstellung von Typ III Umweltproduktdeklarationen" (Guidance on preparing Type III Environmental Product Declarations) in accordance with the requirements set out in DIN EN ISO 14025.

This declaration is based on the PCR documents "PCR Part A" PCR-A-0.3:2018 and "Piping systems including connecting and fitting technology" PCR-RS-1.0:2022.

The European standard EN 15804 serves as the core PCR ^{a)}
Independent verification of the declaration and statement according to EN ISO 14025:2010
Independent third party verifier: ^{b)} Eric Brehm
^{a)} Product category rules ^{b)} Optional for business-to-business communication Mandatory for business-to-consumer communication (see EN ISO 14025:2010. 9.4).

Revisions of this document

No.	Date	Note	Person in charge	Testing personnel
1	11.12.2023	External verification	Pscherer	Brehm

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9 Annex A

Description of life cycle scenarios for SeaPress Press connector

Product stage			Con- struction process stage		Use stage*							End-of-life stage				Benefits and loads beyond system boundaries
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Raw material supply	Transport	production	Transport	Construction/installation process	Use	maintenance	Repair	replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/demolition	Transport	Waste processing	Disposal	Reuse Recovery Recycling potential
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

* For declared B-modules, the calculation of the results is performed taking into account the specified RSL related to one year

Table 5 Overview of applied life cycle stages

The scenarios were calculated taking into account the defined RSL (see 4 Use stage).

The scenarios were furthermore based on the research project “EPDs for transparent building components”. (1)

Note: The standard scenarios selected are presented in bold type. They were also used for calculating the indicators in the summary table.

- ✓ Included in the LCA
- Not included in the LCA

Product group connecting technology

A4 Transport to construction site

No.	Scenario	Description
A4.1	National	Transport mix 35-53% capacity used ¹ , approx. 600 km
A4.2	International/EU country	Transport mix 35-53% capacity used ¹ , approx. 2,000 km
A4.3	International/Non-EU	Transport mix 35-53% capacity used ¹ , approx. 15,000 km

¹ Capacity used: utilized loading capacity of the truck

The transport distances shown represent a transport average with the following transport mix. The scenarios include the return transport, if applicable.

Shipping method	Network fleet structure	Share in %		
		A4.1	A4.2	A4.3
Parcel service provider (CEP - Courier-Express- Parcel service)	Van 7.5 – 16 t (Euro 6), diesel, 35% capacity utilization	2	0	0.5
Forwarding agency and own truck fleet	32 - 40 t truck/semitrailer (Euro 6), diesel, 53% capacity utilization	98	90	85
Air freights	Cargo and passenger aircrafts, kerosene	0	9	11
Seagoing vessels/containers	Seagoing/container vessels to receiving port, heavy oil	0	1	3.5

A4 Transport to construction site	Transport weight [kg] per declared unit	Density [kg/m ³]	Capacity load factor ²
SeaPress	1.01	7.90	0.80

² Capacity load factor:

- = 1 Product completely fills the packaging (without air inclusion)
- < 1 Packaging contains unused volume (e.g.: air, filling material)
- > 1 Product is packed in compressed form

The scenarios were calculated per kg and can be scaled to the product group using the above masses.

A4 Transport to construction site	Unit	A4.1	A4.2	A4.3
Core indicators				
GWP-t	kg CO ₂ equivalent	6.27E-05	3.33E-04	2.81E-03
GWP-f	kg CO ₂ equivalent	6.26E-05	3.33E-04	2.81E-03
GWP-b	kg CO ₂ equivalent	2.18E-08	8.84E-08	7.09E-07
GWP-l	kg CO ₂ equivalent	3.21E-08	1.06E-07	7.96E-07
ODP	kg CFC-11-eq.	1.06E-12	5.45E-12	4.58E-11
AP	mol H ⁺ -eq.	1.71E-07	1.16E-06	1.03E-05
EP-fw	kg P-eq.	5.24E-09	1.74E-08	1.31E-07
EP-m	kg N-eq.	4.47E-08	3.98E-07	3.63E-06
EP-t	mol N-eq.	4.62E-07	4.21E-06	3.85E-05
POCP	kg NMVOC-eq.	2.45E-07	1.62E-06	1.42E-05
ADPF	MJ	9.49E-04	4.78E-03	4.00E-02
ADPE	kg Sb equivalent	1.81E-10	5.55E-10	4.09E-09
WDP	m ³ world-eq. deprived	4.74E-06	1.66E-05	1.27E-04
Resource management				
PERE	MJ	1.19E-05	4.13E-05	3.15E-04
PERM	MJ	0.00	0.00	0.00
PERT	MJ	1.19E-05	4.13E-05	3.15E-04
PENRE	MJ	9.49E-04	4.78E-03	4.00E-02
PENRM	MJ	0.00	0.00	0.00
PENRT	MJ	9.49E-04	4.78E-03	4.00E-02
SM	kg	3.98E-07	1.33E-06	1.00E-05



