ENVIRONMENTAL PRODUCT DECLARATION

ISOLIMPIA EU®
Thermo-acoustic insulation in polyester

EPD® based
on PCR 2019:14 Construction products and construction services (v1.11 del 05/02/2021),
c-PCR 005 Thermal insulation product (v 1.0 del 20/12/2019

EPD® Registration number: S-P-03987 Publication date: 2021/06/08
End Validity: 2026/06/08
International UN CPC code 369

Programme: The International EPD® System, www.environdec.com
EPD International AB
In accordance with 14025:2010 and EN 15804:2012+A2:2019

1 GENERAL INFORMATION

1.1 Name and address of the Manufacturer

OVATTIFICIO OLIMPIA DI ZORZATO ALBERTO & C.
Via S.Polo, 115 / A 35020 - S. Angelo di Piove (PD) Italy
Tel. +39 049 9793801 Fax +39 049 5846669
Website: www.olimpiaitalia.com

1.2 Product description and main components

ISOLIMPIA® EU is a thermally insulating material and an acoustic absorbent made of 100% thermobounded polyester fiber (Polyethylene terephthalate - Polyethylene terephthalate Co-polymer).

1.3 Functional unit

The functional unit of the study, in line with the objective, the field of application and the PCR 2019:14 Construction products and construction services (v1.11 of the 05/02/2021) and c-PCR 005 Thermal insulation product (v 1.0 of the 20/12/2019), is 1 m² of insulating panel with specific R-value (Thermal Resistance expressed in m²K/W) usable according to the applications provided in Annex A of Standard EN 16783: 2017, with density 20 kg/m^3 and λ of 0,0389 W/m°K and with panel nominal thickness 20 mm, 50 mm and 100 mm.

1.4 Name of the program used

The International EPD® System
EPD International AB
Box 210 60
SE-100 31 Stockholm, Sweden
Email: info@environdec.com
www.environdec.com

1.5 System boundaries

The EPD is a Cradle to Gate with options, modules C1-C4 and module D (according to EN 15804:2012 + A2: 2019).

1.6 Reference production site

The insulation is made only in the production site of S. Angelo di Piove (PD).

2 DESCRIPTION OF THE ORGANIZATION AND OF THE PRODUCT

2.1 Ovattificio Olimpia

Since 1971 Olimpia continues the evolution and the research dedicating the production to mattress felt and textile articles for the padding of mattresses and pillows. Since the eighties he has developed an important commercial network in European markets (in particular France, Germany, Austria and Switzerland), becoming in a few years a point of reference for companies dealing with mattresses, pillows and furniture.

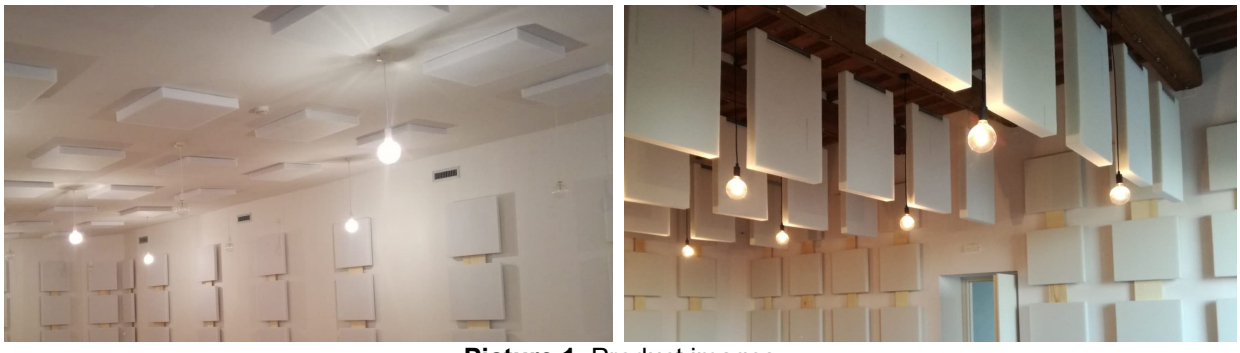
The Company's potential has developed considerably when, at the end of the 1990s, Olimpia revolutionized its systems and promoted new investments, expanding the range of products and entering the thermo-acoustic insulation and filtration sector.

Products are certified according to the criteria set by the most important regulations in the textile sector. From safety to health, to the ecological compatibility of products, the efforts are aimed at offering increasingly safe and environmentally friendly products.

