ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2

Owner of the Declaration VELUX Group

Programme holder Institut Bauen und Umwelt e.V. (IBU

Publisher Institut Bauen und Umwelt e.V. (IBU)

Declaration number EPD-VEL-20220112-CBB2-EN

 Issue date
 24.05.2022

 Valid to
 23.05.2027

VELUX BDX Insulation collar VELUX Group



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General Information

VELUX Group BDX Insulation collar Programme holder Owner of the declaration **VELUX Group** IBU - Institut Bauen und Umwelt e.V. Hegelplatz 1 Ådalsvej 99 10117 Berlin 2970 Hørsholm Germany Denmark **Declaration number** Declared product / declared unit EPD-VEL-20220112-CBB2-EN 1m2 insulation collar BDX The declared unit is based on the configuration of a standard size window measuring 0.78m x 1.178m. This declaration is based on the product Scope: category rules: Productline BDX - Collar/installation product; manufactured by VELUX in France and Poland for sale Windows and doors, 01.2021 in Europe. (PCR checked and approved by the SVR) Issue date Declaration according to ISO 14025 and EN 15804 describing specific environmental performances of the 24.05.2022 construction product. Valid to The owner of the declaration shall be liable for the 23.05.2027 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 Mary Leten The standard EN 15804 serves as the core PCR Independent verification of the declaration and data according to ISO 14025:2011 Dipl. Ing. Hans Peters internally externally (chairman of Institut Bauen und Umwelt e.V.) Prof. Dr. Birgit Grahl Dr. Alexander Röder (Managing Director Institut Bauen und Umwelt e.V.)) (Independent verifier)

Product

Product description/Product definition

The VELUX BDX insulation collar is a product for sale in the European market.

The Insulation collar is for insulation and closure of gaps between the window and roof.

The insulation collars consist of mainly steel and plastics.

The calculations are based on the BDX insulation collar.

For the placing on the market of the product in the European Union/European Free Trade Association (EU/EFTA) (with the exception of Switzerland) Regulation (EU) No. 305/2011 (CPR) applies. The product needs a declaration of performance taking into consideration DIN EN 16069:2012+A1:2015 Thermal insulation products for buildings – Factory made products of polyethylene foam (PEF) – Specification.

For the application and use, the respective national provisions apply.

Application

VELUX BDX insulation collaris used in renovation and new build. Either installed as a single window or in a combination of multiple windows.

Technical Data

The Declaration of Performance including relevant technical specifications and test methods/test standards can be downloaded from the website www.velux.com/ce-marking.

The performance values are specific for the BDX insulation collar.

The declared values in the table relate to the reference product. For other covered product variants, specific



values can be selected at the bottom of the abovementioned download page.

Constructional data

Name	Value	Unit
Fire resistance class DIN EN 1634-1	E	class
Thermal resistance λD	0.039	W/(mK)

Performance data of the product in accordance with the declaration of performance with respect to its essential characteristics according to *DIN EN 16069:2012+A1:2015* Thermal insulation products for buildings – Factory made products of polyethylene foam (PEF) – Specification.

Base materials/Ancillary materials

Name	Value	Unit
Galvanized steel	65	%
Polyethylene LD	18	%
Polypropylene	8	%
Polybutadiene	7	%
PA 6.6 with glass fibre	1	%
Hot-melt adhesive	1	%

REACH

This product/article/at least one partial article contains substances listed in the candidate list (date: 17.01.2022) exceeding 0.1 percentage by mass: no.

Recycled content

Name	Value	Unit
Steel	20	%
Polyethylene LD	0	%
Polypropylene	0	%
Polybutadiene	0	%
PA 6.6 with glass fibre	0	%
Hot-melt adhesive	0	%

Reference service life

A calculation of the reference service life according to *ISO 15686* is not possible.

The Bundesinstitut für Bau, Stadt und Raumforschung/Federal office for building and regional planning (*BBSR*) table declares for the complete roof window a service life dependent on the applied window frame material between 25 and ≥ 50 years. This includes collars and flashings as declared with this EPD.

LCA: Calculation rules

Declared Unit

The declared unit is one m² related to a reference window, that the collar is installed in connection with.

The declared unit is based on the representative product measuring 0.78m x 1.178m.

Declared unit

Name	Value	Unit
Declared unit	1	m ²
Weight per area	3.81	kg/representative product
Weight per area	4.14	kg/declared unit

System boundary

Type of EPD: Cradle to gate - with options. The following life cycle stages were considered:

Production stage A1-A3:

Consideration of the production of raw materials and their processing; transport of major material to the manufacturing site; assembly of semi-finished products to the final product; packaging material (including waste paper input for paper and cardboard).

End-of-Life stage C1, C2, C3:

C1: a manual demolition is assumed, resulting in indicator value "0".

C2: For the transport to EoL by truck a distance of 50 km is assumed.

C3: A scenario for the incineration of plastics in a waste incineration plant (WIP) is assumed.

The EoL-Scenario does not assume waste to be disposed on a landfill site. Module C4 is declared as "0".

Benefits for the next product system D:

Resulting electrical and thermal energy from the WIP, avoiding the generation of electricity and heat via fossil fuels, is considered.

The amount of metals after the reduction due to the net-flow calculations is sent to a recycling process. The effort for recycling, as well as the benefit for the regained metals are declared in module D.

Contribution of waste flows is considered in the modules where they occur.

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 software GaBi is used accompanied by the GaBi background data base (version 2021.2, 2021).



LCA: Scenarios and additional technical information

Characteristic product properties Information on biogenic Carbon

The following declared values refer to the declared unit of 1m².

Information on describing the biogenic Carbon Content at factory gate

The declared biogenic content comprises the paper manual and the packaging material consisting of cardboard, paper and wood. As module A5 is not declared, the information on packaging supports further EoL calculations.

Name	Value	Unit
Biogenic Carbon Content in product	0	kg C
Biogenic Carbon Content in accompanying packaging	0.267	kg C

The value refers to the following packaging material (per 1m²):

Paper (manual): 0.015kg, Cardboard packaging: 0.603kg, Paper insert: 0.003kg, PE-LD: 0.009kg

Reference service life

Name	Value	Unit
Life Span (according to BBSR) depending on window frame material	25 - 50	а

End of life (C1-C4)

0 (0. 0.)		
Name	Value	Unit
Collected separately waste type	4.14	kg
Recycling	2.7	kg
Energy recovery	1.43	kg

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

Name	Value	Unit
Steel (net-flow calculation)	3.41	kg/1m² product



LCA: Results

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A1	A2	A3	A4	A5	B1	B2	В3	B4	B5	В6	B7	C1	C2	C3	C4	D
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								[MJ]	1.88E+	4 00	0E+0	9.58E-3		86E-1	0.00E+	
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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, 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 or as there is limited experience with the indicator.

Disclaimer 3 – for "potential soil quality index". Due to a data lack in the foreground data of VELUX, the result has a very high uncertainty and refers only to the background data, which contain respective information.

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REACH

Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Regulation (EU) No. 305/2011 (CPR)

Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonized conditions for the marketing of construction products and repealingCounsicl Directive 89/106/EEC



Publisher

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