Statement of Verification

BREG EN EPD No.: 000705 Issue 01

This is to verify that the

Environmental Product Declaration

provided by:

CLD Physical Security Systems

BRE Global Verified EPD

is in accordance with the requirements of:

EN 15804:2012+A2:2019

and

BRE Global Scheme Document SD207

This declaration is for:

1 m of Securus 10 S2 fencing at a standard width of 2.525m, weighing 22.5kg

Company Address

CLD Physical Security Systems
Modsec House
Moston Road
Sandbach
Cheshire
CW11 3HL

CLD Physical Security Systems

Signed for BRE Global Ltd	Hayley Thomson Operator	02 June 2025 Date of this Issue
02 June 2025 Date of First Issue		01 June 2030 Expiry Date

BRE Global Verified EPD

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ECO PLATFORM EPD VERIFIED

Environmental Product Declaration

EPD Number: **000705**

General Information

EPD Programme Operator	Applicable Product Category Rules
BRE Global Watford, Herts WD25 9XX United Kingdom	BRE 2023 Product Category Rules (PN 514 Rev 3.1) for Type III environmental product declaration of construction products to EN 15804:2012+A2:2019
Commissioner of LCA study	**LCA consultant/Tool**
CLD Physical Security Systems Modsec House Moston Road Sandbach Cheshire CW11 3HL	David Morris/ BRE LINA A2
Declared/Functional Unit	**Applicability/Coverage**
1 m of Securus 10 S2 fencing at a standard width of 2.525m, weighing 22.5kg	Product Specific.
EPD Type	**Background database**
Cradle to Gate with Module C and D	Ecoinvent 3.8

Demonstration of Verification
CEN standard EN 15804 serves as the core PCR [a]
Independent verification of the declaration and data according to EN ISO 14025:2010 ☐Internal ☒ External
(Where appropriate [b])Third party verifier: Roger Connick
a: Product category rules b: Optional for business-to-business communication; mandatory for business-to-consumer communication (see EN ISO 14025:2010, 9.4)

Comparability
Environmental product declarations from different programmes may not be 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 for further guidance

Information modules covered

Product			Construction		Use stage							End-of-life					Benefits and loads beyond the system boundary
					Related to the building fabric					Related to the building							
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		D
Raw materials supply	Transport	Manufacturing	Transport to site	Construction – Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal		Reuse, Recovery and/or Recycling potential
☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☑	☑	☑		☑

Note: Ticks indicate the Information Modules declared.

Manufacturing site(s)

CLD Physical Security Systems
Modsec House
Moston Road
Sandbach
Cheshire
CW11 3HL

CLD Physical Security Systems
Brooks Lane
Middlewich
Cheshire
CW10 0JQ

Construction Product:

Product Description

CLD Securus 10 S2 is made up of a single layer of rigid mesh. Tested and certified to LPS 1175 Issue 8 B3 (SR2) it is designed to withstand threats and attacks from a range of tools. This fencing system provides the peace of mind when there is a need to protect a high security site such as Data Centres, MoD, Utilities, Ports & Airports.

The product is comprised of a single Layered rigid mesh system, fastened together with a full-length clamp bars. And can be provided in various heights between 2 and 5 meters. This EPD is based on 1 m of Securus 10 S2 fencing at a standard width of 2.525m, weighing 22.5kg. As the materials used are consistent and have the same kg/m values for Securus 10 S2 product at heights between 2 and 5 meters can be calculated. An end-user table of conversion factors has been attached in the end of the EPD to enable the EPD users to calculate the impacts for specific heights of the product.

Fixings include 80 x 5 mm full length steel clamp bars with M8 x 120 MM stainless steel cup square bolt. Panels come in a standard width of 2525 mm with a wire diameter of 4 mm and the mesh size of 76.2mm x 12.5mm, post dimensions of 80mm x 80mm x 3mm min and all are part of the approved design.
Finish – Steel components are galvanised and then Polyester powder-coated to 60-870 microns or 160-200 with marine grade metallics. Customers can select any standard RAL colour available.