Product group connecting technology

RSF	MJ	0.00	0.00	0.00
NRSF	MJ	0.00	0.00	0.00
FW	m ³	1.30E-07	4.63E-07	3.54E-06
Categories of waste				
HWD	kg	6.96E-07	2.36E-06	1.78E-05
NHWD	kg	2.23E-05	7.40E-05	5.57E-04
RWD	kg	2.05E-10	7.39E-10	5.69E-09
Output material flows				
CRU	kg	0.00	0.00	0.00
MFR	kg	7.38E-09	2.84E-08	2.27E-07
MER	kg	4.16E-11	1.35E-10	1.02E-09
EE	MJ	1.68E-07	5.81E-07	4.41E-06
Additional environmental impact indicators				
PM	Disease incidence	6.08E-12	1.94E-11	1.43E-10
IRP	kBq U235-eq.	8.61E-07	3.15E-06	2.44E-05
ETPfw	CTUe	5.01E-04	2.44E-03	2.02E-02
HTPc	CTUh	2.78E-14	9.74E-14	7.45E-13
HTPnc	CTUh	6.85E-13	3.61E-12	3.04E-11
SQP	dimensionless	9.33E-04	2.92E-03	2.12E-02

A5 Construction/Installation

No.	Scenario	Description
A5	Manual	According to the manufacturer. the products are installed with battery-operated pressing pliers (0.0009 kWh/kg, electricity mix (GLO)).

In case of deviating consumption during installation/assembly of the products which forms part of the site management, they are covered at the building level.

The following quantities of waste materials are produced during installation.

Product group	Waste materials in kg	of which quantities collected for waste recycling (output materials) in kg
SeaPress	0.005	0.040

Ancillary materials, consumables, use of water, use of other resources, material losses as well as direct emissions during installation are negligible.

It is assumed that the packaging material in the Module construction / installation is sent to waste handling. Waste is only thermally recycled in line with the conservative approach. Benefits from A5 are specified in module D:

- Electricity replaces electricity mix (GLO, high voltage, market group);
- Thermal energy replaces thermal energy from natural gas (district or industrial, natural gas, RoW);
- CuNiFe recycle from A5 replaces 100 % CuNiFe.

Transport to the recycling plants is included.

Since this is a single scenario, the results are shown in the relevant summary table.

B1 Use (not relevant)

Refer to Section 4 Use stage - Emissions to the environment.

No emissions are known which may occur during the use stage of the products because press fitting is without contact to air, water and soil.

Since this is a single scenario, the results are shown in the relevant summary table.



B2 Cleaning, maintenance and repair

B2.1 Cleaning (not relevant)

No cleaning is required.

Ancillary materials, consumables, use of energy and water, material losses and waste as well as transport distances during cleaning are negligible.

Since this is a single scenario, the results are shown in the relevant summary table.

B2.2 Maintenance and repair (not relevant)

No maintenance is required.

Ancillary materials, consumables, use of energy and water, waste, material losses and transport distances during maintenance are negligible.

Since this is a single scenario, the results are shown in the relevant summary table.

B3 Repair (not relevant)

No repair of the components of the building part is required.

For updated information refer to the respective instructions for assembly/installation, operation and maintenance from Viega GmbH & Co. KG.

Ancillary materials, consumables, use of energy and water, waste, material losses and transport distances during repair are negligible.

Since this is a single scenario, the results are shown in the relevant summary table.

B4 Exchange/replacement

No.	Scenario	Description
B4.1	No replacement	According to manufacturer, a replacement is not planned.
B4.2	Normal use and heavy use	One-time replacement after 50 years (RSL)* Energy consumption 0.0009 kWh/kg.

*Assumptions for evaluation of possible environmental impacts; statements made do not constitute any guaranty or warranty of performance.

The statements made in this EPD are only informative to allow evaluation at the building level.

It is assumed that no replacement will be necessary during the 50-year reference service life and the 50-year building service life. The environmental impacts of replacement are due to the product, construction and disposal stages.

The results were based on one year, taking into account the RSL.

For updated information refer to the respective instructions for assembly/installation, operation and maintenance from Viega GmbH & Co. KG.

