Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

Ecolid steel door 10x21

EPD of multiple products, based on the average results of the product group

from

Pridо

Programme:	The International EPD® System, www.environdec.com
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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, 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 Construction products (EN 15804+A2) (1.3.2)*
PCR review was conducted by: *The PCR was developed within CEN standardisation, and adopted as a c-PCR by the International EPD® System. There was thus no additional open consultation period and no additional review in addition to those within standardisation.*
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: Martin Erlandsson, IVL Svenska Miljöinstitutet 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. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD: Prido
Industrigatan 3,
SE-534 92 Tråvad
The EPD owner has the sole ownership

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Description of the organisation: In a highly automated and state-of-the-art facility, situated in the middle of the Swedish province of Västergötland, Prido produces more than 13,500 high-quality industrial doors every year, making them one of Europe's largest folding door manufacturers. Founded in 1973, Prido has more than 45 years of experience in the field of industrial doors. By gathering development and production under the same roof, the production achieves economies of scale that offer unique competitive advantages, in terms of both costs and quality. Prido's industrial doors provide quality, technology and design combined with low purchase and maintenance costs.

Name and location of production site: Prido has one production site in Tråvad, at Industrigatan 3, SE-534 92 Tråvad.

Product information

Product name: Ecolid steel door 10x21

Product identification: EN13241

Product description: This EPD covers a product group that includes two versions of Ecolid Steeldoor:

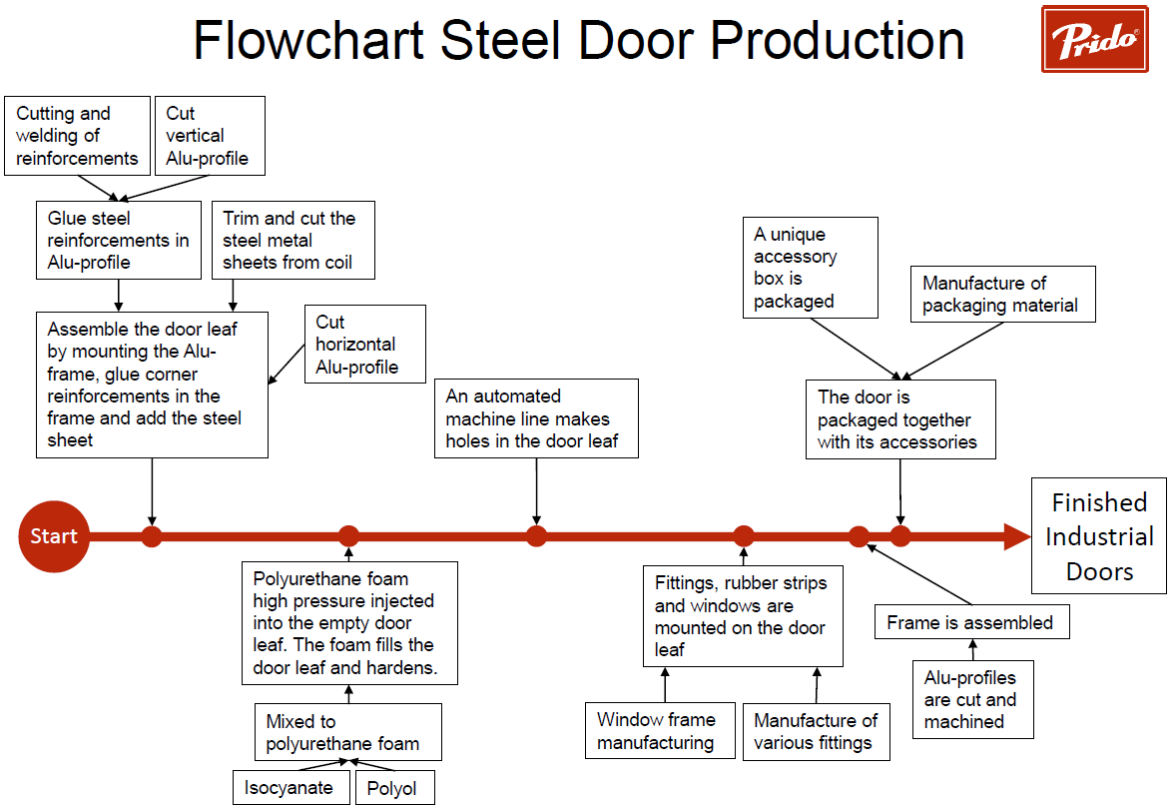
- Ecolid Steel Door 10x21, without window
- Ecolid Steel Door 10x21, with window

Ecolid steel door is a door consisting of 50 mm process-laminated sandwich panels; door sections covered in steel sheet, frame of natural anodised aluminium profiles and insulation of polyurethane foam. A window made of glas can be included.

