ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

BA2011 Standard 64/68 without glass

from

Diplomat Dörrar AB

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
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An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	info@environdec.com

Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product category rules (PCR): *PCR 2019:14 VERSION 1.3.2 (2023-12-08), c-PCR-007 (To PCR 2019:14) (2020-04-09)*
PCR review was conducted by: *The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact.*
Life Cycle Assessment (LCA)
LCA accountability: Anna Liljenroth, IVL Swedish Environmental Research Institute
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by individual verifier Third party verifier: Marcus Wendin, Miljögiraff AB Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.
EPDs within the same product category but from different programmes may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have
equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison.

Company information

Owner of the EPD: Diplomat Dörrar AB

Contact: Maria Hallebo, Jonathan Roos
E-mai: maria.hallebo@diplomatdorrar.se, jonathan.roos@diplomatdorrar.se

Description of the organisation: Diplomat Dörrar AB has a long tradition in door manufacturing and is one of the leading exterior door manufacturers in Sweden. In Bankeryd in Småland, approximately 25,000 exterior doors are produced annually. The company has around 75 employees and is represented throughout Sweden, Norway and Denmark.

Since 2006 Diplomat Dörrar AB has been a part of Inwido. As Europe's leading window group, Inwido's business concept is to develop and sell the market's best customized window and door solutions through a decentralized structure and with a focus on the consumer-driven market, in order to create long-term sustainable growth, organically and through acquisitions. Inwido consists of 28 business units with approximately 4,300 employees in eleven countries.

Name and location of production site: Bankeryd, Sweden

Product information

Product name: BA2011 Standard 64/68 without glass

Product description:
Sidehung, wooden, outward going, external door used in facades for domestic or public buildings.

According to the Construction Products Regulation CPR (EU) no. 305/2011, the essential properties of the product must be declared in the CE marking and Declaration of Performance. The technical properties of the door are declared in the Declaration of Performance, DoP no. 82-29-650 which can be accessed on Diplomat's website.

UN CPC code: 31600 (Builder's joiner and carpentry of wood)

Geographical scope: Sweden, Norway, Denmark

Expected durability: 15-30 years

The picture shows the product BA2011 Standard 64/68 without glass.

LCA information

Functional unit / declared unit:
1 m^2 of product

The door has the dimensions 985 x 2085 mm. The weight per square meter is 21.4 kg. Thereby the conversion factor needed to recalculate the results to per kg is (1/21.4).

