ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804+A2*

Owner of the Declaration	EJOT SE & Co. KG, Market Unit Construction
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-EJO-20210061-IBD1-EN
Issue date	01.10.2021
Valid to	08.07.2026

Fastening systems for rear-ventilated curtain wall facades

EJOT SE & Co. KG,
Market Unit Construction

Institut Bauen und Umwelt e.V.

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ECO PLATFORM EPD VERIFIED

1. General Information

EJOT SE & Co. KG,
Market Unit Construction

Fastening systems for rear-ventilated curtain wall facades

Programme holder
IBU – Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Owner of the declaration
EJOT SE & Co. KG,
Market Unit Construction
In der Stockwiese 35
57334 Bad Laasphe

Declaration number
EPD-EJO-20210061-IBD1-EN

Declared product / declared unit
The declared unit is an average connection, fastening and Anchoring element for use in 1 m² rear-ventilated facade systems with a specific length of 120 mm, which consists of four individual systems.

This declaration is based on the product category rules:
Wall plugs made of plastic and metal, 30.11.2017
(PCR checked and approved by the SVR)

Scope:
The EPD refers to all products in the EJOT portfolio that are used in rear-ventilated facade systems. The declared product is manufactured in the plants Ciasna in Poland, Tambach in Germany and Dozwil in Switzerland. The data basis is the year 2012. The declared results apply to a length of 120 mm, for all other lengths the results can be extrapolated using the formula given.

Issue date
01.10.2021

Valid to
08.07.2026

The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

The EPD was created according to the specifications of *EN 15804+A2*. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard *EN 15804* serves as the core PCR
Independent verification of the declaration and data according to *ISO 14025:2010*
☐ internally ☒ externally

Dipl. Ing. Hans Peters
(chairman of Institut Bauen und Umwelt e.V.)

Dr. Alexander Röder
(Managing Director Institut Bauen und Umwelt e.V.))

Juliane Franze
(Independent verifier)

2. Product

2.1 Product description/Product definition

Connecting, fastening and anchoring elements of EJOT SE & Co. KG, Market Unit Construction are finished products consisting of
a plastic sleeve and an expansion element made of steel or stainless steel, only a plastic element or only one or more steel parts.

The declaration applies to all anchoring, connecting and fastening elements mentioned below, which preferably
can be used in the rear-ventilated facades system or in conjunction with the rear-ventilated facades system.

Product according to CPR with *ETA*
*Regulation (EU) No 305/2011 (*CPR) applies to the placing on the market of the product in the EU/EFTA (except Switzerland). The product requires a declaration of performance taking into account *ETA-10/0305, ETA-12/0502, ETA-15/0027, ETA-15/0387, ETA-19/0128, ETA-.*
18/0219 or *ETA-10/0200* and the CE marking.
The respective national regulations apply to the use.

2.2 Application

1.) The following products are preferably used for anchoring, connecting and / or fastening facade cladding:
-Insulation holder: DH
-Insulation metal holder / stress plate: DMH, DMT
-Fasteners Screws: JT3 & JT4 (stainless steel A2) JT6 & JT9 (stainless steel A4)
-Facade anchors 8 mm, 10 mm and 14 mm: SDF, SDP
2.) The following products are preferably used for the renovation of exterior wall elements:

-cavity wall repair anchor: VSD
-Pre-cast panel anchor: WSS
-KERI anchor
3.) The following products are used for anchoring load-bearing components in concrete:
-EJOT Through Bolts BA and BA-Plus

2.3 Technical Data

The technical data are given as examples and representative for each of the 3 average declared products.

Constructional Data

Name	Value	Unit
Screw diameter	4.8 - 10	mm
Anchor diameter	8 -14	mm
Plate diameter	16 - 26	mm
Hole depth	50 - 80	mm
Embedment depth	40 - 70	mm
Characteristic tension resistance	4 - 8.5	kN
max. impermissible loads	1.6 - 3.4	kN

Product according to CPR with *ETA*

Performance values of the product according to the declaration of performance with regard to its essential characteristics according to *ETA-10/0305, ETA-12/0502, ETA- 15/0027, ETA-15/0387, ETA-19/0128, ETA-18/0219*
or *ETA-10/0200*.

2.4 Delivery status

Anchors approved by the building authorities are always packaged and delivered as a unit consisting of an anchor sleeve with the associated special screw. The packaging units vary between 100 and 300 pieces, depending on the dimensions.