Product group connecting technology

B4 Exchange/replacement Seapress	Unit	B4.1	B4.2
Core indicators			
GWP-t	kg CO ₂ equivalent	0.00	2.61E+01
GWP-f	kg CO ₂ equivalent	0.00	2.57E+01
GWP-b	kg CO ₂ equivalent	0.00	2.82E-01
GWP-l	kg CO ₂ equivalent	0.00	8.45E-02
ODP	kg CFC-11-eq.	0.00	5.32E-07
AP	mol H ⁺ -eq.	0.00	1.97E-01
EP-fw	kg P-eq.	0.00	1.04E-02
EP-m	kg N-eq.	0.00	2.73E-02
EP-t	mol N-eq.	0.00	2.61E-01
POCP	kg NMVOC-eq.	0.00	9.79E-02
ADPF	MJ	0.00	4.18E+02
ADPE	kg Sb equivalent	0.00	3.02E-03
WDP	m ³ world-eq. deprived	0.00	1.23E+02
Resource management			
PERE	MJ	0.00	3.72E+02
PERM	MJ	0.00	0.00E+00
PERT	MJ	0.00	3.72E+02
PENRE	MJ	0.00	4.18E+02
PENRM	MJ	0.00	-1.84E-17
PENRT	MJ	0.00	4.18E+02
SM	kg	0.00	1.24E+00
RSF	MJ	0.00	0.00E+00
NRSF	MJ	0.00	0.00E+00
FW	m ³	0.00	2.54E+00
Categories of waste			
HWD	kg	0.00	4.87E+00
NHWD	kg	0.00	4.30E+01
RWD	kg	0.00	2.11E-03
Output material flows			
CRU	kg	0.00	0.00E+00
MFR	kg	0.00	2.00E+00
MER	kg	0.00	2.24E-04
EE	MJ	0.00	4.04E-01
Additional environmental impact indicators			
PM	Disease incidence	0.00	2.32E-06
IRP	kBq U235-eq.	0.00	6.92E+00
ETPfw	CTUe	0.00	2.53E+02
HTPc	CTUh	0.00	8.89E-08
HTPnc	CTUh	0.00	9.89E-07
SQP	dimensionless	0.00	1.19E+02

B5 Improvement/modernisation (not relevant)

According to the manufacturer, the elements are not included in the improvement/modernisation activities for buildings.

For updated information refer to the respective instructions for assembly/installation, operation and maintenance from Viega GmbH & Co. KG.

Ancillary materials, consumables, use of energy and water, material losses, waste as well as transport distances during replacement are negligible.

Since this is a single scenario, the results are shown in the relevant summary table.

B6 Operational energy use (not relevant)

There is no energy used during normal use.

Ancillaries, consumables, water use, material losses, waste materials, transport distances and other scenarios are negligible.

Since this is a single scenario, the results are shown in the relevant summary table.

B7 Operational water use (not relevant)

No water consumption when used as intended. Water consumption for cleaning is specified in Module B2.1.

Ancillaries, consumables, energy use, material losses, waste materials, transport distances and other scenarios are negligible.

Since this is a single scenario, the results are shown in the relevant summary table.

C1 Deconstruction

No.	Scenario	Description
C1	Deconstruction	<p>Connecting technology 99% deconstruction.</p> <p>Further deconstruction rates are possible, give adequate reasons.</p>

No relevant inputs or outputs apply to the scenario selected. Energy consumption during dismantling is not required.

Since this is a single scenario, the results are shown in the relevant summary table.

In case of deviating consumption the removal of the products forms part of site management and is covered at the building level.

C2 Transport

No.	Scenario	Description
C2	Transport	<p>Transport to collection point with >32 t truck (Euro 4), diesel, 29.96 t payload, 53% capacity used, 50 km (1)</p>

Since this is a single scenario, the results are shown in the relevant summary table.

C3 Waste management

No.	Scenario	Description
C3	Current market situation	<p>Share for recirculation of materials:</p> <ul style="list-style-type: none"> • CuNiFe 97% in melt (UBA, 2017) • PE 60%, thermal recycling in waste incineration plant (Zukunft Bauen, 2017) • PE 40%, material recycling (Zukunft Bauen, 2017) • Remainder to landfill/disposal

No electricity consumption for the recycling plant per declared unit was taken into account for waste treatment due to the low proportion and lack of sources.

As the products are placed on the European market, the disposal scenario is based on average European data sets.

The below table presents the disposal processes and their percentage by mass/weight. The calculation is based on the above mentioned shares in percent related to the declared unit of the product system.

