

## Statement of Verification

BREG EN EPD No.: 000359

Issue 01

This is to verify that the

### Environmental Product Declaration

provided by:

**Blue Chyp Ltd**



is in accordance with the requirements of:

**EN 15804:2012+A1:2013**

and

**BRE Global Scheme Document SD207**

This declaration is for:

**Cobalt Hybrid Balcony System**

### Company Address

No 5 Merchant Building  
Evegate Business Park  
Smeeth  
Ashford  
TN25 6SX



Signed for BRE Global Ltd

Emma Baker

Operator

20 April 2021

Date of this Issue

20 April 2021

Date of First Issue

19 April 2026

Expiry Date



This Statement of Verification is issued subject to terms and conditions (for details visit [www.greenbooklive.com/terms](http://www.greenbooklive.com/terms).)

To check the validity of this statement of verification please, visit [www.greenbooklive.com/check](http://www.greenbooklive.com/check) or contact us.

BRE Global Ltd., Garston, Watford WD25 9XX.

T: +44 (0)333 321 8811 F: +44 (0)1923 664603 E: [Enquiries@breglobal.com](mailto:Enquiries@breglobal.com)



## Environmental Product Declaration

EPD Number: 000359

### General Information

EPD Programme Operator	Applicable Product Category Rules
BRE Global Watford, Herts WD25 9XX United Kingdom	BRE Environmental Profiles 2013 Product Category Rules for Type III environmental product declaration of construction products to EN 15804:2012+A1:2013
Commissioner of LCA study	LCA consultant/Tool
Blue Chyp Ltd No 5 Merchant Building Evegate Business Park Smeeth Ashford TN25 6SX	BRE LINA v2.0
Declared Unit	Applicability/Coverage
1 x Cobalt Hybrid Balcony 3300mm x 1800mm (6 m <sup>2</sup> ), total weight 595 kg	Manufacturer specific product.
EPD Type	Background database
Cradle to Gate with options	ecoinvent v3.2
Demonstration of Verification	
CEN standard EN 15804 serves as the core PCR <sup>a</sup>	
Independent verification of the declaration and data according to EN ISO 14025:2010 <input type="checkbox"/> Internal <input checked="" type="checkbox"/> External	
(Where appropriate <sup>b</sup> )Third party verifier: Nigel Jones	
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+A1:2013. 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+A1:2013 for further guidance	

## Information modules covered

Product			Construction		Use stage							End-of-life				Benefits and loads beyond the system boundary
A1	A2	A3	A4	A5	Related to the building fabric					Related to the building		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
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: Ticks indicate the Information Modules declared.

## Manufacturing site

Units 1 and 2,  
Portesfield Road,  
Cradley Heath.  
B64 7BQ

## Construction Product

### Product Description

Blue Chyp's Cobalt Hybrid Balcony is manufactured off-site in a specialist factory dedicated only to balcony production. Using a hybrid of materials, the balconies are non-combustible, and feature no visible welding or fixings.

The extruded aluminium sections of the balcony system have been designed to match the precision of windows and doors and are manufactured in the same identical way during every manufacturing process. The system is designed for use in high-rise residential buildings.

### Technical Information

Standard	Status
BS 8579:2020 Guide to the design of balconies and terraces	Product Complies
BS EN 1090; Execution of steel structures and aluminium structures – Technical requirements for steel structures	Product Complies

