

ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2

Owner of the Declaration	JANSEN AG
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-JAN-20240298-CBA1-EN
Issue date	29.11.2024
Valid to	28.11.2029

Jansen Art'15 door width x height: 1230 mm x 2180 mm
Jansen AG

www.ibu-epd.com | <https://epd-online.com>



General Information

Jansen AG

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Declaration number

EPD-JAN-20240298-CBA1-EN

This declaration is based on the product category rules:

Windows and doors , 01.08.2021
(PCR checked and approved by the SVR)

Issue date

29.11.2024

Valid to

28.11.2029



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(Managing Director Institut Bauen und Umwelt e.V.)

Jansen Art'15 door width x height: 1230 mm x 2180 mm

Owner of the declaration

JANSEN AG
Industriestrasse 34
9463 Oberriet
Switzerland

Declared product / declared unit

1 m² Jansen Art'15 door with a grammage of 32.32 kg/m². The actual reference size of the declared single leaf door has dimensions of width x height: 1230 mm x 2180 mm.

Scope:

The environmental product declaration refers to a single leaf door type Jansen Art'15 in specific dimension width x height. The characteristic values used for the system components Art'15 in the LCA are provided by Jansen AG.

The declared product is defined according to the profile series and product characteristics.

The location of the production site is Oberriet/ Switzerland.
This EPD was created with the help of a semi-automatic LCA-Tool.
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

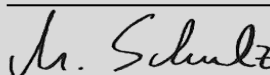
Independent verification of the declaration and data according to ISO 14025:2011

☐

internally

☒

externally



Matthias Schulz,
(Independent verifier)

Product

Product description/Product definition

Jansen Art'15 door, with a basic depth of 50 mm, is a non-insulated steel profile system that offers a distinctive design. The steel material guarantees a long lifespan. As a result, the Jansen Art'15 meets the demanding design requirements of ambitious architects and the high expectations of discerning clients in terms of both design and functionality. The extremely narrow and robust steel profile system ensures durable, highly stable constructions within an exceptionally slim frame. This declaration describes the following element in Jansen Art'15:

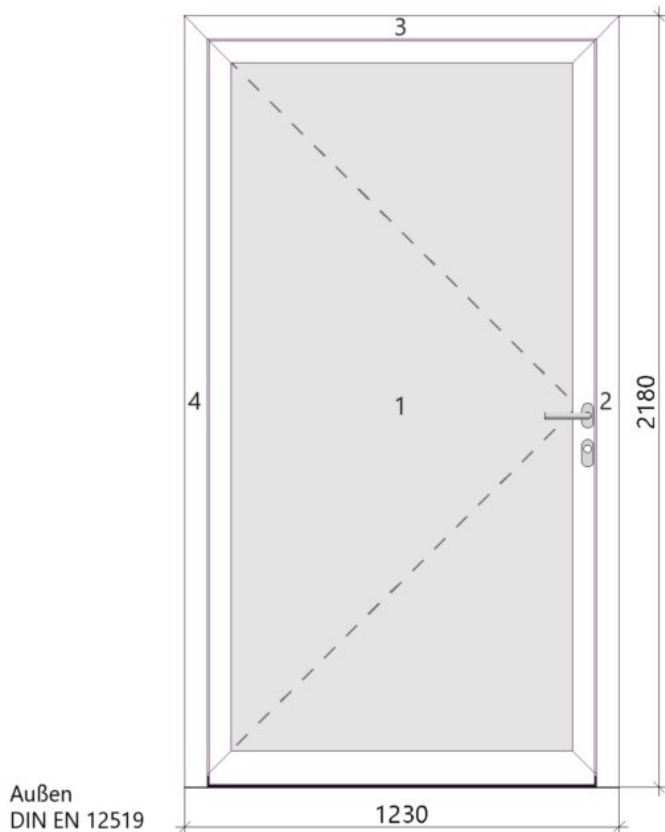
Product: Jansen Art'15, single leaf door