C3 Disposal	Unit	C3.4
Collection process, collected separately	kg	0.99
Collection process, collected as mixed construction waste	kg	0.01
Recovery system, for re-use	kg	0.00
Recovery system, for recycling	kg	0.94
Recovery system, for energy recovery	kg	0.03
Disposal	kg	0.03

The 100% scenarios differ from the current average recovery shown here (in background report C3.4). The evaluation of each scenario is described in the background report.

Since this is a single scenario, the results are shown in the summary table.

C4 Disposal

No.	Scenario	Description
C4	Disposal	The non-recordable amounts and losses within the re-use/recycling chain (C1 and C3) are modelled as “disposed” (EU-28).

The 100% scenarios differ from the current average recovery shown here (in background report C4.4). The evaluation of each scenario is described in the background report.

The consumption in scenario C4 results from physical pre-treatment, waste recycling and management of the disposal site. The benefits obtained here from the substitution of primary material production are allocated to Module D, e.g. electricity and heat from waste incineration.

Since this is a single scenario, the results are shown in the summary table.

D Benefits and loads from beyond the system boundaries

No.	Scenario	Description
D	Recycling potential	<p>CuNiFe scrap from C3 excluding the scrap used in A3 replaces 100% CuNiFe; PE recyclate from C3 excluding the polyethylene used in A3 replaces 60% of polyamide granulate.</p> <p>Benefits from incineration plant: Electricity replaces electricity mix (GLO), thermal energy replaces thermal energy from natural gas (RoW).</p>

The values in Module D result from recycling of the packaging material in Module A5 and from deconstruction at the end of service life.

The 100% scenarios differ from the current average recovery shown here (in background report D4). The evaluation of each scenario is described in the background report.

Since this is a single scenario, the results are shown in the summary table.

10 Annex B: Product overview - As of 2022

Conversion table for unit weights

Material	System	Product subgroup	Material short text	Designation	Model no.	Dimensions	Item no.	Mass in g	Mass in kg
436201	Seapress	Seapress with thread	0311 Adapter with SC 15x1/2 C 1 9	Adapter	0311	15 X 1/2	452971	51	0.05
436211	Seapress	Seapress with thread	0311 Adapter with SC 22x3/4 C 1 9	Adapter	0311	22 X 3/4	452995	92.5	0.09
436221	Seapress	Seapress with thread	0311 Adapter with SC 28x1 C 1 9	Adapter	0311	28 X 1	452988	129	0.13
436231	Seapress	Seapress with thread	0311 Adapter with SC 35x11/4 C 1 9	Adapter	0311	35 X 11/4	453008	198	0.20
436241	Seapress	Seapress with thread	0311 Adapter with SC 42x11/2 C 1 9	Adapter	0311	42 X 11/2	453015	292	0.29
436251	Seapress	Seapress with thread	0311 Adapter with SC 54x2 C 1 9	Adapter	0311	54 X 2	453022	484	0.48
436401	Seapress	Seapress with thread	0312 Adapter with SC 15x1/2 C 1 9	Adapter	0312	15 X 1/2	453039	62.5	0.06
436411	Seapress	Seapress with thread	0312 Adapter with SC 22x3/4 C 1 9	Adapter	0312	22 X 3/4	453046	83.5	0.08
436421	Seapress	Seapress with thread	0312 Adapter with SC 28x1 C 1 9	Adapter	0312	28 X 1	453053	121.2	0.12
436431	Seapress	Seapress with thread	0312 Adapter with SC 35x11/4 C 1 9	Adapter	0312	35 X 11/4	453060	177	0.18
436441	Seapress	Seapress with thread	0312 Adapter with SC 42x11/2 C 1 9	Adapter	0312	42 X 11/2	453084	302	0.30
436451	Seapress	Seapress with thread	0312 Adapter with SC 54x2 C 1 9	Adapter	0312	54 X 2	453091	568	0.57
436601	Seapress	Seapress without thread	0315 Coupling 15 C 1 9	Coupling	0315	15	453107	34	0.03
436611	Seapress	Seapress without thread	0315 Coupling 22 C 1 9	Coupling	0315	22	453114	58.27	0.06
436621	Seapress	Seapress without thread	0315 Coupling 28 C 1 9	Coupling	0315	28	453121	74.8	0.07
436631	Seapress	Seapress without thread	0315 Coupling 35 C 1 9	Coupling	0315	35	453138	98.7	0.10
436641	Seapress	Seapress without thread	0315 Coupling 42 C 1 9	Coupling	0315	42	453145	229.1	0.23
436651	Seapress	Seapress without thread	0315 Coupling 54 C 1 9	Coupling	0315	54	453152	284.9	0.28
436801	Seapress	Seapress without thread	03151 Reducer 22x15 C 1 9	Reducer	03151	22 X 15	452810	39.7	0.04
436811	Seapress	Seapress without thread	03151 Reducer 28x22 C 1 9	Reducer	03151	28 X 22	452827	60.78	0.06
436821	Seapress	Seapress without thread	03151 Reducer 35x22 C 1 9	Reducer	03151	35 X 22	452834	79.6	0.08
436831	Seapress	Seapress without thread	03151 Reducer 35x28 C 1 9	Reducer	03151	35 X 28	452841	83.89	0.08
436841	Seapress	Seapress without thread	03151 Reducer 42x28 C 1 9	Reducer	03151	42 X 28	453251	130	0.13
436851	Seapress	Seapress without thread	03151 Reducer 42x35 C 1 9	Reducer	03151	42 X 35	453268	136.5	0.14
436861	Seapress	Seapress without thread	03151 Reducer 54x35 C 1 9	Reducer	03151	54 X 35	453275	178	0.18
436871	Seapress	Seapress without thread	03151 Reducer 54x42 C 1 9	Reducer	03151	54 X 42	453282	255.6	0.26
437001	Seapress	Seapress without thread	03153 Sliding coupling 15 C 1 9	Sliding coupling	03153	15	453299	34	0.03
437011	Seapress	Seapress without thread	03153 Sliding coupling 22 C 1 9	Sliding coupling	03153	22	453305	58.27	0.06
437021	Seapress	Seapress without thread	03153 Sliding coupling 28 C 1 9	Sliding coupling	03153	28	453312	74.8	0.07

