



silvadec

La vie est composite

ENVIRONMENTAL PRODUCT DECLARATION (EPD)

Silvadec wood composite planking/deck board – *Elégance* and
Atmosphère ranges

March 2019

Version 1.1

Registration number: 3-171:2019

*Environmental product declaration in accordance with standards NF EN ISO 14025, NF EN 15804+A1
and its national complement NF EN 15804/CN*



Realisation :

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1. Reading guide

The display of inventory data complies with the requirements of NF EN 15804+A1.
In the following tables 2.53E-06 should be read: 2.53x10⁻⁶ (scientific writing).

The units used are specified before each flow, they are:

- the kilogram « kg »,
- the cubic meter « cub »,
- the kilowatt-hour « kWh »,
- the mega joule « MJ »,
- square meter « sqm ».

Abbreviations:

- LCA: Life Cycle Analysis
- « EPD »: Fiche de Déclaration Environnementale et Sanitaire
- EPD: Environmental Product Declaration
- PCR: Product Category Rules
- RSL: Reference Service Life
- FU: Functional Unit
- LCV: Lower Calorific Value

2. Warning notice

The information contained in this declaration is provided under the responsibility of Silvadec (producer of the EPD) in accordance with NF EN 15804+A1, its national supplement NF EN 15804/CN.

Any use, in whole or in part, of the information provided in this document must at least be accompanied by a complete reference to the original EPD and to its producer, who may submit a complete copy. It is recalled that the results of the study are based only on facts, circumstances and assumptions that were submitted during the study. If these facts, circumstances and assumptions differ, the results may change.

In addition, the results of the study as a whole should be considered in the light of the hypotheses, and not in isolation.


Precautionary use of the EPD for product comparison

The EPD of construction products may not be comparable if they do not comply with the NF EN 15804+A1 standard

The standard NF EN 15804+A1 defines in § 5.3 Comparability of EPDs for construction products, the conditions under which construction products can be compared, based on the information provided by the EPD: "*A comparison of the environmental performance of construction products using EPD information should be based on the use of the products and their impacts on the building and should consider the entire life cycle (all information modules).*"

This sheet provides a framework for presenting the environmental characteristics of construction products in accordance with the requirements of standard NF EN 15804+A1, its national supplement NF EN 15804/CN and for providing comments and additional useful information in accordance with the spirit of this standard in terms of sincerity and transparency

3. General information

Name and address of declarant: Silvadec 21 Parc d'Activité de l'Estuaire, 56190 Arzal FRANCE	Commercial reference(s) of the product(s): <ul style="list-style-type: none">- Elégance smooth (width 138 mm)- Elégance smooth (width 180 mm)- Elégance grooved (width 138 mm)- Elégance grooved (width 180 mm)- Elégance structured (width 138 mm)- Elégance structured (width 180 mm)- Atmosphère brushed (width 138 mm)- Atmosphère brushed (width 180 mm)
Name of the declarant's contact person: Deborah POUDRE	Date of publication: March 2019
Contact details: +33 (0)2.97.45.09.00	Validation end date: March 2024
A project report of the declaration has been prepared and can be consulted, under a confidentiality agreement, at Silvadec's headquarters. The information contained in this declaration is provided under the responsibility of Silvadec.	Type of EPD: <ul style="list-style-type: none">- from cradle to grave- individual
Verification	
CEN standard EN 15804+A1 serves as the Product Category Definition Rules (PCR). Independent verification of the declaration, in accordance with EN ISO 14025:2010 <input type="checkbox"/> internal <input checked="" type="checkbox"/> external	Verification program: EPD-INIES program http://www.inies.fr/ Association HQE 4, avenue du Recteur Poincaré 75016 PARIS FRANCE
Auditor's name: Estelle VIAL (FCBA)	

4. Product description and functional unit

4.1 Product description

The product is a composite wood deck board (wood flour and HDPE) with dimensions 138 mm (w) x 23 mm (h) x 4000 mm (L) or 180 mm (w) x 23 mm (h) x 4000 mm (L). Data are determined according to this dimension and reduced to 1 sqm of product.

N.B.: The EPD covers two versions of each product, one with a width of 138 mm and one with a width of 180 mm. The weight per linear meter varies (0.8-1 kg) depending on the width of the board, however the installation spacing between the boards also varies. As a result, the weight and impacts of the two products, per square meter, do not differ significantly. Both types of deck board can therefore be declared in the same EPD.

