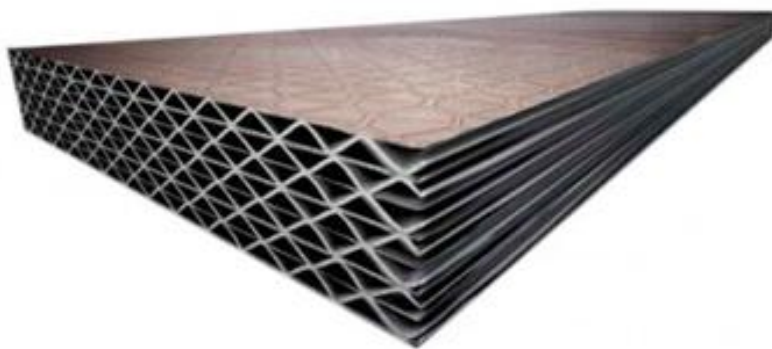




ACTIS
INNOVER POUR MIEUX ISOLER

Environmental product declaration Insulation HYBRIS



Issue date: 18/03/2015
Valid to: 18/03/2020

1. Foreword

This environmental product declaration was realized by ECOEFF according to EN 15804. Ecoeff and Actis Isolation accept no responsibility with respect to any third party to whom the results of the study have been communicated.

Study results are based only on facts, circumstances and assumptions that have been submitted during the study.

2. Information

2.1. Manufacturer information

ACTIS ISOLATION

Avenue de Catalogne
11300 LIMOUX

Contact: Maxime DURAN
maxime.duran@actis-isolation.com



2.2. Issuer information

Ecoeff

2 à 20 avenue du Président Salvador Allende
93106 Montreuil Cedex

Contact: Mickaël LEBLANC
Mickael.leblanc@ecoeff.com



2.3. Software used

Simapro 8.0.4

Operator Program:

Pré Consultant

Stationsplein 121, 3818 LE Amersfoort, Pays-Bas
<https://www.pre-sustainability.com>

EPD is representative for: ACTIS Isolation



3. Product

3.1. General information

Scope:	Cradle to grave
Year of study :	2014
Service life of product:	50 years
Thickness:	40 to 140 mm
Functional unit:	« Perform a function of heat insulation of 1 m ² wall, during the lifetime of the product, ensuring the required product performance. »

3.2. Product description

HYBRIS is a thermal insulation material in buildings intended to be implemented in roofs, walls and attics. It consists of an alveolar structure “honeycomb”, formed from polyethylene foams plies on metallized films. HYBRIS is in the form of panels 2650 x 1150 mm in a thickness range of 40 to 140 mm.

Surface density of HYBRIS insulation: 0, 8524 kg/m².

HYBRIS has thermal conductivity of 0,033 W/m.K and an emissivity of 0,05 to value an additional thermal resistance equal to 0,65 m².K/W according to EN ISO 6946. The total resistance of HYBRIS method is 3, 35 m².K/W to a thickness of 90 mm (=0, 09m/0,033W/m.K + 0,65m².K/W).

Product composition:

Thickness (mm)	Weight (g/m ²)		
	Foam LDPE	Aluminium Metallized film	Glue
40-50	343	156	20
60	429	176	25
75	515	196	30
90	601	216	35
105	687	236	40
125	859	276	50
140	945	296	55

Manufacturing

The product is manufactured in France. The production includes raw material extraction, extraction of energy resources, the production of heat and electricity, the production of additional materials or subset, product manufacturing processes and all components.

Distribution

The products are delivered mainly in Europe. Delivery is the standard model in which the distance between the plant and the customer is 1500 km. Delivery will be done by truck. The packaging is done in compressed bales.

Thickness (mm)	Package weight (g/m ²)	
	Polyethylene	Wooden pallet/m ²
40	4,2	0,0058
50	16	0,0026
60	22	0,0032
75	33	0,0039
90	33	0,0048
105	33	0,0048
125	66	0,0066
140	66	0,0066

Implementation

The drop rate during the installation of the insulation is estimated at 2%.

4. System boundaries

For the evaluation of the life cycle, the following steps have been taken into account:

Building assessment (x = included in LCA; MND = Module Not Declared)																
Building information about lifecycle																Additional information beyond the building's life cycle
Product stage			Construction process stage		Use stage							End-of-life-stage				Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Construction installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction / Demolition	Transport	Waste processing	Disposal	Reuse, recovery or recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
x			x	x	MND	MND	MND	MND	MND	MND	MND	MND	x			MND

A1: Extraction of raw materials and energy resources, production of thermal and electrical energy production complementary materials and subassemblies

A2: Transport processes are excluded due to significant influence

A3: Manufacture of the product and all the components, including the production of packaging materials

A4: Delivery of product from the factory to the customer, in a standard scenario in which the transport distance to the customer is fixed an average value.