The Company has obtained ISO 9001: 2015 quality certification and is able to meet the needs of different national and European markets. Its registered and operational office is in S. Angelo di Piove in the province of Padua – Italy.

2.2 Technical characteristics of the product and composition

The composition of the product, net of packaging, consists of 100% polyester, of which about 30% of recycled PET from post-consumer white bottles, 30% of thermobonding virgin PET and 40% of virgin PET. The white polyethylene terephthalate fiber guarantees a constant diameter.
ISOLIMPIA® EU has been designed for building applications, as well as for the most common applications in the railway sector and for general and industrial uses.
The characteristic of the thermo-binding is the complete recyclability of the product and the cut-outs of its workings and for this reason ISOLIMPIA® EU can be considered to all intents and purposes 100% recyclable. On this characteristic, attention must be increasingly focused because, if recyclability does not affect ecological culture, it certainly concerns the cost of disposing of any clippings.
No less important is the fact that ISOLIMPIA® EU does not fray and does not disperse dust, particles or fibrils that are potentially harmful to humans in the environment.



Picture 1. Product images

It can be produced in different thickness and density variants, which allow it to meet the numerous technical performance requirements and to comply with current regulations both in terms of thermal insulation, sound insulation and reaction to fire.

Thickness	From 10 up to 100 mm +/- 5 mm
Fire Reaction class	According to EN 13501-1 Bs2d0 Class for the density 40 Kg/m^3 and th. 100 mm
Temperature range of use	From – 40°C up to +100 °C
Expected thermal conductivity	"λ"= 0,039 [W/m°K] at the density of 20 kg/m^3
Fiber diameter	27,9 [µm] (calculated)
Lower calorific value	21600 [Kj/Kg]
Specific Heat	0,24 [Kj/Kg°K]

Table 1. Isolimpia EU technical features

The product does not contain substances present in "Candidate List of Substances of Very High Concern (SVHC) for authorization" in percentage higher than 0.1%.

3 DECLARATION OF ENVIRONMENTAL PERFORMANCES

3.1 Evaluation method

The quantification of environmental performance was carried out as required by the PCR 2019:14 Construction products and construction services (v1.11 of the 05/02/2021) and c-PCR 005 Thermal insulation product (v 1.0 of the 20/12/2019), according to the Life Cycle Analysis methodology (LCA - Life Cycle Assessment).

3.2 The declared unit

The functional unit of the study, in line with the objective, the field of application and the the PCR 2019:14 Construction products and construction services (v1.11 of the 05/02/2021) and c-PCR 005 Thermal insulation product (v 1.0 of the 20/12/2019), is 1 m² of insulation panel with specific R-value (Thermal Resistance expressed in m²K/W), usable according to the applications provided in Annex A of Standard EN 16783: 2017, with density 20 kg/m^3 and λ of 0,0389 W/m°K and with nominal panel thickness 20 mm, 50 mm and 100 mm.

INPUT	λ [W/mK]	0,0389	0,0389	0,0389
	Density [kg/m^3]	20	20	20
	Thilkness [mm]	20	50	100
OUTPUT	Thermal resistance [m^{2}K/W]	0,51	1,29	2,57
	Need of material 1 m^2 [kg]	0,40	1,00	2,00

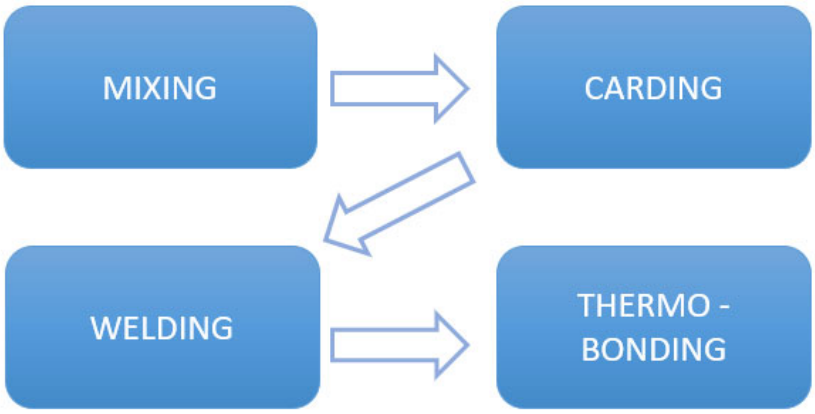
Table 2. Material requirement for 1 m^2 of insulation

3.3 System boundaries

The EPD is a Cradle to Gate with options, modules C1-C4 and module D (according to EN 15804:2012 + A2: 2019).