The grooved Elégance deck board is shown below:



4.2 Functional unit (FU)

“Cover 1 sqm of exterior floor to ensure passage during 25 years”

Product weight: 23.7 kg/sqm

4.3 Product use / application

The product is intended to be installed as a decking in all types of building (detached house, collective building).

4.4 Technical characteristics

The composite wood deck boards have the following characteristics:

- Resistance to attacks by termites (EN 350-1/EN318) and wood-eating fungi (N34/EN318).
- Moisture resistance EN317: 24 hours-swelling 0.4% and mass recovery 1.4%.
- Punching resistance : 59.6 MPa on Brinell scale
- Classification Dfl-s1 in reaction to fire according to Euroclasses
- Slip resistance according to DIN 51130: R11/R12 (smooth, structured finish) and R12/R13 (grooved finish, and Atmosphère deck board).
- They are pedestrian outdoor deck boards with a non-permanent distributed load of 500 kg/m³

In addition, composite wood :

- Has a density of 1,22.
- Has a Young E module of 3200 MPa

- Has a thermal expansion coefficient of $2,9 \cdot 10^{-2} \text{ mm.m}^{-1} \cdot \text{°C}^{-1}$
- Has a tensile strength of 23,6 MPa

4.5 Composition / REACH substances

The product does not contain any substances on the SVHC REACH list.

4.6 Production

Silvadec
21 Parc d'Activité de l'Estuaire,
56190 Arzal
FRANCE

4.7 Main components

The product is composed of wood flour, HDPE and additives:

Parameter	Unit	Amount/description
Wood flour	kg/sqm	1.29E+01
HDPE	kg/sqm	5.33E+00
Regenerated HDPE	kg/sqm	1.78E+00
Additives	kg/sqm	3.69E+00

Carbon sequestration and biosourced content:

Parameter	Unit	Amount/description
Quantity of biogenic carbon sequestered	kg CO ₂ eq./sqm	2.15E+01
Sequestration time	Years	25

4.8 Packaging


The product is packaged on rafters and wooden pallets.

Name of the materials	Unit	Amount/description
Pallets (wood)	kg/sqm	1.59E-01
Rafters (wood)	kg/sqm	1.06E-01

4.9 Reference service life (RSL)

Parameter	Unit	Value
Reference service life	years	25
Declared properties of the product at the factory exit	-	-
Theoretical application parameters	-	DTU 51.4
Presumed quality of the work	-	The quality of the work is presumed to be in accordance with the manufacturer's recommendations
Exterior environment	-	-
Interior environment	-	Volatile pollutant emissions details of products covered by the EPD are given in paragraph 4.11.
Use conditions	-	The product use is presumed to be in accordance with the manufacturer's recommendations
Maintenance	-	Maintenance is planned on the RSL, see §6 for more details

4.10 Additional information on the release of hazardous substances into indoor air, soil and water during the period of use

		Tests results	Justification and/or test report
Emission to indoor air ^{1,2}	VOC and formaldehyde emissions		Test report n° D-101013-08326 Tests in accordance with ISO 16000 standards (report available on request from Silvadec)
	Behaviour face to fungal and bacterial growth	No test available	-
	Natural radioactive emissions from construction products	No test available	-
	Fibre and particle emissions	No test available	-
Emission to soil and water ^{1,2}	Emissions into water	No test available	-
	Emissions into the soil	No test available	-

1) Emissions to indoor air, soil and water according to horizontal norms for the measurement of emissions of regulated hazardous substances from construction products using harmonised test methods in accordance with the provisions of the respective Technical Committees of the European Product Standards, where available.

For more information, refer to the EeB Guide: <http://www.eebguide.eu/?p=1991>

2) In France, the INIES Base Technical Committee (CTIB) gives recommendations on the declaration of health and comfort characteristics - Guide to writing health and comfort summaries (CTIB N94, 2009)

4.11 Product contribution to the quality of life inside buildings

Product characteristics involved in creating hygrothermal comfort conditions in the building:
The product does not claim any thermal performance.

Product characteristics involved in creating acoustic comfort conditions in the building:
The product does not claim any acoustic performance.

Product characteristics involved in creating visual comfort conditions in the building:
The product does not claim any visual performance.

Product characteristics involved in creating olfactory comfort conditions in the building:
The product does not claim any olfactory performance.