Technical Information

Standard	LPS 1175 B3 (SR2) Issue 8, BS1722-14: 2017, BS EN ISO 1461:2009, BS EN 13438:2013 Secured By Design
Panel Type	Mesh and wire. Single layered mesh system. High aluminium content, galvanised and powder coated to minimum 80 microns dft
Panel Width	2525mm
Wire diameter	4mm min horizontal & 10mm min vertical wires
Mesh size	76.2 x 12.5 mm
Available heights	2000mm to 5000mm
Nominal heights	2.0m to 5.0m
Finish	Polyester powder-coated to 60-80 microns or 160-200 microns with marine grade and metallics. Any RAL colour available
Top edge protection	Nil
Panel installation	Bottom of panel can be buried by min 100mm or minimum 50mm above ground with additional bottom rail
Post centres	2535 +/- 15mm
Posts	Steel SHS post (80mm x 80mm x 3mm min standard) galvanised after manufacture and polyester powder-coated to match fencing
Fixings	80mm x 5mm full length clamp bar. M8 Stainless Steel cup square bolt (min 120mm
Foundations	Set posts in holes minimum 450mm square x 950mm deep. Note: Contractor/ client is responsible for the foundation size suitable for the ground conditions and fence height
Warranty	Minimum of 15 years against manufacturing defects.

Note: the technical information is derived from CLD Securus 10 S2 Product data sheet and Q40 Specification, which can be downloaded on CLD website.

Property	Value, Unit
The Securus 10 S2 product is independently tested by BRE and LPCB approved. LPS 1175 B3 (SR2) issue 8 (certificate No. 999)	LPCB certification is used to test resistance to unauthorised access offered by physical security products. The testing process is applicable to this Securus 10 S2 product of heights between 2m and 5m
BS EN ISO 1461:2009 - Hot Dip Galvanized coatings on fabricated iron and steel articles.	ISO 1461:2009 specifies the general properties of coatings and test methods for coatings applied by dipping fabricated iron and steel articles (including certain castings) in a zinc melt (containing not more than 2 % of other metals).
BS EN 13438:2013 - Paints and varnishes. Powder organic coatings for hot dip galvanised or sherardised steel products for construction purposes.	Details requirements and test methods for organic coating of extrusions, sheet, and preformed sections for architectural purposes, using coating powders. It covers the pre-treatment, coating powder, coating process and the final product.

Main Product Contents

CLD Securus 10 S2 fencing is constructed from mild steel mesh and posts with stainless steel fixings and then powder coated. The final finish is subject to customer specification dependant on the location of the intended installation. It is accepted that these main components detailed do not total 100% of the whole. This is due to there being other items in low quantities that would complete the sum total.

Material/Chemical Input	%
Mild steel box section	18.91%
Steel Mesh panels	72.61%
Steel clamp bars	6.50%
Stainless steel fixings	0.47%
Electrostatic powder coating	0.72%
Galvanise coating	0.51%

Manufacturing Process

The steel box section for posts / gates and the steel flat for the clamp bars and base plates are bought in as black steel before being cut to length and processed in our manufacturing department at Sandbach.

Processing generally involves cutting to size on either a saw or plasma/laser cutters and then Welding of the components to match approved drawings.

They are then taken for galvanising at local specialist companies. Once galvanised they are collected from galvanisers and returned to our manufacturing site to be prepped ready for powder coating. They are then taken to the powder coaters and the coated items are then sent directly to the Middlewich site for assembly and packing prior to being shipped to the customer.

Rigid Mesh panels are normally pre-galvanised, and powder coated in specified sizes / quantities / colours and sourced from our approved supplier. They are delivered to our Middlewich site where they are assembled, with the clamp bars into units ready for shipping and instal on site.

