ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

Selo - Quadra+ riser door

SELO

EPD HUB, HUB-0030

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Created with One Click LCA

GENERAL INFORMATION

MANUFACTURER

Manufacturer	SELO
Address	K2 Kents Hill Business Park, MK7 6BZ
Contact details	sales@slo-uk.com
Website	www.selo.global

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022 EN 17213 Windows and doors
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4 and D
EPD author	Gareth Thomas, SELO
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal certification ☑ External verification
EPD verifier	Elma Avdyli, EPD Hub

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	Selo - Quadra+ riser door
Place of production	Nuneaton, CV10 9SP, United Kingdom
Period for data	2020
Averaging in EPD	No averaging

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m²
Declared unit mass	34,01 kg
GWP-fossil, A1-A3 (kgCO2e)	86,8
GWP-total, A1-A3 (kgCO2e)	82,6
Secondary material, inputs (%)	36,4
Secondary material, outputs (%)	78,5
Total energy use, A1-A3 (kWh)	325
Total water use, A1-A3 (m3e)	0,581

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Established late 2007, the family run enterprise Selo has progressively grown to become the leading supplier and manufacturer of concealed riser doors to the UK construction industry. Selo has a mission to simplify bespoke and complex building methods, challenging tradition construction methodology through continuous innovation, technical expertise, and industry leading certification. As leaders in our field Selo strives to continue to launch new products, provide detailed project assistance and reduce risk for all stakeholders we work with.

PRODUCT DESCRIPTION

Quadra+ riser door systems from Selo are elegant, frameless, high performing riser doors, which allow you to create a flush seamless finish you want with the fire-rated performance you need.

Further information can be found at www.selo.global.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	92	UK, EU
Minerals	7	UK
Fossil materials	1	UK

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in packaging, kg C	1.1204

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1m2
Mass per declared unit	34.01 kg
Functional unit	25 years

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR.

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The product is manufactured from formed sheet steel components that are welded together before powder coating with the final assembly being riveted together. The welding process consumes welding fillers as well as gases used as shielding. The rivets used for final assembly have not been considered due to the low amount used. The ready products are then protected by plastic film and placed on a wooden pallet for shipping to site. The manufacturing process requires electricity and fuels for the different equipment, no energy is required for heating as the equipment used produces heat as a by-product of functioning. The steel waste produced at the plant is directed into recycling. The loss of material is not considered. A wooden pallet is used as a packaging material for transporting the product from the factory gate.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

The transportation distance is the distance from the manufacturing facility to the centre of London, 90-95% of Quadra+ doors are used in buildings in London. Installation energy is assumed to be negligible. Packaging waste during installation is considered, including the balancing of biogenic carbon.

