

Statement of Verification

BREG EN EPD No.: 000340

Issue 01

This is to verify that the
Environmental Product Declaration
provided by:
SAS International



is in accordance with the requirements of:

EN 15804:2012+A1:2013

and

BRE Global Scheme Document SD207

This declaration is for:

SAS System 500 Timber Baffles with Acoustic Insert

Company Address

31 Sutton Business Park
Reading
UK
RG6 1AZ



A handwritten signature in black ink, appearing to read 'E Baker'.

Emma Baker
Operator

08 October 2020
Date of this Issue

08 October 2020
Date of First Issue

07 October 2025
Expiry Date



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Environmental Product Declaration

EPD Number: 000340

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
SAS International 31 Sutton Business Park Reading UK RG6 1AZ	BRE LINA Version 2.0.7
Declared Unit	Applicability/Coverage
1M2 of SAS System 500 Timber Baffles with Acoustic Insert	Manufacturer specific product average
EPD Type	Background database
Cradle to Gate with options	ecoinvent v3.2
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 <input type="checkbox"/> Internal <input checked="" type="checkbox"/> 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 programs 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
<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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Note: Ticks indicate the Information Modules declared.

Manufacturing site(s)

S A S International Ltd.
 Apollo Park,
 Oldbury,
 UK
 B69 2DA.

Construction Product:

Product Description

SAS500 is a linear acoustic baffle system directly suspended from the soffit for exposed applications. Baffles can be suspended as individual modules or continual, unbroken runs. A range of both organic and engineered wood veneers finishes are available with plain and perforated veneers and acoustic inserts to improve acoustic performance.

Standard Module Sizes (mm)
 Lengths - 1200, 1500, 1800, 2400mm
 Depths - 200, 300, 500mm
 Thickness – 52mm
 Bespoke sizes are available on request

Technical Information

Property

System components are manufactured and tested in accordance with BS EN 13964:2014 including:
 Reaction to Fire: (up to) B-S2-D0 European Reaction to Fire classification system (Euroclasses)
 Release of Formaldehyde: CLASS E1
 Release of Asbestos: NO CONTENT
 Sound Absorption: (up to) Single Value $\alpha_w = 0.40$ class D

Main Product Contents

The raw material quantities have been taken for all variations of the system and modelled as a single dataset. The main product contents listed below represent the average values derived from this dataset, with a weight of 13.58Kg/m²

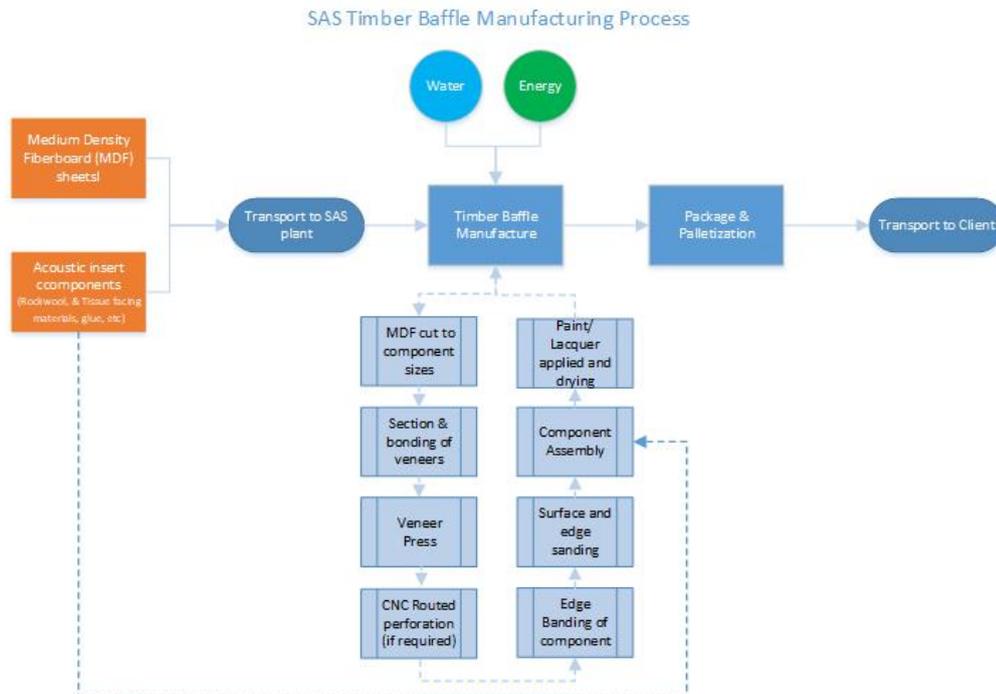
Material/Chemical Input	%
Medium Density Fiberboard (MDF)	91%
Organic Wood Veneer	3%
UV Lacquer	1%
Adhesive	1%
Aluminum Foil	1%
Acoustic Insulation core	2%
Tissue Facing	1%