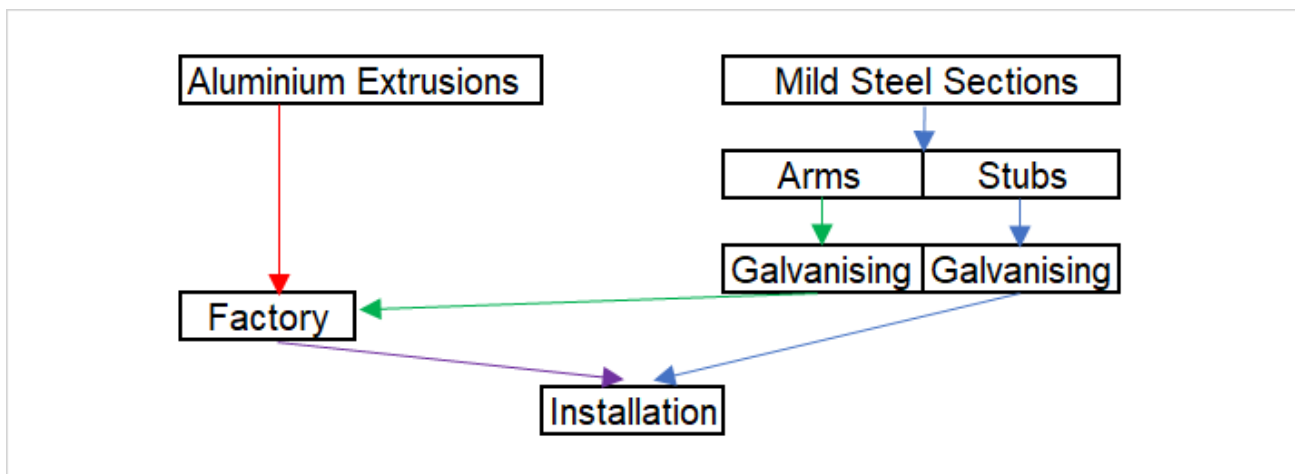
### Main Product Contents

Material/Chemical Input	%
Aluminium extrusion	69.4
Galvanised steel arms	17.5
Galvanised steel stubs	8.1
Brackets	4.0
Fixing accessories	1.0

### Manufacturing Process

Hybrid balcony system constructed from extruded aluminium sections, and mild steel members. All aluminium parts are cut using CNC, with no welding, fully bolted assembly. Mild steel "arms" are fabricated and galvanised. All parts are assembled to CE EN 1090 standards in a controlled factory environment, using calibrated tools and machinery. The system also complies with BS 8579:2020 which is a guide to the design of balconies and terraces.

### Process flow diagram



### Construction Installation

Balcony is installed onto a façade using a Tower Crane. There is no cutting, drilling, or welding on site. Each balcony is typically fitted using 8 number M25 fixing using hand tools.

### Use Information

The system has been designed with minimal servicing requirements. To this effect items such as sloped handrails to stop collecting water and dirt are used. All materials used are deemed low maintenance. When maintenance / servicing is needed, it would generally be via checking the water drainage system. This happens by removing the front line of decking boards and accessing the filters. The filters are washed under a tap.

### End of Life

The system is designed for deconstruction and the aluminium and steel components are fully recyclable.

## Life Cycle Assessment Calculation Rules

### Declared unit description

1 x Cobalt Hybrid Balcony 3300mm x 1800mm (6 m<sup>2</sup>), total weight 595 kg

### System boundary

This is a cradle-to-gate with options LCA, reporting all production life cycle stages of modules A1 to A3, A4 and A5 in accordance with EN 15804:2012+A1:2013.

### Data sources, quality and allocation

The Cobalt Hybrid Balcony System has a total weight per unit of 595 kg and dimensions of 3300mm x 1800mm. The product is manufactured on behalf of Blue Chyp by a dedicated manufacturer in Cradley Heath, UK. The steel arms and stubs are fabricated and galvanised at other sites. The data supplied relates to the Cradley Heath site only and as it is a new product it covers a 2 month period only – 1st October to 1st December 2020. The site does not manufacture other products in addition to Cobalt Hybrid Balcony System and so total values for energy, water, waste and wastewater for the time period have been used.

Secondary data have been drawn from the BRE LINA database v2.0.77 and the background LCI datasets are based on ecoinvent v3.2.

### Cut-off criteria

All raw materials and energy input to the manufacturing process have been included, except for direct emissions to air, water and soil, which are not measured. The inventory process in this LCA includes all data related to raw material, packaging material and consumable items, and the associated transport to the manufacturing site. Process energy and water use and production waste are included. General waste is assumed to be negligible.