2.5 Base materials/Ancillary materials

The main basic materials or primary products for the anchoring and fastening products from the ventilated curtain wall system are:

- Steel (mass 75-80 %)
- PE HD Polyethylene high density (mass 15-17 %)
- PA polyamide (3-6 %)
- Dyes (< 1 %)

The auxiliary materials and additives are contained in the plastic granulate. In the EJOT production companies, no auxiliary materials and additives are used in production.

The product contains substances on the ECHA list of Substances of Very High Concern (SVHC) (date 19.01.2021) above 0.1% by mass: no.

The product contains other CMR substances of category 1A or 1B not on the candidate list above 0.1% by mass in at least one sub-product: no.

Biocidal products have been added to the present construction product or it has been treated with biocidal products (it is therefore a treated product within the meaning of the Biocidal Products Regulation (EU) No 528/2012): no.

2.6 Manufacture

The plastic anchor sleeves are manufactured using conventional injection moulding techniques. For this purpose, an injection moulding machine is used to plasticise the respective plastic in an injection unit and inject it into an injection mould.
The cavity of the mould determines the shape and surface structure of the finished part (here plastic anchor).
Screws: The vast majority of screws and fasteners are produced by non-cutting cold forming. The cold extrusion process: The starting material is delivered as "wire" wound on spools and uncoiled, straightened and, if necessary, reduced to the desired diameter in equipment upstream of the presses. Modern cold extrusion presses work in several stages, i.e. several operations are linked in succession per stroke, e.g. preforming the screw head, upsetting, deburring and reducing the threaded part. In the subsequent process, the threads are rolled onto the reduced threaded parts by thread rolling machines with flat dies or rolling and segment tools without cutting. Preferably cold extrusion presses with integrated thread rolling machines are used. EJOT SE & Co. KG, Market Unit Construction is certified according to *ISO 9001.*

2.7 Environment and health during manufacturing

EJOT SE & Co. KG, Market Unit Construction is certified according to *ISO 14001,* Environmental Management Systems. DQS GmbH under the certificate registration number 302825 UM.

2.8 Product processing/Installation

To fix a rear-ventilated facade, wall brackets, usually made of aluminum or stainless steel, are anchored to masonry or concrete using plastic frame plugs. The wall holders serve here as spacers on which support profiles are fastened with the help of stainless steel self-drilling screws, onto which facade panels are then fixed. To install the anchors in the substrate, a drill hole must first be made into which the anchor unit, consisting of a plastic sleeve and the corresponding screw, is inserted. Screwing in the anchor screw creates a so-called expansion pressure on the wall of the drilled hole, which generates tensile strength capacity. Drill screws are screwed in using a cordless screwdriver. The application of the products can be found in the respective valid approval or a building authority test certificate.
The products used for rear-ventilated facades systems are usually installed using conventional screwdrivers. In most cases, a drill hole corresponding to the substrate must first be created. Some of the products serve to secure the position of add-on parts or support systems, which in turn serve as a base for add-on parts.

2.9 Packaging

Cartons in article and quantity-specific dimensions are used for packaging. Transport to the customer is stacked on wooden pallets.

2.10 Condition of use

In the installed state, the material composition does not change any more, so that no emissions are produced after installation.

2.11 Environment and health during use
After installation, there are no negative effects on the environment and health.

2.12 Reference service life
The service life of the rear-ventilated facades anchors is above the service life of the rear-ventilated facade systems.

2.13 Extraordinary effects

Fire
The anchors are used to fix a cladding or a component that does not comply with class A1; the plastic parts of the anchor are located in the drilled hole of the anchoring base (concrete or masonry) or in the drilled hole of the fixture. It can be assumed that the plastic parts of the anchor embedded in concrete or masonry do not contribute to the spread of fire or to the fully developed fire and do not have any influence on the smoke hazard.
Within the framework of these end-use conditions, the plastic parts embedded in concrete or masonry can be assumed to meet all requirements for reaction to fire.
If the plastic parts of the anchor are installed in a cladding or building component not classified as class A1, the plastic parts can be assumed to have no influence on the reaction to fire class of the cladding or building component.