A5: Falls construction products (additional production process to compensate the loss due to product falls

C2: Transport scenario for end-of-life

C3: Waste processing

C4: Disposal

5. Result

5.1. Thickness 40 mm

Table 1 : LCA Results (thickness 40mm): Environmental impact

Declaration of environmental parameters derived from life cycle assessment (LCA)									
Parameters describing the environmental impacts									
			Global warming potential	Depletion potential of the stratospheric ozone layer	Acidification potential of land and water	Eutrophication potential	Formation potential of tropospheric ozone photochemical oxidants	Abiotic depletion potential (ADP element)	Abiotic depletion potential (fossil fuels ADP)
			equiv. kg CO ₂	equiv. kg CFC 11	equiv. kg SO ₂	equiv. kg PO ₄	equiv. kg Ethene	equiv. kg Sb	MJ
Product stage	Raw material supply	A1 A2 A3	1,6600	2,24E-07	7,14E-03	0,0105	3,88E-04	1,04E-06	44,77
	Transport								
	Manufacturing								
Construction process stage	Transport	A4	0,0846	1,60E-08	2,97E-04	0,0001	1,45E-05	1,54E-07	1,32
	Construction – installation process	A5	0,0277	6,17E-10	1,14E-04	0,0001	5,98E-06	8,15E-09	0,80
End of life stage	Transport	C2 C3 C4	0,0584	1,46E-09	4,17E-05	0,0055	1,19E-05	7,29E-09	0,14
	Waste processing								
	Disposal								

Table 2 : LCA Results (thickness 40mm): Environmental impact

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	1,8199	0,0102	0,0165	0,0017
Use of renewable primary energy used as raw materials	MJ	4,3880	0,0101	0,0193	0,0023
Total use of renewable primary energy resources	MJ	6,2079	0,0203	0,0359	0,0040
Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials	MJ	70,60	1,42	0,91	0,15
Use of non renewable primary energy used as raw materials	MJ	0,0018	3,18E-05	1,31E-05	3,44E-06
Total use of non renewable primary energy resources	MJ	70,60	1,42	0,91	0,15
Use of secondary material	kg	0	0	0	0
Use of renewable secondary fuels	MJ	0	0	0	0
Use of non renewable secondary fuels	MJ	0	0	0	0
Use of net fresh water	m ³	1,35E-02	8,19E-05	4,23E-05	1,80E-05

Table 3 : LCA results (thickness 40mm): Waste categories

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Hazardous waste disposed	kg	1,75E-05	7,74E-07	1,32E-07	1,06E-07
Non hazardous waste disposed	kg	6,15E-02	1,39E-03	1,06E-03	5,24E-01
Radioactive waste disposed	kg	6,29E-04	1,94E-05	9,89E-07	1,78E-06

5.2. Thickness 50 mm

Table 4 : LCA Results (thickness 50mm): Environmental impact

Declaration of environmental parameters derived from life cycle assessment (LCA)									
Parameters describing the environmental impacts									
			Global warming potential	Depletion potential of the stratospheric ozone layer	Acidification potential of land and water	Eutrophication potential	Formation of potential of tropospheric ozone photochemical oxidants	Abiotic depletion potential (ADP element)	Abiotic depletion potential (fossil fuels ADP)
			equiv. kg CO ₂	equiv. kg CFC 11	equiv. kg SO ₂	equiv. kg PO ₄	equiv. kg Ethene	equiv. kg Sb	MJ
Product stage	Raw material supply	A1	1,6686	2,22E-07	7,15E-03	0,0084	3,78E-04	9,73E-07	45,24
	Transport	A2							
	Manufacturing	A3							
Construction process stage	Transport	A4	0,0761	1,44E-08	2,67E-04	0,0001	1,30E-05	1,39E-07	1,19
	Construction – installation process	A5	0,0277	6,17E-10	1,14E-04	0,0001	5,98E-06	8,15E-09	0,80
End of life stage	Transport	C2 C3 C4	0,0597	1,49E-09	4,27E-05	0,0056	1,21E-05	7,46E-09	0,14
	Waste processing								
	Disposal								