A door leaf is built from natural anodised aluminium profile and reinforced with steel. The door leaf is covered with hot-dip galvanized and factory-painted steel sheet. The door leaf is insulated with high-pressure-injected polyurethane foam. Drilling and milling are then done on the door leaf in an automated way. The frame is made from natural anodised aluminium and the threshold is made of steel. Rubber strips, hinges and windows are mounted on the door leaf and finally the door is packaged for transport.

UN CPC code: 4212

Geographical scope: Sweden



LCA information

Declared unit : One Ecolid Steel Door 10x21[1]

The average results for Ecolid Steel Door are based on calculations for an industrial door with the dimension 1 x 2,1 meter, with and without a window of 0,48 x 0,862 meter. An industrial door with these specifications has a weight of 68,6 kg (with window) respectively 57,2 kg (without window). The door is delivered with a packaging with a weight of 5,8 kg.

The average results for the two products are weighted according to the production volumes of the included products.

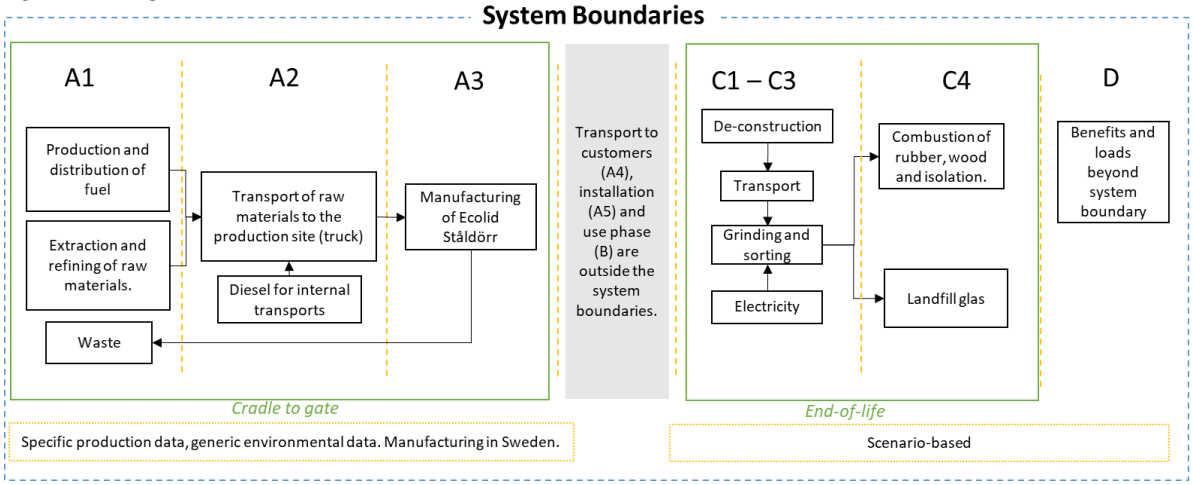
Reference service life: Durability 1 000 000 cycles according to EN13241.

Time representativeness: Data is representative for production year 2021. For materials, energy and transports, generic industry data from Ecoinvent and Agri-footprint has been used. The sales data that are used to the weighting of the average result is representative for the year 2022.

Databases and LCA software used: Ecoinvent 3.8, Agri-footprint and SimaPro 9.3.0.3.

Description of system boundaries: Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D.

System diagram:



Estimates and assumptions: Heat, electricity, and other energy use as well as waste in the production are calculated as a weighted average per produced tonne of all products using yearly production data and rate for 2021. No assumptions made.

Cut off criteria: All major materials, production energy use and waste are included. Materials less than 1 % weight in the product are not considered.

Data quality: The data quality can be described as fair for waste estimations and transports and good for other data. The primary data collection has been done thoroughly and all relevant flows are considered.

[1] The average results for the product group

Electricity: The energy source for electricity in the manufacturing process (A1-A3) is the residual electricity mix on the market in Sweden. The climate impact (GWP-GHG indicator) for used dataset is 0,044 kg CO2 eq./kWh.

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

	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	ND	ND	ND	ND	ND	ND	ND	ND	ND	x	x	x	x	X
Geography	GLO	GLO	SE	-	-	-	-	-	-	-	-	-	SE	SE	SE	SE	SE
Specific data used	11%*					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	11%*					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	Only one site					-	-	-	-	-	-	-	-	-	-	-	-

**GWP-GHG results for A1-A3*

Scenario Based Calculation:

Module C and D is calculated based on a scenario. The scenario is created based on how Prido recommends their customers to deal with the product at its end-of-life stage.