Construction depth: 50 mm

Width x height: 1230 mm x 2180 mm

CE marking according to EN 14351-1

For the placing on the market in the the European Union/European Free Trade Association EU/EFTA the CPR (EU) No. 305/2011/ applies. The products require a declaration of performance taking into account the harmonized product standard *EN 14351-1* windows and doors and a CE marking. The respective national regulations apply to the use. With this declaration the following element is declared:



Application

The Jansen Art'15 door can be integrated for building ventilation and light transmission and it meets all the requirements of an interior or exterior wall without taking over load-bearing functions.

Technical Data

According to the CE marking, the following structural data for the element must be stated:

Constructional data

Name	Value	Unit
Sound insulation class according to EN ISO 10140	Rw 44 db (-2;-7)	-

Product according to the CPR, based on an EN: Performance data of the product in accordance with the declaration of performance with respect to its essential characteristics according to *EN 14351-1*, doors. Other constructional data are not relevant for this product.

Base materials/Ancillary materials

JANSEN Art'15 door is made of the following materials:

- Glazing approx. 68%
- Steel approx. 32%
- Plastics and fillers approx. <1%

The percentages relate to the most frequently sold product with an opening of 2.68 m². The percentages stated may vary depending on the product type and dimensions.

Does the product or at least one part product contain materials from the *ECHA candidate list* of materials which are especially problematic for approval: Substances of Very High Concern – SVHC (date 27.06.2024) above a mass % of 0.1: no.

This product/article/at least one partial article contains other carcinogenic, mutagenic, reprotoxic (CMR) substances in categories 1A or 1B which are not on the *candidate list*, exceeding 0.1 percentage by mass: no.

Biocide products were added to this construction product or it has been treated with biocide products (this then concerns a treated product as defined by the (EU) *Ordinance on Biocide Products No. 528/2012*): no.

Reference service life

According to *SBR 2011* regarding the specific material characteristics of steel windows and doors, the reference service life is 75 years (*SBR 2011*). The practical service life may well be longer. Conditions for a long service life are regular maintenance, care and upkeep of the product. The specified service life is independent of the manufacturer's warranty.

LCA: Calculation rules

Declared Unit

The declared unit is a 1 m² of Jansen Art'15 door element. The actual reference size of the declared door element has dimensions of 1230 mm x 2180 mm.

Declared unit

Name	Value	Unit
Declared unit	1	m ²
Grammage	32.32	kg/m ²
Layer thickness	0.05	m

For inhomogeneous components made of different materials, the conversion to other dimensions with factors leads to deviations compared to the exact calculation. The frame

percentage is 14.94% and the ground reference is 0.062m².
 Frame percentage = Frame surface / total area * 100 [%]
 Ground reference = Element depth x element width [m²]

System boundary

Type of EPD according to *EN 15804*: "cradle to gate with options, modules C1–C4, and module D". The following modules are declared: A1–A3, C, D and additional modules: A4, A5

Production (modules A1-A3):

This module considers the provision of all relevant door components (i.e. metal profiles/components, plastic parts/profiles and glazing) and raw materials including their transport to the declared production plant. This considers the manufacturing and assembly of these components, including waste processing up to the end-of-waste state. The impact of packaging materials is also covered by this module.

Transport to the construction site (module A4):

A distance of 100 km is considered for the transport of the packed finished product via truck. The transport distance can be modified project-specific if required by linear scaling.

Installation (module A5):

Treatment and disposal of packaging material is considered in this module. Credits for potential avoided burdens due to energy substitution of electricity and thermal energy generation are declared in module D under European conditions and affects only the rate of primary materials (no secondary materials).

EoL stage (modules C1-C4):

Module C1 - considers manual deconstruction (without environmental burdens).

Module C2 - considers 50 km truck transport to waste processing. The transport distance can be modified project-specific if required by linear scaling.

