

# Environmental product declaration (EPD)

As per EN 15804+A1

## Maritime pine and phenolic (PF) resin plywood panel, made in France

Data for 1 m<sup>3</sup>



### Collective EPD

This EPD are based on collective EPD approach verified according to the French program INIES and available on site [www.inies.fr](http://www.inies.fr)

### Issue date

Collective EPD publication date

06/05/2019

### Realised by



INSTITUT  
TECHNOLOGIQUE

Initiated by  
**U I P C**

Union des Industries  
du Panneau Contreplaqué

## Reading guide

Abbreviations > **LCA** > Life cycle assessment  
**ADP** > Abiotic depletion potential  
**EPD** > Environmental product declaration  
**FDES** > French EPD

**DTU** > French "Unified Technical Documents"  
**PCR** > Product category rules  
**FU** > Functional unit  
**WIP** > Waste incineration plant

## General information

Manufacturer > Companies producing plywood panels in France corresponding to the description given below. A list of companies that can claim this french EPD is available from :  
and information UIPC - Union des industries du panneau contreplaqué : 23 rue du Départ, 75014, Paris, www.uipc-contreplaque.fr

Declared by > Institut technologique FCBA : 10 rue Galilée 77420 Champs-sur-Marne, www.fcba.fr

Produced by > Institut technologique FCBA : 10 rue Galilée 77420 Champs-sur-Marne, www.fcba.fr

EPD information > Collective EPD from 'cradle-to-gate and end of life of product' (modules A1 to A3 and C1 to C4 + D)

Issued > 06/05/2019

Valid until > 06/05/2024

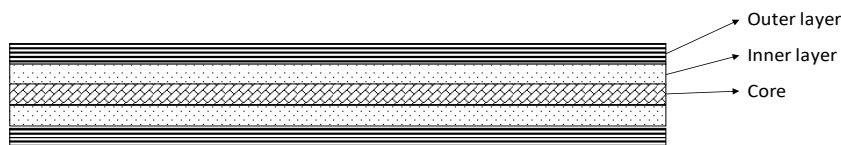
Warning on comparability > EPD comparison is possible by ensuring that :

- the same functional requirements as defined by the 2 EPD are met, and
- the environmental and technical performances of any assembled systems, components, or products excluded are the same, and
- the amounts of any material excluded are the same, and
- excluded processes or life cycle stages are the same, and
- the influence of the product systems on the operational aspects and impacts of the building are taken into account.

## Product description

Name and identification > Maritime pine and phenolic (PF) resin plywood panel, made in France

Visual >  
representation



Main components > Following table presents the main components of the installed product and the quantity by functional unit

Component	Material	Weight (kg / FU)	Volume (m <sup>3</sup> / FU)
Wood	Wood (maritime pine)	579	1
Glue	Phenolic (pf) resin	37	0
<b>TOTAL</b>		<b>617</b>	<b>1</b>

Other characteristics > None.

Use > -

Suitability for use > The plywood panel must comply with the following standards requirements EN 636 - Plywood - Specifications.

Reference service life > According to plywood use.

Content declaration > The product does not contain substances from the list of substances of very high concern that are candidates for authorization by the European Chemicals Agency.

Carbon storage > The following information relates in particular to the storage of carbon are given as complementary environmental information.  
and biosourced content

Parameter	Unit	Value
Biogenic carbon content	kg CO <sub>2</sub> éq. / FU	953,4
Biosourced content	kg / FU	579,0

Manufacturing process > The main manufacturing stages of the product are: cutting, debarking, peeling, trimming, drying, sizing, pressing, edging and sanding.

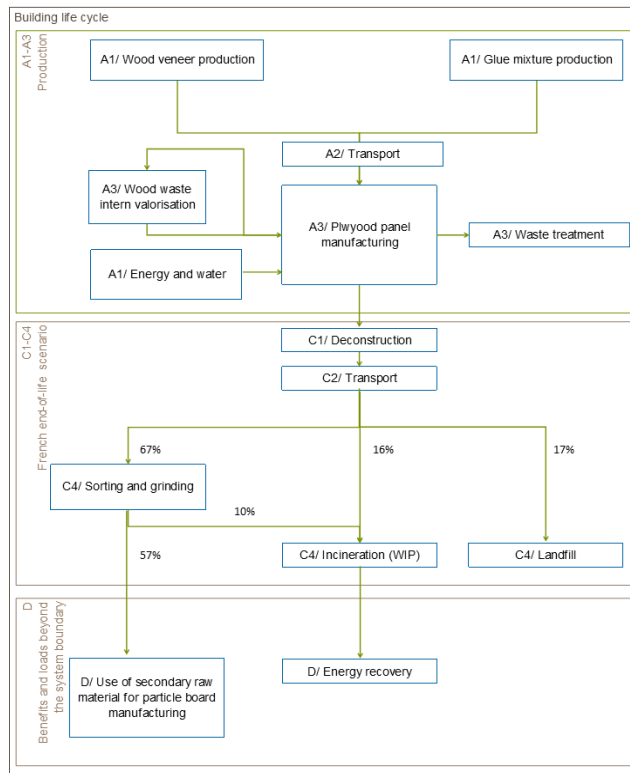
Distribution and installation Packaging materials aren't included.

## LCA rules

PCR > EN 15804+A1 and EN 16485 are used as PCR.

Reference flow > 1 m<sup>3</sup> of surface using a plywood panel of maritime pine and phenolic (PF) resin.

Process flow >  
diagram



Cut-off rules > All material and energy fluxes known to be capable of causing significant emissions to air, water or soil have been included.

Allocations > Losses generated during manufacturing were accounted for as waste and 100% allocated to the product. In accordance with EN 16485, the energy and biogenic carbon contents have been allocated to reflect the physical flows.

