Environmental **Product** Declaration



'EPD®

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Painted and non-painted Hard Fiberboard

from

Grigeo Baltwood UAB



Baltwood

Programme:	The International EPD [®] System, <u>www.environdec.com</u>
Programme operator:	EPD International AB
EPD registration number:	S-P-09981
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Valid until:	2028-07-21
	An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com







General information

Programme information

Programme:	The International EPD [®] System				
Address	EPD International AB				
	Box 210 60				
Address:	SE-100 31 Stockholm				
	Sweden				
Website:	www.environdec.com				
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Accountabilities for PCR, LCA and independent, third-party verification

Product Category Rules (PCR)

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product Category Rules (PCR): Construction Products, PCR 2019:14 Version 1.2.5 and c-PCR-006 Wood and wood-based products for use in construction (EN 16485)

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 info@environdec.com

Life Cycle Assessment (LCA)

LCA accountability: Bureau Veritas Latvia SIA. Email: riga@bureauveritas.com

Third-party verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

 \boxtimes EPD verification by individual verifier

Third-party verifier: *Elisabet Amat, GREENIZE*

Approved by: The International EPD[®] System

Procedure for follow-up of data during EPD validity involves a third-party verifier:

 \Box Yes \boxtimes No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g., identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.





Company information

Owner of the EPD: Grigeo Baltwood UAB

Contact: Artūras Dargis, +370 5 243 5900, info.baltwood@grigeo.lt

<u>Description of the organization</u>: We are one of the leading fiberboard manufacturers in the Baltic countries. It is a multifunctional product used to produce furniture, rigid packaging, the construction industry, interior and exhibition stand installation, and meet other consumer or production needs.

The company operates a panel painting line based on modern technologies, using only water-diluted primers, printing inks, and acrylic ultraviolet varnishes. Advanced panel cutting equipment panels are quickly and qualitatively cut in the formats the customer requires, and a professional and qualified team ensures quality. Our customers across the region appreciate products sold under the Stallionboard brand.

Grigeo Baltwood UAB makes production to supply modern business management, investment in the implementation of new technologies, and continuous training of employees - essential components that allow us to move forward boldly together and be leaders in our field.

Product-related or management system-related certifications: ISO 9001:2015; ISO 14001:2015; ISO 45001:2018; FSC 100%.

<u>Name and location of production site(s)</u>: Vilniaus st. 10, Grigiškės, LT-27101, Vilnius city municipality, Lithuania.

Product information

Product name: Painted and non-painted hard fiberboard.

Product identification: Raw hardboard HB; Painted hardboard HB.

<u>Product description</u>: Non-painted fiberboards are made from wood fibers. It is a high-quality product, resistant to physical effects, and intended for indoor use. Painted hard fiberboards are used for interior decoration of residential, public, and industrial buildings when they are dry enough.

UN CPC code: 3144 - Fiberboard of wood or other ligneous materials.

Fiberboard manufacturing compliance with EN 622:2005. Products width and length can be cut according to customer requirements. Maximum width can be 1740 mm and length 5490 mm with thickness from 2mm to 3.5 mm

Technical specification	Units	Performance	Standart
Density	kg/m³	≥900	
Thickness tolerance	mm	0.3	
Bending strength	N/mm ²	>30	EN 622:2005
Inside adhesion	N/mm ²	>0,5	EN 022.2005
Water sweilling	%	<37	
Humidity	%	4-9	
Determination of formaldehyde release	-	E1	EN 717-1:2004
Fire resistance	-	E	EN 11925-2

No substance exceeds 0.1% in the final products of the "Candidate List of Substances of Very High Concern (SVHC) for authorization."

<u>Geographical scope:</u> This EPD has a European Scope, as installation activities and primary raw materials are independent of the region where the products will be installed. Nonetheless, it must be clarified that transport distances to installation sites (Stage A4) in the model under study correspond to several construction sites in different parts of Europe.





LCA information

Functional unit / declared unit: The declared unit is one (1) metric tonne of a hard fiberboard.

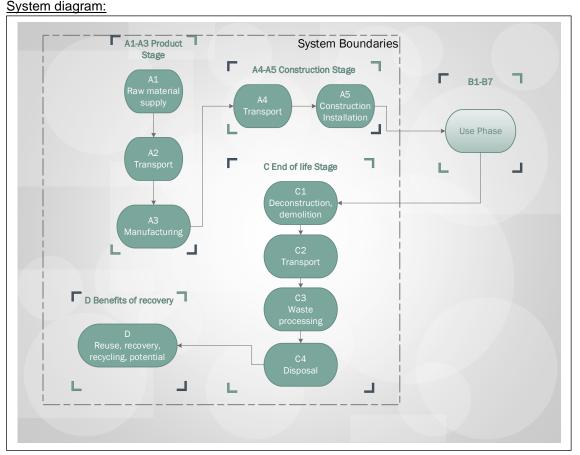
<u>Reference service life:</u> The reference service life for hard fiberboard is 50 years.