Manufacturing Process

The Apollo Park factory is split into two separate Areas; Area 1 is where the timber tiles, baffles and linear systems are manufactured, including the addition of the various types of acoustic inserts. Key area 1 processes include cutting and perforating, selection and bonding of wood veneers, Edge banding and sanding, spray coating and drying. These processes account for the most energy intensive stages of the products life cycle. Area 2 is where aluminum profile products are processed; it houses less energy-intensive processes than Unit 1.

The recycled content of the MDF (Medium Density Fiberboard) used in with the systems is up to 90% plus post-consumer subject to availability of recycled materials within the global market at time of manufacture of raw material. Both the MDF (Medium Density Fiberboard) and Organic Wood Veneers are FSC (Forest Stewardship Council) Chain of Custody Certified.

Process flow diagram



Life Cycle Assessment Calculation Rules

Declared unit description

1m² SAS 500 Timber Baffle System with Acoustic insert (13.58Kg/m²) Perforated MDF (Medium Density Fiberboard) with wood veneer and UV lacquer finish for use in ceiling applications.

System boundary

This is a cradle-to-gate with options LCA, reporting all production life cycle stages of modules A1 to A3, and C3 waste processing and end of life disposal module C4 in accordance with EN15804:2012+A1:2013.

Data sources, quality and allocation

This is a cradle-to-gate with options LCA, reporting all production life cycle stages of modules A1 to A3, and end of life disposal module C4 in accordance with EN 15804:2012+A1:2013. No inputs or outputs have been excluded 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.

Raw material quantities have been uplifted by 5% proportionally to account for production wastes.

Raw material quantities have been taken from recorded production/manufacture data and product geometry from the Syteline internal production system, for all variations of the SAS 500 timber baffles systems made in the 12-month period. Due to the various sizes of System 500 timber baffle product produced within the period, the raw materials used have been calculated by total weight (KG) in production divided each by total production in M2. Additionally, the calculation includes for acoustic insert applied to M2 application.

SAS International manufacture other products in addition to the System 500 Timber baffles so some allocation of primary data has been carried out. Since the manufacturing steps responsible for cutting and perforating, selection and bonding of wood veneers, edge banding and sanding, spray coating and drying are the most energy intensive processes of the site, it is assumed that the gas and electricity consumption is the same for every m² of timber product produced. This same allocation was applied to total site water usage.

Production waste has been allocated to individual products by applying a percentage wastage rate (based on historical values and used for stock management) to each quantity of raw material. All packaging and non-production waste (waste packaging) has also been allocated using this methodology with applied percentage based on planned/estimated packaging and waste requirements for each products/systems/component.

Secondary data has been drawn from the BRE LINA database v2.0.61 and the background LCI datasets are based on ecoinvent v3.2. Upstream extraction and/or processing of inputs are included within the use of the background datasets within LINA. Emissions from fuels used are included within the relevant datasets.

Cut-off criteria

No inputs or outputs have been excluded 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.