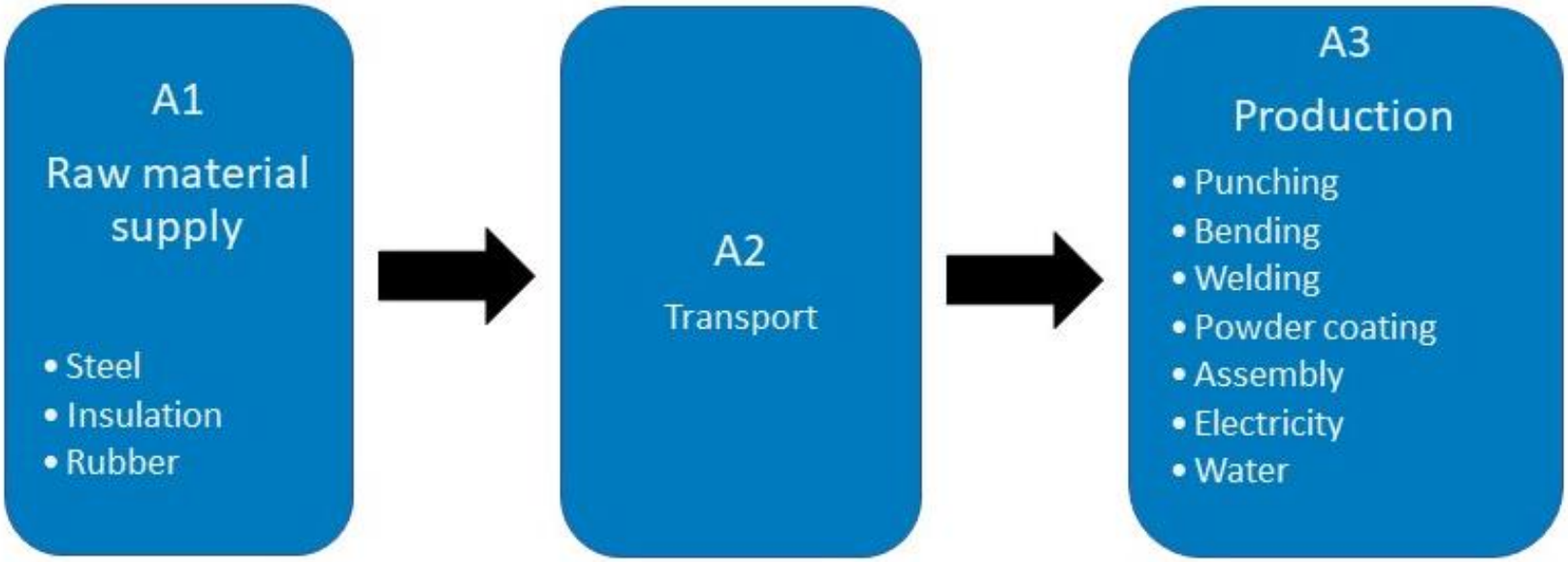
PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

Demolition is assumed to consume 0.00001 kWh/kg of product. The source of energy is diesel fuel used by construction machines. It is assumed that 100% of the waste is collected and transported to the waste treatment centre. Transportation distance to treatment is assumed as 30 km and the transportation method is assumed to be lorry Approximately 85% of steel is assumed to be recycled based on Tata Steel, 2020. It is assumed that the remaining 15 % of steel is taken to landfill for final disposal. Due to the recycling process, the end-of-life product is converted into recycled steel. It is assumed that the stone wool insulation and the rubber seal will be sent to landfill.

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

For easier modelling and because of lack of accuracy in available modelling resources many constituents under 0,1% of product mass are excluded. These include some ancillary materials which are all present in the product only in very small amounts and have no serious impact on the emissions of the product. Including the rivets used to assemble the door which make up 0.012% of the declared unit.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. In this study, as per the reference standard, allocation is conducted in the following order;

1. Allocation should be avoided.
2. Allocation should be based on physical properties (e.g., mass, volume) when the difference in revenue is small.
3. Allocation should be based on economic values.

In this study allocation could not be avoided for packaging, energy consumption and waste production as the information was only measured on factory or production process level. The inputs were allocated to the studied product based on annual production volume (mass). Electrical lighting energy was assumed as negligible due to the prevalence of natural light in the manufacturing facility.
This LCA study is conducted in accordance with all methodological considerations, such as performance, system boundaries, data quality, allocation procedures, and decision rules to evaluate inputs and outputs.

Allocation used in environmental data sources is aligned with the above.