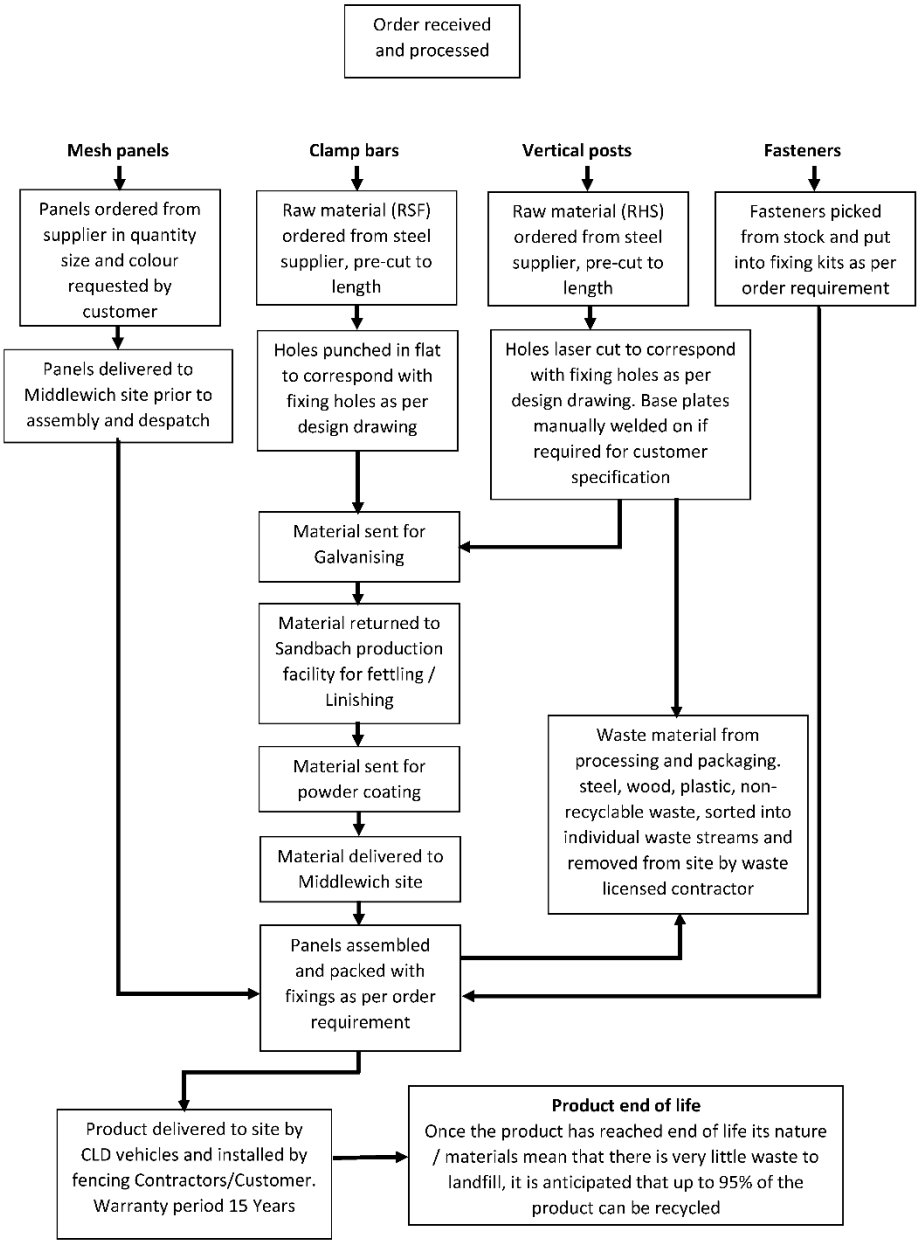
Where a customer requests a non-standard colour, mesh panels can be sourced as galvanised only and the powder coating is done at our local supplier.

