Statement of Verification

BREG EN EPD No.: 000456 Issue 01

This is to verify that the

Environmental Product Declaration

provided by:

IG Masonry Support

BRE Global Verified EPD

is in accordance with the requirements of:

EN 15804:2012+A1:2013

and

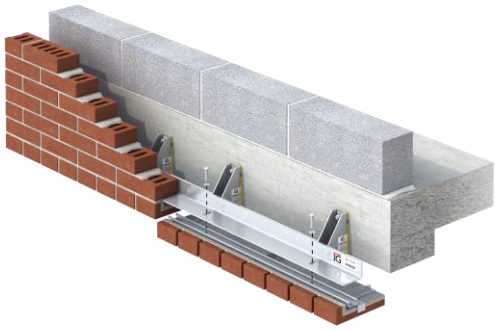
BRE Global Scheme Document SD207

This declaration is for:

Brick on Soffit System (B.O.S.S A1)

Company Address

IG Masonry Support
Ryder Close
Cadley Hill Industrial Estate
Derbyshire
DE11 9EU



IG Masonry Support

Signed for BRE Global Ltd	Emma Baker Operator	12 September 2022 Date of this Issue
12 September 2022 Date of First Issue		11 September 2027 Expiry Date

BRE Global Verified EPD

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ECO PLATFORM EPD VERIFIED

Environmental Product Declaration

EPD Number: 000456

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**
IG Masonry Support Ryder Close Cadley Hill Industrial Estate Derbyshire DE11 9EU	Flavie Lowres/LINA 2.0
Declared Unit	**Applicability/Coverage**
890 mm length and 215 mm width soffit @ 12.2 kg/unit including fixings	Product Average.
EPD Type	**Background database**
Cradle to Gate with options	ecoinvent

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: Pat Hermon
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(s)

The product BOSS A1 is manufactured at IG Masonry Support's factory

Ryder Close
Cadley Hill Industrial Estate
Derbyshire
DE11 9EU

Construction Product

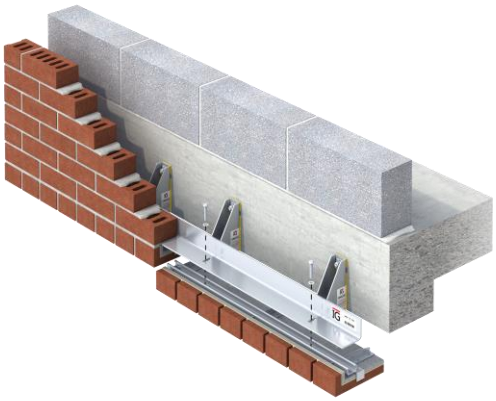
Product Description

B.O.S.S. A1 is a lightweight, prefabricated brick slip soffit system designed to be quickly and easily bolted to IG's Welded Masonry Support (WMS) to create deep reveals, soffits and flying beams on masonry facades. (Slips are pre-issued brick collected from the client).

The size of this product varies, this EPD represent an average of the variation of B.O.S.S. A1 based on the overall number of units and weight manufactured in the year the data was collected.

Technical Information

Property	Value, Unit
Structural performance	The system is non-structural but can support its self-weight and transfer wind actions to the supporting structure
Properties in relation to fire	All components of the system are classified as A1 in accordance with BS EN 13501-1: 2018 and its use is unrestricted by the national Building Regulations
Durability	Provided that the system is designed, installed and used in accordance with BBA Certificate 15/5250, it will have a service life of at least 60 years