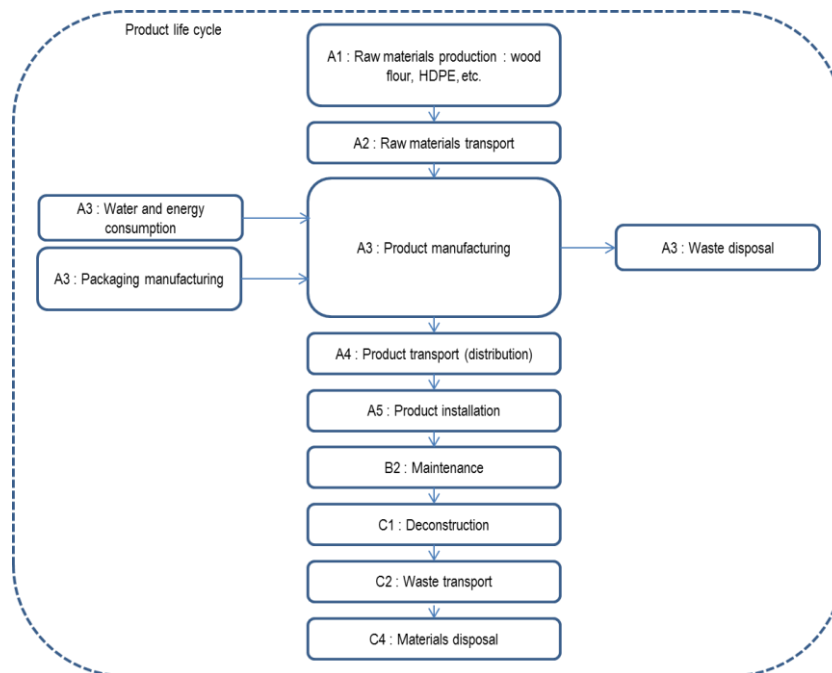
5. Information for the life cycle assessment calculation (LCA)

5.1 Used PCR

NF EN 15804+A1 :2014, NF EN 15804/CN :2016, NF EN 16485:2014 and EN 16449.

5.2 System boundaries

System boundaries respect the limits imposed by the norm NF EN 15804+A1 and its national complement NF EN 15804/CN. The figure below represents the product's life cycle:





5.3 Cut-off rule

All identified flows and substances were taken into account for the calculation of the LCI except for the polyolefin protective film. Its quantity is less than 0.001 kg/m², hence, with regard to the mass of the product, it complies with the cutting rule.

5.4 Geographical and temporal representativeness of data

All generic data are from the ecoinvent 3.4 database "allocation cut-off by classification", 2017 (www.ecoinvent.ch). The Silvadec specific data are valid and correspond to the year 2017.

5.5 Used software

	SimaPro, life cycle assessment software (V8.5). (https://simapro.com/)
	Ev-DEC, (www.ev-dec.com), developed by the consulting firm EVEA (www.evea-conseil.com), which help to realize the EPD.