Module C –The industrial door is disassembled from its place of use, by unscrewing screws (module C1). The impact from this stage, module C1, is neglectable due to its low impact. Ecolid Steel door is then transported to a recycling centre, 30 km by truck (module C2). At the recycling centre a grinding process takes place which separates the aluminium, steel, glass and combustible materials. The combustible materials, isolation, wood and rubber, are combusted in a thermal power plant (module C3). The glass from the windows is landfilled (C4).

Module D – In this module the circular benefits arise due to circular functions in the system. The aluminium and steel in the product get material recycled and replace primary steel in steel production. The scrap content in the ingoing material is considered, and only the part of the new steel provides benefits. The combustion in C3 provides benefits by replacing other electricity in the electricity grid. It is assumed that the produced energy from the combustion replaces a Swedish mix of the electricity.

Content information

Product components (average product)	Weight, kg	Post-consumer material, weight-%	Renewable material, weight-%
Steel	33,7		
Aluminium	19,0		
Isolation	4,3		
Glas	1,5		
Rubber	0,5		
Plastic	0,2		
TOTAL	59,2		
Packaging materials	**Weight, kg**	**Weight-% (versus the product)**	
Steel	0,1	0,1 %	
Wood	5,7	10,2 %	
TOTAL	5,8	10,3 %	

End-of-life (C1-C4)	Unit (per declared unit)	Weight
Collection processes specified by type	kg collected separately	59,2
	kg collected with mixed construction waste	0,0
Recovery system specified by type	kg for re-use	0,0
	kg for recycling	52,7
	kg for energy recovery	5,1
Disposal specified by type	kg product or material for final deposition	1,5
Assumptions for scenario development e.g. transportation	km	30[2] 150[3]

[2] The average transport distance to recycling centre is assumed to 30 km.

[3] The average transport distance from the recycling centre to the fragmentation is assumed to 150 km.

Environmental Information per Ecolid Steel door 10x21

Potential environmental impact – mandatory indicators according to EN 15804

Results per Ecolid Steel door 10x21 (average results of the product group)										
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	2,45E+02	3,42E+00	5,02E-07	2,49E+02	6,14E-02	2,16E+00	5,71E+00	1,55E-02	-1,24E+01
GWP-biogenic**	kg CO_2 eq.	1,39E+00	3,05E-03	1,04E+01	1,18E+01	5,24E-05	1,84E-03	7,91E+00	1,20E-04	-1,28E-01
GWP-luluc	kg CO_2 eq.	4,40E-01	1,42E-03	2,39E-12	4,42E-01	2,41E-05	8,47E-04	1,55E-02	1,57E-05	-1,41E-01
GWP-total	kg CO_2 eq.	2,57E+02	3,42E+00	5,02E-07	2,61E+02	0,00E+00	2,16E+00	1,36E+01	1,57E-02	-1,27E+01
ODP	kg CFC 11 eq.	1,32E-05	7,75E-07	7,86E-14	1,39E-05	1,42E-08	4,99E-07	7,56E-08	4,73E-09	6,94E-07
AP	mol H^+ eq.	1,34E+00	2,32E-02	1,53E-09	1,36E+00	2,49E-04	8,75E-03	4,76E-03	1,31E-04	-1,23E-01
EP-freshwater	kg P eq	9,22E-02	2,55E-04	1,61E-11	9,25E-02	3,96E-06	1,39E-04	4,95E-04	4,51E-06	2,24E-03
EP-marine	kg N eq.	2,66E-01	5,84E-03	2,11E-10	2,72E-01	7,51E-05	2,64E-03	2,40E-03	4,52E-05	-3,53E-02
EP-terrestrial	mol N eq.	2,68E+00	6,44E-02	2,29E-09	2,75E+00	8,21E-04	2,88E-02	1,93E-02	4,92E-04	-3,00E-01
POCP	kg NMVOC eq.	8,67E-01	1,87E-02	8,01E-10	8,86E-01	2,51E-04	8,82E-03	4,85E-03	1,42E-04	-7,30E-02
ADP-minerals&metals *	kg Sb eq.	1,02E-02	1,05E-05	2,85E-14	1,02E-02	2,14E-07	7,50E-06	5,14E-06	5,08E-08	-1,81E-04
ADP-fossil*	MJ	3,02E+03	5,13E+01	6,94E-06	3,07E+03	9,29E-01	3,26E+01	3,45E+01	3,65E-01	-6,77E+01
WDP	m^3	1,71E+02	1,77E-01	4,97E-06	1,71E+02	2,78E-03	9,76E-02	1,06E+00	1,59E-02	3,31E+04
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption									

