EN 15804+A2 EPD

ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804+A2.
Owner of the Declaration – EJ

Declaration number: EPDIE-23-122
Issue date 14th June 2024
Valid to 13th June 2029

EPD Programme - EPD Ireland
Programme Operator - Irish Green Building Council
www.epdireland.org

Fabricated Steel Access Cover (IE)

1. General information

PROGRAMME OPERATOR	OWNER OF DECLARATION
Irish Green Building Council 19 Mountjoy Square, Dublin D01 E8P5 info@igbc.ie	EJ Birr, Co. Offaly, R42 X009, Ireland www.ejco.com
DECLARATION NUMBER	**PRODUCTION SITE**
EPDIE-23-122	EJ Birr Birr, Co. Offaly R42 X009, Ireland
ECO PLATFORM EPD	**DECLARED UNIT**
Yes	1 kg of Fabricated Steel Access Cover
APPLICABLE PRODUCT CATEGORY RULES	**DECLARED PRODUCT**
1. EN 15804:2012+A2:2019 2. EPD Ireland PCR Part A	1 kg of Fabricated Steel Access Cover
DATE OF ISSUE	**SCOPE OF EPD**
14th June 2024	Cradle to gate with options, modules C1–C4, and module D
DATE OF EXPIRY	**LCA CONSULTANT OR PERSON RESPONSIBLE FOR LCA**
13th June 2029	Clearstream Solutions, Dublin, Ireland +353 (1) 297 3390 www.clearstreamsolutions.ie
TYPE OF EPD: SINGLE OR MULTI PRODUCT	**LCA SOFTWARE AND DEVELOPER IF APPLICABLE**
Single product EPD	OpenLCA version 2.0.3
PRODUCT CLASSIFICATION OR NACE CODE	**NAME AND VERSION OF INVENTORY USED**
CPC 4219 Other structures (except prefabricated buildings) and parts of structures, of iron, steel or aluminium	Ecoinvent version 3.9.1
COMPARABILITY	
Environmental Product Declarations from different programmes may not be directly comparable if not compliant with EN 15804:2012+A2:2019. Comparability is further dependent on the specific product category rules, system boundaries and allocations, and background data sources. See clause 5.3 of EN 15804:2012+A2:2019	
The CEN Norm /EN 15804 serves as the core PCR	
Independent verification of the declaration according to ISO 14025	

Internally ☐ Externally ×

SIGNATURE OF PROGRAMME OPERATOR	SIGNATURE VERIFIER
Pat Barry - CEO - Irish Green Building Council  IGBC IRISH GREEN BUILDING COUNCIL	Stephen Forson - ViridisPride Ltd  Viridis Pride

2. Scope and Type of EPD

Scope

This is a Cradle to Gate with options C1-C4 and D EPD. The Modules that are declared are shown in the table below.

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	ND	ND	ND	ND	ND	X	X	X	X	X
MDT	**MDT**	**MDT**	**OP**	**OP**	**OP**	**OP**	**OP**	**OP**	**OP**	**OP**	**OP**	**MDT**	**MDT**	**MDT**	**MDT**	**MDT**

X = Module declared; ND = Module not declared; MDT = Mandatory; OP = Optional.

Declared Functional Unit

1 kg of fabricated steel access cover; weight of declared unit = 1.0 kg.

System Boundaries

This LCA covers the Product (A1-A3), End of Life (C1-C4), and benefits and loads beyond the system boundary (D).

3. Detailed product description

EJ steel fabricated lift assist access covers are designed to give the operator easy access to their assets. The lift assist covers are designed to have a maximum lifting effort of 25kg meaning they can be opened through a single person lift. All units are manufactured to order at EJ Birr, Ireland production facility. They can be manufactured to bespoke sizes and configurations ensuring the customers' full needs are met. Configurations include Single, Twins & Multiple units. Size of the representative product for LCA is 1400x800 mm. The product complies fully with the standard EN124:2015.

Product Components	Weight	Unit	% of Total Weight
Cover + Frame - Steel	0.97	kg	96.73%
Galvanised Coating - Zinc	0.03	kg	3.27%
Total	**1.00**	**kg**	
Packaging Materials	**Weight**	**Unit**	**Weight - % (versus the product)**
Pallet - Wood	0.06	kg	6.43%
Banding - Polyester	0.00	kg	0.05%