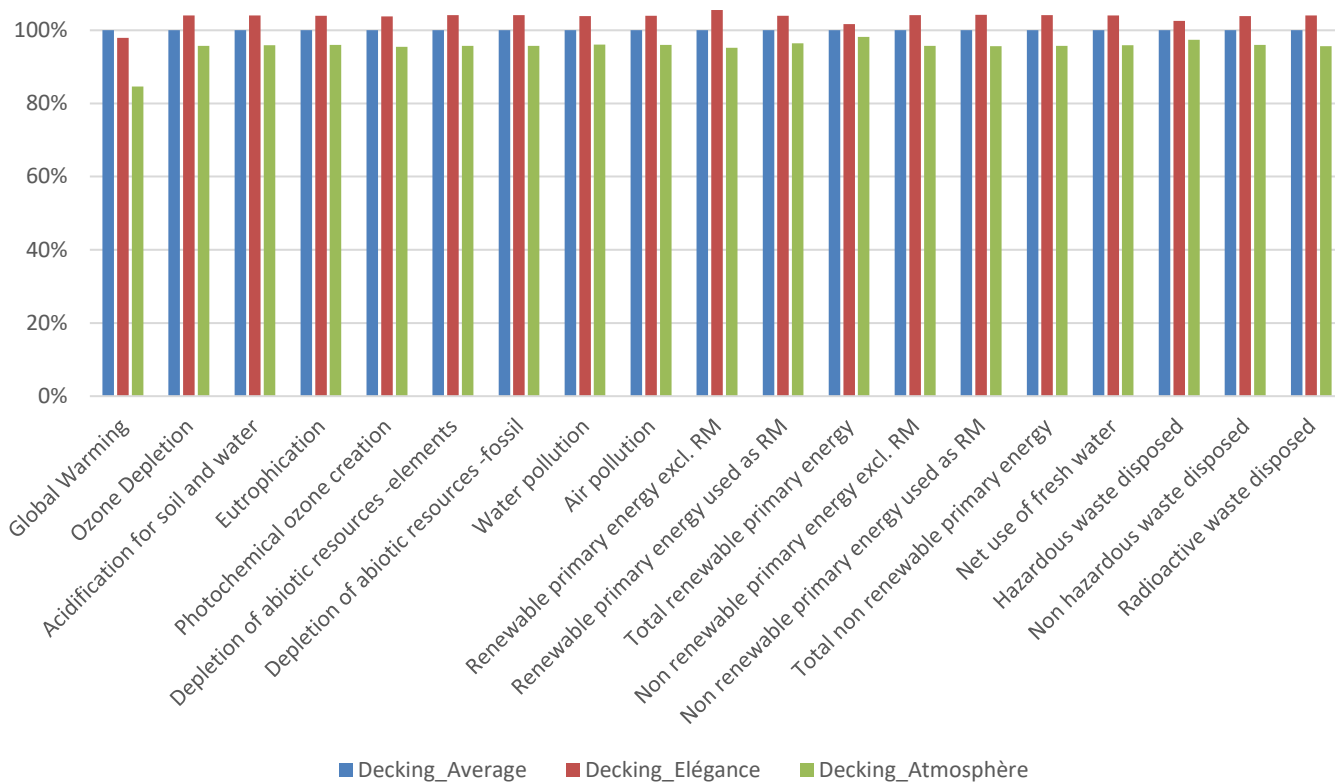
5.6 Allocation

A mass allocation (kg) of the manufacturing data (A3) was performed by Silvadec. The allocation for the production of wood flour received by Silvadec is that of the ecoinvent data (economic).

5.7 Variability of the results / scope of validity

A sensibility analysis has been performed in the scope of this EPD and has showed that the average impacts of the references of the sample analysed (Elégance and Atmosphère ranges) do not exceed 1.4 times the average impacts declared in this EPD.

As a reminder, the Elégance range has a weight of 24.71 kg/sqm and the Atmosphère range has a weight of 22.67 kg/sqm.



6. LCA calculation: scenarios and product-specific technical information



A1-A3 Production:

Steps A1 to A3 include all processes from the extraction of raw materials to their processing in the factory. The production of the deck boards is possible through extrusion and coextrusion processes.

Regenerated HDPE is modelled with the same impact as new HDPE. In effect, as specific data were not available, it was not possible to apply an allocation.



A4 Product transport between factory and installation site:

The product is manufactured in Arzal (56) and distributed in France. The transport distance is determined by calculating a weighted average of the transport distances to the different installation sites.

Parameter	Units	Value
Type of combustible and vehicle consumption or vehicle type	-	Considered vehicles are Euro 5 type trucks with a payload of 16-32 ton
Distance to the installation site	km	417
Use capacity	%	36% (ecoinvent generic data)
Density of the transported product	kg/cub	-
Density utilisation coefficient	-	-



A5 Product installation:

The product is installed with a power screwdriver as well as additional products (joists, clips and screws). The installation waste are related to the packaging of the product. Installation scraps are considered to be 5%.

Silvadec has developed the "Ecobox" program allowing the return and recycling of a part of the scraps to Silvadec. These scraps are then re-injected into the production process. The rate of return of these scraps is 0.7%.

The end of life of the packaging waste is considered to be 50% landfilling and 50% incineration.

Parameter	Units	Value
Loss rate during installation	%	5
Additional products for the installation	-	-
Composite wood joists	kg/sqm	1,85E+00
Wood joists	kg/sqm	1,89E+00
Clips	kg/sqm	2,30E-02
Screws	kg/sqm	2,85E-02
Electricity consumption	kWh	1,00E-02
Waste	-	-
Wooden pallets waste	kg/sqm	3,61E-01
Wood rafter waste	kg/sqm	2,23E-01
Cardboard waste	kg/sqm	2,13E-01
Polyethylene waste	kg/sqm	2,37E-02



B1– B7 Product use:

In order to ensure its proper functioning during its service life, the product is cleaned.

