Statement of Verification

BREG EN EPD No.: 000356 Issue 01

This is to verify that the

Environmental Product Declaration

provided by:

Brett Martin Daylight Systems

BRE Global Verified EPD

is in accordance with the requirements of:

EN 15804:2012+A1:2013

and

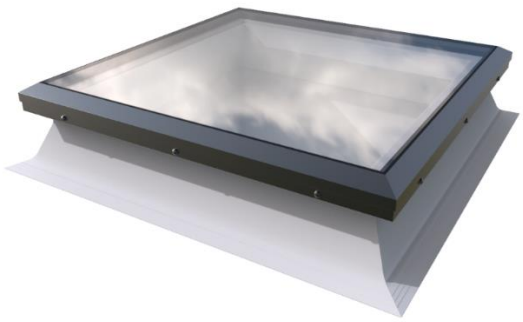
BRE Global Scheme Document SD207

This declaration is for:

Brett Martin Flat Glass Rooflight on 150mm PVC Kerb

Company Address

Sandford Close
Dutton Road
Aldermans Green Industrial Estate
Coventry
CV2 2QU



Brett Martin

Signed for BRE Global Ltd	Emma Baker Operator	08 April 2021 Date of this Issue
08 April 2021 Date of First Issue		07 April 2026 Expiry Date

BRE Global Verified EPD

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ECO PLATFORM EPD EN 15804 VERIFIED

Environmental Product Declaration

EPD Number: 000356

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**
Brett Martin Daylight Systems Sandford Close Dutton Road Aldermans Green Industrial Estate Coventry CV2 2QU	BRE LINA
Declared Unit	**Applicability/Coverage**
1m2 of Brett Martin Flat Glass rooflight on 150mm PVC kerb. Weighing 51.67kg/m^2	Product Average.
EPD Type	**Background database**
Cradle to Gate with options	Ecoinvent v3.2 & BRE LINA database V2.0.73

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: 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
					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

Brett Martin Daylight Systems
Sandford Close
Dutton Road
Aldermans Green Industrial Estate
Coventry
CV2 2QU

Construction Product

Product Description

Brett Martin Flat Glass rooflights are Aluminium framed flat glass rooflights intended for installation on flat roofs of all modern building types to provide natural daylight.

Technical Information

Property	Value, Unit
U - Value	1.1 W/m2K
Light Transmission	76%
Total transmittance (g Value)	0.60
Safety requirements	NPD – Performance to CWCT TN67 declared separately
Roof pitch	2º-15º

