

ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

IKO enertherm ALU FB 160 mm
IKO Insulations SAS



EPD HUB, HUB-1048

Published on 24.01.2024, last updated on 24.01.2024, valid until 24.01.2029.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	IKO Insulations SAS
Address	Rue d'Allemagne, Zone d'activité De L'aize, FR 63460 Combronde
Contact details	Technique.enertherm.fr@iko.com
Website	www.enertherm.eu

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Marleen Baes
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
EPD verifier	Haiha Nguyen, as an authorized verifier acting for EPD Hub Limited

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

PRODUCT

Product name	IKO enertherm ALU FB 160 mm
Additional labels	IKO enertherm KRALU 160 mm
Product reference	-
Place of production	Combronde, France
Period for data	2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	- %

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m ² (thickness: 160 mm)
Declared unit mass	5.325 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	1,48E+01
GWP-total, A1-A3 (kgCO ₂ e)	1,43E+01
Secondary material, inputs (%)	3.39
Secondary material, outputs (%)	0.0
Total energy use, A1-A3 (kWh)	90.7
Total water use, A1-A3 (m ³ e)	4,17E+00

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

IKO Insulations is part of the international IKO Group. The IKO group is a leading manufacturer of asphalt shingles, roofing membranes, PIR insulation and liquid waterproofing in both North America and Europe. More information on www.iko.com. Within the IKO Group, IKO Insulations develops, produces and distributes innovative PIR (Polyisocyanurate) based insulation products under the IKO enertherm brand. Manufacturing In Europe is centred in three state-of-the-art factories.

PRODUCT DESCRIPTION

IKO enertherm ALU FB is a thermal insulation board with a core of rigid polyurethane foam coated both sides with a multilayer gas-tight aluminium complex. The EPD is calculated for 1 m² of insulation board with a thickness of 160 mm an Rd value of 7,25 m².K/W. The product can be used as thermal insulation in floor, wall and roof applications.

Further information can be found at www.enertherm.eu.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	1.3	Europe
Minerals	0	-
Fossil materials	93.8	Europe
Bio-based materials	4.9	Europe

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m ² (thickness: 160 mm)
Mass per declared unit	5.325 kg
Functional unit	1 m ² of the product with 160 mm thickness and thermal conductivity of 7.25 m ² .K/W
Reference service life	50

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR.

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The insulation boards are produced on a continuous double-belt laminator by mixing and pouring the raw materials on a conveyor. The insulation board is top and bottom covered with a facer. Boards are side trimmed and cut the required length. The finished insulation boards are stacked on EPS blocks and wrapped in PE foil and moved to storage. Off-cuts are compressed as briquettes and transported to landfill.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions. The average transportation distance of 800 km from factory to construction sites in Italy. A weight loss from cutting process during installation of 3.5% is considered (A5) and transported to landfill. 50% of the packaging waste (PE film) is considered to be recycled and 50% to be landfilled. 50% of the EPS legs packaging is assumed to be recycled and 50% landfilled. Transportation distance to the closest disposal area is estimated as 50 km and the transportation method is assumed as lorry which is the most common.

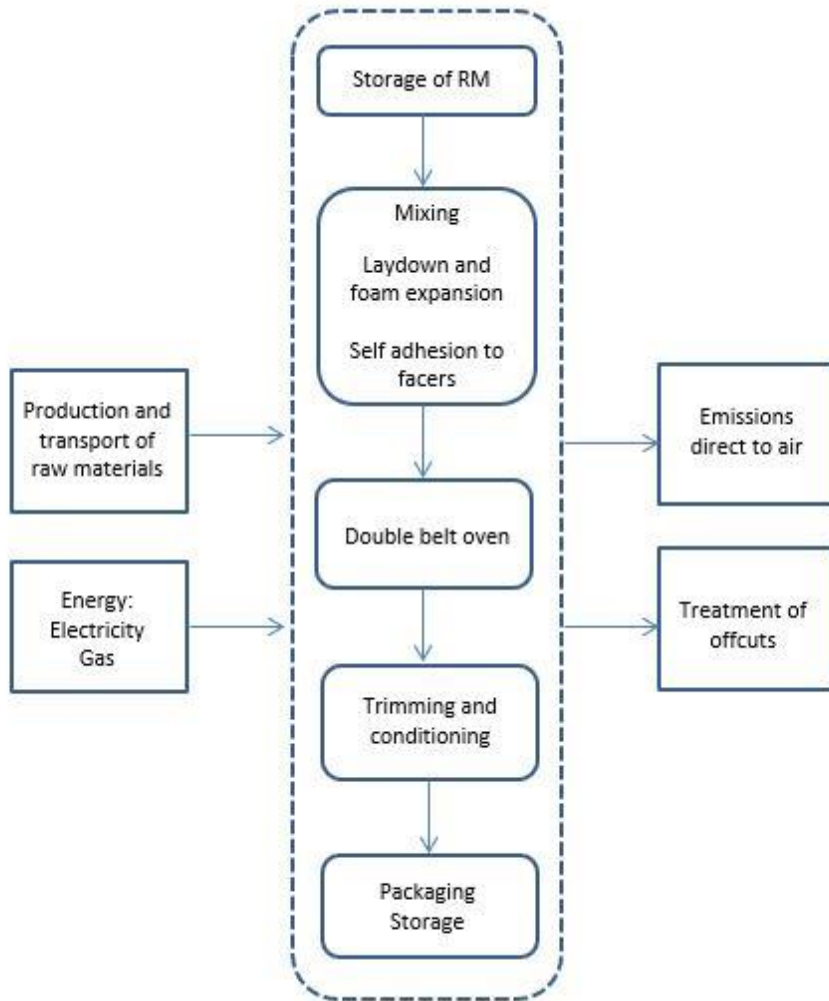
PRODUCT USE AND MAINTENANCE (B1-B7)