Table 5 : LCA results (thickness 50mm): Entering resources

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	1,8259	0,0092	0,0165	0,0017
Use of renewable primary energy used as raw materials	MJ	2,6080	0,0091	0,0193	0,0024
Total use of renewable primary energy resources	MJ	4,4339	0,0183	0,0359	0,0041
Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials	MJ	71,17	1,27	0,91	0,15
Use of non renewable primary energy used as raw materials	MJ	0,0015	2,86E-05	1,31E-05	3,52E-06
Total use of non renewable primary energy resources	MJ	71,17	1,27	0,91	0,15
Use of secondary material	kg	0	0	0	0
Use of renewable secondary fuels	MJ	0	0	0	0
Use of non renewable secondary fuels	MJ	0	0	0	0
Use of net fresh water	m ³	1,34E-02	7,37E-05	4,23E-05	1,84E-05

Table 6 : LCA results (thickness 50mm): Waste categories

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Hazardous waste disposed	kg	1,67E-05	6,96E-07	1,32E-07	1,08E-07
Non hazardous waste disposed	kg	6,12E-02	1,25E-03	1,06E-03	5,36E-01
Radioactive waste disposed	kg	6,27E-04	1,75E-05	9,89E-07	1,82E-06

5.3. Thickness 60 mm

Table 7 : LCA Results (thickness 60mm): Environmental impact

Declaration of environmental parameters derived from life cycle assessment (LCA)									
Parameters describing the environmental impacts									
			Global warming potential	Depletion potential of the stratospheric ozone layer	Acidification potential of land and water	Eutrophication potential	Formation potential of tropospheric ozone photochemical oxidants	Abiotic depletion potential (ADP element)	Abiotic depletion potential (fossil fuels ADP)
			equiv. kg CO ₂	equiv. kg CFC 11	equiv. kg SO ₂	equiv. kg PO ₄	equiv. kg Ethene	equiv. kg Sb	MJ
Product stage	Raw material supply	A1	1,9811	2,29E-07	8,42E-03	0,0097	4,46E-04	1,08E-06	54,34
	Transport	A2							
	Manufacturing	A3							
Construction process stage	Transport	A4	0,0927	1,76E-08	3,26E-04	0,0001	1,59E-05	1,69E-07	1,45
	Construction – installation process	A5	0,0335	7,44E-10	1,37E-04	0,0001	7,21E-06	9,87E-09	0,97
End of life stage	Transport	C2 C3 C4	0,0728	1,82E-09	5,20E-05	0,0068	1,48E-05	9,08E-09	0,17
	Waste processing								
	Disposal								

Table 8 : LCA results (thickness 60mm) : Entering resources

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	2,0089	0,0112	0,0200	0,0021
Use of renewable primary energy used as raw materials	MJ	3,1630	0,0111	0,0234	0,0029
Total use of renewable primary energy resources	MJ	5,1719	0,0223	0,0434	0,0050
Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials	MJ	81,53	1,55	1,11	0,18
Use of non renewable primary energy used as raw materials	MJ	0,0017	3,49E-05	1,58E-05	4,28E-06
Total use of non renewable primary energy resources	MJ	81,53	1,55	1,11	0,18
Use of secondary material	kg	0	0	0	0
Use of renewable secondary fuels	MJ	0	0	0	0
Use of non renewable secondary fuels	MJ	0	0	0	0
Use of net fresh water	m ³	1,39E-02	8,98E-05	5,11E-05	2,24E-05

Tableau 9 : LCA results (thickness 60 mm) : Waste categories

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Hazardous waste disposed	kg	1,84E-05	8,49E-07	1,60E-07	1,32E-07
Non hazardous waste disposed	kg	7,26E-02	1,53E-03	1,28E-03	6,53E-01
Radioactive waste disposed	kg	6,39E-04	2,13E-05	1,20E-06	2,21E-06