## LCA Results

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

Parameters describing environmental impacts			GWP	ODP	AP	EP	POCP	ADPE	ADPF
			kg CO <sub>2</sub> equiv.	kg CFC 11 equiv.	kg SO <sub>2</sub> equiv.	kg (PO <sub>4</sub> ) <sup>3-</sup> equiv.	kg C <sub>2</sub> H <sub>4</sub> equiv.	kg Sb equiv.	MJ, net calorific value.
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	3.61E+03	6.73E-04	2.65E+01	7.85E+00	2.54E+00	2.70E-01	4.98E+04
Construction process stage	Transport	A4	3.68E+01	6.84E-06	1.24E-01	3.27E-02	2.28E-02	8.71E-05	5.61E+02
	Construction	A5	1.66E+01	1.07E-06	8.93E-02	2.78E-02	5.11E-03	1.99E-05	2.54E+02

GWP = Global Warming Potential;  
 ODP = Ozone Depletion Potential;  
 AP = Acidification Potential for Soil and Water;  
 EP = Eutrophication Potential;

POCP = Formation potential of tropospheric Ozone;  
 ADPE = Abiotic Depletion Potential – Elements;  
 ADPF = Abiotic Depletion Potential – Fossil Fuels;

## LCA Results (continued)

Parameters describing resource use, primary energy			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	6.73E+03	2.13E-01	6.73E+03	5.48E+04	0.00E+00	5.48E+04
Construction process stage	Transport	A4	7.74E+00	2.59E-05	7.74E+00	5.57E+02	0.00E+00	5.57E+02
	Construction	A5	2.19E+01	3.96E-05	2.19E+01	3.38E+02	0.00E+00	3.38E+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)

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 <sup>3</sup>
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	0.00E+00	0.00E+00	0.00E+00	5.49E+01
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	1.24E-01
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	6.78E-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)

Other environmental information describing waste categories						
			HWD	NHWD	RWD	
			kg	kg	Kg	
Product stage	Raw material supply	A1	AGG	AGG	AGG	
	Transport	A2	AGG	AGG	AGG	
	Manufacturing	A3	AGG	AGG	AGG	
	Total (of product stage)	A1-3	3.26E+02	1.77E+02	1.28E-01	
Construction process stage	Transport	A4	2.28E-01	3.23E+01	3.87E-03	
	Construction	A5	3.88E-02	1.41E+00	1.86E-03	

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

## LCA Results (continued)

Other environmental information describing output flows – at end of life						
			CRU	MFR	MER	EE
			kg	kg	kg	MJ per energy carrier
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG
	Total (of product stage)	A1-3	0.00E+00	3.29E-01	0.00E+00	0.00E+00
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	1.00E+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
A4 – Transport to the building site	Balcony components are transported to site from Cradley Heath factory. Steel stubs are transported to site straight from the galvanisers. A distance from Cradley Heath to an actual installation has been considered.		
	Diesel Lorry	l/km	0.296
	Capacity utilisation	%	49
	Distance (balcony)	km	188.5
	Distance (steel stubs)	km	267.2
A5 – Installation in the building	Balcony is installed onto façade using a Tower Crane. There is no cutting, drilling, or welding on site. Each balcony is typically fitted using 8 number M25 fixing using hand tools. 15 minutes is taken to position each balcony with a tower crane and then approx. 1 hour of final connections and fixings using hand tools. The power rating of the crane is assumed to be 100 kW and hand tools to be 2.4 kW. As balconies arrive on site ready assembled for fixing with the stubs no site wastage has been assumed.		
	Energy used by tower crane per balcony	kWh	25
	Energy used by hand tools per balcony	kWh	2.4
	Foam packaging waste to landfill	kg	1
	Wood packaging waste to recycling	kg	1

## References

BSI. Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products. BS EN 15804:2012+A1:2013. London, BSI, 2013.

BSI. Environmental labels and declarations – Type III Environmental declarations – Principles and procedures. BS EN ISO 14025:2010 (exactly identical to ISO 14025:2006). London, BSI, 2010.

BSI. Environmental management – Life cycle assessment – Principles and framework. BS EN ISO 14040:2006. London, BSI, 2006.

BSI. Environmental management – Life cycle assessment – requirements and guidelines. BS EN ISO 14044:2006. London, BSI, 2006.