Material	System	Product subgroup	Material short text	Designation	Model no.	Dimensions	Item no.	Mass in g	Mass in kg
437031	Seapress	Seapress without thread	03153 Sliding coupling 35 C 1 9	Sliding coupling	03153	35	453329	98.7	0.10
437041	Seapress	Seapress without thread	03153 Sliding coupling 42 C 1 9	Sliding coupling	03153	42	453336	222	0.22
437051	Seapress	Seapress without thread	03153 Sliding coupling 54 C 1 9	Sliding coupling	03153	54	453343	285	0.29
437301	Seapress	Seapress XL	03151XLReducer 76.1x42 C 1 9	Reducer	03151XL	76.1 X 42	453350	457	0.46
437501	Seapress	Seapress XL	03155XLSliding coupling 76.1 C 1 9	Sliding coupling	03155XL	76.1	453411	684	0.68
437511	Seapress	Seapress XL	03155XLSliding coupling 88.9 C 1 9	Sliding coupling	03155XL	88.9	453428	789.5	0.79
437521	Seapress	Seapress XL	03155XLSliding coupling 108.0 C 1 9	Sliding coupling	03155XL	108.0	453435	1273	1.27
437601	Seapress	Seapress without thread	0316 Elbow 90°15 C 1 9	Elbow 90°	0316	15	453169	44.9	0.04
437611	Seapress	Seapress without thread	0316 Elbow 90°22 C 1 9	Elbow 90°	0316	22	453176	87.5	0.09
437621	Seapress	Seapress without thread	0316 Elbow 90°28 C 1 9	Elbow 90°	0316	28	453183	123.9	0.12
437631	Seapress	Seapress without thread	0316 Elbow 90°35 C 1 9	Elbow 90°	0316	35	453190	191.2	0.19
437641	Seapress	Seapress without thread	0316 Elbow 90°42 C 1 9	Elbow 90°	0316	42	453206	367	0.37
437651	Seapress	Seapress without thread	0316 Elbow 90°54 C 1 9	Elbow 90°	0316	54	453213	498	0.50
437801	Seapress	Seapress without thread	03161 Elbow 90°15 C 1 9	Elbow 90°	03161	15	453220	45.1	0.05
437811	Seapress	Seapress without thread	03161 Elbow 90°22 C 1 9	Elbow 90°	03161	22	453237	83.5	0.08
437821	Seapress	Seapress without thread	03161 Elbow 90°28 C 1 9	Elbow 90°	03161	28	453244	119	0.12
437831	Seapress	Seapress without thread	03161 Elbow 90°35 C 1 9	Elbow 90°	03161	35	453657	184.2	0.18
437841	Seapress	Seapress without thread	03161 Elbow 90°42 C 1 9	Elbow 90°	03161	42	453664	353	0.35
437851	Seapress	Seapress without thread	03161 Elbow 90°54 C 1 9	Elbow 90°	03161	54	453671	490	0.49
438201	Seapress	Seapress with thread	03172 Tee 35x3/4x35 C 1 9	Tee	03172	35 X 3/4 X 35	453749	247	0.25
438211	Seapress	Seapress with thread	03172 Tee 42x3/4x42 C 1 9	Tee	03172	42 X 3/4 X 42	453756	372	0.37
438221	Seapress	Seapress with thread	03172 Tee 54x3/4x54 C 1 9	Tee	03172	54 X 3/4 X 54	453763	510	0.51
438301	Seapress	Seapress XL	03172XL Tee 76.1x3/4x76.1 C 1 9	Tee	03172XL	76.1 X 3/4 X 76.1	453770	846	0.85
438401	Seapress	Seapress without thread	0318 Tee 15 C 1 9	Tee	0318	15	453473	80.6	0.08
438411	Seapress	Seapress without thread	0318 Tee 22 C 1 9	Tee	0318	22	453480	162.1	0.16
438421	Seapress	Seapress without thread	0318 Tee 28 C 1 9	Tee	0318	28	453497	191.64	0.19
438431	Seapress	Seapress without thread	0318 Tee 35 C 1 9	Tee	0318	35	453503	277.4	0.28
438441	Seapress	Seapress without thread	0318 Tee 42 C 1 9	Tee	0318	42	453510	515.3	0.52
438451	Seapress	Seapress without thread	0318 Tee 54 C 1 9	Tee	0318	54	453527	697.5	0.70
438461	Seapress	Seapress without thread	0318 Tee 42x35x42 C 1 9	Tee	0318	42 X 35 X 42	453534	409.95	0.41
438471	Seapress	Seapress without thread	0318 Tee 54x35x54 C 1 9	Tee	0318	54 X 35 X 54	453541	547	0.55
438481	Seapress	Seapress without thread	0318 Tee 54x42x54 C 1 9	Tee	0318	54 X 42 X 54	453558	628.5	0.63
438611	Seapress	Seapress XL	0318XL Tee 76.1x35x76.1 C 1 9	Tee	0318XL	76.1 X 35 X 76.1	453794	878	0.88