Modules C3 and C4 - consider waste processing and/or disposal with the following scenarios:

- Scenario 0: 100% thermal treatment of all raw materials with heating value including plastic system parts and 100% recycling of metal system components (C3).

Landfill of all materials without heating value (except metals) including glazing (C4). For mineral based components (i.e. gypsum board), construction waste processing (shredding) and material recycling as filling material (incl. benefits for substitution of gravel in Module (D) is considered, assuming 3% recycling losses are sent to landfill (C4).

- Scenario 1 (module C3/1): 100% recycling of plastic system parts (excluding e-waste sent to incineration) and 100% recycling of metal system components. Landfill of all materials without heating value (except metals) including glazing (C4/1). For mineral based components (i.e. gypsum board), construction waste processing (shredding) and material recycling as filling material (incl. benefits for substitution of gravel in Module D/1) are considered, assuming 3% recycling losses are sent to landfill (C4/1).

Modules C4 & C4/1 are identical.

Benefits and loads beyond the product system boundary (module D):

Considers credits and loads from the recycling of the metal components and mineral based components (i.e. gypsum board) as filling material (incl. benefits for the substitution of gravel (duplicated in D and D/1) and the recycling of the plastic system parts/profiles (D/1). Avoided burdens from the thermal treatment of all raw materials with heating value (including plastic system parts/profiles) (D) and packaging treatment (duplicated in D and D/1) under European conditions are considered. This affects only the rate of primary materials (no secondary materials).

Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product's lifespan: Europe

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 following background database has been used for the LCA calculation: Sphera LCA software (*GaBi ts*) content update package (CUP) version 2022.2

LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

No biogenic carbon is reported in the product. The biogenic carbon content in the accompanying packaging for 1 m² Jansen Art'15 door is declared below.

Information on describing the biogenic Carbon Content at factory gate

Name	Value	Unit
Biogenic carbon content in product	-	kg C
Biogenic carbon content in accompanying packaging	0.00596	kg C

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO₂.

The following technical information is a basis for the declared

modules. The values refer to the declared unit of 1 m² of Jansen Art'15 door.

Transport to the building site (A4)

Name	Value	Unit
Litres of fuel	0.06	l/100km
Transport distance	100	km
Capacity utilisation (including empty runs)	61	%
Gross weight of packed products transported	32.35	kg

Installation into the building (A5)

Treatment and disposal of packaging material is considered in this module.

The values refer to the declared unit of 1 m² of Jansen Art'15 door.

Name	Value	Unit
Polyethylene (waste packaging to incineration)	0.00128	kg
Cardboard box (waste packaging to incineration)	0.00614	kg
Wood (waste packaging to incineration)	0.00810	kg

According to *SBR 2011* regarding the specific material characteristics of steel windows and doors, the reference service life is 75 years (*SBR 2011*). The practical service life may well be longer. Conditions for a long service life are regular maintenance, care and upkeep of the product. The specified service life is independent of the manufacturer's warranty.

Reference service life

Name	Value	Unit
Life Span (according to SBR 2011)	75	a

End of life (C1-C4)

For the End-of-Life stage two scenarios are considered. Scenario 0 considers 100% thermal treatment of all raw materials with heating value including plastic system parts and 100% recycling of metal system components (C3). Landfill of all materials without heating value (except metals) including glazing (C4). For mineral based components (i.e. gypsum board), construction waste processing (shredding) and material recycling as filling material (incl. benefits for substitution of gravel in Module D) are considered, assuming 3% recycling losses are sent to landfill (C4).

Scenario 1 considers 100% recycling of plastic system parts (excluding e-waste sent to incineration) and 100% recycling of metal system components (C3/1). Landfill of all materials without heating value (except metals) including glazing (C4/1). For mineral based components (i.e. gypsum board), construction waste processing (shredding) and material recycling as filling material (incl. benefits for substitution of

gravel in Module D/1) are considered, assuming 3% recycling losses are sent to landfill (C4/1). Modules C4 and C4/1 are identical. The recycling of plastics scenario declared in this EPD is currently considered a scenario that is not widely available in reality due to economic viability limitations associated with higher costs of sorting smaller shares of plastics such as those present in the declared product.