Our two sites are spilt between Manufacturing / processing at our Sandbach site and assembly and shipping at our Middlewich site. Both sites require an amount of office work for our product with processing / design being done at Sandbach and logistics and transport being caried out at Middlewich.

General packaging materials include pallets, wooden bearers, plastic heat shrink wrap and banding. Fasteners are bought in from suppliers and packed with the fence panels at our Middlewich site.

Other products such as our plastic base tubs, Fibre safe panels, and Hoardsafe panels require no processing or manufacture. These are sourced from suppliers, delivered to Middlewich, and then shipped to the customer.

Process flow diagram



End of Life

The fence product is modular in construction and due to its nature will be outside. When deconstruction takes place individual panels/posts can be removed and stacked ready for transport. The product is made from steel and therefore can be recycled by an appropriate waste contractor. recycling can be completed locally with no need to return product to the manufacturing site. Steel product that requires no pre-processing to meet its end-of-life state. Industrial average end-of-life data of 'Fencing (posts, square section), steel (galvanized) & Fencing (wire mesh), steel (galvanized)' has been used according to BRE PCR PN 514 Rev 3.1, i.e. 95% of waste to recycling, 5% of waste to landfill.

Life Cycle Assessment Calculation Rules

Declared / Functional unit description

1 m of Securus 10 S2 fencing at a standard width of 2.525m, weighing 22.5kg

System boundary

This is a cradle-to-gate with module C&D LCA, reporting all production life cycle stages of modules A1 to A3 and end-of-life stages C1-C4, and D. This LCA has been assessed in accordance with the modular approach as defined in EN15804:2012+A2:2019 and BRE Product Category Rules (PN 514 Rev 3.1).

Data sources, quality and allocation

Specific primary data derived from CLD Physical Security Systems' 2.4m hight Securus 10 S2 fencing production process at its manufacturing facilities at Modsec House, Sandbach, Cheshire, CW1 3HL and at its assembly and logistics facilities at Brooks Lane, Middlewich, Cheshire, CW10 0JQ, have been modelled using the LINA A2 software and the ecoinvent 3.8 database. In accordance with the requirements of EN 15804:2012+A2:2019, the most current available data has been used. The manufacturer-specific data from CLD Physical Security Systems covers a period of one year (01/01/2023 – 31/12/2023). Secondary data has been obtained for all other upstream and downstream processes that are beyond the control of the manufacturer (i.e. raw material production) from the ecoinvent 3.8 database. All ecoinvent datasets are complete within the context used and conform to the system boundary and the criteria for the exclusion of inputs and outputs, according to the requirements specified in EN 15804:2012+A2:2019.

This LCA is for the 1m of Securus 10 S2 fencing system at a standard width 2.525m. The representative product accounts for 0.5% of the sites total production. The results can also be converted and fit to other Securus 10 S2 product with a height range of between 2m and 5m, as they have the same width, raw materials, and manufacturing process, the only difference is on the hight. Therefore, a table of conversion factors is attached in the end of the EPD and the EPD users can calculate the impacts for individual variant. As CLD Physical Security Systems manufacture other products in addition to the Securus 10 S2 fencing, an allocation of all energy, water and waste has been attributed to the Securus 10 S2 fencing system based on its percentage of total production in meters according to the provisions of the BRE PCR PN514 Rev 3.1 and EN 15804:2012+A2:2019. Site wide values for energy, water and wastewater have been taken from bills. Figures for the raw materials, ancillary materials and packaging were from actual usages.

For ancillary materials, silica sand has been used as a proxy for the grinding/finishing discs, as no appropriate dataset currently exists in Ecoinvent 3.8.

The energy data for galvanising and powder coating, which is the responsibility of third-party contractors, is not available. Therefore, the surface area of black steel is calculated, and generic ecoinvent datasets for galvanising and powder coating have been used to reflect their energy consumption. The transport of the third-party galvanising and powder coating has been covered in this LCA. The weights of galvanising coat and powder coat have been calculated and converted to kg from suppliers' data (kg/m2). Their weights have been reported in Module A1 of the LCA.