Material	System	Product subgroup	Material short text	Designation	Model no.	Dimensions	Item no.	Mass in g	Mass in kg
438621	Seapress	Seapress XL	0318XL Tee 76.1x54x76.1 C 1 9	Tee	0318XL	76.1 X 54 X 76.1	453800	1050	1.05
438641	Seapress	Seapress XL	0318XL Tee 88.9x35x88.9 C 1 9	Tee	0318XL	88.9 X 35 X 88.9	453824	1011	1.01
438681	Seapress	Seapress XL	0318XL Tee 108.0x54x108.0 C 1 9	Tee	0318XL	108.0 X 54 X 108.0	453862	1783	1.78
438801	Seapress	Seapress without thread	0326 Elbow 45°15 C 1 9	Elbow 45°	0326	15	453886	37.5	0.04
438811	Seapress	Seapress without thread	0326 Elbow 45°22 C 1 9	Elbow 45°	0326	22	453893	71	0.07
438821	Seapress	Seapress without thread	0326 Elbow 45°28 C 1 9	Elbow 45°	0326	28	453909	96.57	0.10
438831	Seapress	Seapress without thread	0326 Elbow 45°35 C 1 9	Elbow 45°	0326	35	453916	143	0.14
438841	Seapress	Seapress without thread	0326 Elbow 45°42 C 1 9	Elbow 45°	0326	42	453923	282	0.28
438851	Seapress	Seapress without thread	0326 Elbow 45°54 C 1 9	Elbow 45°	0326	54	453930	381.5	0.38
439001	Seapress	Seapress without thread	03261 Elbow 45°15 C 1 9	Elbow 45°	03261	15	453947	38.2	0.04
439011	Seapress	Seapress without thread	03261 Elbow 45°22 C 1 9	Elbow 45°	03261	22	453954	66	0.07
439021	Seapress	Seapress without thread	03261 Elbow 45°28 C 1 9	Elbow 45°	03261	28	453961	92	0.09
439031	Seapress	Seapress without thread	03261 Elbow 45°35 C 1 9	Elbow 45°	03261	35	453978	139.25	0.14
439041	Seapress	Seapress without thread	03261 Elbow 45°42 C 1 9	Elbow 45°	03261	42	453985	269	0.27
439051	Seapress	Seapress without thread	03261 Elbow 45°54 C 1 9	Elbow 45°	03261	54	453992	363	0.36
439401	Seapress	Seapress without thread	03593 Flange 22 C 1 9	Flange	03593	22	454067	207.1	0.21
439411	Seapress	Seapress without thread	03593 Flange 28 C 1 9	Flange	03593	28	454074	263	0.26
439421	Seapress	Seapress without thread	03593 Flange 35 C 1 9	Flange	03593	35	454081	385	0.39
439431	Seapress	Seapress without thread	03593 Flange 42 C 1 9	Flange	03593	42	454098	544	0.54
439441	Seapress	Seapress without thread	03593 Flange 54 C 1 9	Flange	03593	54	454104	740	0.74
439501	Seapress	Seapress XL	03593XLFlange 76.1 C 1 9	Flange	03593XL	76.1	454111	883	0.88
439511	Seapress	Seapress XL	03593XLFlange 88.9 C 1 9	Flange	03593XL	88.9	454128	1159	1.16
439521	Seapress	Seapress XL	03593XLFlange 108.0 C 1 9	Flange	03593XL	108.0	454135	1604	1.60
439601	Seapress	Seapress with thread	0365 Union 15x1/2 C 1 9	Union	0365	15 X 1/2	477172	133	0.13
439611	Seapress	Seapress with thread	0365 Union 22x1/2 C 1 9	Union	0365	22 X 1/2	477189	195	0.20
439621	Seapress	Seapress with thread	0365 Union 22x3/4 C 1 9	Union	0365	22 X 3/4	477196	205.5	0.21
439631	Seapress	Seapress with thread	0365 Union 28x1 C 1 9	Union	0365	28 X 1	477202	324.8	0.32
439641	Seapress	Seapress with thread	0365 Union 35x1 1/4 C 1 9	Union	0365	35 X 1 1/4	477219	422	0.42
439701	Seapress	Seapress with thread	03655 Union 15x1/2NPT C 1 9	Union	03655	15 X 1/2 NPT	477226	134	0.13
439711	Seapress	Seapress with thread	03655 Union 22x1/2NPT C 1 9	Union	03655	22 X 1/2 NPT	477233	195	0.20
439721	Seapress	Seapress with thread	03655 Union 22x3/4NPT C 1 9	Union	03655	22 X 3/4 NPT	477240	208	0.21
439731	Seapress	Seapress with thread	03655 Union 35x1 1/4NPT C 1 9	Union	03655	35 X 1 1/4 NPT	477257	420	0.42
439741	Seapress	Seapress with thread	03655 Union 28x1NPT C 1 9	Union	03655	28 X 1 NPT	477264	328	0.33