AVERAGES AND VARIABILITY

This EPD is product and factory specific and does not contain average calculations.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent and One Click LCA databases were used as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total	kg CO_2e	6,6E1	2,14E-1	1,64E1	8,26E1	1,02E0	4,22E0	MND	MND	MND	MND	MND	MND	MND	3,3E-6	9,28E-2	6,22E-1	5,43E-1	-2,35E1
GWP – fossil	kg CO_2e	6,62E1	2,14E-1	2,05E1	8,68E1	1,03E0	1,11E-1	MND	MND	MND	MND	MND	MND	MND	3,3E-6	9,27E-2	6,59E-1	5,43E-1	-2,73E1
GWP – biogenic	kg CO_2e	-1,95E-1	9,49E-5	-4,1E0	-4,3E0	5,52E-4	4,11E0	MND	MND	MND	MND	MND	MND	MND	9,17E-10	6,73E-5	-3,78E-2	1,16E-4	3,8E0
GWP – LULUC	kg CO_2e	3,67E-2	9,42E-5	6,39E-3	4,31E-2	3,67E-4	5,68E-5	MND	MND	MND	MND	MND	MND	MND	2,79E-10	2,79E-5	7,48E-4	1,36E-5	-9,55E-4
Ozone depletion pot.	kg $CFC_{-11}e$	4,02E-6	4,73E-8	2,67E-6	6,74E-6	2,35E-7	6,91E-9	MND	MND	MND	MND	MND	MND	MND	7,12E-13	2,18E-8	9,46E-8	1,66E-8	-7,65E-7
Acidification potential	mol H^+e	4,72E-1	1,7E-3	3,08E-2	5,04E-1	5,22E-3	2,42E-4	MND	MND	MND	MND	MND	MND	MND	3,45E-8	3,89E-4	7,99E-3	4,31E-4	-1,1E-1
EP-freshwater[3)]	kg Pe	3,26E-3	1,85E-6	1,66E-4	3,42E-3	8,66E-6	2,48E-6	MND	MND	MND	MND	MND	MND	MND	1,33E-11	7,54E-7	4,54E-5	5,71E-7	-1,18E-3
EP-marine	kg Ne	6,47E-2	4,52E-4	7,06E-3	7,23E-2	1,78E-3	7,05E-5	MND	MND	MND	MND	MND	MND	MND	1,52E-8	1,17E-4	1,76E-3	1,51E-4	-2,19E-2
EP-terrestrial	mol Ne	1,33E0	5,01E-3	7,9E-2	1,41E0	1,96E-2	6,55E-4	MND	MND	MND	MND	MND	MND	MND	1,67E-7	1,3E-3	2,04E-2	1,66E-3	-2,4E-1
POCP (“smog”)	kg NMVOCe	3,1E-1	1,43E-3	2,86E-2	3,4E-1	5,6E-3	1,98E-4	MND	MND	MND	MND	MND	MND	MND	4,59E-8	4,17E-4	5,58E-3	4,7E-4	-1,46E-1
ADP-minerals & metals	kg Sbe	3,54E-2	5,93E-6	3,45E-5	3,55E-2	2,8E-5	5,53E-7	MND	MND	MND	MND	MND	MND	MND	5,03E-12	1,58E-6	3,65E-5	4,31E-7	-2,88E-5
ADP-fossil resources	MJ	7,54E2	3,16E0	3,6E2	1,12E3	1,56E1	7,92E-1	MND	MND	MND	MND	MND	MND	MND	4,54E-5	1,44E0	9,13E0	1,12E0	-2,02E2
Water use[2)]	m^3e depr.	2,78E1	1,09E-2	1,5E0	2,94E1	5,03E-2	1,18E-2	MND	MND	MND	MND	MND	MND	MND	8,46E-8	5,37E-3	1,3E-1	5,63E-2	-3,92E0

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy	MJ	5,87E1	4,68E-2	1,99E1	7,87E1	2,2E-1	7,89E-2	MND	MND	MND	MND	MND	MND	MND	2,45E-7	1,82E-2	1,43E0	1,2E-2	-3,67E1
Renew. PER as material	MJ	0E0	0E0	3,92E1	3,92E1	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Total use of renew. PER	MJ	5,87E1	4,68E-2	5,91E1	1,18E2	2,2E-1	7,89E-2	MND	MND	MND	MND	MND	MND	MND	2,45E-7	1,82E-2	1,43E0	1,2E-2	-3,67E1
Non-re. PER as energy	MJ	7,54E2	3,16E0	3,36E2	1,09E3	1,56E1	7,92E-1	MND	MND	MND	MND	MND	MND	MND	4,54E-5	1,44E0	9,13E0	1,12E0	-2,02E2
Non-re. PER as material	MJ	0E0	0E0	2,39E1	2,39E1	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Total use of non-re. PER	MJ	7,54E2	3,16E0	3,6E2	1,12E3	1,56E1	7,92E-1	MND	MND	MND	MND	MND	MND	MND	4,54E-5	1,44E0	9,13E0	1,12E0	-2,02E2
Secondary materials	kg	1,24E1	0E0	7,8E-3	1,24E1	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	1,27E1
Renew. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Non-ren. secondary fuels	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Use of net fresh water	m^3	5,57E-1	5,51E-4	2,34E-2	5,81E-1	2,67E-3	3,16E-4	MND	MND	MND	MND	MND	MND	MND	4,01E-9	3E-4	3,73E-3	1,87E-3	-1,81E-1