B1 Use:

The product does not interfere with the environment during its use stage.

B2 Maintenance (if applicable):

Cleaning is carried out with soapy water and rinsing water.

Parameter	Units	Value/description
Maintenance frequency	year	1 time per year
Soapy water consumption	L/year	2,00E-01
Waste generated during maintenance	kg	-
Net freshwater consumption	L/year	8,00E-01
Energy input during maintenance	kWh	-

B3 Repair (if applicable):

The product does not require repair throughout its RSL.

B4 Replacement (if applicable):

The product does not require replacement throughout its RSL.

B5 Refurbishment (if applicable):

The product does not require refurbishment throughout its RSL.

B6 – B7 Energy and water use (if applicable):

The product does not consume water nor energy throughout its RSL.



C1 – C4 Product end of life:

The product is dismantled by hand using a power screwdriver, i.e. 1.00E-02 kWh/sqm.

Composite wood and its accessories are considered to be sent to landfill. A 100% landfill scenario is considered for the end of life of composite wood. In effect, the high proportion of HDPE (about 30%) in the product excludes incineration. A landfill (50%) and incineration (50%) scenario is considered for the end of life of accessories (joists and wooden cleats) and complementary products (fixing clips and screws).

A transport distance of 30km is also considered from the site to the treatment/disposal site. The calculation of biogenic CO₂ re-emitted during landfilling follows the recommendations of the FCBA¹.

Parameter	Units	Value
Quantity collected separately	kg/sqm	2.75E+01
Quantity collected with mixed construction waste	kg/sqm	-

¹ Rapport d'étude, Volet 2 – Prise en compte de la fin de vie des produits bois (2012)

Quantity for reuse	kg/ sqm	-
Quantity for recycling	kg/ sqm	-
Quantity for energy recovery	kg/ sqm	-
Quantity of disposed product	kg/ sqm	2.75E+01

D Recycling/Reuse/Recovery potential

D Module is not taken into consideration in this study.