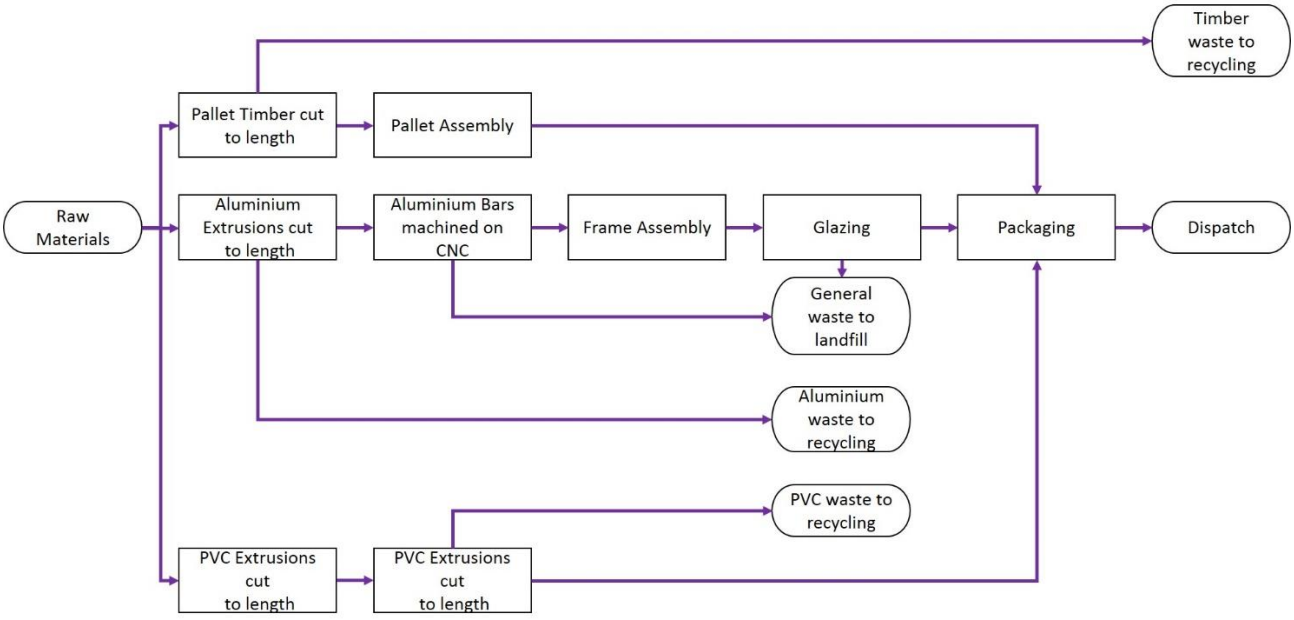
Main Product Contents

Material/Chemical Input	%
DGU	66.0
Aluminium	13.4
PVC	18.0
Foam tapes/adhesives/sealants	0.8
Stainless Steel	1.2
Stainless Steel fixings	0.6

Manufacturing Process

Extruded Aluminium Profile is cut to length, the profile is machined using a 4-axis CNC machine and assembled into a complete Rooflight frame. The Aluminium framework is then glazed with an Argon sealed Double Glazed Glass unit before being weather sealed, packaged with installation fixings sent out to the customer.

Process flow diagram



Construction Installation

Brett Martin Flat Glass rooflights on a PVC kerb have 2 main installation phases.

1) The PVC kerb is fixed to the roof. The installer is required to seal the kerb to the roof using silicone (not supplied) the kerb is then fixed to the roof using the supplied screws. The roof covering should then be installed up to 150mm lip on PVC kerb. The environmental impact of the roof covering is not covered by the scope of this EPD.

2) Secondly the glass unit is side fixed to the kerb using the supplied screws, the heads of these screws are then covered using colour matched nylon plastic caps.

The product supplied is custom made to size and is therefore there is no installation wastage on site. Fixings are supplied by Brett Martin and in some scenarios there are leftover screws, which have been taken into account for in the waste section of A5.

Use Information

The general condition of glass rooflights, and the security of fixings and sealants should be checked periodically as part of the overall maintenance program for the structure into which they are incorporated. If a rooflight is found to be damaged it must be replaced in accordance with the original specification. A regular cleaning programme will enhance the appearance and help retain the functional properties of the rooflight. Cleaning should occur at least every 12-18 months or more frequently depending on local environment.

Declared unit description

1m2 of Brett Martin Flat Glass rooflight on 150mm PVC kerb. Weighing 51.67 kg/m^2. All analysis undertaken are based on data for rooflights with a roof opening between 1m^2 and 2m^2, for rooflights outside of this area please use the following scaling factors:

0-1m^2 – Multiply results by 1.41
1-2m^2 – Multiply results by 1.00
2+ m^2 – Multiply results by 0.86

System boundary

This is a cradle to gate with options EPD (i.e. processes covered in the extraction and processing in modules A1 to A3), the construction stage in modules A4 and A5 and end of life scenario in module C4.

Data sources, quality and allocation

Manufacture specific data from BMDS covers a production period of one year from 01/01/2020 to 31/12/2020 from the Coventry site has been used.

BMDS' Coventry factory make a range of rooflights. Where there is no other way to allocate factory wide inputs such as water, general gas, general electricity and general site waste to individual processes then total sales value has been used to apportion the inputs to different departments.

To distribute the environmental impacts associated with these factors to individual products the sales value of that product has been used.

Cut-off criteria

Data collected at the Coventry manufacturing site was used. 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 direct production waste are included. Environmental impacts due to administration of the manufacturing process are assumed to be below cut off criteria.