Fire protection

Name	Value
Building material class	-
Burning droplets	-
Smoke gas development	-

Water
Even in the event of unforeseen exposure to water, there is no adverse effect on the environment. The basic materials of the fastening elements neither absorb water after installation nor do components dissolve in combination with water

Mechanical destruction
No hazardous substances are released if the product is mechanically destroyed.

2.14 Re-use phase
Reuse of the products after installation is not possible

2.15 Disposal
It is possible to dismantle a ventilated facade by type, so that the individual components are separated from each other.
In practice, the complete rear-ventilated facades system - including the fastening elements - is deposited.
The individual components of the fastening units for rear-ventilated facades are assigned to the following waste codes in accordance with the Waste Catalogue Ordinance *AVV* and the European Waste Catalogue *EWC:*

- *EWC* 17 02 03 - Plastics
- *EWC* 17 04 05 - Iron and steel

2.16 Further information
www.bau.ejot.de

3. LCA: Calculation rules

3.1 Declared Unit
The declared unit is an average anchor system for use in 1 m² rear-ventilated facades with a specific length of 120 mm, consisting of four individual systems.
"Average" describes all produced anchor types of the system on average according to production shares weighted on the basis of a parameter analysis. This means that a hypothetical anchor system is calculated, which represents the entire rear-ventilated facades system. To convert the declared unit to kg, the weight per system is given.

Declared unit

Name	Value	Unit
Declared unit	4	Pce/m^2_{system}
conversion factor [Mass/Declared Unit]	0.13	-

3.2 System boundary
Type of EPD: Cradle to factory gate - with options. The environmental product declaration refers to the production stage (module A1-A3), the disposal stage (modules C1-C4) as well as
Credits and loads outside the system boundary (module D).

In the production stage, the procurement of raw materials including the corresponding upstream chains, the necessary procurement transports to the plants as well as the energies required for the production of the anchor systems are considered. The country-specific electricity mix was modelled for each of the plants. The material composition and the energy demand of the declared anchor systems were calculated according to their production shares in each plant.

In the disposal phase, the dismantling of the anchor systems (Module C1), the transport to waste treatment (Module C2), the waste treatment (Module C3) and the landfilling of the plastics (Module C4) are considered. Avoided burdens from the recycling of metals are reported in Module D. For this purpose, only the net scrap quantities are considered.

3.3 Estimates and assumptions
Since no quantitative information on the end-of-life of the anchor system is available, it was assumed that the components are separated after demolition and landfilled (plastics) or recycled (metals).
Water use in the production phase was not considered in the model, as it is a cycle of cooling water.

3.4 Cut-off criteria
The wooden pallets for transport were not considered, as these circulate several times and their mass therefore falls under the cut-off criteria. The material flows cut off beyond this amount to 0.4 % of the total weight of the rear-ventilated facades. It can be assumed that the sum of the neglected processes

therefore does not exceed 5 % of the impact categories.

3.5 Background data

In principle, the Background database *GaBi* in the latest version
9.5 (Service Pack 40) was used. The available data sets also support the evaluation period of 100 years with regard to potential environmental impacts. The consistent data sets contained in the GaBi database are documented online.

3.6 Data quality

The primary data were provided by the company EJOT SE & Co. KG, Market Unit Construction and checked for plausibility. The quality and representativeness of the collected foreground data can therefore be considered high.
The data quality of the background data used was rated as good in terms of technical, geographical and temporal representativeness. The majority of the background data used is from the reference year 2019.

3.7 Period under review

The data basis for this LCA is based on data collected by EJOT in 2012. The period under consideration is 12 months.

3.8 Allocation

The total production of EJOT SE & Co. KG, Market Unit Construction includes other products in addition to the product under consideration. The values for thermal and electrical energy as well as auxiliary materials were related accordingly to the product groups to be declared during data collection. This division was carried out according to mass. Accumulating production waste (e.g. packaging waste of raw materials) is fed into an energy recovery process. The resulting electrical and thermal energy is accounted for within module A1-A3. The thermal energy released during thermal waste incineration can be considered equivalent to the thermal process energy required.

3.9 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account.

The background database used is *GaBi 9.5*, Service Pack 40.

4. LCA: Scenarios and additional technical information

Characteristic product properties
Information on biogenic Carbon
The biogenic carbon content of the unpackaged product is less than 5 %.
The total biogenic carbon content of the packaging materials (0.142 kg) is 0.0609 kg. The cardboard packaging has a biogenic carbon content of 43 % (0.0123 kg biogenic carbon), for the wooden pallets a biogenic carbon content of 50 % (0.0566 kg biogenic carbon) assumed.