5.4. Thickness 75 mm

Table 10 : LCA Results (thickness 75mm) : Environmental impact

Declaration of environmental parameters derived from life cycle assessment (LCA)									
Parameters describing the environmental impacts									
			Global warming potential	Depletion potential of the stratospheric ozone layer	Acidification potential of land and water	Eutrophication potential	Formation potential of tropospheric ozone photochemical oxidants	Abiotic depletion potential (ADP element)	Abiotic depletion potential (fossil fuels ADP)
			equiv. kg CO ₂	equiv. kg CFC 11	equiv. kg SO ₂	equiv. kg PO ₄	equiv. kg Ethene	equiv. kg Sb	MJ
Product stage	Raw material supply	A1	2,3083	2,37E-07	9,76E-03	0,0112	5,18E-04	1,19E-06	63,85
	Transport	A2							
	Manufacturing	A3							
Construction process stage	Transport	A4	0,1104	2,09E-08	3,88E-04	0,0001	1,89E-05	2,01E-07	1,73
	Construction – installation process	A5	0,0393	8,72E-10	1,61E-04	0,0001	8,44E-06	1,16E-08	1,14
End of life stage	Transport	C2 C3 C4	0,0864	2,16E-09	6,17E-05	0,0081	1,75E-05	1,08E-08	0,20
	Waste processing								
	Disposal								

Tableau 11 : LCA results (thickness 75mm) : Entering resources

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	2,1996	0,0133	0,0234	0,0025
Use of renewable primary energy used as raw materials	MJ	3,7835	0,0132	0,0275	0,0035
Total use of renewable primary energy resources	MJ	5,9831	0,0266	0,0509	0,0060
Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials	MJ	92,34	1,85	1,30	0,22
Use of non renewable primary energy used as raw materials	MJ	0,0019	4,15E-05	1,86E-05	5,09E-06
Total use of non renewable primary energy resources	MJ	92,34	1,85	1,30	0,22
Use of secondary material	kg	0	0	0	0
Use of renewable secondary fuels	MJ	0	0	0	0
Use of non renewable secondary fuels	MJ	0	0	0	0
Use of net fresh water	m ³	1,44E-02	1,07E-04	5,99E-05	2,66E-05

Tableau 12 : LCA results (thickness 75 mm) : Waste categories

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Hazardous waste disposed	kg	2,01E-05	1,01E-06	1,88E-07	1,57E-07
Non hazardous waste disposed	kg	8,44E-02	1,82E-03	1,49E-03	7,75E-01
Radioactive waste disposed	kg	6,51E-04	2,54E-05	1,40E-06	2,62E-06

5.5. Thickness 90 mm

Tableau 13 : LCA Results (thickness 90mm) : Environmental impact

Declaration of environmental parameters derived from life cycle assessment (LCA)									
Parameters describing the environmental impacts									
			Global warming potential	Depletion potential of the stratospheric ozone layer	Acidification potential of land and water	Eutrophication potential	Formation potential of tropospheric ozone photochemical oxidants	Abiotic depletion potential (ADP element)	Abiotic depletion potential (fossil fuels ADP)
			equiv. kg CO ₂	equiv. kg CFC 11	equiv. kg SO ₂	equiv. kg PO ₄	equiv. kg Éthene	equiv. kg Sb	MJ
Product stage	Raw material supply	A1	2,6059	2,44E-07	1,10E-02	0,0127	5,85E-04	1,30E-06	72,50
	Transport	A2							
	Manufacturing	A3							
Construction process stage	Transport	A4	0,1273	2,41E-08	4,47E-04	0,0002	2,18E-05	2,32E-07	1,99
	Construction – installation process	A5	0,0451	9,99E-10	1,84E-04	0,0001	9,67E-06	1,33E-08	1,31
End of life stage	Transport	C2 C3 C4	0,0987	2,46E-09	7,05E-05	0,0092	2,01E-05	1,23E-08	0,23
	Waste processing								
	Disposal								

Tableau 14 : LCA results (thickness 90mm) : Entering resources

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	2,3744	0,0154	0,0268	0,0029
Use of renewable primary energy used as raw materials	MJ	4,4960	0,0153	0,0317	0,0040
Total use of renewable primary energy resources	MJ	6,8704	0,0306	0,0585	0,0068
Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials	MJ	102,20	2,13	1,50	0,25
Use of non renewable primary energy used as raw materials	MJ	0,0021	4,79E-05	2,14E-05	5,81E-06
Total use of non renewable primary energy resources	MJ	102,20	2,13	1,50	0,25
Use of secondary material	kg	0	0	0	0
Use of renewable secondary fuels	MJ	0	0	0	0
Use of non renewable secondary fuels	MJ	0	0	0	0
Use of net fresh water	m ³	1,49E-02	1,23E-04	6,88E-05	3,05E-05