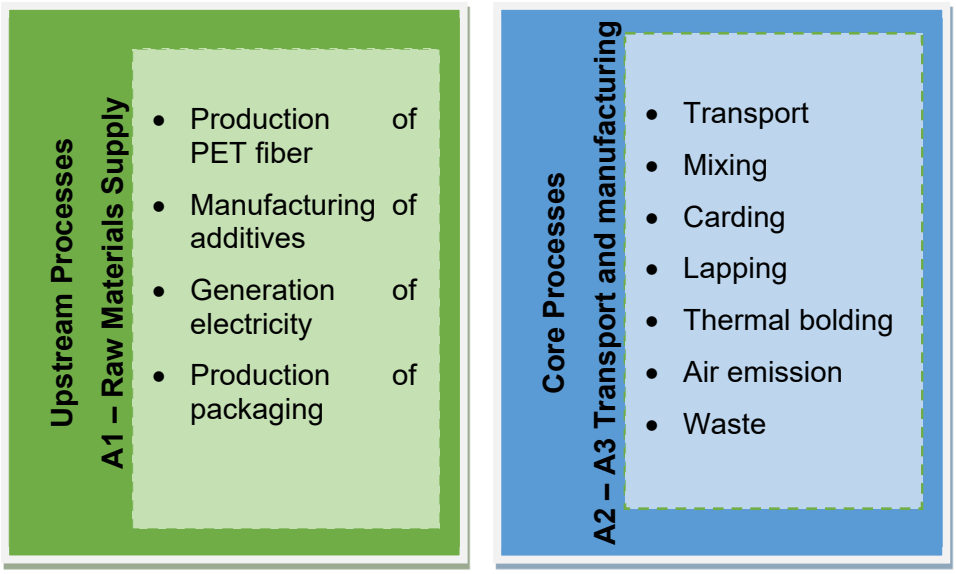
PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE	END-OF-LIFE STAGE				BENEFITS and LOADS BEYOND SYSTEM BOUNDARY
Raw Material Supply	Transport	Manufacturing	Transport	Construction/Installation	Use. Maintenance. Repair. Replacement. Refurbishment. Operational energy use. Operational water use	Deconstruction/Demolition	Transport	Waste processing	Disposal	Reuse. Recycling potential
A1	A2	A3	A4	A5	B1 to B7	C1	C2	C3	C4	D
X	X	X	ND	ND	ND	X	X	X	X	X

X= included MND = not included



Picture 2. Flow Diagram

In case of selective demolition of buildings, the product can be recovered in its original form, and then recycled for the same use or sent to companies specialized in the recovery of polyester fiber.



Picture 3. ISOLIMPIA production scheme A1-A3

Below are the scenarios adopted for the modelling of modules C1, C2, C3, C4 and D:

• C1 - The impacts associated with the demolition phase were considered negligible.

• C2 - The transport of the product at the end of its life and of the packaging is modelled with a scenario equal to 50 km by truck

• C3 - The product after the demolition activities is not recovered. This module therefore contains only the benefits and impacts due to the recycling and energy recovery of the product packaging materials that can be considered negligible.

• C4 - The product after demolition activities is disposed in landfill

• D - Using secondary material inputs, the impacts related to the avoided impacts of the virgin raw material were quantified.

The geographical representation of the study is Europe.

The use phase of the thermo-acoustic insulation of walls and roofs is associated with the duration of the building in which it is used, estimated for European countries around 50 years (as reported in EN 16783: 2017).

3.4 Cut-off and allocation criteria

Processes that contribute less than 1% of the total environmental impact for each impact category have been omitted from the inventory analysis.
The allocation between products and co-products is based on the mass principle.

3.5 Data quality

The LCA analysis was carried out with reference to the 2020 data, collected in the establishment of the Ovattificio Olimpia in S. Angelo di Piove (PD).
The analysis and monitoring of environmental performance took place using the SimaPro vs 9.0 software and the Ecoinvent vs 3.5 database.
The contribution of generic data on the final results is less than 1% for each impact category.

Taking into account the fact that the process considered takes place completely within the Italian territory, the data relating to the energy aspects refer to the energy mix of the Italian supplier, with the exception of the process of realization of some raw materials, for which it was made reference to the energy mix of the country of production.
Data collection was carried out according to the methods set forth in the ISO standard 14044, EN 15804 and EN 16783.