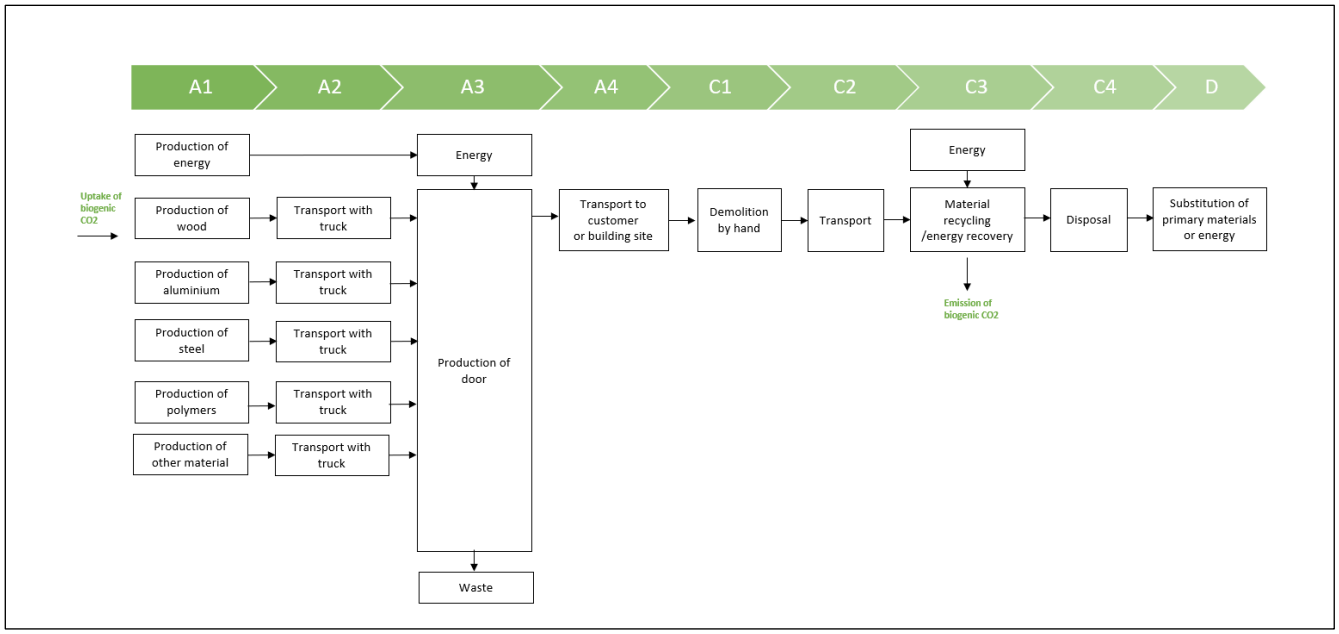
Time representativeness: 2021

Database(s) and LCA software used: Sphera database and ecoinvent. IVLs EPD Generator for TMF Windows & Doors.

Description of system boundaries: The EPD is a so-called Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3 + C + D and additional modules). The additional modules are A4. Excluded life-cycle stages are A5, B1-B7. This is referred to a Type B EPD in the PCR.

The polluter pays principle is applied according to PCR. For waste management, this means that emissions that occur at material recycling facilities must be allocated to the next life cycle, if the next life cycle pays for the residual material. However, transport to the recycling facility is included. The life cycle begins with the extraction of raw materials used for the products, which defines the boundary with nature.

System diagram:



- Module A1: Production of raw materials.
- Module A2: Transportation of raw materials to Diplomat Dörrar's factory.
- Module A3: Manufacturing.
- Module A4: Transport of product to customer or building site.
- Module C1: Demolition.
- Module C2: Transport to waste processing.
- Module C3: Waste processing.
- Module C4: Disposal.
- Module D: Benefits and loads beyond the system boundary.

Allocation: Incoming energy, water and waste production in-house is allocated equally among all joint co-products through mass allocation.

Transportation: The transport included in this study is the transport of raw materials, products to customers and waste from the production site. The transport is mostly carried out through heavy trucks.

Energy utilities: Both electricity and heat are used at the factory. Electricity is based on wind power, with a GWP-GHG value of 0.0069 kg CO_2-eq. per kWh. The heat applied is from Swedish district heat.

Secondary energy: No secondary energy has been used.

Direct emissions from production: Direct emissions occur as VOC emissions from painting.

Waste: Waste is generated from wastage in production as well as packaging from various products.

Scenario for module A4: The product is transported 292 km to customer by a 26-tonne truck. This is calculated as a weighted average between transport to Sweden, Norway and Denmark.

Scenario for module C1: The product is assumed to be dismantled by hand, and therefore no energy is required for this step.

Scenario for module C2: Transport to waste management or landfill is carried out through a 26-tonne truck for 35 km.

Scenario for module C3: Wooden parts are assumed to be chipped, incinerated and the energy recovered. Metals (aluminium and steel) are recycled with an efficiency of 95%, the remaining 5% are sent for disposal on a landfill.

Scenario for module C4: The remaining materials are assumed to be send for disposal on a landfill.

Scenario for module D: Wood: As applied in C3. All heat generated replaces district heat. Metals: Avoided production of primary steel and aluminium.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	SE	SE	SE	SE/ NO/ FI	-	-	-	-	-	-	-	-	SE/NO/ FI	SE/NO/ FI	SE/NO/ FI	SE/NO/ FI	SE/NO/ FI
Specific data used	13%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	-					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	-					-	-	-	-	-	-	-	-	-	-	-	-

Content declaration

The content declaration is presented per declared unit, 1 m^2.