Cover & Frame Clear Opening Size		EN124 Loading				
Length (mm)	Width (mm)	No. of Covers	Total Cover Weight (kg)	Frame Weight (kg)	Total Cover & Frame Weight (kg)	Load Class
600	600	1	60.57	54.98	115.55	B125
800	800	1	71.13	39.14	110.27	B125
900	900	1	98.45	72.91	171.36	B125
1000	1000	1	128.07	78.5	206.57	B125
1100	1300	2	97.12	115.29	309.53	B125
1200	1200	2	95.76	121.45	312.97	B125
1400	800	1	127.57	96.09	223.66	B125
2700	1800	4	134.02	363.06	899.14	B125
4050	1200	3	169.45	285.83	794.18	B125
600	600	1	77.77	65.55	143.32	D400
1000	800	1	140.91	89.39	230.3	D400
1400	800	1	186.02	153.71	339.73	D400
2000	2000	2	339.97	312.14	992.08	D400
3300	1600	6	135.69	455.9	1270.04	D400

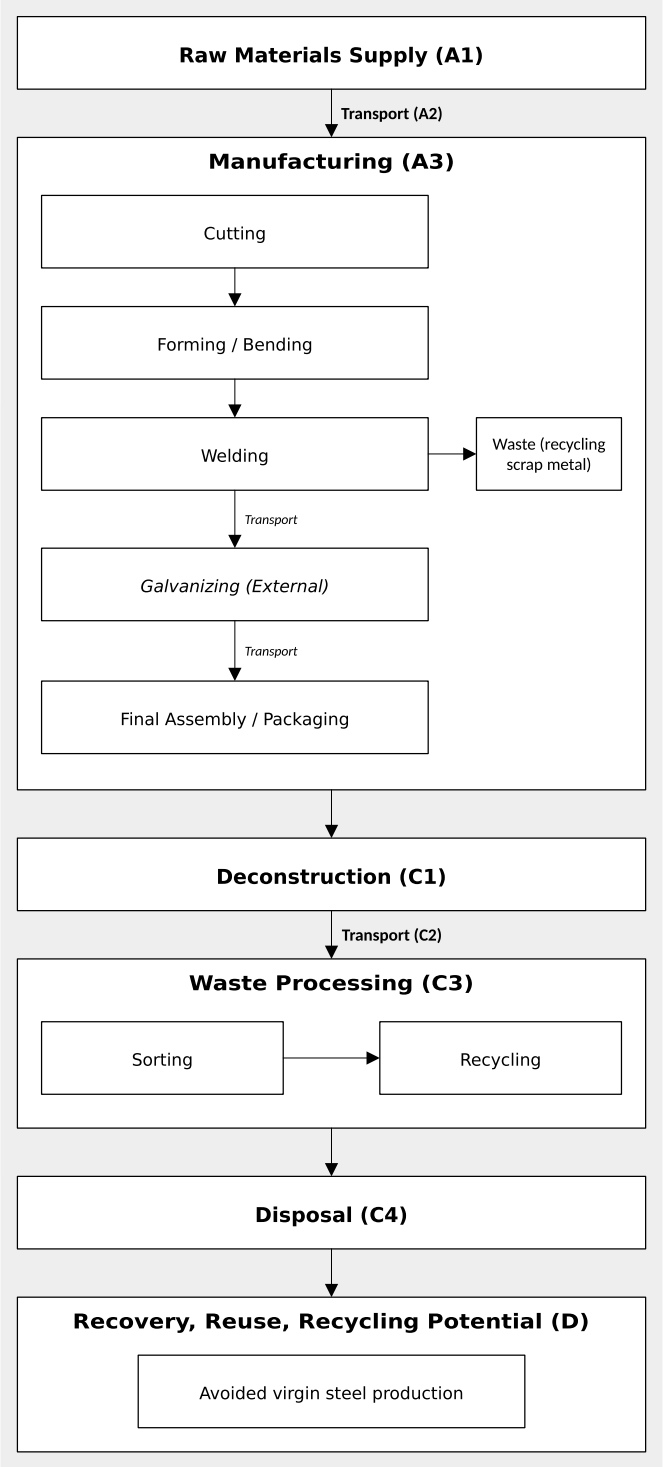
**The table above provides clear opening dimensions and weights for common sizes of fabricated steel units. The weight of the cover and frame can be used to calculate the environmental indicators on pages 5-7.*

3.1 Manufacturing Process Description

The manufacturing process for fabricated steel access covers begins with the design of the access cover based on the specific requirements and configuration according to EJ client's needs. Then, steel sheets are cut into desired size and shape for the access cover. This may involve using cutting methods such as plasma or cutting saw. The cut steel pieces are then formed into the required shape through bending. This is done using presses to achieve precise angles and contours.

The waste generated from the cutting process are off cuts which are collected in a scrap metal collection skip. This skip is collected by the waste collection service supplier and transported via road to a local scrap metal recycling facility.