Information describing the biogenic carbon content at the factory gate

Name	Value	Unit
Biogenic Carbon Content in accompanying packaging	0.0609	kg C

Technical information
The following technical information is the basis for the declared modules or can be used for the development of specific scenarios in the context of a building assessment.

End of life journey (C1-C4)

Name	Value	Unit
Collected separately waste type	-	kg
Collected as mixed construction waste	0.13	kg
Reuse	-	kg
Recycling	0.0988	kg
Energy recovery	-	kg
Landfilling	0.0312	kg

Reuse, recovery and recycling potential (D), relevant scenario information

Name	Value	Unit
Steel scrap (net)	0,0839	kg
Collection rate	100	%
Recycling losses	3	%

5. LCA: Results

In the following, the results of the indicators of impact assessment, resource use, waste and other output flows are presented.

EP-freshwater: This indicator was calculated as "kg P-eq." in accordance with the characterisation model (EUTREND model, Struijs et al., 2009b, as implemented in ReCiPe; http://eplca.jrc.ec.europa.eu/LCDN/developerEF.xhtml)).

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; ND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	ND	ND	ND	ND	MNR	MNR	MNR	ND	ND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 4 pieces/m2 average anchor systems for rear-ventilated facades of 120 mm length

Core Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Global warming potential - total	[kg CO_2-Eq.]	6.71E-1	2.56E-3	8.95E-4	3.41E-4	2.21E-3	-1.46E-1
Global warming potential - fossil fuels	[kg CO_2-Eq.]	6.70E-1	2.54E-3	8.88E-4	3.38E-4	2.21E-3	-1.46E-1
Global warming potential - biogenic	[kg CO_2-Eq.]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
GWP from land use and land use change	[kg CO_2-Eq.]	5.48E-4	2.07E-5	7.25E-6	2.31E-6	1.79E-6	4.17E-6
Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	3.87E-11	4.70E-19	1.64E-19	8.21E-19	5.00E-18	3.19E-16
Acidification potential, accumulated exceedance	[mol H^+-Eq.]	2.43E-3	1.29E-5	5.46E-6	3.32E-6	6.68E-6	-3.25E-4
Eutrophication, fraction of nutrients reaching freshwater end compartment	[kg PO_4-Eq.]	1.76E-6	7.80E-9	2.73E-9	9.87E-10	4.03E-7	-8.27E-8
Eutrophication, fraction of nutrients reaching marine end compartment	[kg N-Eq.]	4.64E-4	6.14E-6	2.64E-6	1.61E-6	1.48E-6	-5.93E-5
Eutrophication, accumulated exceedance	[mol N-Eq.]	4.82E-3	6.82E-5	2.93E-5	1.77E-5	1.62E-5	-6.01E-4
Formation potential of tropospheric ozone photochemical oxidants	[kg NMVOC-Eq.]	1.36E-3	1.25E-5	5.10E-6	4.70E-6	4.82E-6	-2.45E-4
Abiotic depletion potential for non-fossil resources	[kg Sb-Eq.]	9.11E-5	2.07E-10	7.24E-11	3.71E-10	1.49E-10	-2.37E-6
Abiotic depletion potential for fossil resources	[MJ]	9.26E+0	3.42E-2	1.19E-2	6.61E-3	3.16E-2	-1.26E+0
Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	[m^3 world-Eq deprived]	7.16E-2	2.50E-5	8.73E-6	6.52E-5	-2.48E-5	-1.10E-2

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 4 pieces/m2 average anchor systems for rear-ventilated facades of 120 mm length

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Renewable primary energy as energy carrier	[MJ]	1.81E+0	1.98E-3	6.91E-4	4.77E-4	2.22E-3	9.74E-2
Renewable primary energy resources as material utilization	[MJ]	3.07E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Total use of renewable primary energy resources	[MJ]	2.12E+0	1.98E-3	6.91E-4	4.77E-4	2.22E-3	9.74E-2
Non-renewable primary energy as energy carrier	[MJ]	8.16E+0	3.43E-2	1.20E-2	1.11E+0	3.16E-2	-1.26E+0
Non-renewable primary energy as material utilization	[MJ]	1.11E+0	0.00E+0	0.00E+0	-1.11E+0	0.00E+0	0.00E+0
Total use of non-renewable primary energy resources	[MJ]	9.27E+0	3.43E-2	1.20E-2	6.62E-3	3.16E-2	-1.26E+0
Use of secondary material	[kg]	5.44E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	8.65E-2
Use of renewable secondary fuels	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Use of non-renewable secondary fuels	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Use of net fresh water	[m^3]	2.40E-3	2.30E-6	8.05E-7	1.86E-6	3.88E-7	-2.58E-4