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/m^2
Wood	31.28	0	100, 12.5
Aluminium	5.94	0	0
Steel	1.94	0	0
Polymers	2.47	0	0
Other materials (adhesives, paint etc.)	2.35	0	0
Sum	43.99	0	71, 12.5
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**	**Weight biogenic carbon, kg C/m^2**
Spruce	1.00	2	0.4
Masonite	3.50	8	1.4
Polystyrene	0.21	0	0
LDPE	0.16	0	0
Sum		10	1.8

Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per functional or declared unit
None			

Environmental performance

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Furthermore, usage of results of modules A1-A3 without considering the results of module C is not encouraged.

Potential environmental impact – mandatory indicators according to EN15804

Results per functional or declared unit									
INDICATOR		**UNIT**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
Global warming potential (GWP)	Fossil	kg CO_2 eq.	4.95E+01	7.60E-01	0.00E+00	7.44E-02	3.59E-02	3.84E-02	-2.54E+01
	Biogenic	kg CO_2 eq.	-3.82E+01	9.56E-03	0.00E+00	9.37E-04	3.82E+01	-1.12E-03	3.21E-01
	Land use and land use change	kg CO_2 eq.	2.03E-01	6.29E-03	0.00E+00	6.16E-04	2.98E-04	1.13E-04	-4.21E-03
	TOTAL	kg CO_2 eq.	1.16E+01	7.75E-01	0.00E+00	7.60E-02	3.82E+01	3.74E-02	-2.51E+01
Depletion potential of the stratospheric ozone layer (ODP)		kg CFC 11 eq.	2.47E-07	9.81E-17	0.00E+00	9.61E-18	4.64E-18	1.49E-16	-2.26E-08
Acidification potential (AP)		mol H+ eq.	2.29E-01	4.42E-03	0.00E+00	4.33E-04	2.09E-04	2.74E-04	-1.32E-01
Eutrophication potential (EP)	Freshwater	kg P eq.	1.41E-03	2.28E-06	0.00E+00	2.23E-07	1.08E-07	6.45E-08	-1.69E-05
	Marine	kg N eq.	4.79E-02	2.17E-03	0.00E+00	2.12E-04	1.02E-04	7.11E-05	-1.84E-02
	Terrestrial	mol N eq.	5.21E-01	2.40E-02	0.00E+00	2.35E-03	1.13E-03	7.80E-04	-1.98E-01
Formation potential of tropospheric ozone (POCP)		kg NMVOC eq.	1.94E-01	4.17E-03	0.00E+00	4.08E-04	1.97E-04	2.15E-04	-5.57E-02
Abiotic depletion potential	Minerals and metals**	kg Sb eq.	1.13E-04	5.85E-08	0.00E+00	5.73E-09	2.77E-09	3.63E-09	-5.03E-06
	Fossil resources**	MJ	7.11E+02	1.02E+01	0.00E+00	1.00E+00	4.84E-01	5.11E-01	-3.03E+02
Water scarcity potential (WDP)**		m^3	3.84E+01	6.67E-03	0.00E+00	6.53E-04	3.16E-04	4.12E-03	-6.86E+01

** Disclaimer: The results of this environmental impact indicator should be used with caution as the uncertainty in these results is large or because there is limited experience with the indicator.

"E" means exponent (10x). For example, 3.5 E-02 means 3.5*10-2 and can be read as 0.035.

Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit								
INDICATOR	**UNIT**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
Potential incidence of disease due to particulate matter emissions (PM)	Disease incidence	4.59E-06	1.54E-08	0.00E+00	1.51E-09	7.30E-10	3.40E-09	2.90E-04
Potential human exposure efficiency relative to U235 (IRP)*	kBq U235 e	6.59E+00	1.77E-03	0.00E+00	1.74E-04	8.39E-05	5.64E-04	-3.55E+00
Potential comparative toxic unit for ecosystems (ETP-fw)**	CTUe	4.91E+02	7.39E+00	0.00E+00	7.24E-01	3.50E-01	2.90E-01	-9.86E+01
Potential comparative toxic unit for humans – Cancer**	CTUh	4.14E-08	1.49E-10	0.00E+00	1.46E-11	7.06E-12	4.29E-11	-5.58E-09
Potential comparative toxic unit for humans – Non cancer**	CTUh	2.44E-06	8.29E-09	0.00E+00	8.12E-10	3.92E-10	4.73E-09	-1.98E-07
Potential soil quality index (SQP)**	Dimensionless	3.21E+03	3.51E+00	0.00E+00	3.44E-01	1.66E-01	1.03E-01	-1.56E+01

*Disclaimer: 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 ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

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Use of resources

Results per functional or declared unit									
INDICATOR		UNIT	A1-A3	A4	C1	C2	C3	C4	D
Primary energy resources – Renewable	Use as energy carrier	MJ	9.56E+02	5.70E-01	0.00E+00	5.59E-02	2.70E-02	6.86E-02	9.00E+00
	Used as raw materials	MJ	1.43E+02	0.00E+00	0.00E+00	0.00E+00	-1.43E+02	0.00E+00	0.00E+00
	TOTAL	MJ	1.10E+03	5.70E-01	0.00E+00	5.59E-02	-1.43E+02	6.86E-02	9.00E+00
Primary energy resources – Non-renewable	Use as energy carrier	MJ	7.15E+02	1.02E+01	0.00E+00	1.00E+00	4.84E-01	5.11E-01	-2.93E+02
	Used as raw materials	MJ	5.28E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL	MJ	7.68E+02	1.02E+01	0.00E+00	1.00E+00	4.84E-01	5.11E-01	-2.93E+02
Secondary material		kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Renewable secondary fuels		MJ	3.79E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-9.24E+01
Non-renewable secondary fuels		MJ	1.03E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-2.50E+01
Net use of fresh water		m^3	5.69E-01	6.53E-04	0.00E+00	6.40E-05	3.09E-05	1.26E-04	-2.95E-01

Waste production and output flows

Waste production

Results per functional or declared unit								
PARAMETER	UNIT	A1-A3	A4	C1	C2	C3	C4	D
Hazardous waste disposed	kg	3.98E-03	5.16E-10	0.00E+00	5.05E-11	2.44E-11	5.41E-11	-1.85E-07
Non-hazardous waste disposed	kg	9.33E+00	1.52E-03	0.00E+00	1.49E-04	7.20E-05	2.54E+00	-6.34E+00
Radioactive waste disposed	kg	3.37E-02	1.24E-05	0.00E+00	1.21E-06	5.86E-07	5.36E-06	-2.01E-02

Output flows

Results per functional or declared unit								
INDICATOR	**UNIT**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	2.07E-01	4.79E+00	0.00E+00	0.00E+00	3.65E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E+01	0.00E+00	0.00E+00
Exported energy, electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Other environmental performance indicators

Results per functional or declared unit								
INDICATOR	**UNIT**	**A1-A3**	**A4**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-IOBC/GHG	kg CO2 eq	4.97E+01	7.66E-01	0.00E+00	7.50E-02	3.62E-02	3.85E-02	-2.54E+01

References

- General Programme Instructions of the International EPD® System. Version 4.0.

- EN 15804:2012+A2:2019. Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products. CEN European Committee for Standardisation (2019).

- EN 17213:2020 “Windows and Doors – Environmental Product Declarations – Product category rules for windows and pedestrian doorsets”

- Liljenroth, A., Herrero, M. & Hallberg, L (2024). LCA report Diplomat Dörrar AB

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- PCR 2019:14. Construction products. version 1.3.2 (2023-12-08)

- PCR 2019:14-c-PCR-007 Windows and doors (EN 17213) (2020-04-09). EPD International.