7. LCA results

Environmental impact category / flow	Unit	Production Total	Installation Total	Use Total	End of life Total	Life cycle Total
Global Warming	kg CO ₂ eq/UF	2.60E+00	-3.39E-01	3.26E-01	1.06E+01	1.32E+01
Ozone depletion	kg CFC 11 eq/UF	4.24E-06	6.39E-07	1.03E-08	9.83E-08	4.99E-06
Acidification of soil and water	kg SO ₂ eq/UF	1.09E-01	1.53E-02	8.10E-04	2.56E-03	1.28E-01
Eutrophication	kg (PO ₄) ³⁻ eq/UF	1.80E-02	2.83E-03	7.66E-04	8.62E-04	2.25E-02
Photochemical ozone creation	Ethene eq/UF	2.95E-02	3.14E-03	2.18E-04	1.63E-03	3.45E-02
Depletion of abiotic resources -elements	kg Sb eq/UF	9.61E-04	6.13E-05	5.51E-07	8.41E-07	1.02E-03
Depletion of abiotic resources - fossil	MJ PCI/UF	7.42E+02	7.43E+01	9.43E-01	8.75E+00	8.26E+02
Water pollution	m ³ /UF	2.83E+01	2.43E+00	2.31E+00	2.96E-01	3.33E+01
Air pollution	m ³ /UF	2.70E+03	4.91E+02	2.78E+01	6.03E+01	3.28E+03
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials	MJ PCI/UF	-1.36E+02	2.29E+01	2.38E+00	2.57E-01	-1.10E+02
Use of renewable primary energy, as raw materials	MJ PCI/UF	2.17E+02	4.03E+01	0.00E+00	0.00E+00	2.57E+02
Total use of renewable primary energy (primary energy and primary energy resources used as raw materials)	MJ PCI/UF	8.10E+01	6.33E+01	2.38E+00	2.57E-01	1.47E+02
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials	MJ PCI/UF	6.53E+02	7.13E+01	1.60E+00	9.15E+00	7.35E+02
Use of non-renewable primary energy, as raw materials	MJ PCI/UF	3.47E+02	1.73E+01	0.00E+00	0.00E+00	3.64E+02
Total use of non-renewable primary energy (primary energy and primary energy resources used as raw materials)	MJ PCI/UF	1.00E+03	8.87E+01	1.60E+00	9.15E+00	1.10E+03
Use of secondary material	kg/UF	1.78E+00	8.88E-02	0.00E+00	0.00E+00	1.86E+00
Use of renewable secondary fuels	MJ PCI/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	MJ PCI/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of freshwater	m ³ /UF	9.54E-01	5.75E-02	3.94E-02	8.27E-03	1.06E+00
Hazardous waste disposed	kg/UF	2.57E-01	4.36E-01	1.51E-02	2.30E-02	7.31E-01
Non-hazardous waste disposed	kg/UF	1.78E+01	4.15E+00	4.83E-02	2.67E+01	4.87E+01
Radioactive waste disposed	kg/UF	4.46E-03	4.68E-04	4.00E-06	5.72E-05	4.99E-03
Components for reuse	kg/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy (electricity)	MJ/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy (steam)	MJ/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy (process gas)	MJ/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Environmental impacts	Production stage			Construction stage		Use stage							End of life stage				D Profits and costs beyond the system's borders
	A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Rehabilitation	B6 Use of energy	B7 Water consumption	C1 Deconstruction/ demolition	C2 Transport	C3 Waste treatment	C4 Elimination	
Global Warming kg CO ₂ eq/UF	-1.76E+00	2.90E+00	1.46E+00	1.74E+00	-2.07E+00	0.00E+00	3.26E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-04	1.34E-01	0.00E+00	1.05E+01	NC
Ozone depletion kg CFC 11 eq/UF	2.18E-06	5.35E-07	1.52E-06	3.22E-07	3.17E-07	0.00E+00	1.03E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.12E-10	2.49E-08	0.00E+00	7.25E-08	NC
Acidification of soil and water kg SO ₂ eq/UF	9.18E-02	1.19E-02	5.30E-03	5.54E-03	9.79E-03	0.00E+00	8.10E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.48E-06	4.28E-04	0.00E+00	2.13E-03	NC
Eutrophication kg (PO ₄) ³⁻ eq/UF	1.56E-02	1.72E-03	7.43E-04	9.18E-04	1.91E-03	0.00E+00	7.66E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.32E-07	7.09E-05	0.00E+00	7.91E-04	NC
Photochemical ozone creation Ethene eq/UF	2.72E-02	1.63E-03	6.90E-04	9.00E-04	2.24E-03	0.00E+00	2.18E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-07	6.95E-05	0.00E+00	1.56E-03	NC
Depletion of abiotic resources - elements kg Sb eq/UF	9.49E-04	8.61E-06	3.99E-06	5.40E-06	5.59E-05	0.00E+00	5.51E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.97E-09	4.17E-07	0.00E+00	4.22E-07	NC
Depletion of abiotic resources - fossil MJ PCI/UF	6.84E+02	4.35E+01	1.44E+01	2.62E+01	4.82E+01	0.00E+00	9.43E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.78E-03	2.02E+00	0.00E+00	6.73E+00	NC
Water pollution m ³ /UF	2.69E+01	1.02E+00	3.50E-01	6.16E-01	1.81E+00	0.00E+00	2.31E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-04	4.76E-02	0.00E+00	2.48E-01	NC
Air pollution m ³ /UF	2.27E+03	3.11E+02	1.23E+02	1.82E+02	3.09E+02	0.00E+00	2.78E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.44E-02	1.41E+01	0.00E+00	4.62E+01	NC