The bent steel components are assembled and welded to form the structure of the access cover. Welding ensures that the pieces are securely joined and provides structural integrity. The method used for welding is gas welding using blended gases as a fuel. The access covers undergo surface treatment to enhance its corrosion resistance and durability. This is done by means of hot-dip galvanizing, which provides a protective zinc coating. The galvanization of the access cover is done externally so the access covers are transported to a facility via a third party. Once returned to EJ manufacturing site, various features are added to the access covers as needed, such as handles, locking mechanisms, or lifting points. The completed access covers then undergo final quality control checks before being packaged for transportation and delivered. The packaging used for the access covers is a wooden pallet and banding to strap the access covers securely.



4.A. LCA results - One kilogram of fabricated steel access cover

Core Environmental impact per 1 kilogram of fabricated steel access cover

PARAMETER	UNIT	A1	A2	A3	TOTAL A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	[kg CO_2 eq.]	2.21E+00	1.51E-02	1.67E-01	2.39E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.25E-03	5.98E-02	0.00E+00	-5.40E-04
GWP-fossil	[kg CO_2 eq.]	2.20E+00	1.51E-02	1.68E-01	2.38E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	9.24E-03	5.97E-02	0.00E+00	-2.30E-03
GWP-biogenic	[kg CO_2 eq.]	1.03E-02	1.34E-05	-1.03E-03	9.26E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	8.18E-06	3.51E-05	0.00E+00	-9.38E-03
GWP-luluc	[kg CO_2 eq.]	1.64E-03	7.46E-06	7.51E-05	1.72E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.56E-06	1.14E-05	0.00E+00	-1.16E+00
ODP	[kg CFC-11 eq.]	3.92E-08	3.29E-10	6.63E-09	4.62E-08	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.01E-10	1.24E-08	0.00E+00	-3.89E+00
AP	[mol H+ eq.]	9.93E-03	3.34E-05	8.70E-04	1.08E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.02E-05	6.10E-04	0.00E+00	-1.19E+01
EP-freshwater[1]	[kg P eq.]	1.05E-03	1.07E-06	5.20E-05	1.10E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.57E-07	3.09E-06	0.00E+00	-4.02E+00
EP-marine	[kg N eq.]	2.24E-03	8.42E-06	1.20E-04	2.37E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.09E-06	2.70E-04	0.00E+00	-5.90E-04
EP-terrestrial	[mol N eq.]	2.27E-02	8.56E-05	1.37E-03	2.42E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	5.18E-05	2.93E-03	0.00E+00	-8.80E-04
POCP	[kg NMVOC eq.]	1.04E-02	5.15E-05	4.60E-04	1.10E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.13E-05	8.10E-04	0.00E+00	-7.72E-08
ADP-minerals&metals[2]	[kg Sb eq.]	1.77E-05	5.05E-08	3.32E-06	2.11E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.09E-08	4.12E-08	0.00E+00	0.00E+00
ADP-fossils[2]	[MJ] ncv	2.46E+01	2.16E-01	2.58E+00	2.74E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.32E-01	8.31E-01	0.00E+00	-1.06E-05
WDP[2]	m^3 world eq. deprived	1.01E+00	1.07E-03	4.93E-02	1.06E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.60E-04	2.82E-03	0.00E+00	-4.98E-03

GWP-total = Global Warming Potential total; GWP-fossil = Global Warming Potential fossil fuels (GWP-fossil; 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-fossils = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential, deprivation-weighted water consumption.

[2]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 experienced with the indicator.

ND = Module not declared; INA = Indicator not assessed.

4.B. LCA results - One kilogram of fabricated steel access cover

Resource use per 1 kilogram of fabricated steel access cover

PARAMETER	UNIT	A1	A2	A3	TOTAL A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	[MJ]	2.49E+00	3.37E-03	1.84E-01	2.67E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.06E-03	9.01E-03	0.00E+00	-1.20E+01
PERM	[MJ]	0.00E+00	0.00E+00	4.45E-02	4.45E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-1.30E+00
PERT	[MJ]	2.49E+00	3.37E-03	2.28E-01	2.72E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	2.06E-03	9.01E-03	0.00E+00	0.00E+00
PENRE	[MJ]	2.40E+01	1.97E-01	2.48E+00	2.67E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.21E-01	8.31E-01	0.00E+00	-1.89E-01
PENRM	[MJ]	5.95E-01	1.87E-02	1.03E-01	7.17E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.15E-02	0.00E+00	0.00E+00	-1.18E+01
PENRT	[MJ]	2.46E+01	2.16E-01	2.58E+00	2.74E+01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.32E-01	8.31E-01	0.00E+00	-1.64E-01
SM	[kg]	4.11E-01	0.00E+00	0.00E+00	4.11E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-5.89E-01
RSF	[MJ]	2.19E-02	6.39E-05	6.34E-03	2.83E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	3.91E-05	0.00E+00	0.00E+00	-2.20E-02
NRSF	[MJ]	8.17E-02	1.30E-04	7.19E-03	8.90E-02	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	7.68E-05	0.00E+00	0.00E+00	-7.05E-03
FW	[m^3]	3.27E-03	2.61E-05	1.22E-03	4.52E-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.60E-05	6.99E-05	0.00E+00	-1.30E+00

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.