Name	Value	Unit
End of life scenario 0 (modules C3 and C4)		
Recycling (C3)	10.38	kg
Energy recovery (C3)	-	kg
Landfilling (C4)	21.92	kg
End of life scenario 1 (modules C3/1 and C4/1)		
Recycling (C3/1)	10.38	kg
Energy recovery (C3/1)	0	kg
Landfilling (C4/1)	21.92	kg

Reuse, recovery and/or recycling potentials (D), relevant scenario information

Module D includes the credits and loads from the recycling of the metal components and mineral based components (i.e. gypsum board) as filling material (incl. benefits for substitution of gravel (duplicated in D and D/1) and the recycling of the plastic system parts/profiles (D/1). Avoided burdens from the thermal treatment of all raw materials with heating value (including plastic system parts/profiles) (D) and packaging treatment (duplicated in D and D/1) under European conditions are considered. This affects only the rate of primary materials (no secondary materials). A waste incineration plant with R1-value > 0.6 is assumed.

For recycling, a collection rate of 100% is considered.

LCA: Results

Results provided in this section are presented in relation to 1 m² of door type Jansen Art'15 (reference dimensions 1230 mm x 2180 mm).

For the End-of-Life stage, two scenarios are considered:

C3 - considers 100% recycling of metal system components (duplicated in D and D/1) and 100% thermal treatment of all raw materials with heating value including plastic system parts. For mineral based components (i.e. gypsum board), construction waste processing (shredding) and material recycling as filling material is considered.

C3/1 - considers 100% recycling of metal system components (duplicated in D and D/1) and 100% recycling of plastic system parts (excluding e-waste sent to incineration). For mineral based components (i.e. gypsum board), construction waste processing (shredding) and material recycling as filling material is considered.

C4 and C4/1 - consider landfill of all materials without heating value (except metals) including glazing and recycling losses from mineral based components (i.e. gypsum board). Modules C4 and C4/1 are identical.

D - considers credits and loads from the recycling of the metal components and mineral based components (i.e. gypsum board) as filling material (incl. benefits for the substitution of gravel (duplicated in D and D/1). Avoided burdens from packaging treatment (duplicated in D and D/1) and thermal treatment of all raw materials with heating value (including plastic system parts/profiles) are considered.

D/1 - considers credits and loads from the recycling of the metal components and mineral based components (i.e. gypsum board) as filling material (incl. benefits for the substitution of gravel (duplicated in D and D/1) and the recycling of the plastic system parts/profiles. Avoided burdens from packaging treatment (duplicated in D and D/1) are considered.

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = 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	X	X	MND	MND	MNR	MNR	MNR	X	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 m² Jansen Art'15 door (32.32 kg/m²)