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 ₂ H ₄ equiv.	kg Sb equiv.	MJ, net calorific value.
Product stage	Raw material supply	A1	1.92	1.48e-6	7.80e-2	2.32e-2	1.45e-2	1.34e-4	2.14e+2
	Transport	A2	1.10e-1	1.99e-8	4.04e-4	1.12e-4	7.66e-5	3.25e-7	1.65
	Manufacturing	A3	5.69	5.19e-7	2.86e-2	6.82e-3	2.02e-3	7.90e-6	9.89e+1
	Total (of product stage)	A1-3	7.72	2.02e-6	1.07e-1	3.01e-2	1.66e-2	1.42e-4	3.15e+2
End of life	Waste processing	C3	0	0	0	0	0	0	0
	Disposal	C4	0	0	0	0	0	0	0

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	2.14e+2	7.85e-5	2.14e+2	2.23e+2	0	2.23e+2
	Transport	A2	2.65e-2	1.43e-7	2.65e-2	1.65	0	1.65
	Manufacturing	A3	1.34e+1	1.81e-5	1.34e+1	1.22e+2	0	1.22e+2
	Total (of product stage)	A1-3	2.27e+2	9.67e-5	2.27e+2	1.31e+3	0	3.47e+2
End of life	Waste processing	C3	0	0	0	0	0	0
	Disposal	C4	0	0	0	0	0	0

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	0	0	3.59e-1
	Transport	A2	0	0	0	3.91e-4
	Manufacturing	A3	0	0	0	2.78e-2
	Total (of product stage)	A1-3	0	0	0	3.87e-1
End of life	Waste processing	C3	0	0	0	0
	Disposal	C4	0	0	0	0

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	3.43e-1	1.47	7.42e-4
	Transport	A2	9.04e-4	6.94e-2	1.13e-5
	Manufacturing	A3	1.79e-2	1.54e-1	5.73e-4
	Total (of product stage)	A1-3	3.62e-1	1.69	1.33e-3
End of life	Waste processing	C3	0	0	0
	Disposal	C4	0	0	0

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	0	0	0
	Transport	A2	0	0	0	0
	Manufacturing	A3	0	9.44e-1	0	0
	Total (of product stage)	A1-3	0	9.44e-1	0	0
End of life	Waste processing	C3	0	0	0	0
	Disposal	C4	0	1.35e+1	0	0

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
C3 Waste Processing	System 500 Timber Baffle is timber composition and it is assumed that at 'End of Life' or service the product and associated components can be dismantled and sorted into the various waste/recycling routes, with both MDF (Medium Density Fiberboard) and Organic Wood Veneers 100% recyclable.		
	It assumed that acoustic inserts/pads removed from the timber components are dismantled into component parts with aluminum foil and mineral wool core suitable to be recycled with established recycling industry routes and the tissue facing waste disposed of via general waste.		
C4 End of life	It is assumed that as the main element of the System 500 timber baffle is MDF (Medium Density Fiberboard) and Organic Wood Veneers is valuable material, 100% of the product is recycled at end of life.		

Summary, comments and additional information

Explanation of non-entries

Each SAS system is developed as a finished product, ready for installation without further preparation or finishes, the amount of packaging (manufacture of which has been included in Module A3) is a significant part of the overall mass of each m2 to provide suitable protection to the products during transport and storage. Module A4 and A5 have not been modelled within the LCA, however the following breakdown of product and packaging can be applied to each m2 of system 500 Timber baffles.

Product: 81.8%

Softwood - 6.5%

Plywood - 2.5%

OSB - 5.4%

Cardboard - 2.7%

Paper - 0.36%

Plastic firm wrapping - 0.36%

Plastic strapping - 0.36%

No emissions to air, water and soil have been included in A3 as they are not required to be measured on site by local/national enforcement agencies as any emissions are below reportable levels. SAS carries out annual inspection and testing of curing ovens and effluent wastewater as part of internal environmental management system and ISO 14001 record management process. Emissions from fuels used are included within the relevant datasets.

No ancillary materials are required in association with the production of the system and therefore not included within the LCA.

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.