ND = Module not declared; INA = Indicator not assessed.

4.C. LCA results - One kilogram of fabricated steel access cover

Output flows and waste categories per 1 kilogram of fabricated steel access cover

PARAMETER	UNIT	A1	A2	A3	TOTAL A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	[kg]	8.33E-01	2.00E-04	5.41E-03	8.38E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	1.20E-04	2.18E-06	0.00E+00	-1.55E-01
NHWD	[kg]	2.22E-01	1.05E-02	9.24E-03	2.42E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	6.40E-03	1.27E-03	0.00E+00	-4.71E-01
RWD	[kg]	2.88E-05	7.05E-08	2.71E-06	3.16E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	4.31E-08	5.57E-06	0.00E+00	-5.86E-02
CRU	[kg]	9.73E-22	-8.25E-24	-1.30E-22	8.35E-22	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	-3.38E-01
MFR	[kg]	2.78E-01	2.10E-04	1.09E-02	2.89E-01	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MER	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.30E-22
EET	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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.

CRU, MFR, MER, EEE, EET are not calculated by the EcoChain software.

ND = Module not declared; INA = Indicator not assessed.

5. Calculation rules

Cut-off criteria

The cut-off criteria of section 6.3.6 of EN15804+A2 have been followed.

Data Quality

The dataset is representative for the production processes used in 2023. The data Quality Level, according to Table E.1 of EN15804+A2, Annex E, is as follows:

- Time Representativeness is considered to be Very Good
- Geographical Representativeness is considered to be Good
- Technical Representativeness is considered to be Good

Allocations

Allocation of energies, electricity types and amounts to the various manufacturing processes is based on mass.

Assumptions

Summary of carbon footprint emission factors and residual mix breakdown of energy mix.

Fuel Breakdown	Residual mix fuel breakdown			EF	Unit
	RES	NUC	FOS		
GWP-total	15.20%	0.00%	84.80%	6.04E-01	[kg CO_2 eq.]
GWP-fossil	15.20%	0.00%	84.80%	6.03E-01	[kg CO_2 eq.]
GWP-biogenic	15.20%	0.00%	84.80%	5.24E-04	[kg CO_2 eq.]
GWP-luluc	15.20%	0.00%	84.80%	5.71E-05	[kg CO_2 eq.]

6. Scenarios and additional technical information

C1. De-construction demolition

It is assumed for this study that the removal of the fabricated steel access covers from the installation site does not require any energy consumption to satisfy the deconstruction of the product.

C2. Transport

The assumed scenario of transport for this module has been defined as an average distance of 50km required of transport to deliver the access covers to the waste treatment facility via road by the means of a EURO6, 16-32 tons of capacity, lorry.

C3. Waste processing

100% of the fabricated steel access cover is recycled.

C4. Disposal

No materials are disposed of.

D. Reuse – Recovery – Recycling potential

As all the steel is recycled, these replaces the manufacture and production of virgin steel.

Declaration of biogenic carbon content at the production gate

Biogenic carbon (kg per declared unit)	Quantity	Unit
Biogenic carbon content in product	0	kg C
Biogenic carbon content in packaging	0.03	kg C

Additional Technical Information

N/A.

7. Mandatory additional information on release of dangerous substances to indoor air, soil and water

None of the substances contained in the product are listed in the “Candidate List of Substances of Very High Concern for authorisation”, or they do not exceed the limit for registration with the European Chemicals Agency.

8. Other optional additional environmental information

N/A.

9. References

[1] EPD Ireland Product Category Rules: PART A Implementation and use of IS 15804:2012 and CEN TR 16970 in Ireland for the development of Environmental Product Declarations, 5.03.2022 -www.epdireland.org

[2] Environmental Protection Agency, 2023. EPA. [Online]
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[Accessed 2024].

[3] EPD International AB, 2021. General Programme Instruction for the International EPD System, s.l.: s.n.

[4] EPD International AB, 2023. PCR 2019:14 Construction Products, s.l.: s.n.

[5] European Commission, 2010. ILCD handbook: General guide for Life Cycle Assessment - Detailed guidance. Luxembourg: Publication Office of the European Union.

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[8] Eurostat, 2018. Recovery rate of construction and demolition waste, s.l.: Eurostat.

[9] International Standards Office, 2006. ISO 14040: Environmental management — Life cycle assessment - Principles and framework, Switzerland: s.n.

[10] Life Cycle Assessment Research Center, 2016. Guidance on Data Quality Assessment for Life Cycle Inventory Data. Cincinnati: s.n.

10. Annex

N/A.