6) PER = Primary energy resources

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	1,57E1	3,58E-3	2,88E-1	1,6E1	1,58E-2	2,07E-3	MND	MND	MND	MND	MND	MND	MND	4,88E-8	1,4E-3	0E0	1,04E-2	-3,26E0
Non-hazardous waste	kg	1,42E2	2,24E-1	6,24E0	1,48E2	1,09E0	6,17E-1	MND	MND	MND	MND	MND	MND	MND	5,22E-7	1,55E-1	0E0	7,3E0	-3,45E1
Radioactive waste	kg	1,87E-3	2,15E-5	6,31E-4	2,52E-3	1,07E-4	5,14E-6	MND	MND	MND	MND	MND	MND	MND	3,18E-10	9,9E-6	0E0	7,19E-6	1,36E-4

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Materials for recycling	kg	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	2,67E1	0E0	0E0
Materials for energy rec	kg	0E0	0E0	0E0	0E0	0E0	3,6E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0
Exported energy	MJ	0E0	0E0	0E0	0E0	0E0	0E0	MND	MND	MND	MND	MND	MND	MND	0E0	0E0	0E0	0E0	0E0

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO_2e	6,37E1	2,12E-1	1,99E1	8,38E1	1,02E0	8,86E-2	MND	MND	MND	MND	MND	MND	MND	3,27E-6	9,19E-2	6,48E-1	5,42E-1	-2,6E1
Ozone depletion Pot.	kg CFC_{-11}e	3,7E-6	3,77E-8	2,09E-6	5,83E-6	1,87E-7	6,19E-9	MND	MND	MND	MND	MND	MND	MND	5,63E-13	1,73E-8	8,03E-8	1,35E-8	-6,8E-7
Acidification	kg SO_2e	2,82E-1	1,15E-3	2,51E-2	3,08E-1	2,08E-3	1,83E-4	MND	MND	MND	MND	MND	MND	MND	4,87E-9	1,89E-4	4,96E-3	2,05E-4	-8,51E-2
Eutrophication	kg PO_4^3e	1,29E-1	1,67E-4	6,56E-3	1,36E-1	4,27E-4	2,69E-3	MND	MND	MND	MND	MND	MND	MND	8,57E-10	3,81E-5	2,03E-3	6,88E-5	-4,63E-2
POCP (“smog”)	kg C_2H_4e	3,79E-2	4,46E-5	2,32E-3	4,03E-2	1,36E-4	1,71E-5	MND	MND	MND	MND	MND	MND	MND	5,01E-10	1,2E-5	2,33E-4	1,24E-5	-2,14E-2
ADP-elements	kg Sbe	3,54E-2	5,93E-6	3,45E-5	3,55E-2	2,8E-5	5,53E-7	MND	MND	MND	MND	MND	MND	MND	5,03E-12	1,58E-6	3,65E-5	4,31E-7	-2,88E-5
ADP-fossil	MJ	7,54E2	3,16E0	3,6E2	1,12E3	1,56E1	7,92E-1	MND	MND	MND	MND	MND	MND	MND	4,54E-5	1,44E0	9,13E0	1,12E0	-2,02E2

VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? Read more online
This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the ED Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Elma Avdyli, approved verifier by EPD Hub, 30.04.2022

VERIFIED ISO 14025