3.6 Product environmental profile

Environmental performance includes information on resource use, energy consumption, pollutant emissions over the entire life cycle of the product and potential environmental impacts.
The results of the potential environmental impacts are shown in the following table.
Acronyms:

- GWP-fossil = Global Warming Potential fossil fuels;
- GWP-biogenic = Global Warming Potential biogenic;
- GWP-luluc = Global Warming Potential land use and land use change;
- ODP = Depletion potential of the stratospheric ozone layer;
- AP = Acidification potential, Accumulated Exceedance;
- EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment;
- EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
- EP-terrestrial = Eutrophication potential, Accumulated Exceedance;
- POCP = Formation potential of tropospheric ozone;
- ADP-minerals&metals = Abiotic depletion potential for non-fossil resources;
- ADP-fossil = Abiotic depletion for fossil resources potential;
- WDP = Water (user) deprivation potential, deprivation-weighted water consumption.

		Potential Environmental Impacts per 1 m2 of a panel with a thickness of 20 mm and with R 0,51 m2K/W								
POTENTIAL ENVIRONMENTAL IMPACTS	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	$kgCO_2eq$	1,443	0,071	0,058	1,572	0,000	0,011	0,000	0,064	0,420
GWP-biogenic	$kgCO_2eq$	0,023	0,000	0,000	0,023	0,000	0,000	0,000	0,000	0,001
GWP- luluc	$kgCO_2eq$	0,001	0,000	0,000	0,001	0,000	0,000	0,000	0,000	0,000
GWP- total	$kgCO_2eq$	1,467	0,071	0,058	1,596	0,000	0,011	0,000	0,064	0,421
ODP	kg CFC 11 eq.	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
AP	mol H+ eq.	0,007	0,001	0,006	0,014	0,000	0,000	0,000	0,000	0,002
EP-freshwater	kg PO_4^{3-} eq	0,002	0,000	0,000	0,002	0,000	0,000	0,000	0,000	0,000
EP- marine	kg N eq.	0,001	0,000	0,003	0,005	0,000	0,000	0,000	0,001	0,000
EP-terrestrial	mol N eq.	0,015	0,003	0,035	0,052	0,000	0,000	0,000	0,000	0,004
POCP	kg NMVOC eq.	0,004	0,001	0,008	0,013	0,000	0,000	0,000	0,000	0,001
ADP-minerals&metals*	kg Sb eq.	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
ADP-fossil*	MJ	31,891	1,046	1,694	34,631	0,000	0,159	0,000	0,026	9,088
WDP	m^3	0,536	0,007	0,033	0,576	0,000	0,002	0,000	0,000	0,184

Table 3. Potential contribution to the main environmental effects for the production of 1 m^2 of Isolimpia with a thickness of 20 mm

		Potential Environmental Impacts per 1 m2 of a panel with a thickness of 50 mm and with R 1,29 m² K/W								
POTENTIAL ENVIRONMENTAL IMPACTS	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	$kgCO_2eq$	3,607	0,178	0,145	3,931	0,000	0,028	0,000	0,161	1,050
GWP-biogenic	$kgCO_2eq$	0,057	0,000	0,000	0,057	0,000	0,000	0,000	0,000	0,002
GWP- luluc	$kgCO_2eq$	0,002	0,000	0,000	0,002	0,000	0,000	0,000	0,000	0,001
GWP- total	$kgCO_2eq$	3,667	0,179	0,146	3,991	0,000	0,028	0,000	0,161	1,052
ODP	kg CFC 11 eq.	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
AP	mol H+ eq.	0,017	0,003	0,015	0,036	0,000	0,000	0,000	0,000	0,005
EP-freshwater	kg PO_4^{3-} eq	0,004	0,000	0,000	0,004	0,000	0,000	0,000	0,000	0,001
EP- marine	kg N eq.	0,003	0,001	0,008	0,012	0,000	0,000	0,000	0,002	0,001
EP-terrestrial	mol N eq.	0,037	0,007	0,086	0,130	0,000	0,000	0,000	0,000	0,010
POCP	kg NMVOC eq.	0,011	0,002	0,021	0,033	0,000	0,000	0,000	0,000	0,003
ADP-minerals&metals*	kg Sb eq.	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
ADP-fossil*	MJ	79,727	2,616	4,235	86,577	0,000	0,399	0,000	0,065	22,720
WDP	m^3	1,340	0,017	0,083	1,440	0,000	0,004	0,000	0,000	0,460

