

# Environmental product declaration (EPD)

As per EN 15804+A1

## Okoume-poplar 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)

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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 > Okoume-poplar 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 (okoume-poplar)	426	1
Glue	Phenolic (pf) resin	88	0
<b>TOTAL</b>		<b>514</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	701,5
Biosourced content	kg / FU	426,0

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

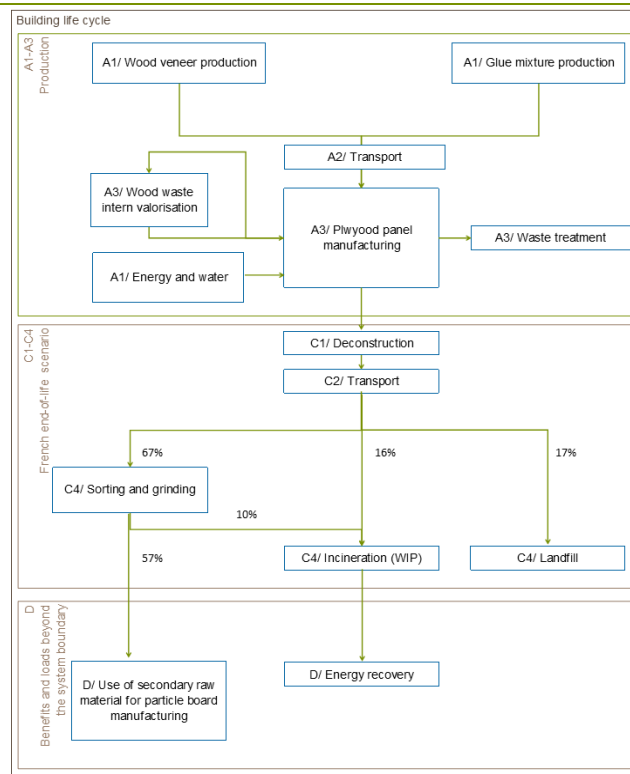
Distribution > Packaging materials aren't included.

## 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 okoume-poplar 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	-348		2,88	406	250	659	311	-142
Depletion potential of the stratospheric ozone layer	kg CFC-11 éq. / FU	4,99 E-05		4,44 E-07	4,99 E-07	5,11 E-07	1,45 E-06	5,14 E-05	-1,52 E-05
Acidification potential of soil and water	kg SO <sub>2</sub> éq. / FU	2,42		0,0162	0,0296	0,0361	0,0818	2,51	-0,349
Eutrophication potential	kg PO <sub>4</sub> <sup>3-</sup> éq. / FU	0,429		0,00362	0,00624	0,00972	0,0196	0,449	-0,00425
Formation potential of tropospheric ozone	kg éthène éq. / FU	0,166		0,000466	0,000829	0,0109	0,0122	0,178	-0,0176
Abiotic depletion potential (ADP-elements) for non fossil resources	kg Sb éq. / FU	9,42 E-05		3,07 E-06	4,73 E-06	3,60 E-06	1,14 E-05	0,000106	-2,23 E-05
Abiotic depletion potential (ADP-elements) for fossil resources	MJ / FU	6 430		42,7	60,5	34,8	138	6 570	-2 070
Air pollution	m <sup>3</sup> / FU	57 300		210	492	1 360	2 060	59 300	-2 160
Water pollution	m <sup>3</sup> / FU	211		0,937	1,84	2,05	4,83	215	-13,2
<b>Parameters describing resource use</b>									
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ / FU	5 300		0,277	-26,1	0,673	-25,1	5 270	953
Use of renewable primary energy resources used as raw materials	MJ / FU	7 160			-4 060		-4 060	3 100	
Total use of renewable primary energy resources	MJ / FU	12 500		0,277	-4 080	0,673	-4 080	8 370	953
Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials	MJ / FU	5 700		44,1	1 570	38,7	1 650	7 350	-2 690
Use of non renewable primary energy resources used as raw materials	MJ / FU	2 650			-1 500		-1 500	1 150	
Total use of non renewable primary energy resources	MJ / FU	8 350		44,1	62,4	38,7	145	8 490	-2 690
Use of secondary material	kg / FU	0,000786						0,000786	
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	0,983		0,00628	0,00778	0,133	0,147	1,13	-0,398
<b>Parameters describing waste categories</b>									
Hazardous waste disposed	kg / FU	3,41		0,015	0,0754	1,66	1,75	5,17	-1,01
Non hazardous waste disposed	kg / FU	26,7		0,162	0,191	94,5	94,8	122	-15,6
Radioactive waste disposed	kg / FU	0,038		1,77 E-05	2,47 E-05	0,000153	0,000195	0,0382	-0,00884
<b>Parameters describing output flow</b>									
Components for re-use	kg / FU								
Materials for recycling	kg / FU	0,0383			266	59,3	326	326	7,68
Materials for energy recovery	kg / FU	-208						-208	
Materials for energy recovery (heat)	MJ / FU					355	355	355	
Materials for energy recovery (electricity)	kWh / FU					51,2	51,2	51,2	

## Scenarios and additional technical information

Stage		Parameter	Value
<b>Product stage</b>	A1-A3 Raw material, transport and manufacturing	Wood specie(s)	Okoume-Poplar
		Glue type	phenolic (PF) resin
		Weight of glue	88 kg/FU
		Volumic mass	514 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	344,4 kg / FU
			Collected with mixed construction waste	169,6 kg / FU
		Recovery system	Reuse	None
			Recycling	344,4 kg / FU
		Disposal	Energy recovery	None
			Incineration	82,2 kg / FU
		Landfill	87,4 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.	