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C3/1	C4	C4/1	D	D/1
GWP-total	kg CO ₂ eq	5.04E+01	1.95E-01	2.61E-02	0	0	9.76E-02	0	0	3.29E-01	3.29E-01	-8.69E+00	-8.69E+00
GWP-fossil	kg CO ₂ eq	5.02E+01	1.93E-01	4.44E-03	0	0	9.66E-02	0	0	3.27E-01	3.27E-01	-8.7E+00	-8.7E+00
GWP-biogenic	kg CO ₂ eq	1.25E-01	8.16E-04	2.16E-02	0	0	4.08E-04	0	0	1.1E-03	1.1E-03	4.4E-03	4.4E-03
GWP-luluc	kg CO ₂ eq	1.8E-02	1.08E-03	7.07E-08	0	0	5.39E-04	0	0	6.04E-04	6.04E-04	-1.8E-04	-1.8E-04
ODP	kg CFC11 eq	7.36E-11	1.16E-14	2.24E-15	0	0	5.8E-15	0	0	7.69E-13	7.69E-13	-6.38E-14	-6.38E-14
AP	mol H ⁺ eq	2.25E-01	1.84E-04	4.88E-06	0	0	9.21E-05	0	0	2.32E-03	2.32E-03	-1.87E-02	-1.87E-02
EP-freshwater	kg P eq	3.77E-05	5.78E-07	6.05E-10	0	0	2.89E-07	0	0	5.55E-07	5.55E-07	-1.59E-06	-1.59E-06
EP-marine	kg N eq	7.54E-02	5.74E-05	1.64E-06	0	0	2.87E-05	0	0	5.93E-04	5.93E-04	-3.29E-03	-3.29E-03
EP-terrestrial	mol N eq	8.89E-01	6.89E-04	2.26E-05	0	0	3.45E-04	0	0	6.52E-03	6.52E-03	-2.88E-02	-2.88E-02
POCP	kg NMVOC eq	2.02E-01	1.6E-04	4.4E-06	0	0	8.02E-05	0	0	1.8E-03	1.8E-03	-1.33E-02	-1.33E-02
ADPE	kg Sb eq	1.05E-04	1.62E-08	5.48E-11	0	0	8.09E-09	0	0	3.35E-08	3.35E-08	-2.17E-05	-2.17E-05
ADPF	MJ	5.69E+02	2.59E+00	6.15E-03	0	0	1.29E+00	0	0	4.29E+00	4.29E+00	-7.99E+01	-7.99E+01
WDP	m ³ world eq deprived	3.52E+00	1.74E-03	2.97E-03	0	0	8.68E-04	0	0	3.59E-02	3.59E-02	-1.62E+00	-1.62E+00

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 m² Jansen Art'15 door (32.32 kg/m²)

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C3/1	C4	C4/1	D	D/1
PERE	MJ	5.27E+01	1.47E-01	2.16E-01	0	0	7.35E-02	0	0	6.43E-01	6.43E-01	5E+00	5E+00
PERM	MJ	2.14E-01	0	-2.14E-01	0	0	0	0	0	0	0	0	0
PERT	MJ	5.29E+01	1.47E-01	1.41E-03	0	0	7.35E-02	0	0	6.43E-01	6.43E-01	5E+00	5E+00
PENRE	MJ	5.7E+02	2.59E+00	6.52E-02	0	0	1.3E+00	0	0	4.29E+00	4.29E+00	-8E+01	-8E+01
PENRM	MJ	5.9E-02	0	-5.9E-02	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.7E+02	2.59E+00	6.15E-03	0	0	1.3E+00	0	0	4.29E+00	4.29E+00	-8E+01	-8E+01

SM	kg	5.68E+00	0	0	0	0	0	0	0	0	0	5.02E+00	5.02E+00
RSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0
FW	m ³	1.16E-01	1.66E-04	6.98E-05	0	0	8.31E-05	0	0	1.09E-03	1.09E-03	-3.65E-02	-3.65E-02

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

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2:

1 m2 Jansen Art'15 door (32.32 kg/m2)

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C3/1	C4	C4/1	D	D/1
HWD	kg	5.72E-08	1.24E-11	6.02E-13	0	0	6.21E-12	0	0	2.2E-10	2.2E-10	-6.32E-10	-6.32E-10
NHWD	kg	2.33E+00	3.72E-04	3.94E-04	0	0	1.86E-04	0	0	2.19E+01	2.19E+01	1.21E+00	1.21E+00
RWD	kg	1.31E-02	3.19E-06	3.51E-07	0	0	1.6E-06	0	0	4.77E-05	4.77E-05	1.06E-06	1.06E-06
CRU	kg	0	0	0	0	0	0	0	0	0	0	0	0
MFR	kg	3.12E-01	0	0	0	0	0	1.04E+01	1.04E+01	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	2.98E-02	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	5.33E-02	0	0	0	0	0	0	0	0	0