Table 4. Potential contribution to the main environmental effects for the production of 1 m^2 of Isolimpia with a thickness of 50 mm

		Potential Environmental Impacts per 1 m2 of a panel with a thickness of 100 mm and with R 2,57 m² K/W								
POTENTIAL ENVIRONMENTAL IMPACTS	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	$kgCO_2eq$	7,215	0,357	0,291	7,862	0,000	0,056	0,000	0,321	2,100
GWP-biogenic	$kgCO_2eq$	0,114	0,000	0,001	0,115	0,000	0,000	0,000	0,000	0,004
GWP- luluc	$kgCO_2eq$	0,004	0,000	0,000	0,005	0,000	0,000	0,000	0,000	0,001
GWP- total	$kgCO_2eq$	7,333	0,357	0,291	7,982	0,000	0,056	0,000	0,321	2,105
ODP	kg CFC 11 eq.	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
AP	mol H+ eq.	0,035	0,006	0,031	0,072	0,000	0,000	0,000	0,000	0,010
EP-freshwater	kg PO_4^{3-} eq	0,008	0,000	0,000	0,008	0,000	0,000	0,000	0,000	0,002
EP- marine	kg N eq.	0,006	0,001	0,016	0,023	0,000	0,000	0,000	0,004	0,002
EP-terrestrial	mol N eq.	0,074	0,014	0,173	0,260	0,000	0,001	0,000	0,000	0,020
POCP	kg NMVOC eq.	0,021	0,004	0,041	0,066	0,000	0,000	0,000	0,000	0,006
ADP-minerals&metals*	kg Sb eq.	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
ADP-fossil*	MJ	159,453	5,232	8,469	173,155	0,000	0,797	0,000	0,130	45,439
WDP	m^3	2,679	0,035	0,166	2,880	0,000	0,008	0,000	0,001	0,920

Table 5. Potential contribution to the main environmental effects for the production of 1 m^2 of Isolimpia with a thickness of 100 mm

The additional indicators are shown below.

		Potential Environmental Impacts per 1 m2 of a panel with a thickness of 20 mm and with R 0,51 m2K/W								
POTENTIAL ENVIRONMENTAL IMPACTS	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG	kg CO2 eq.	1,423	0,071	0,056	1,550	0,000	0,011	0,000	0,053	-0,409
Particulate Matter Emissions	disease inc.	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Ionising radiation, HH	kBq U-235 eq	0,127	0,006	0,001	0,134	0,000	0,001	0,000	0,000	-0,027
Ecotoxicity freshwater	CTUe	1,110	0,079	0,034	1,223	0,000	0,018	0,000	0,075	-0,304
Cancer human health effects	CTUh	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

Table 6. Potential additional contribution to the main environmental effects for the production of 1 m^2 of Isolimpia with a thickness of 20 mm

		Potential Environmental Impacts per 1 m2 of a panel with a thickness of 50 mm and with R 1,29 m² K/W								
POTENTIAL ENVIRONMENTAL IMPACTS	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG	kg CO2 eq.	3,558	0,178	0,139	3,875	0,000	0,028	0,000	0,133	-1,023
Particulate Matter Emissions	disease inc.	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Ionising radiation, HH	kBq U-235 eq	0,317	0,015	0,003	0,335	0,000	0,001	0,000	0,000	-0,067
Ecotoxicity freshwater	CTUe	2,775	0,197	0,086	3,058	0,000	0,044	0,000	0,188	-0,760
Cancer human health effects	CTUh	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

Table 7. Potential additional contribution to the main environmental effects for the production of 1 m^2 of Isolimpia with a thickness of 50 mm

		Potential Environmental Impacts per 1 m2 of a panel with a thickness of 100 mm and with R								
POTENTIAL ENVIRONMENTAL IMPACTS	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG	kg CO2 eq.	7,116	0,355	0,279	7,750	0,000	0,056	0,000	0,267	-2,045
Particulate Matter Emissions	disease inc.	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Ionising radiation, HH	kBq U-235 eq	0,635	0,030	0,006	0,670	0,000	0,003	0,000	0,001	-0,134
Ecotoxicity freshwater	CTUe	5,550	0,394	0,171	6,116	0,000	0,088	0,000	0,376	-1,519
Cancer human health effects	CTUh	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