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

*** Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2. Energy stored in packing material is direct balanced out in A1.*

Potential environmental impact – additional mandatory and voluntary indicators

Results per Ecolid Steel door 10x21 (average results of the product group)										
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG[4]	kg CO_2 eq.	2,46E+02	3,42E+00	5,02E-07	2,49E+02	6,15E-02	2,16E+00	5,73E+00	1,55E-02	-1,26E+01
Additional voluntary indicators e.g. the voluntary indicators from EN 15804 or the global indicators according to ISO 21930:2017										

Use of resources

Results per Ecolid Steel door 10x21 (average results of the product group)										
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	4,67E+02	7,95E-01	2,06E-08	4,68E+02	1,31E-02	4,59E-01	1,23E+01	6,24E-03	4,52E+01
PERM	MJ	1,09E+02	0,00E+00	0,00E+00	1,09E+02	0,00E+00	0,00E+00	-1,09E+02	0,00E+00	0,00E+00
PERT	MJ	5,76E+02	7,95E-01	2,06E-08	5,77E+02	1,31E-02	4,59E-01	-9,71E+01	6,24E-03	4,52E+01
PENRE	MJ	3,40E+03	5,45E+01	7,37E-06	3,46E+03	9,86E-01	3,46E+01	3,50E+01	3,88E-01	1,80E+01
PENRM	MJ	1,25E+02	0,00E+00	0,00E+00	1,25E+02	0,00E+00	0,00E+00	-1,25E+02	0,00E+00	0,00E+00
PENRT	MJ	3,53E+03	5,45E+01	7,37E-06	3,58E+03	9,86E-01	3,46E+01	-9,05E+01	3,88E-01	1,80E+01
SM	kg	1,46E+01	0,00E+00	0,00E+00	1,46E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	MJ	8,37E-22	0,00E+00	0,00E+00	8,37E-22	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	MJ	9,84E-21	0,00E+00	0,00E+00	9,84E-21	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m^3	1,69E+02	1,77E-01	4,97E-06	1,69E+02	2,80E-03	9,82E-02	1,04E+00	1,59E-02	1,06E+04
Acronyms	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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water									

[4] The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.

Waste production and output flows

Waste production

Results per Ecolid Steel door 10x21 (average results of the product group)										
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	6,25E-01	0,00E+00	2,00E-02	6,45E-01	0,00E+00	0,00E+00	0,00E+00	1,48E+00	0,00E+00
Non-hazardous waste disposed	kg	9,15E-01	0,00E+00	0,00E+00	9,15E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Radioactive waste disposed	kg	2,43E-03	0,00E+00	0,00E+00	2,43E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

Output flows

Results per Ecolid Steel door 10x21 (average results of the product group)										
Indicator	**Unit**	**A1**	**A2**	**A3**	**Tot.A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0,00E+00	0,00E+00	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	2,85E-01	0,00E+00	2,16E+00	2,45E+00	0,00E+00	0,00E+00	5,27E+01	0,00E+00	0,00E+00
Materials for energy recovery	kg	2,28E-03	0,00E+00	4,80E-01	4,82E-01	0,00E+00	0,00E+00	5,05E+00	0,00E+00	0,00E+00
Exported energy, electricity	MJ	5,53E-03	0,00E+00	0,00E+00	5,53E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,05E+01
Exported energy, thermal	MJ	1,12E-02	0,00E+00	0,00E+00	1,12E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,11E+02

Information on biogenic carbon content

Results per Ecolid Steel door 10x21 (average results of the product group)		
BIOGENIC CARBON CONTENT	**Unit**	**QUANTITY**
Biogenic carbon content in product	kg C	0
Biogenic carbon content in packaging	kg C	6,86E-02

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2. Energy stored in packing material is direct balanced out in A1.

References

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

PCR 2019:14 Construction products (EN 15804+A2) (1.3.2)

EN 15804:2012 + A2:2019 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products

c-PCR Windows and doors 2020-04-09.

Bergström, M. LCA Report Ecolid Steel Door - multiple products 2023

Ecoinvent 3.8 database, http://www.ecoinvent.org/

Agri-footprint database, https://www.agri-footprint.com/

LCA software SimaPro Analyst 9.3.0.3

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