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_2 equiv.	kg CFC 11 equiv.	kg SO_2 equiv.	kg $(PO_4)^{3-}$ equiv.	kg C_2H_4 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	1.24E+02	2.39E-05	1.21E+00	3.20E-01	1.84E-01	4.39E-03	3.29E+03
Construction process stage	Transport	A4	1.36E+00	2.55E-07	6.06E-03	1.59E-03	1.00E-03	3.44E-06	2.10E+01
	Construction	A5	8.85E+00	1.10E-06	3.24E-02	1.30E-01	5.18E-03	6.65E-05	1.23E+02
Use stage	Use	B1	MND	MND	MND	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND	MND	MND	MND
End of life	Deconstruction, demolition	C1	MND	MND	MND	MND	MND	MND	MND
	Transport	C2	MND	MND	MND	MND	MND	MND	MND
	Waste processing	C3	MND	MND	MND	MND	MND	MND	MND
	Disposal	C4	3.61E+01	1.86E-07	7.36E-03	1.81E-01	7.47E-03	1.45E-06	1.44E+01
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	MND	MND	MND	MND	MND	MND	MND

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	1.12E+03	5.53E-03	1.12E+03	3.38E+03	2.62E+02	3.64E+03
Construction process stage	Transport	A4	3.00E-01	1.01E-06	3.00E-01	2.09E+01	0.00E+00	2.09E+01
	Construction	A5	1.09E+01	2.30E-03	1.09E+01	9.72E+01	3.18E+01	1.29E+02
Use stage	Use	B1	MND	MND	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND	MND	MND
End of life	Deconstruction, demolition	C1	MND	MND	MND	MND	MND	MND
	Transport	C2	MND	MND	MND	MND	MND	MND
	Waste processing	C3	MND	MND	MND	MND	MND	MND
	Disposal	C4	1.28E+00	3.24E-06	1.28E+00	1.79E+01	0.00E+00	1.79E+01
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	MND	MND	MND	MND	MND	MND

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^3
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	4.72E+00
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	4.75E-03
	Construction	A5	0.00E+00	0.00E+00	0.00E+00	1.13E-01
Use stage	Use	B1	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND
End of life	Deconstruction, demolition	C1	MND	MND	MND	MND
	Transport	C2	MND	MND	MND	MND
	Waste processing	C3	MND	MND	MND	MND
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	1.88E-02
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	MND	MND	MND	MND

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	9.23E+00	1.74E+01	7.68E-03
Construction process stage	Transport	A4	8.86E-03	1.27E+00	1.44E-04
	Construction	A5	1.74E+00	3.55E+01	2.49E-04
Use stage	Use	B1	MND	MND	MND
	Maintenance	B2	MND	MND	MND
	Repair	B3	MND	MND	MND
	Replacement	B4	MND	MND	MND
	Refurbishment	B5	MND	MND	MND
	Operational energy use	B6	MND	MND	MND
	Operational water use	B7	MND	MND	MND
End of life	Deconstruction, demolition	C1	MND	MND	MND
	Transport	C2	MND	MND	MND
	Waste processing	C3	MND	MND	MND
	Disposal	C4	2.13E-02	5.30E+01	1.38E-04
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	MND	MND	MND

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	5.01E+00	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	0.00E+00	0.00E+00	0.00E+00
Use stage	Use	B1	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND
End of life	Deconstruction, demolition	C1	MND	MND	MND	MND
	Transport	C2	MND	MND	MND	MND
	Waste processing	C3	MND	MND	MND	MND
	Disposal	C4	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	MND	MND	MND	MND

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	Brett Martin Flat Glass units are sent to customers via a pallet courier		
	Fuel type / Vehicle type	vehicle type	Lorry, Unknown
	Distance	km	200
	Capacity utilisation	%	26
	Diesel consumption	l/km	0.227
A5 – Installation in the building	The following wastages and ancillary materials are associated with the products installation on site. There is no installation wastage of the product as they are made to customer requirements. Average wastage of supplied fixings has also been considered. All waste is assumed to go to landfill.		
	Silicon sealant	kg per F.U.	0.396
	Stainless fixing screws	kg per F.U.	0.491
	Nylon cover caps	kg per F.U.	0.032
	Glazing packers	kg per F.U.	1.247
	Waste – Pallet	kg per F.U.	49.526
	Waste – Stainless fixing screws	kg per F.U.	0.0469
	Waste – Nylon cover caps	kg per F.U.	3.957E-05
	Waste – Glazing packers	kg per F.U.	0.776
C1 to C4 End of life	The end of life of the product takes into account module C4, disposal. The constituent parts of the rooflight can be recycled. However for the purpose of calculating the worst case environmental impacts it is assumed that at the end-of-life the units will go to landfill		
	Unit disposal	kg per F.U.	51.67
	Fixings at end of life	kg per F.U.	0.444
	Cover caps at end of life	kg per F.U.	0.0318
	Sealant at end of life	kg per F.U.	0.396
	Glazing packers at end of life	kg per F.U.	0.471

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.