Quality Level	Geographical representativeness	Technical representativeness	Time representativeness
Very Good	Data from area under study.	Data from processes and products under study. Same state of technology applied as defined in goal and scope (i.e. identical technology).	Less than 3 years difference between the reference year according to the documentation, and the time period for which data are representative.

Specific UK datasets have been selected from the ecoinvent LCI for this LCA. The quality level of geographical and technical representativeness is therefore very good. The quality level of time representativeness is very good as the background LCI datasets are based on ecoinvent v3.8 which was compiled in 2021. Therefore, there is less than 3 years between the ecoinvent LCI reference year and the time period for which the LCA was undertaken.

UK 2022 Consumption mix was used for electricity with an emissions factor of 0.239kgCO2e/kWh. UK Natural gas data (at industrial furnace) was used with an emissions factor of 0.232 kgCO2eq/kWh.

Cut-off criteria

All processes associated with the manufacture of the product have been included. All inputs and of raw materials, ancillary materials, packaging, transport, energy, water use/discharge and waste have been included. The manufacturing process does not create any significant direct emissions to air, water or soil, therefore these are not measured. Upstream extraction and /or processing of inputs are included within the use of the background datasets within LINA.

LCA Results

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts									
			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)^{3-}$ eq
Product stage	Raw material supply	A1	5.79E+01	5.77E+01	2.24E-01	5.37E-02	3.26E-06	6.32E-01	2.79E-02
	Transport	A2	8.33E-01	8.32E-01	7.86E-04	3.40E-04	1.91E-07	3.46E-03	5.81E-05
	Manufacturing	A3	2.85E+00	2.70E+00	1.47E-01	1.91E-03	4.23E-07	1.60E-01	6.15E-04
	Total (of product stage)	A1-3	6.16E+01	6.12E+01	3.72E-01	5.59E-02	3.87E-06	7.96E-01	2.85E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95% to recycling, 5% to landfill Scenario									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.12E-01	1.12E-01	9.56E-05	4.41E-05	2.60E-08	4.55E-04	7.23E-06
	Waste processing	C3	1.23E+00	1.23E+00	4.34E-04	1.23E-04	2.63E-07	1.28E-02	3.81E-05
	Disposal	C4	5.94E-03	5.92E-03	5.87E-06	5.60E-06	2.40E-09	5.57E-05	5.42E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-2.29E+01	-2.29E+01	7.19E-02	-6.50E-03	-9.16E-07	-8.32E-02	-9.06E-03

GWP-total = Global warming potential, total;
GWP-fossil = Global warming potential, 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; and
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts									
			EP-marine	EP-terrestrial	POCP	ADP-mineral &metals	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	7.36E-02	2.20E+00	2.57E-01	1.97E-03	6.46E+02	2.88E+01	8.08E-06
	Transport	A2	1.04E-03	1.14E-02	3.51E-03	3.51E-06	1.26E+01	5.88E-02	7.30E-08
	Manufacturing	A3	7.82E-03	7.01E-01	1.14E-02	1.52E-05	5.47E+01	8.35E-01	1.62E-06
	Total (of product stage)	A1-3	8.25E-02	2.92E+00	2.72E-01	1.99E-03	7.13E+02	2.97E+01	9.77E-06
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95% to recycling, 5% to landfill Scenario									
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.37E-04	1.50E-03	4.59E-04	3.90E-07	1.70E+00	7.63E-03	9.68E-09
	Waste processing	C3	5.66E-03	6.20E-02	1.71E-02	6.33E-07	1.69E+01	3.90E-02	3.43E-07
	Disposal	C4	1.94E-05	2.12E-04	6.17E-05	1.35E-08	1.65E-01	7.59E-03	1.12E-09
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.97E-02	-2.10E-01	-1.15E-01	-1.73E-05	-2.32E+02	-1.65E+00	-1.54E-06

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, accumulated exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;
ADP-fossil = Depletion potential of the stratospheric ozone layer;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and
PM = Particulate matter.

LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts							
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U^{235} eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	3.53E+00	2.23E+03	4.32E-07	2.18E-06	2.11E+02
	Transport	A2	6.55E-02	9.99E+00	3.85E-10	1.07E-08	8.46E+00
	Manufacturing	A3	7.75E-01	3.56E+01	1.30E-09	6.38E-08	2.33E+01
	Total (of product stage)	A1-3	4.37E+00	2.28E+03	4.33E-07	2.25E-06	2.43E+02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95% to recycling, 5% to landfill Scenario							
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	8.72E-03	1.32E+00	4.29E-11	1.39E-09	1.17E+00
	Waste processing	C3	7.61E-02	9.87E+00	3.82E-10	7.16E-09	2.15E+00
	Disposal	C4	7.35E-04	1.04E-01	2.65E-12	6.87E-11	3.47E-01
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-4.11E-01	-6.87E+02	-1.23E-07	-4.72E-07	-4.53E+01

IRP = Potential human exposure efficiency relative to U235;
ETP-fw = Potential comparative toxic unit for ecosystems;
HTP-c = Potential comparative toxic unit for humans;
HTP-nc = Potential comparative toxic unit for humans; and
SQP = Potential soil quality index.

LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing resource use, primary energy								
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	5.87E+01	0.00E+00	5.87E+01	6.37E+02	1.75E+00	6.38E+02
	Transport	A2	1.88E-01	0.00E+00	1.88E-01	1.23E+01	0.00E+00	1.23E+01
	Manufacturing	A3	6.59E+00	3.35E+00	9.94E+00	6.67E+01	7.41E+00	7.41E+01
	Total (of product stage)	A1-3	6.55E+01	3.35E+00	6.89E+01	7.16E+02	9.17E+00	7.25E+02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95% to recycling, 5% to landfill Scenario								
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	2.39E-02	0.00E+00	2.39E-02	1.67E+00	0.00E+00	1.67E+00
	Waste processing	C3	9.46E-02	0.00E+00	9.46E-02	1.66E+01	0.00E+00	1.66E+01
	Disposal	C4	1.41E-03	0.00E+00	1.41E-03	1.62E-01	0.00E+00	1.62E-01
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-4.78E+00	0.00E+00	-4.78E+00	-2.30E+02	0.00E+00	-2.30E+02

PERE = Use of renewable primary energy excluding renewable primary energy 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 resource

LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ net calorific value	MJ net calorific value	m^3
Product stage	Raw material supply	A1	8.82E+00	0.00E+00	0.00E+00	7.13E-01
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	1.46E-03
	Manufacturing	A3	9.78E-03	6.02E-05	0.00E+00	2.67E-02
	Total (of product stage)	A1-3	8.83E+00	6.02E-05	0.00E+00	7.41E-01
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95% to recycling, 5% to landfill Scenario						
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	1.89E-04
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	9.63E-04
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	1.77E-04
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-3.99E-02

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	2.11E+01	1.05E+02	1.51E-03
	Transport	A2	1.47E-02	2.65E-01	5.15E+00
	Manufacturing	A3	1.14E-01	2.73E+00	2.55E-04
	Total (of product stage)	A1-3	2.13E+01	1.08E+02	5.15E+00
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	0.00E+00
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00
95% to recycling, 5% to landfill Scenario					
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.87E-03	3.32E-02	1.15E-05
	Waste processing	C3	2.22E-02	1.56E-01	1.16E-04
	Disposal	C4	1.72E-04	2.43E-03	1.08E-06
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-2.12E+00	-4.36E+01	-2.46E-04

