

Statement of Verification

BREG EN EPD No.: 000355

Issue 01

This is to verify that the
Environmental Product Declaration
provided by:
IKO Insulations Ltd



is in accordance with the requirements of:
EN 15804:2012+A1:2013
and
BRE Global Scheme Document SD207

This declaration is for:
IKO enertherm ALU

Company Address

Pierson Road, The Enterprise Campus
Alconbury Weald
Huntingdon
PE28 4WY



Signed for BRE Global Ltd

Emma Baker
Operator

25 March 2021
Date of this Issue

25 March 2021
Date of First Issue

24 March 2026
Expiry Date



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Environmental Product Declaration

EPD Number: 000355

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
IKO Insulations Ltd Pierson Road, The Enterprise Campus Alconbury Weald Huntingdon PE28 4WY	BRE LINA v2.0
Declared/Functional Unit	Applicability/Coverage
1m ² at a thickness of 66mm for a thermal resistance value of 3 m ² K/W	Manufacturer specific product
EPD Type	Background database
Cradle to Gate	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 <input type="checkbox"/> Internal <input checked="" type="checkbox"/> External	
(Where appropriate ^b)Third party verifier: Pat Hermon	
<small>a: Product category rules b: Optional for business-to-business communication; mandatory for business-to-consumer communication (see EN ISO 14025:2010, 9.4)</small>	
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
<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"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note: Ticks indicate the Information Modules declared.

Manufacturing site(s)

Pierson Road, The Enterprise Campus
Alconbury Weald
Huntingdon
PE28 4WY

Construction Product:

Product Description

IKO enertherm ALU is a 100% CFC, HCFC or HFC-free insulation board with a rigid polyisocyanurate foam core, clad on both sides with a multi-layer gastight aluminium complex. The insulation is suitable for rooftops (flat roof insulation for timber, concrete and steel deck), sarking (pitched roof insulation), floors (floor insulation for underfloor heating systems and concrete floors), walls (cavity wall insulation), wrap (closed joints outside wall insulation) and comfort (loft insulation) applications. The edge finish on this product is straight.

Technical Information

Property	Value, Unit
Thermal conduction coefficient	(EN 13165) λ D: 0,022 W/(m.K)
Bulk density	\pm 32 kg/m ³
Compressive strength at 10% deformation	175 kPa (17,5 ton/m ²)
Behaviour under uniformly distributed loading	Class C (\leq 5 % deformation at 80 °C and 40 kPa loading)
Closed cells	More than 95%
Water vapour diffusion	PIR foam μ = 60; ALU facing μ > 100,000

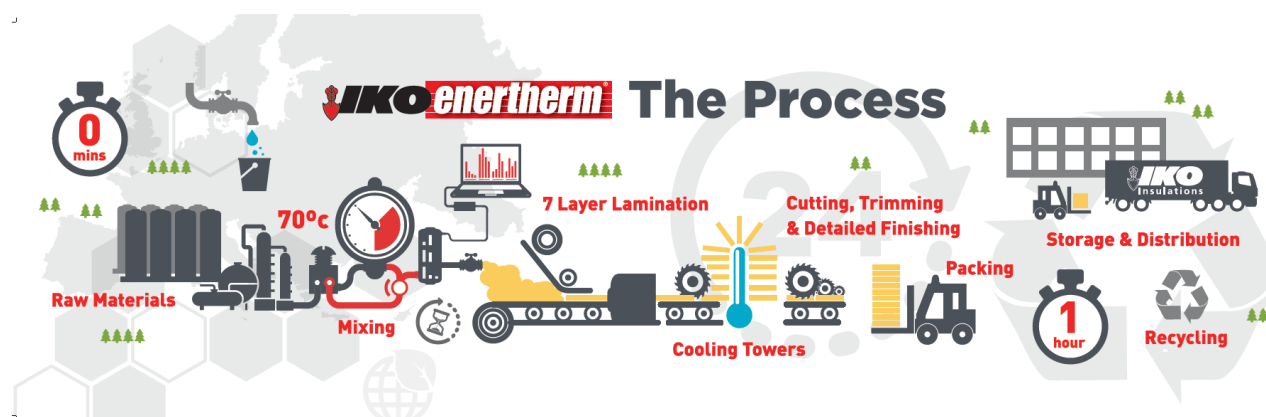
Main Product Contents

Material/Chemical Input	%
PIR Insulation Foam	87
Multilayer aluminium complex	13

Manufacturing Process

Input materials for the IKO enertherm ALU foam component are mixed together and injected on top of a lower aluminium facer on a conveyor belt, at the rate required for the selected thickness. An exothermic reaction occurs, and the foam expands to meet an upper aluminium facer and hardens. The board is then dried and cut to the appropriate size, and is stacked on an additional automated drier where it continues to cure. The boards then undergo another cutting, trimming and detailed finishing stage and are then packaged, stored in the warehouse and distributed to customers.

Process flow diagram



Life Cycle Assessment Calculation Rules

Declared / Functional unit description

1m² at a thickness of 66mm for a thermal resistance value of 3 m²K/W.

System boundary

This is a cradle-to-gate LCA that follows the modular design defined in EN 15804:2012+A1:2013. The LCA models and reports the production stage modules, A1 to A3.

The product stage covered by these modules includes the provision of all materials, products and energy, as well as waste processing (disposal of final residues during the product stage). Upstream processes relating to resource extraction are included in the system.

All energy used in the factory and factory support offices on site is included. Maintenance of equipment is not included.

IKO process their production waste (from dust extraction and scrap board) into briquettes on site. The energy relating to this process is included within the system boundary.

Data sources, quality and allocation

Manufacturer-specific data from IKO Insulations Ltd covering a production period from 1st January 2019 to 31st December 2019 from the Huntingdon site has been used for this EPD.

The Huntingdon site only produces the IKO enertherm product, therefore no allocation of site data was required.

The supporting LCA study was carried out using BRE LINA v2.0. Secondary data is from the BRE LINA database v2.0.68 and the background LCI datasets are based on ecoinvent v3.2 (2015). Where no exact match datasets were available to represent ancillary materials, other ecoinvent v3.2 proxy datasets were used.

Cut-off criteria

The inventory process in this LCA includes all data related to raw material, packaging material and ancillary items, and the associated transport to the manufacturing site. Process energy and water use, direct production waste and non-production waste are included. The only exceptions are 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	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	8.83e+0	1.64e-7	4.20e-2	8.08e-3	5.94e-3	3.54e-5	1.82e+2

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;

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+1	2.04e-2	1.12e+1	1.28e+2	0.64e+2	1.92e+2

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

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+0	0.00e+0	0.00e+0	2.30e-1

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	3.43e-1	2.19e-1	7.09e-5

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

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+0	1.43e-1	0.00e+0	0.00e+0

CRU = Components for reuse;
 MFR = Materials for recycling

MER = Materials for energy recovery;
 EE = Exported Energy

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.

Pre Consultants bv. SimaPro 8 LCA Software 2013. <http://www.pre-sustainability.com>

ecoinvent Centre. Swiss Centre for life Cycle Inventories. <http://www.ecoinvent.org>