No maintenance is required during the lifetime of the product. Air, soil, and water impacts during the use phase have not been studied. Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-c4, D)

Consumption of energy and natural resources in demolition process is assumed to be negligible. (C1) The distance for transportation to disposal is assumed as 50 km and the transportation method is assumed to be lorry. (C2) 100 % of end-of-life foam is assumed to be landfilled. (C3, C4) Converted energy due to the incineration of packaging materials are considered as benefits. (D)

MANUFACTURING PROCESS



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging materials	No allocation
Ancillary materials	No allocation
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	No averaging
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3	- %

This EPD is product and factory specific and does not contain average calculations.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent v3.8, PlasticsEurope and One Click LCA databases were used as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	1,36E+01	1,40E-01	5,58E-01	1,43E+01	4,07E-01	5,74E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,50E-02	0,00E+00	1,24E+00	-1,35E-01
GWP – fossil	kg CO ₂ e	1,41E+01	1,40E-01	5,41E-01	1,48E+01	4,06E-01	5,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,50E-02	0,00E+00	7,33E-01	-1,35E-01
GWP – biogenic	kg CO ₂ e	-5,23E-01	0,00E+00	1,67E-02	-5,06E-01	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	5,06E-01	0,00E+00
GWP – LULUC	kg CO ₂ e	2,29E-02	5,15E-05	3,06E-04	2,33E-02	1,50E-04	8,25E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,22E-06	0,00E+00	1,44E-05	-7,88E-05
Ozone depletion pot.	kg CFC ₁₁ e	1,14E-07	3,21E-08	2,97E-08	1,76E-07	9,35E-08	1,06E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,75E-09	0,00E+00	1,66E-08	-2,73E-09
Acidification potential	mol H ⁺ e	3,53E-02	5,91E-04	1,86E-03	3,78E-02	1,72E-03	1,42E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,06E-04	0,00E+00	4,28E-04	-5,46E-04
EP-freshwater ²⁾	kg Pe	4,59E-04	1,14E-06	1,13E-05	4,72E-04	3,33E-06	1,68E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,05E-07	0,00E+00	6,43E-07	-3,58E-06
EP-marine	kg Ne	7,96E-03	1,76E-04	3,80E-04	8,51E-03	5,11E-04	3,52E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,14E-05	0,00E+00	8,03E-04	-9,45E-05
EP-terrestrial	mol Ne	8,62E-02	1,94E-03	3,86E-03	9,20E-02	5,64E-03	3,55E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,47E-04	0,00E+00	1,66E-03	-1,06E-03
POCP (“smog”) ³⁾	kg NMVOCe	3,03E-02	6,20E-04	1,05E-02	4,14E-02	1,81E-03	1,56E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,11E-04	0,00E+00	7,44E-04	-6,13E-04
ADP-minerals & metals ⁴⁾	kg Sbe	9,47E-06	3,27E-07	2,26E-06	1,21E-05	9,53E-07	5,11E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,86E-08	0,00E+00	1,73E-07	-4,97E-07
ADP-fossil resources	MJ	4,94E+01	2,10E+00	2,27E+01	7,42E+01	6,10E+00	2,91E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,75E-01	0,00E+00	1,21E+00	-3,72E+00
Water use ⁵⁾	m ³ e depr.	-2,15E+01	9,38E-03	3,86E-01	-2,11E+01	2,73E-02	-7,36E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,68E-03	0,00E+00	1,30E-02	-1,06E-01