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Other environmental information describing output flows – at end of life								
			CRU	MFR	MER	EE	Biogenic carbon (product)	Biogenic carbon (packaging)
			kg	kg	kg	MJ per energy carrier	kg C	kg C
Product stage	Raw material supply	A1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	1.05E-01	5.74E-07	1.87E-01	0.00E+00	-4.40E-02
	Total (of product stage)	A1-3	0.00E+00	1.05E-01	5.74E-07	1.87E-01	0.00E+00	-4.40E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use stage	Use	B1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Maintenance	B2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Repair	B3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Replacement	B4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Refurbishment	B5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational energy use	B6	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Operational water use	B7	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95% to recycling, 5% to landfill Scenario								
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse;
MFR = Materials for recycling

MER = Materials for energy recovery;
EE = Exported Energy

Scenarios and additional technical information

Scenarios and additional technical information			
Scenario	Parameter	Units	Results
Reference service life	CLD Physical Security Systems guarantee that the Securus 10 S2 product detailed above will be free from material or manufacturing defects for a period of 15 years from date of manufacture. So long as the system supplied is used in a perimeter fencing application and fixed to posts suitable for purpose.		
	Normal application and use	years	15
	Vandalism	years	0
	Acts of God	years	0
	Theft	years	0
C1 – Deconstruction	The Securus 10 S2 Fence product is modular in construction and due to its nature will be outside. When deconstruction takes place individual panels/posts can be removed and stacked ready for transport. The product is made from steel and therefore can be recycled by an appropriate waste contractor. recycling can be completed locally with no need to return product to the manufacturing site.		
C2 – Transport from site to pre-processing facility or landfill	It is anticipated that post consumer product that has reached its end of life will be removed by road to local waste processing facilities. As these exist nationally there is no requirement to bring waste back to the site of manufacture. It is assumed that there would be suitable waste processing facilities within a reasonable distance of any site and so an estimate of distance has been made.	km	30 (estimate)
C3 - Pre-processing of uninstalled product	Steel product that requires no pre-processing to meet its end-of-life state. Industrial average end-of-life data of 'Fencing (posts, square section), steel (galvanized) & Fencing (wire mesh), steel (galvanized)' has been used according to BRE PCR PN 514 Rev 3.1, i.e. 95% of waste to recycling.		
	95% waste to recycling	kg	21.375
C4 – Disposal	There is currently no process in place to dispose of the product waste. Therefore, an industrial average end-of-life data of 'Fencing (posts, square section), steel (galvanized) & Fencing (wire mesh), steel (galvanized)' has been used according to BRE PCR PN 514 Rev 3.1, i.e. 5% of waste to landfill.		
	5% waste to landfill	kg	1.125
Module D	95% i.e. 21.375kg of product waste will be sent to recycling plant, out of which 7.794kg is post-consumer waste and hence only 13.581kg of steel waste is declared in Module D.		
	Existing Recycled Content (post-consumer)	kg	7.794
	Recovered for recycling	kg	13.581

Summary, comments, and additional information

Securus 10 S2 at respective heights

The LCA results listed in the tables above are for 1 m of Securus 10 S2 fencing at a standard width of 2.525m, weighing 22.5kg. The end user can therefore use these results to calculate impact profiles for other heights of Securus 10 S2 fencing with a standard width of 2.5m listed in the table below. The LCA results for each EN15804 indicator will need to be multiplied by the conversion factors. Ref: Figure 1 below.

Hight	Conversion factor
Securus 10 S2 Fencing in 2.0M height	2.0
Securus 10 S2 Fencing in 2.4M height	2.4
Securus 10 S2 Fencing in 2.5M height	2.5
Securus 10 S2 Fencing in 3.0M height	3.0
Securus 10 S2 Fencing in 3.5M height	3.5
Securus 10 S2 Fencing in 4.0M height	4.0
Securus 10 S2 Fencing in 4.5M height	4.5
Securus 10 S2 Fencing in 5.0M height	5.0

Figure 1

Interpretation

Out of the total mass of input materials, galvanised steel makes up 73%; followed by black steel of 25%; stainless steel, powder coating and galvanised coating make up the remaining of 2%. The bulk of the environmental impacts are attributed to the raw material supply stage, covered by information module A1 of EN15804:2012+A2:2019.