Data quality > Primary data come from the average data collected on site (reference year 2016).

Secondary data come from ecoinvent database version 3 and the LCA database developed by FCBA (based on the report DHUP/CODIFAB/FBF/CSTB/FCBA 2012)

## Environmental parameters from the LCA

		Product stage	End-of-life stage				Life cycle	Benefices and loads beyond the system boundary	
		Raw material supply, transport and manufacturing	Deconstruction, demolition	Transport	Waste processing	Disposal	Sub-total	Sub-total	Reuse, recovery and/or recycling
Parameters describing environmental impacts		A1-A3	C1	C2	C3	C4	C1-C4	A-C	D
Global warming potential	kg CO <sub>2</sub> éq. / FU	-786		3,91	551	322	877	90,2	-192
Depletion potential of the stratospheric ozone layer	kg CFC-11 éq. / FU	4,08 E-05		6,03 E-07	6,76 E-07	6,38 E-07	1,92 E-06	4,27 E-05	-2,06 E-05
Acidification potential of soil and water	kg SO <sub>2</sub> éq. / FU	1,47		0,0219	0,0401	0,0458	0,108	1,58	-0,473
Eutrophication potential	kg PO <sub>4</sub> <sup>3-</sup> éq. / FU	0,315		0,00491	0,00846	0,012	0,0253	0,341	-0,00576
Formation potential of tropospheric ozone	kg éthène éq. / FU	0,12		0,000633	0,00112	0,0146	0,0164	0,136	-0,0239
Abiotic depletion potential (ADP-elements) for non fossil resources	kg Sb éq. / FU	9,65 E-05		4,16 E-06	6,42 E-06	4,39 E-06	1,50 E-05	0,000111	-3,02 E-05
Abiotic depletion potential (ADP-elements) for fossil resources	MJ / FU	3 440		58	82,1	42,7	183	3 630	-2 810
Air pollution	m <sup>3</sup> / FU	46 900		285	667	1 780	2 730	49 600	-2 930
Water pollution	m <sup>3</sup> / FU	125		1,27	2,49	2,28	6,05	131	-18
<b>Parameters describing resource use</b>									
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ / FU	136		0,375	-24,1	0,731	-23	113	1 290
Use of renewable primary energy resources used as raw materials	MJ / FU	9 720			-5 520		-5 520	4 200	
Total use of renewable primary energy resources	MJ / FU	9 850		0,375	-5 540	0,731	-5 540	4 310	1 290
Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials	MJ / FU	5 800		59,8	717	47,7	824	6 620	-3 650
Use of non renewable primary energy resources used as raw materials	MJ / FU	1 120			-632		-632	488	
Total use of non renewable primary energy resources	MJ / FU	6 920		59,8	84,6	47,7	192	7 110	-3 650
Use of secondary material	kg / FU	0,000517						0,000517	
Use of renewable secondary fuels	MJ / FU								
Use of non renewable secondary fuels	MJ / FU								
Net use of fresh water	m <sup>3</sup> / FU	0,873		0,00851	0,0105	0,18	0,199	1,07	-0,54
<b>Parameters describing waste categories</b>									
Hazardous waste disposed	kg / FU	2,26		0,0204	0,102	1,88	2	4,26	-1,38
Non hazardous waste disposed	kg / FU	17,6		0,22	0,259	120	121	138	-21,1
Radioactive waste disposed	kg / FU	0,0535		2,39 E-05	3,35 E-05	0,000187	0,000244	0,0538	-0,012
<b>Parameters describing output flow</b>									
Components for re-use	kg / FU								
Materials for recycling	kg / FU	675			361	49,7	411	1 090	10,4
Materials for energy recovery	kg / FU								
Materials for energy recovery (heat)	MJ / FU					481	481	481	
Materials for energy recovery (electricity)	kWh / FU					69,5	69,5	69,5	

## Scenarios and additional technical information

Stage		Parameter	Value	
<b>Product stage</b>	A1-A3 Raw material, transport and manufacturing	Wood specie(s)	Maritime Pine	
		Glue type	phenolic (PF) resin	
		Weight of glue	37 kg/FU	
		Volumic mass	617 kg/FU	
Stage		Parameter	Value	
<b>End-of-life stage</b>	C	End-of-life scenario	The end-of-life is based on the average french end-of-life scenario for construction wood waste : 67% of wood waste reach a sorting platform (with subsequent recycling of wood into wood particle board and incineration of grinding 'dust'), 16% are incinerated with energy recovery, 17% are landfilled. This scenario is described in the following report : FCBA CSTB DHUP CODIFAB FBF, Convention DHUP CSTB 2009 Action 33 Sous-action 6 – ACV & DEP pour des produits et composants de la construction bois – Volet 2 Prise en compte de la fin de vie des produits bois – Phase 3 Modélisation ACV et calculs d'impacts pour le recyclage matière et la réutilisation, 2012.	
		Collection proces	Collected separately	412,7 kg / FU
			Collected with mixed construction waste	203,3 kg / FU
		Recovery system	Reuse	None
			Recycling	412,7 kg / FU
		Disposal	Energy recovery	None
			Incineration	98,6 kg / FU
		Landfill	104,7 kg / FU	
<b>Reuse, recovery and/or recycling potential</b>	D	Stage description	According to appendix H of the EN 15804/CN (french complement), the benefits and loads beyond the system's boundaries include : - at recycling level, transport and transformation of wood chips as secondary raw material for wood particle board manufacturing, and substitution of virgin raw material (forestry, logging, transport, grinding, drying), - at incineration level, substitution of recovered thermal and electrical energy. The different processes are described in the report quoted above.	