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 4 pieces/m2 average anchor systems for rear-ventilated facades of 120 mm length

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	[kg]	2.03E-8	1.59E-9	5.54E-10	1.73E-10	1.15E-10	-1.61E-7
Non-hazardous waste disposed	[kg]	4.00E-2	5.44E-6	1.90E-6	1.79E-6	3.04E-2	1.50E-2
Radioactive waste disposed	[kg]	2.35E-4	6.32E-8	2.21E-8	8.74E-8	3.82E-7	4.46E-8
Components for re-use	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Materials for recycling	[kg]	5.30E-3	0.00E+0	0.00E+0	9.89E-2	0.00E+0	0.00E+0
Materials for energy recovery	[kg]	1.28E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Exported electrical energy	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Exported thermal energy	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 4 pieces/m2 average anchor systems for rear-ventilated facades of 120 mm length

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Potential incidence of disease due to PM emissions	[Disease Incidence]	ND	ND	ND	ND	ND	ND
Potential Human exposure efficiency relative to U235	[kBq U235-Eq.]	ND	ND	ND	ND	ND	ND
Potential comparative toxic unit for ecosystems	[CTUe]	ND	ND	ND	ND	ND	ND
Potential comparative toxic unit for humans - cancerogenic	[CTUh]	ND	ND	ND	ND	ND	ND
Potential comparative toxic unit for humans - not cancerogenic	[CTUh]	ND	ND	ND	ND	ND	ND
Potential soil quality index	[-]	ND	ND	ND	ND	ND	ND

The additional indicators according to EN 15804+A2 are optional. The indicators are not shown in the EPD ("ND").

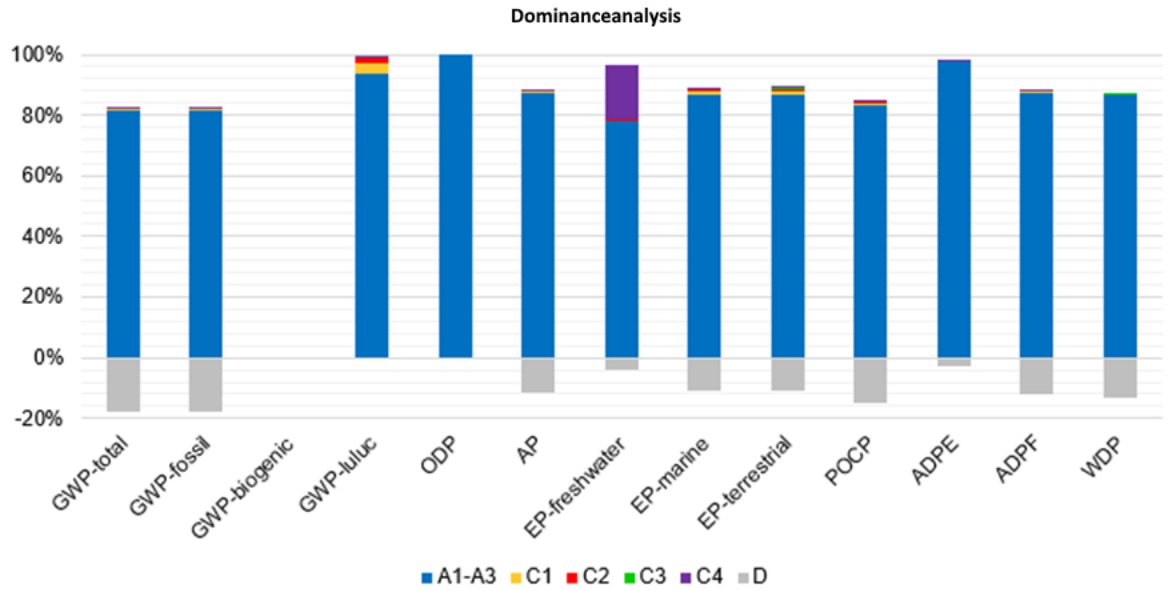
Disclaimer 1 - applies to indicator IRP
This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor radioactive waste disposal in underground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

Disclaimer 2 - applies to indicators ADPE, ADPF, WDP, ETP-fw, HTP-c, HTP-nc, SQP
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.