Material	System	Product subgroup	Material short text	Designation	Model no.	Dimensions	Item no.	Mass in g	Mass in kg
440451	Seapress	Seapress with thread	0365 Union 42x11/2 C 1 9	Union	0365	42 X 1 1/2	534684	616.6	0.62
440551	Seapress	Seapress with thread	03655 Union 42x11/2NPT C 1 9	Union	03655	42 X 1 1/2 NPT	534691	625.5	0.63
440771	Seapress	Seapress XL	0318XL Tee 76.1 C 1 9	Tee	0318XL	76.1	556228	1297	1.30
440781	Seapress	Seapress XL	0318XL Tee 88.9 C 1 9	Tee	0318XL	88.9	556235	1608.5	1.61
440791	Seapress	Seapress XL	0318XL Tee 108.0 C 1 9	Tee	0318XL	108.0	556242	2605	2.61
440801	Seapress	Seapress XL	0315XL Coupling 76.1 C 1 9	Coupling	0315XL	76.1	556495	700	0.70
440811	Seapress	Seapress XL	0315XL Coupling 88.9 C 1 9	Coupling	0315XL	88.9	556501	781.5	0.78
440821	Seapress	Seapress XL	0315XL Coupling 108.0 C 1 9	Coupling	0315XL	108.0	556518	1270	1.27
440831	Seapress	Seapress XL	03161XLElbow 90°76.1 C 1 9	Elbow 90°	03161XL	76.1	556525	1195	1.20
440841	Seapress	Seapress XL	03161XLElbow 90°88.9 C 1 9	Elbow 90°	03161XL	88.9	556532	1553	1.55
440851	Seapress	Seapress XL	03161XLElbow 90°108.0 C 1 9	Elbow 90°	03161XL	108.0	556549	2650	2.65
440861	Seapress	Seapress XL	0316XL Elbow 90°108.0 C 1 9	Elbow 90°	0316XL	108.0	556556	2850	2.85
440871	Seapress	Seapress XL	0316XL Elbow 90°88.9 C 1 9	Elbow 90°	0316XL	88.9	556563	1640	1.64
440881	Seapress	Seapress XL	0316XL Elbow 90°76.1 C 1 9	Elbow 90°	0316XL	76.1	556570	1295	1.30
440891	Seapress	Seapress XL	03261XLElbow 45°76.1 C 1 9	Elbow 45°	03261XL	76.1	556587	890	0.89
440901	Seapress	Seapress XL	03261XLElbow 45°88.9 C 1 9	Elbow 45°	03261XL	88.9	556594	1144.4	1.14
440911	Seapress	Seapress XL	03261XLElbow 45°108.0 C 1 9	Elbow 45°	03261XL	108.0	556600	1820	1.82
440921	Seapress	Seapress XL	0326XL Elbow 45°76.1 C 1 9	Elbow 45°	0326XL	76.1	556617	929.863	0.93
440931	Seapress	Seapress XL	0326XL Elbow 45°88.9 C 1 9	Elbow 45°	0326XL	88.9	556624	1125	1.13
440941	Seapress	Seapress XL	0326XL Elbow 45°108.0 C 1 9	Elbow 45°	0326XL	108.0	556631	1928	1.93
440951	Seapress	Seapress XL	03151XLReducer 76.1x54 C 1 9	Reducer	03151XL	76.1 X 54	556648	498	0.50
440961	Seapress	Seapress XL	03151XLReducer 88.9x76.1 C 1 9	Reducer	03151XL	88.9 X 76.1	556198	741	0.74
440971	Seapress	Seapress XL	03151XLReducer 108.0x76.1 C 1 9	Reducer	03151XL	108.0 X 76.1	556204	1039	1.04
440981	Seapress	Seapress XL	03151XLReducer 108.0x88.9 C 1 9	Reducer	03151XL	108.0 X 88.9	556211	1090	1.09
441001	Seapress	Seapress with thread	03115 Adapter with SC 15x1/2NPT C 1 9	Adapter	03115	15 X 1/2 NPT	460792	54.4	0.05
441011	Seapress	Seapress with thread	03115 Adapter with SC 22x3/4NPT C 1 9	Adapter	03115	22 X 3/4 NPT	460815	94.2	0.09
441021	Seapress	Seapress with thread	03115 Adapter with SC 28x1NPT C 1 9	Adapter	03115	28 X 1 NPT	460822	134.4	0.13
441031	Seapress	Seapress with thread	03115 Adapter with SC 35x11/4NPT C 1 9	Adapter	03115	35 X 1 1/4 NPT	461157	202	0.20
441041	Seapress	Seapress with thread	03115 Adapter with SC 42x11/2NPT C 1 9	Adapter	03115	42 X 1 1/2 NPT	461164	292.5	0.29
441051	Seapress	Seapress with thread	03115 Adapter with SC 54x2NPT C 1 9	Adapter	03115	54 X 2 NPT	461171	490	0.49
441201	Seapress	Seapress with thread	03125 Adapter with SC 15x1/2NPT C 1 9	Adapter	03125	15 X 1/2 NPT	461188	64.1	0.06
441211	Seapress	Seapress with thread	03125 Adapter with SC 22x3/4NPT C 1 9	Adapter	03125	22 X 3/4 NPT	461195	80	0.08
441221	Seapress	Seapress with thread	03125 Adapter with SC 28x1NPT C 1 9	Adapter	03125	28 X 1 NPT	461201	126	0.13