Environmental impacts	Production stage			Construction stage		Use stage							End of life stage				D Profits and costs beyond the system's borders
	A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Rehabilitation	B6 Use of energy	B7 Water consumption	C1 Deconstruction / demolition	C2 Transport	C3 Waste treatment	C4 Elimination	
Use of renewable primary energy, excluding renewable primary energy resources used as raw materials MJ PCI/UF	-1.55E+02	6.67E-01	1.87E+01	3.89E-01	2.26E+01	0.00E+00	2.38E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.76E-03	3.00E-02	0.00E+00	2.20E-01	NC
Use of renewable primary energy, as raw materials MJ PCI/UF	2.08E+02	0.00E+00	9.19E+00	0.00E+00	4.03E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NC
Total use of renewable primary energy (primary energy and primary energy resources used as raw materials) MJ PCI/UF	5.24E+01	6.67E-01	2.79E+01	3.89E-01	6.29E+01	0.00E+00	2.38E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.76E-03	3.00E-02	0.00E+00	2.20E-01	NC
Use of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials MJ PCI/UF	4.01E+02	4.46E+01	2.07E+02	2.68E+01	4.46E+01	0.00E+00	1.60E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-01	2.07E+00	0.00E+00	6.96E+00	NC
Use of non-renewable primary energy, as raw materials MJ PCI/UF	3.46E+02	0.00E+00	1.03E+00	0.00E+00	1.73E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NC
Total use of non-renewable primary energy (primary energy and primary energy resources used as raw materials) MJ PCI/UF	7.47E+02	4.46E+01	2.08E+02	2.68E+01	6.19E+01	0.00E+00	1.60E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-01	2.07E+00	0.00E+00	6.96E+00	NC
Use of secondary material kg/UF	1.78E+00	0.00E+00	0.00E+00	0.00E+00	8.88E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NC
Use of renewable secondary fuels MJ PCI/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NC
Use of Non-renewable secondary fuels MJ PCI/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NC
Net use of freshwater m ³ /UF	8.87E-01	8.41E-03	5.88E-02	5.03E-03	5.25E-02	0.00E+00	3.94E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.35E-05	3.88E-04	0.00E+00	7.85E-03	NC

Waste category	Production stage			Construction stage		Use stage							End of life stage				D Profits and costs beyond the system's borders
	A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	A5 Installation	A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	B5 Rehabilitation	A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	C3 Waste treatment	A1 Raw material supply	
Hazardous waste disposed kg/UF	1.94E-01	2.68E-02	3.55E-02	1.58E-02	4.20E-01	0.00E+00	1.51E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-05	1.22E-03	0.00E+00	2.18E-02	NC
Non-hazardous waste disposed kg/UF	1.47E+01	2.24E+00	8.64E-01	1.39E+00	2.76E+00	0.00E+00	4.83E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.52E-04	1.08E-01	0.00E+00	2.66E+01	NC
Radioactive waste disposed kg/UF	1.38E-03	3.06E-04	2.78E-03	1.84E-04	2.84E-04	0.00E+00	4.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.68E-06	1.42E-05	0.00E+00	4.13E-05	NC

Outflows	Production stage			Construction stage		Use stage							End of life stage				D Profits and costs beyond the system's borders	
	A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	A5 Installation	A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	B5 Rehabilitation	A1 Raw material supply	A2 Transport	A3 Manufacturing	A4 Transport	C3 Waste treatment	A1 Raw material supply		
Components for re-use kg/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NC
Materials for recycling kg/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NC
Materials for energy recovery kg/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NC
Exported energy – Electricity MJ/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NC
Exported energy – Steam MJ/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NC
Exported energy – Process gas MJ/UF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NC

NC : Not considered

8. Positive environmental contribution

The building sector is increasingly taking into account the environmental and health requirements of building materials, particularly through the latest regulations (BBC, Effinergie, French law on energy transition for green growth, etc).

In addition, environmental labels such as LEED, BREAM, E+C- or HQE are increasingly in demand. The E+C- (Energie Carbone) label launched in 2016 by the DHUP allows a constructability bonus if certain thresholds on energy consumption and greenhouse gas emissions are respected. These building evaluations are based, for the "construction" part, on the EPD/EPD of construction products.





Silvadec acts in favour of eco-responsible management and has been ISO 14001 certified since March 2014.

The wood used in the wood flour of composite deck boards is a sawmill coproduct, PEFC certified, of regional origin (Brittany). During its growth, the tree captures carbon dioxide (CO₂) which will be sequestered throughout the life of the product. The use of wood also reduces the consumption of raw materials from fossil resources.

During the manufacture of the deck boards, the scraps are re-injected into the production process, generating less waste. The water used in production for cooling is circulated in a closed circuit. It comes from a rainwater collection tank installed on the manufacturing site.

In addition, Silvadec has set up the Eco-box program, a system designed to improve the recycling rate of their composite products. Silvadec offers to collect from construction sites the installation scraps or deck boards that are at the end of their life in return for a refund to the installer. Once sent to Silvadec in Arzal (56), the deck boards are directly recycled into the production process. Silvadec therefore allows the recovery of a composite material that has no recycling outcome in conventional waste management systems. As this system has been recently implemented and the first deck board sold have not yet reached the end of their life, the benefits are not clearly visible yet. In effect, the recycling of Silvadec composite wood flooring is expected to increase over the years.

9. Realisation

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