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO₄e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	3,41E-07	1,61E-08	1,87E-08	3,76E-07	4,68E-08	1,57E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,88E-09	0,00E+00	8,81E-09	-5,21E-09
Ionizing radiation ⁶⁾	kBq U235e	4,57E-01	9,98E-03	6,63E-01	1,13E+00	2,91E-02	4,12E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,79E-03	0,00E+00	8,16E-03	-8,70E-03
Ecotoxicity (freshwater)	CTUe	1,48E+02	1,89E+00	8,11E+00	1,58E+02	5,49E+00	7,45E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,38E-01	0,00E+00	4,62E+01	-1,23E+00
Human toxicity, cancer	CTUh	5,23E-09	4,63E-11	1,71E-10	5,44E-09	1,35E-10	2,08E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,29E-12	0,00E+00	3,95E-11	-4,46E-11
Human tox. non-cancer	CTUh	3,76E-07	1,87E-09	3,68E-09	3,82E-07	5,44E-09	1,37E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,34E-10	0,00E+00	1,30E-09	-8,34E-10
SQP ⁷⁾	-	6,04E+01	2,42E+00	1,54E+00	6,43E+01	7,03E+00	2,70E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,32E-01	0,00E+00	3,11E+00	-4,15E-01

6) EN 15804+A2 disclaimer for ionizing radiation, human health. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	2,60E+01	2,36E-02	1,26E+00	2,73E+01	6,88E-02	9,62E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,23E-03	0,00E+00	6,68E-02	-1,21E-01
Renew. PER as material	MJ	3,79E+00	0,00E+00	-1,21E-01	3,67E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-3,67E+00	0,00E+00
Total use of renew. PER	MJ	2,98E+01	2,36E-02	1,14E+00	3,09E+01	6,88E-02	9,62E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,23E-03	0,00E+00	-3,60E+00	-1,21E-01
Non-re. PER as energy	MJ	2,78E+02	2,10E+00	1,90E+01	2,99E+02	6,10E+00	1,08E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,75E-01	0,00E+00	1,21E+00	-1,80E+00
Non-re. PER as material	MJ	1,44E+02	0,00E+00	-5,88E+00	1,38E+02	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	-1,38E+02	0,00E+00
Total use of non-re. PER	MJ	4,22E+02	2,10E+00	1,31E+01	4,37E+02	6,10E+00	1,08E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,75E-01	0,00E+00	-1,36E+02	-1,80E+00
Secondary materials	kg	1,80E-01	5,82E-04	1,60E-03	1,83E-01	1,70E-03	6,63E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,04E-04	0,00E+00	4,60E-04	4,84E-02
Renew. secondary fuels	MJ	2,86E-03	5,87E-06	2,30E-03	5,17E-03	1,71E-05	1,84E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,05E-06	0,00E+00	2,07E-05	-1,13E-03
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	4,16E+00	2,72E-04	9,40E-03	4,17E+00	7,91E-04	1,46E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,86E-05	0,00E+00	1,57E-03	-2,58E-03

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	3,04E-01	2,78E-03	2,21E-02	3,29E-01	8,09E-03	1,23E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,98E-04	0,00E+00	0,00E+00	-5,20E-03
Non-hazardous waste	kg	4,39E+00	4,57E-02	6,00E-01	5,04E+00	1,33E-01	4,21E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,17E-03	0,00E+00	5,32E+00	-1,22E-01
Radioactive waste	kg	1,39E-04	1,40E-05	1,93E-04	3,46E-04	4,08E-05	1,38E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,51E-06	0,00E+00	0,00E+00	-2,77E-06

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,60E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	1,35E+01	1,38E-01	5,30E-01	1,42E+01	4,02E-01	5,57E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,47E-02	0,00E+00	9,00E-01	-1,27E-01
Ozone depletion Pot.	kg CFC ₁₁ e	1,00E-07	2,54E-08	2,58E-08	1,51E-07	7,41E-08	8,84E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,55E-09	0,00E+00	1,32E-08	-2,50E-09
Acidification	kg SO ₂ e	2,90E-02	4,59E-04	1,54E-03	3,10E-02	1,34E-03	1,16E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,22E-05	0,00E+00	3,21E-04	-4,55E-04
Eutrophication	kg PO ₄ ³ e	1,14E-02	1,05E-04	1,44E-03	1,30E-02	3,05E-04	1,75E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,87E-05	0,00E+00	2,87E-02	-1,31E-04
POCP ("smog")	kg C ₂ H ₄ e	3,72E-03	1,79E-05	2,54E-04	3,99E-03	5,22E-05	1,49E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,21E-06	0,00E+00	1,73E-04	-1,13E-04
ADP-elements	kg Sbe	1,66E-05	3,17E-07	2,27E-06	1,92E-05	9,23E-07	7,60E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,67E-08	0,00E+00	1,66E-07	-4,93E-07
ADP-fossil	MJ	4,22E+02	2,10E+00	2,27E+01	4,46E+02	6,10E+00	1,59E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,75E-01	0,00E+00	1,21E+00	-3,72E+00