Material	System	Product subgroup	Material short text	Designation	Model no.	Dimensions	Item no.	Mass in g	Mass in kg
441231	Seapress	Seapress with thread	03125 Adapter with SC 35x11/4NPT C 1 9	Adapter	03125	35 X 1 1/4 NPT	461218	153.3	0.15
441241	Seapress	Seapress with thread	03125 Adapter with SC 42x11/2NPT C 1 9	Adapter	03125	42 X 1 1/2 NPT	461225	289	0.29
441251	Seapress	Seapress with thread	03125 Adapter with SC 54x2NPT C 1 9	Adapter	03125	54 X 2 NPT	461249	451	0.45
441431	Seapress	Seapress with thread	03175 Tee 35x3/4NPTx35 C 1 9	Tee	03175	35 X 3/4 NPT X 35	461072	251	0.25
441441	Seapress	Seapress with thread	03175 Tee 42x3/4NPTx42 C 1 9	Tee	03175	42 X 3/4 NPT X 42	461089	384.5	0.38
441451	Seapress	Seapress with thread	03175 Tee 54x3/4NPTx54 C 1 9	Tee	03175	54 X 3/4 NPT X 54	461096	519	0.52

Imprint



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Notes

This EPD is mainly based on the work and findings of Institut für Fenstertechnik e.V., Rosenheim (ift Rosenheim) and specifically on ift-Guideline NA-01/3 "Allgemeiner Leitfaden zur Erstellung von Typ III Umweltproduktdeklarationen" (Guidance on preparing Type III Environmental Product Declarations).

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