Tableau 15 : LCA results (thickness 90mm) : Waste categories

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Hazardous waste disposed	kg	2,17E-05	1,16E-06	2,15E-07	1,79E-07
Non hazardous waste disposed	kg	9,54E-02	2,10E-03	1,70E-03	8,86E-01
Radioactive waste disposed	kg	6,62E-04	2,92E-05	1,61E-06	3,00E-06

5.6. Thickness 105 mm

Tableau 16 : LCA Results (thickness 105mm) : Environmental impact

Declaration of environmental parameters derived from life cycle assessment (LCA)									
Parameters describing the environmental impacts									
			Global warming potential	Depletion potential of the stratospheric ozone layer	Acidification potential of land and water	Eutrophication potential	Formation potential of tropospheric ozone photochemical oxidants	Abiotic depletion potential (ADP element)	Abiotic depletion potential (fossil fuels ADP)
			equiv. kg CO ₂	equiv. kg CFC 11	equiv. kg SO ₂	equiv. kg PO ₄	equiv. kg Éthene	equiv. kg Sb	MJ
Product stage	Raw material supply	A1	2,8967	2,50E-07	1,21E-02	0,0136	6,46E-04	1,39E-06	81,02
	Transport	A2							
	Manufacturing	A3							
Construction process stage	Transport	A4	0,1413	2,68E-08	4,97E-04	0,0002	2,42E-05	2,57E-07	2,21
	Construction – installation process	A5	0,0509	1,13E-09	2,08E-04	0,0002	1,09E-05	1,50E-08	1,48
End of life stage	Transport	C2 C3 C4	0,1111	2,77E-09	7,94E-05	0,0104	2,26E-05	1,39E-08	0,26
	Waste processing								
	Disposal								

Tableau 17 : LCA results (thickness 105mm) : Entering resources

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	2,5458	0,0170	0,0303	0,0032
Use of renewable primary energy used as raw materials	MJ	4,7017	0,0169	0,0358	0,0045
Total use of renewable primary energy resources	MJ	7,2475	0,0340	0,0660	0,0077
Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials	MJ	111,91	2,37	1,69	0,28
Use of non renewable primary energy used as raw materials	MJ	0,0023	5,31E-05	2,42E-05	6,54E-06
Total use of non renewable primary energy resources	MJ	111,91	2,37	1,69	0,28
Use of secondary material	kg	0	0	0	0
Use of renewable secondary fuels	MJ	0	0	0	0
Use of non renewable secondary fuels	MJ	0	0	0	0
Use of net fresh water	m ³	1,53E-02	1,37E-04	7,76E-05	3,43E-05

Tableau 18 : LCA results (thickness 105mm) : Waste categories

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Hazardous waste disposed	kg	2,31E-05	1,29E-06	2,43E-07	2,01E-07
Non hazardous waste disposed	kg	1,06E-01	2,33E-03	1,91E-03	9,97E-01
Radioactive waste disposed	kg	6,72E-04	3,25E-05	1,82E-06	3,38E-06

5.7. Thickness 125 mm

Tableau 19 : LCA Results (thickness 125mm) : Environmental impact

Declaration of environmental parameters derived from life cycle assessment (LCA)									
Parameters describing the environmental impacts									
			Global warming potential	Depletion potential of the stratospheric ozone layer	Acidification potential of land and water	Eutrophication potential	Formation potential of tropospheric ozone photochemical oxidants	Abiotic depletion potential (ADP element)	Abiotic depletion potential (fossil fuels ADP)
			equiv. kg CO ₂	equiv. kg CFC 11	equiv. kg SO ₂	equiv. kg PO ₄	equiv. kg Éthene	equiv. kg Sb	MJ
Product stage	Raw material supply	A1	3,5851	2,67E-07	1,50E-02	0,0169	8,00E-04	1,64E-06	100,99
	Transport	A2							
	Manufacturing	A3							
Construction process stage	Transport	A4	0,1793	3,40E-08	6,30E-04	0,0002	3,07E-05	3,26E-07	2,80
	Construction – installation process	A5	0,0625	1,38E-09	2,54E-04	0,0002	1,34E-05	1,84E-08	1,82
End of life stage	Transport	C2 C3 C4	0,1395	3,48E-09	9,96E-05	0,0131	2,83E-05	1,74E-08	0,33
	Waste processing								
	Disposal								