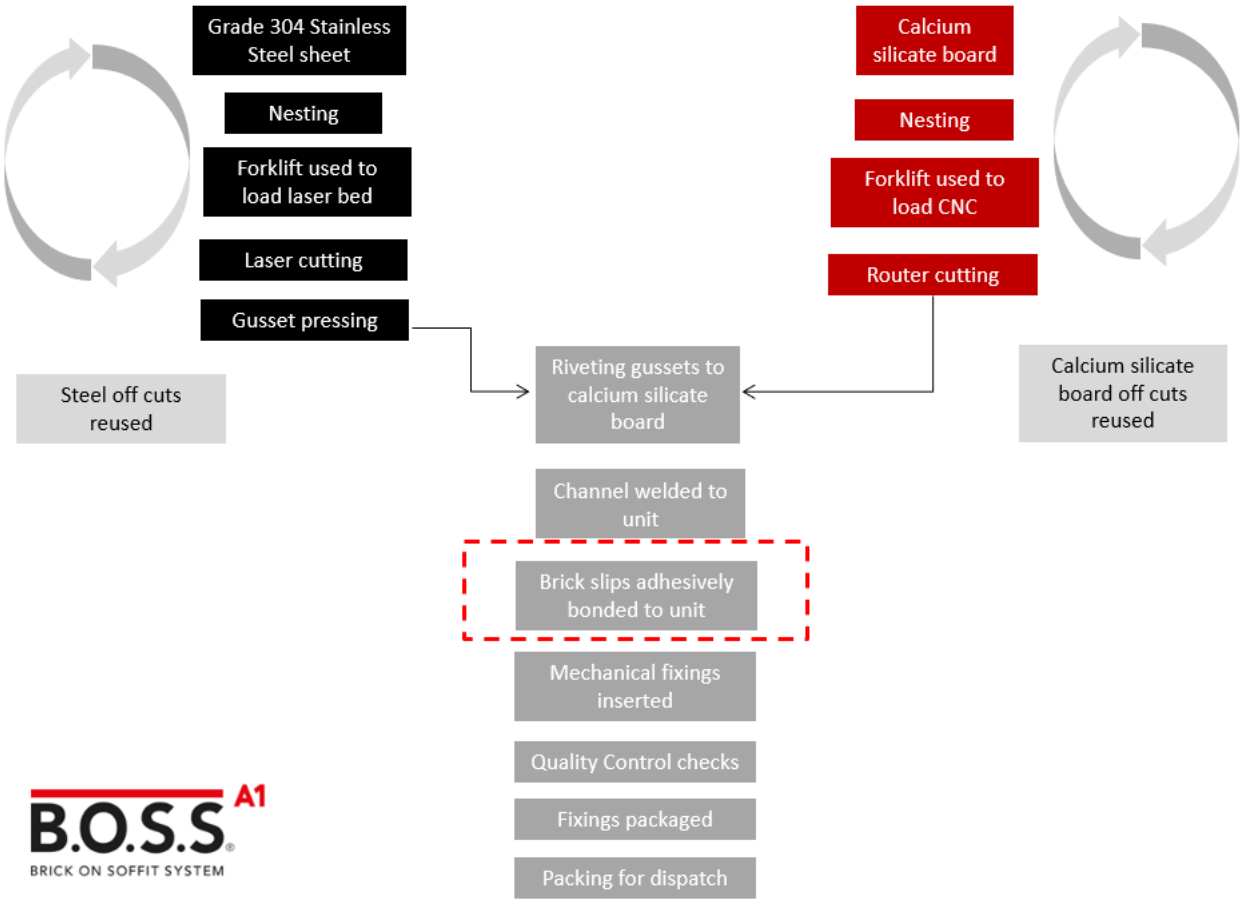
Main Product Contents

Material/Chemical Input	%
Stainless steel	14.5%
Cement board	77%
fixings	2.5%
adhesive	7%

Manufacturing Process

The fabrication of B.O.S.S. A1 begins with the nesting process of calcium silicate components to make up the main body of the B.O.S.S. A1 unit. These components are produced via router cutting. Stainless steel gussets are nested and fabricated via laser cutting. A section of pre-cut channel is welded to stainless steel gussets which is then riveted to the calcium silicate board carrier. Bricks are cut into slips (bricks are not included in this EPD) and are adhesively bonded to the pre-cut calcium silicate board. Mechanical fixings are introduced in between each brick slip and secured to the carrier using stainless steel screws. Quality checks are then conducted before product sign off. Only approved units are sent to packing and dispatch. The units are compliant with Document B Fire Safety and BBA approved.

Process flow diagram



Life Cycle Assessment Calculation Rules

Declared unit description

890 mm length and 215 mm width soffit @ 9.61 kg/unit including fixings

System boundary

This cradle-to-gate EPD has assessed in accordance with the modular approach as defined in EN15804:2012+A1:2013 and includes the processes covered in the manufacturing site and product stage A1 to A3 and use stages B1 to B7.

Data sources, quality and allocation

Specific primary data derived from the B.O.S.S. A1 production process in Ryder Close, Cadley Hill Industrial Estate, Derbyshire DE11 9EU factory, have been modelled using LINA v2.0 and the BRE LINA database v2.0.92. In accordance with the requirements of EN15804, the most current available data has been used. The manufacturer-specific data from B.O.S.S. A1 covers a period of one year (01/01/2020 – 31/12/2020). 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 3.2 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 EN15804. B.O.S.S. A1 is not the only product to manufactured at the Ryder Close factory. Water, energy and output data provided have been

allocated by mass to B.O.S.S. A1. Site wide values for energy, water and wastewater have been allocated on a mass basis. Figures for the raw materials, ancillary materials and packaging were from actual usages. Allocation of energy, water, and waste has been done according to the provisions of the BRE PCR PN514 and EN 15804.

This LCA covers the IG Masonry Brick On Soffit System (B.O.S.S. A1) product range. The system is available in four standard profiles to accommodate brick slips to achieve project design requirements: BOSS A1 65 x 215 mm, BOSS A1 65 x 327 mm and BOSS A1 215 x 215 mm. The LCA covers all of the products in the range and results for all inputs are averaged based on total output in tonnes for all products and calculated average kg/unit.