Table 8. Potential additional contribution to the main environmental effects for the production of 1 m^2 of Isolimpia with a thickness of 50 mm

The following table shows information on resource consumption.
Acronyms:

- PERE = Use of renewable primary energy excluding renewable primary energy resources 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 re-sources;
- SM = Use of secondary material;
- RSF = Use of renewable secondary fuels;
- NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

		Total consumption of resources per 1 m2 of a panel with a thickness of 20 mm and with R 0,51 m2K/W								
RESOURCE USE	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	1,083	0,019	0,075	1,177	0,000	0,012	0,000	0,000	0,000
PERM	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
PERT	MJ	1,083	0,019	0,075	1,177	0,000	0,012	0,000	0,000	0,000
PENRE	MJ	22,287	0,000	0,000	22,287	0,000	0,171	0,000	0,028	-9,754
PENRM	MJ.	12,054	0,000	0,000	12,054	0,000	0,000	0,000	0,000	0,000
PENRT	MJ	34,341	0,000	0,000	34,341	0,000	0,171	0,000	0,028	-9,754
SM	kg	0,126	0,000	0,000	0,126	0,000	0,000	0,000	0,000	0,000
RSF	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
NRSF	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
FW	m3	0,054	0,002	0,002	0,000	0,000	0,000	0,000	0,000	0,000

Table 9. Total consumption of resources per 1 m^2 of a panel with a thickness of 20 mm and with R = 0,51 [m^2K/W]

		Total consumption of resources per 1 m2 of a panel with a thickness of 50 mm and with R 1,29 m² K/W								
RESOURCE USE	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	2,708	0,047	0,189	2,943	0,000	0,030	0,000	0,000	0,000
PERM	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
PERT	MJ	2,708	0,047	0,189	2,943	0,000	0,030	0,000	0,000	0,000
PENRE	MJ	55,717	0,000	0,000	55,717	0,000	0,426	0,000	0,069	-24,385
PENRM	MJ.	30,135	0,000	0,000	30,135	0,000	0,000	0,000	0,000	0,000
PENRT	MJ	85,852	0,000	0,000	85,852	0,000	0,426	0,000	0,069	-24,385
SM	kg	0,315	0,000	0,000	0,315	0,000	0,000	0,000	0,000	0,000
RSF	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
NRSF	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
FW	m3	0,135	0,005	0,004	0,144	0,000	0,000	0,000	0,000	0,000

Table 10. Total consumption of resources per 1 m^2 of a panel with a thickness of 50 mm and with R = 1,29 [m^2K/W]

		Total consumption of resources per 1 m2 of a panel with a thickness of 100 mm and with R 2,57 m² K/W								
RESOURCE USE	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	5,415	0,093	0,377	5,886	0,000	0,060	0,000	0,000	0,000
PERM	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
PERT	MJ	5,415	0,093	0,377	5,886	0,000	0,060	0,000	0,000	0,000
PENRE	MJ	111,434	0,000	0,000	111,434	0,000	0,853	0,000	0,138	-48,770
PENRM	MJ.	60,270	0,000	0,000	60,270	0,000	0,000	0,000	0,000	0,000
PENRT	MJ	171,704	0,000	0,000	171,704	0,000	0,853	0,000	0,138	-48,770
SM	kg	0,630	0,000	0,000	0,630	0,000	0,000	0,000	0,000	0,000
RSF	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
NRSF	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
FW	m3	0,270	0,009	0,008	0,287	0,000	0,000	0,000	0,000	0,000

Table 11. Total consumption of resources for 1 m^2 of Isolimpia with a thickness of 100 mm and with R = 2,57 [m^2K/W]

		Waste per 1 m2 of a panel with a thickness of 20 mm and with R 0,51 m2K/W								
POTENTIAL ENVIRONMENTAL IMPACTS	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste	kg	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Non-hazardous waste	kg	0,025	0,000	0,020	0,045	0,000	0,000	0,000	0,000	0,000
Radioactive waste	kg	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

		Waste per 1 m2 of a panel with a thickness of 50 mm and with R 1,29 m² K/W								
POTENTIAL ENVIRONMENTAL IMPACTS	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste	kg	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Non-hazardous waste	kg	0,063	0,000	0,050	0,113	0,000	0,000	0,000	0,000	0,000
Radioactive waste	kg	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