Tableau 20 : LCA results (thickness 125mm) : Entering resources

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	2,9456	0,0216	0,0371	0,0041
Use of renewable primary energy used as raw materials	MJ	6,1886	0,0215	0,0440	0,0056
Total use of renewable primary energy resources	MJ	9,1342	0,0431	0,0811	0,0097
Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials	MJ	134,60	3,00	2,08	0,35
Use of non renewable primary energy used as raw materials	MJ	0,0027	6,74E-05	2,97E-05	8,21E-06
Total use of non renewable primary energy resources	MJ	134,60	3,00	2,08	0,35
Use of secondary material	kg	0	0	0	0
Use of renewable secondary fuels	MJ	0	0	0	0
Use of non renewable secondary fuels	MJ	0	0	0	0
Use of net fresh water	m ³	1,64E-02	1,74E-04	9,52E-05	4,30E-05

Tableau 21 : LCA results (thickness 125mm) : Waste categories

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Hazardous waste disposed	kg	2,67E-05	1,64E-06	2,98E-07	2,53E-07
Non hazardous waste disposed	kg	1,31E-01	2,95E-03	2,34E-03	1,25E+00
Radioactive waste disposed	kg	6,97E-04	4,12E-05	2,24E-06	4,24E-06

5.8. Thickness 140 mm

Tableau 22 : LCA Results (thickness 140mm) : Environmental impact

Declaration of environmental parameters derived from life cycle assessment (LCA)									
Parameters describing the environmental impacts									
			Global warming potential	Depletion potential of the stratospheric ozone layer	Acidification potential of land and water	Eutrophication potential	Formation potential of tropospheric ozone photochemical oxidants	Abiotic depletion potential (ADP element)	Abiotic depletion potential (fossil fuels ADP)
			equiv. kg CO ₂	equiv. kg CFC 11	equiv. kg SO ₂	equiv. kg PO ₄	equiv. kg Éthene	equiv. kg Sb	MJ
Product stage	Raw material supply	A1	3,8758	2,73E-07	1,61E-02	0,0178	8,61E-04	1,72E-06	109,51
	Transport	A2							
	Manufacturing	A3							
Construction process stage	Transport	A4	0,1933	3,66E-08	6,79E-04	0,0002	3,31E-05	3,52E-07	3,02
	Construction – installation process	A5	0,0684	1,51E-09	2,78E-04	0,0002	1,46E-05	2,01E-08	2,00
End of life stage	Transport	C2 C3 C4	0,1519	3,79E-09	1,08E-04	0,0142	3,09E-05	1,90E-08	0,36
	Waste processing								
	Disposal								


Tableau 23 : LCA results (thickness 140mm) : Entering resources

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ	3,1170	0,0233	0,0405	0,0044
Use of renewable primary energy used as raw materials	MJ	6,3943	0,0232	0,0481	0,0061
Total use of renewable primary energy resources	MJ	9,5113	0,0465	0,0886	0,0105
Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials	MJ	144,31	3,24	2,27	0,38
Use of non renewable primary energy used as raw materials	MJ	0,0029	7,27E-05	3,25E-05	8,94E-06
Total use of non renewable primary energy resources	MJ	144,32	3,24	2,27	0,38
Use of secondary material	kg	0	0	0	0
Use of renewable secondary fuels	MJ	0	0	0	0
Use of non renewable secondary fuels	MJ	0	0	0	0
Use of net fresh water	m ³	1,68E-02	1,87E-04	1,04E-04	4,69E-05

Tableau 24 : LCA results (thickness 140mm) : Waste categories

Parameter	Unit	Product stage A1, A2, A3	Transport A4	Installation process A5	End of life C2, C3, C4
Hazardous waste disposed	kg	2,81E-05	1,77E-06	3,26E-07	2,75E-07
Non hazardous waste disposed	kg	1,41E-01	3,19E-03	2,55E-03	1,36E+00
Radioactive waste disposed	kg	7,08E-04	4,44E-05	2,44E-06	4,62E-06

6. Verification

The norm EN 15804 serves as the core PCR	
Independent verification of the EPD and data, in accordance with EN ISO 14025	
<input checked="" type="checkbox"/> Internal	<input type="checkbox"/> External
Philippe Schiesser	
	
Verification by third party :	

7. References

EN 15804: EN 15804: Sustainability of construction works – Environmental product declarations – Core rules for the products

ISO 14040: DIN EN ISO 14040: 2006: Environmental management -- Life cycle assessment -- Principles and framework

ISO 14044: DIN EN ISO 14044: 2006: Environmental management - Life cycle assessment - Requirements and guidelines

CML –IA baseline: Center voor Milieukunde à Leiden (Center for environmental science at Leiden, Pays-Bas), characterization factors, published 2009