As the raw materials at the production stage are the main contributors to the LCA results, there is a linear relationship between the weight of the raw materials (and thus the length of the anchor systems, as the density remains the same) and the environmental impact. So for further results of other anchor lengths, please use the following formula:

P(x) =[P(x1)/x1]*x
P(x): Indicator for the new anchor system to be declared
P(x1): Indicator of the declared product (e.g. Global Warming Potential (GWP) of the rear-ventilated facades anchor system)
x: Anchor length of the new anchor system to be declared [mm] (e.g. 100 mm)
x1: Anchor length of the declared anchor system [mm] (here 120 mm)

6. LCA: Interpretation



All indicators are significantly dominated by the production stage and the material and energy upstream chains (module A1-A3). In the A1-A3 module, the screws in particular and the production of the anchor sleeves contribute to the potential environmental impacts. The credits and loads in Module D result from the End-of-life steel credits from steel recycling.

The main influences in the manufacturing phase (module A1-A3) are shown below.
Global warming potential fossil (GWP-fossil) is dominated by the production of anchor sleeves (47 %) and screws (53 %).

The stratospheric ozone depletion potential (ODP) is dominated by the screws (75 %).

Acidification potential of soil and water (AP) is dominated by the screws (78 %). The production of the anchor sleeves contributes to 18 % of the AP.

Eutrophication potential freshwater (EP-freshwater) is dominated by the packaging materials (43 %).

Eutrophication potential of saltwater (EP-marine) is most influenced by the screws (70 %) and the production of the anchor sleeves (23 %).

Eutrophication potential land (EP-terrestrial) is dominated to 72 % by the production of the screws and to 23 % by the production of the anchor sleeves.

The formation potential for tropospheric ozone (POCP) is also affected by the production of the screws (69 %) and the anchor sleeves (24 %) dominate.

The screws contribute to 99% of the potential abiotic resource depletion - non-fossil resources (ADPE).

The potential for abiotic depletion - fossil fuels (ADPF) is dominated by the production of anchor sleeves (53 %) and screws 33 %).

The use of renewable primary energy (PERT) is mainly due to cardboard packaging materials (40%).

Non-renewable primary energy (PERT) is mainly used in the upstream chains of plastics and metals.

Water Removal Potential (WDP) is dominated by the production of the screws (71 %) and the anchor sleeves (29 %).

The declaration refers to the production of average connecting, fastening and anchoring elements of 120 mm length for use in ventilated curtain wall systems (rear-ventilated facades). Due to the variability of the materials and thus also the manufacturing processes as well as the length of the anchor systems, there are deviations in the LCA results around the average. Linear extrapolation is permissible for lengths not shown (see Chapter 5). If the material composition deviates from the average, the LCA results may deviate from the average.

7. Requisite evidence

No evidence is required according to PCR Part B.

8. References

Standards

EN 15804
EN 15804:2019-04+A2 (in press), Building Sustainability - Environmental Product Declarations - Basic Rules for the Product Category of Building Products.

ISO 9001
DIN EN ISO 9001:2015-11,
Quality management systems - Requirements (ISO 9001:2015); German and English version EN ISO 9001:2015.

ISO 14001
ISO 14001:2015-09, Environmental management systems - Requirements with guidance for use.

ISO 14025
ISO 14025:2006-07, Environmental labels and declarations - Type III environmental declarations - Principles and procedures.

Further literature

AVV
Abfallverzeichnis-Verordnung (AVV) of 10 December 2001 (BGBl. I p. 3379), last amended by Article 1 of the Ordinance of 30 June 2020 (BGBl. I p. 3005).

EWC
European Waste Catalogue, List of Wastes ordinance of 10 December 2001 (BGBl. I p. 3379), last amended by Article 1 of the ordinance of
30 June 2020 (Federal Law Gazette I p. 1533).

ECHA list
List of substances of very high concern for authorisation (ECHA Candidate List), dated 19.01.2021, published in accordance with Article 59 (10) of the REACH Regulation. Helsinki: European Chemicals Agency.

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