ENVIRONMENTAL IMPACTS – ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Radioactive waste, high	kg	1,08E-05	1,17E-07	4,20E-05	5,30E-05	3,42E-07	1,89E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-5,24E-07
Radioactive waste, int/low	kg	1,28E-04	1,39E-05	1,51E-04	2,93E-04	4,05E-05	1,22E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,49E-06	0,00E+00	7,75E-06	-2,25E-06

ENVIRONMENTAL IMPACTS – FRENCH NATIONAL COMPLEMENTS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-elements	kg Sbe	5,42E-05	3,17E-07	2,27E-06	5,68E-05	9,23E-07	2,08E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,67E-08	0,00E+00	1,66E-07	-4,93E-07
Hazardous waste disposed	kg	3,04E-01	2,78E-03	2,21E-02	3,29E-01	8,09E-03	1,23E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,98E-04	0,00E+00	0,00E+00	-5,20E-03
Non-haz. waste disposed	kg	4,39E+00	4,57E-02	6,00E-01	5,04E+00	1,33E-01	4,21E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,17E-03	0,00E+00	5,32E+00	-1,22E-01
Air pollution	m ³	1,24E+03	2,50E+01	2,62E+02	1,53E+03	7,29E+01	5,73E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,48E+00	0,00E+00	9,66E+00	-2,15E+01
Water pollution	m ³	1,10E+01	1,48E-01	3,40E+00	1,46E+01	4,30E-01	2,54E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,64E-02	0,00E+00	4,77E+01	-3,03E-01

ENVIRONMENTAL IMPACTS – GWP-GHG - THE INTERNATIONAL EPD SYSTEM

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ⁹⁾	kg CO ₂ e	1,41E+01	1,40E-01	5,41E-01	1,48E+01	4,06E-01	5,73E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-1,35E-01

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH₄ fossil, CH₄ biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO₂ is set to zero.

ENVIRONMENTAL IMPACTS – TRACI 2.1. / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	1,36E+01	1,38E-01	5,17E-01	1,42E+01	4,02E-01	5,52E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,47E-02	0,00E+00	7,66E-01	-1,23E-01
Ozone Depletion	kg CFC ₁₁ e	9,98E-08	2,54E-08	2,57E-08	1,51E-07	7,40E-08	8,82E-09	MND	MND	MND	MND	MND	MND	MND	0,00E+00	4,55E-09	0,00E+00	1,32E-08	-2,48E-09
Acidification	kg SO ₂ e	5,46E-01	2,81E-02	8,31E-02	6,57E-01	8,19E-02	2,77E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,03E-03	0,00E+00	2,16E-02	-2,42E-02
Eutrophication	kg Ne	4,98E-03	5,88E-05	1,02E-04	5,14E-03	1,71E-04	2,17E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,05E-05	0,00E+00	7,88E-04	-2,01E-05
POCP ("smog")	kg O ₃ e	3,62E-01	4,54E-04	1,13E-03	3,64E-01	1,32E-03	1,28E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,13E-05	0,00E+00	4,69E-04	-3,68E-04
ADP-fossil	MJ	6,32E+01	2,87E-01	1,26E+00	6,47E+01	8,35E-01	2,31E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,13E-02	0,00E+00	1,62E-01	-4,83E-01

VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? [Read more online](#)

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

HaiHa Nguyen, as an authorized verifier acting for EPD Hub Limited
24.01.2024



RECYCLED CONTENT VERIFICATION STATEMENT

Verification: EPD Hub Limited

Manufacturer: IKO Insulations SAS

Verification scope: Third party independent verification for the recycled content claims on IKO enertherm ALU FB and IKO enertherm KRALU manufactured from 1/01/2022 to 31/12/2022.

IKO enertherm ALU FB IKO enertherm KRALU (mm)	Recycled content (%) ± 5 %
20	2.36
30	2.61
40	2.76
50	2.91
60	2.99
70	3.05
80	3.10
90	3.14
100	3.18
110	3.19
120	3.22
140	3.36
150	3.37
160	3.39