As a result, galvanised steel ranks first in terms of overall environmental impacts and is responsible for the greatest impact on GWP. Black steel ranks second in terms of overall environmental impact indicators. Although the total mass and environmental impact of powder coating is very small, it contributes 100% of the impact on PENRM. Ref: Figure 2 below.

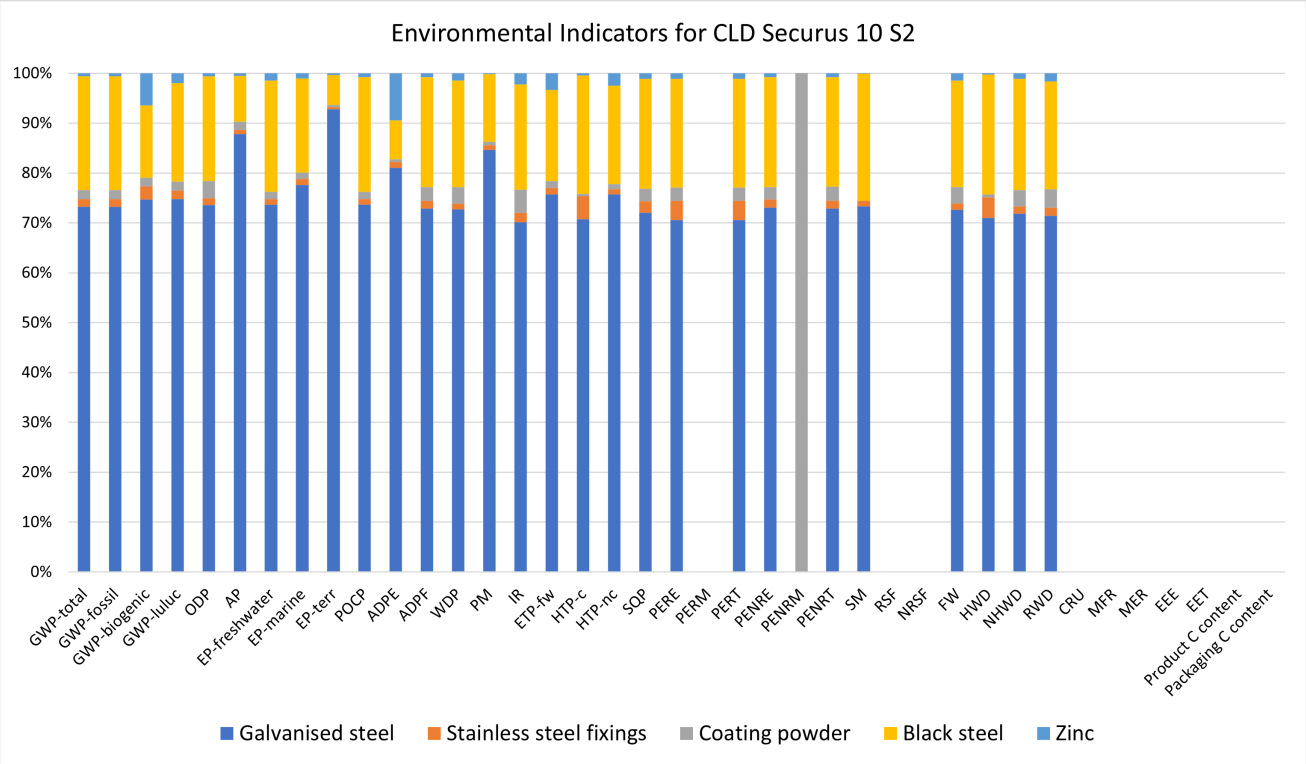


Figure 2

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