Specific UK datasets have been selected from the ecoinvent LCI for this LCA. The quality level of geographical and technical representativeness is therefore good. The quality level of time representativeness is good as the background LCI datasets are based on ecoinvent v3.2 which was compiled in 2015. Therefore, there is approximately 5-6 years between the ecoinvent LCI reference year and the time period for which the LCA was undertaken

Cut-off criteria

All processes associated with the manufacturing process and fixings have been included. The impact of the bricks is not included in this EPD.

All inputs or outputs have been included and all raw materials, packaging and transport, energy, water use and wastes, are included, except for direct emissions to air, water and soil, which 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; MND = module not declared; 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	6.09E+01	2.61E-06	2.91E-01	8.64E-02	3.24E-02	1.20E-03	6.47E+02
	Transport	A2	2.36E-01	4.35E-08	7.90E-04	2.08E-04	1.38E-04	6.22E-07	3.57E+00
	Manufacturing	A3	7.17E+00	4.68E-07	4.23E-02	9.86E-03	3.43E-03	1.40E-05	1.35E+02
	Total (of product stage)	A1-3	6.83E+01	3.12E-06	3.34E-01	9.64E-02	3.59E-02	1.22E-03	7.85E+02
Installation stage	Transport to site	A4	MND	MND	MND	MND	MND	MND	MND
	Installation	A5	MND	MND	MND	MND	MND	MND	MND
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
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	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	1.28E+02	4.48E-04	1.28E+02	6.90E+02	0.00E+00	6.90E+02
	Transport	A2	4.74E-02	1.76E-07	4.74E-02	3.54E+00	0.00E+00	3.54E+00
	Manufacturing	A3	2.12E+01	8.70E-04	2.12E+01	1.67E+02	4.90E+00	1.71E+02
	Total (of product stage)	A1-3	1.49E+02	1.32E-03	1.49E+02	8.60E+02	4.90E+00	8.65E+02
Installation stage	Transport to site	A4	MND	MND	MND	MND	MND	MND
	Installation	A5	MND	MND	MND	MND	MND	MND
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
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	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	0.00E+00	0.00E+00	0.00E+00	5.66E-01
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	7.73E-04
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	5.60E-02
	Total (of product stage)	A1-3	0.00E+00	0.00E+00	0.00E+00	6.23E-01
Installation stage	Transport to site	A4	MND	MND	MND	MND
	Installation	A5	MND	MND	MND	MND
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
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	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	3.45E+01	8.46E+00	1.40E-03
	Transport	A2	1.49E-03	1.66E-01	2.46E-05
	Manufacturing	A3	4.63E-02	2.28E-01	7.83E-04
	Total (of product stage)	A1-3	3.45E+01	8.85E+00	2.21E-03
Installation stage	Transport to site	A4	MND	MND	MND
	Installation	A5	MND	MND	MND
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
End of life	Deconstruction , demolition	C1	MND	MND	MND
	Transport	C2	MND	MND	MND
	Waste processing	C3	MND	MND	MND
	Disposal	C4	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	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
	Manufacturing	A3	0.00E+00	2.88E+00	0.00E+00	0.00E+00
	Total (of product stage)	A1-3	0.00E+00	2.88E+00	0.00E+00	0.00E+00
Installation stage	Transport to site	A4	MND	MND	MND	MND
	Installation	A5	MND	MND	MND	MND
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	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	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
B1 – Use	Once installed, there is no impact during the use phase the BOSS A1 system as it is placed behind the brick slips and cannot be accessed		
	No environmental impact	N/A	0
B2 – Maintenance	No maintenance is required during the use phase of the BOSS A1 system as it is placed behind the brick slips and cannot be accessed		
	No maintenance	N/A	0
B3 – Repair	No repair is required during the use phase the BOSS A1 system as it is placed behind the brick slips and cannot be accessed		
	No repair	N/A	0
B4 – Replacement	No replacement is required during the use phase the BOSS A1 system is placed behind the brick slips. The BOSS A1 system will therefore have the same lifespan as the building it is used on		
	No replacement	N/A	0
B5 – Refurbishment	No refurbishment is required during the use phase the BOSS A1 system as it is placed behind the brick slips. The BOSS A1 system will therefore have the same lifespan as the building it is used on		
	No refurbishment	N/A	0
Reference service life	Provided that the system is designed, installed and used in accordance with the temperature and humidity conditions described in section 9 of BBA certificate 15/5250, it will have a service life of at least 60 years.		
B6 – Use of energy; B7 – Use of water	The product does not require any water or energy in use		
	Energy use	kWh	0
	Water use	kWh	0

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.