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; EEE = Exported electrical energy; EET = Exported thermal energy

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional:

1 m2 Jansen Art'15 door (32.32 kg/m2)

Parameter	Unit	A1-A3	A4	A5	B6	C1	C2	C3	C3/1	C4	C4/1	D	D/1
PM	Disease incidence	1.67E-06	1.11E-09	2.56E-11	0	0	5.57E-10	0	0	2.85E-08	2.85E-08	-2.64E-07	-2.64E-07
IR	kBq U235 eq	2.13E+00	4.68E-04	5.71E-05	0	0	2.34E-04	0	0	5.31E-03	5.31E-03	1.94E-01	1.94E-01
ETP-fw	CTUe	1.36E+03	1.8E+00	2.83E-03	0	0	8.98E-01	0	0	2.4E+00	2.4E+00	-4.94E+00	-4.94E+00
HTP-c	CTUh	2.18E-08	3.62E-11	1.86E-13	0	0	1.81E-11	0	0	3.66E-10	3.66E-10	-3.55E-09	-3.55E-09
HTP-nc	CTUh	6.06E-07	1.87E-09	6.97E-12	0	0	9.36E-10	0	0	4.06E-08	4.06E-08	-1.17E-07	-1.17E-07
SQP	SQP	4.84E+01	8.9E-01	1.78E-03	0	0	4.45E-01	0	0	8.92E-01	8.92E-01	9.43E-01	9.43E-01

PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

Disclaimer 1 – for the indicator 'Potential Human exposure efficiency relative to U235'. 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 or radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators 'abiotic depletion potential for non-fossil resources', 'abiotic depletion potential for fossil resources', 'water (user) deprivation potential, deprivation-weighted water consumption', 'potential comparative toxic unit for ecosystems', 'potential comparative toxic unit for humans – cancerogenic', 'Potential comparative toxic unit for humans - not cancerogenic', 'potential soil quality index'. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high as there is limited experience with the indicator. This EPD was created using a software tool.

References

Standards

EN 14351-1

EN 14351-1:2016, Windows and doors - Product standard, performance characteristics - Part 1: windows and external pedestrian doorsets

EN 16034

EN 16034:2014, pedestrian doorsets, industrial, commercial, garage doors and openable windows - Product standard, performance characteristics - Fire resistance and/or smoke control characteristics

EN 15804

EN 15804:2012+A2:2019+AC:2021, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products.

ISO 14025

EN ISO 14025:2011, Environmental labels and declarations — Type III environmental declarations — Principles and

procedures.

EN 12210

EN 12210: 2016 Windows and doors - Resistance to wind loads - classification

EN 12208

DIN EN 12208 Windows and doors - Watertightness - Classification

EN ISO 10140

EN ISO 10140-1: 2021 Acoustics - Laboratory measurement of sound insulation of building elements - Part 1: Application rules for specific products

DIN EN ISO 10077-2

DIN EN ISO 10077-2: 2017 Thermal performance of windows, doors and shutters - Calculation of thermal transmittance - Part 2: Numerical method for frames

EN 12207

EN 12207: 2016 Windows and doors - Air permeability - Classification

EN 1192

EN 1192: 2000 Doors - Classification of strength requirements

EN 1191

EN 1191: 2012 Windows and doors - Resistance to repeated opening and closing - Test method

EN 1603

DIN EN 1603:2013-05 Thermal insulating products for building applications - Determination of dimensional stability under constant normal laboratory conditions

EN 13115

EN 13115: 2020 Windows - Classification of mechanical properties - Racking, torsion and operating forces.

DIN EN 1634-1

DIN EN 1634-1 Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware - Part 1: Fire resistance test for door and shutter assemblies and openable windows

EN 13501-2

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