		Waste per 1 m2 of a panel with a thickness of 100 mm and with R 2,57 m² K/W								
POTENTIAL ENVIRONMENTAL IMPACTS	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste	kg	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Non-hazardous waste	kg	0,100	0,000	0,100	0,200	0,000	0,000	0,000	0,000	0,000
Radioactive waste	kg	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

Table 12. Total production of hazardous, non-hazardous and radioactive waste associated with the production of 1 m^2 of Isolimpia with a thickness of 20-50-100 mm

		Indicators per 1 m2 of a panel with a thickness of 20 mm and with R 0,51 m2K/W								
INDICATOR	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Material for recycling	kg	0,000	0,000	0,021	0,021	0,000	0,000	0,000	0,000	0,000
Materials for energy recovery	kg	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Exported energy, electricity	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Exported energy, thermal	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

		Indicators per 1 m2 of a panel with a thickness of 50 mm and with R 1,29 m² K/W								
INDICATOR	**Unit**	**A1**	**A2**	**A3**	**Tot. A1-A3**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Material for recycling	kg	0,000	0,000	0,052	0,052	0,000	0,000	0,000	0,000	0,000
Materials for energy recovery	kg	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Exported energy, electricity	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Exported energy, thermal	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

		Indicators per 1 m2 of a panel with a thickness of 100 mm and with R 2,57 m² K/W								
INDICATOR	Unit	A1	A2	A3	Tot. A1-A3	C1	C2	C3	C4	D
Components for re-use	kg	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Material for recycling	kg	0,000	0,000	0,104	0,104	0,000	0,000	0,000	0,000	0,000
Materials for energy recovery	kg	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Exported energy, electricity	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Exported energy, thermal	MJ	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000

Table 13. Output flow associated with the production of 1 m^2 of Isolimpia with a thickness of 20-50-100 mm

The panel does not contain biogenic carbon content.

4 INFORMATION ON THE ORGANIZATION AND CERTIFICATION AGENCY

Contacts

OVATTIFICIO OLIMPIA DI ZORZATO ALBERTO E C.
Via S.Polo, 115/A 35020 – S. Angelo di Piove (PD) Italia
Tel. +39 049 9793801
Fax +39 049 5846669
Eng. Giorgio Michelotto, e-mail giorgio.michelotto@isolimpia.it

Further information

This EPD and the PCR of reference are available on the website www.environdec.com.
EPD of construction products are not comparable if they do not comply with EN 15804.
EPD belonging to the same product category but deriving from different programs may not be comparable. The EPD owner has the sole ownership, liability, and responsibility for the EPD.
The LCA study and this EPD were written by Ing. Francesca Intini with the technical scientific support of the University of Basilicata.

ISO standard ISO 21930 and CEN standard EN 15804 serves as the core Product Category Rules (PCR)	
PCR:	PCR 2019:14 Construction products and construction services (v1.11 del 05/02/2021), c-PCR 005 Thermal insulation product (v 1.0 del 20/12/2019)
PCR review was conducted by:	The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact.
Independent verification of the declaration and data, according to ISO 14025:	☒ External ☐ Internal covering ☐ EPD process certification ☒ EPD verification
Third party verifier:	Adriana Del Borghi delborghi@tetisinstitute.it Approved by: The International EPD® System Technical Committee, supported by the Secretariat
Procedure for follow-up during EPD validity involves third party verifier:	☒ Yes ☐ No

5 REFERENCES

1. Life Cycle Assessment (LCA) ISOLIMPIA® EU Isolante termoacustico in poliestere, rev 1.2 June 2021.
2. General Programme Instructions for the International EPD® System, ver 3.0.1 Available at www.environdec.com.
3. PCR 2019:14 Construction products, version 1.1 del 05/02/2021, c-PCR 005 Thermal insulation product (v 1.0 del 20/12/2019)
4. ISO 14040:2006, Environmental management - Life cycle assessment - Principles and framework.
5. ISO 14025:2006 Type III – Environmental labels and declarations – Type III environmental declaration – Principles and procedures.
6. ISO 21930, Environmental declaration of building products.
7. EN 15804:2012+A2:2019, Sustainability of construction works — Environmental product declarations
8. UNI EN 16783 Isolanti Termici – Regole quadro per categoria di prodotto (PCR) per prodotti ottenuti in fabbrica e realizzati in sito per la preparazione di dichiarazioni ambientali di prodotto