<u>Time representativeness</u>: The primary data was gathered internally. All production data corresponds to values for the year 2021.

<u>Database(s) and LCA software used:</u> The Ecoinvent v3.9.1 was used to conduct the quantitative evaluation in this study. This database provided the background system's life cycle inventory data for raw and processed materials. The LCA software was SimaPro 9.4. To obtain the results following the provisions of EN 15804:2012+A2:2019, the "EN 15804:A1+A2:2019 method", "EDIP 2003", "CED (LHV)" and "IPCC GWP100a" calculation methods have been used for environmental impacts, waste generation, use of resources and biogenic carbon content respectively.

Description of system boundaries:

b) Cradle to gate with options. The LCA was carried out considering the product stage A1-A3, modules C1–C4, module D, and the additional optional modules A4-A5.



<u>More information</u>: During this LCA, the *polluters pay*, and modularity principles have been followed. Double counting has been avoided.

The processes related to infrastructure, construction, and production of equipment and tools that are not directly consumed in the production process have been excluded. Activities personnel-related, such as transportation to and from work, have been excluded. Long-term emissions are also excluded from the impacts.





<u>Data quality:</u> The foreground data was collected internally, considering the latest available average production amounts and measures during the last year. Data regarding waste processes and scenarios were taken from waste scenarios for Europe contained in Ecoinvent v3.9.1.

The quality level in this study is qualified as very good according to the UN Environment Global Guidance criteria on LCA database development. Data is geographically representative as it comes from the area of study. It is technically representative as it comes from processes and products under study using the same state of technology defined in goal and scope. According to the documentation, it is also time representative as data was collected less than three years between the reference year. A data quality rating was performed using a rating system where one means excellent, and five are poor. An average for each criterion is presented as follows:

Technological Representativeness, TeR	Geographic representativeness, GeR	Time Representativeness, TiR	Precision, P	Average DQR
1.88	2.76	1.03	2.18	1.96

<u>Cut-off criteria:</u> All primary raw materials and processes have been considered. Only less than 1% of total material and energy flows were excluded, and 5% of materials and energy per module.

<u>Allocation:</u> Following the recommendations in EN 15804 and PCR 2019:14, allocation among products and co-products has been avoided. Material and energy flows have been allocated to the main product following physical/mass criteria.

Stages and Production description

Product Stage

A1 - Raw material supply: This stage considers the extraction and processing of all raw materials.

A2 - Transport: This stage accounts for the transport activities of raw materials to the facilities in Lithuania. This stage includes road transport by lorry and rail transport by freight train.

A3 - Manufacturing: This stage includes the manufacturing process conducted in the facilities before the transport to the different locations in Europe. The operations included in this stage are the following: cutting, planning, painting, packaging, and storage. The input of packaging materials is considered in this stage. Waste treatment activities derived from manufacturing are also accounted for until the waste reaches the end of life.

Construction Stage

A4 – Transport to the construction site: This stage stands for transporting materials from the production site to the construction site. Different destinations have been modeled in this stage to obtain an average impact considering the average sales distribution during the last year.

Material/Process	Destination	Quantity (tkm)
Transport, freight, lorry 16-32 metric tonne, euro5 {RER} Cut-off, U	Belgium	55,9
Transport, freight, lorry 16-32 metric tonne, euro5 {RER} Cut-off, U	Germany	49,7
Transport, freight, lorry 16-32 metric tonne, euro5 {RER} Cut-off, U	Denmark	171
Transport, freight, lorry 16-32 metric tonne, euro5 {RER} Cut-off, U	Finland	54,4
Transport, freight, lorry 16-32 metric tonne, euro5 {RER} Cut-off, U	France	24,9
Transport, freight, lorry 16-32 metric tonne, euro5 {RER} Cut-off, U	GB	16,1
Transport, freight, sea, ferry {GLO} Cut-off, U	GB	72,5
Transport, freight, lorry 16-32 metric tonne, euro5 {RER} Cut-off, U	Hungary	12,9



Transport, freight, lorry 16-32 metric tonne, euro5 {RER} Cut-off, U	Netherlands	176
Transport, freight, lorry 16-32 metric tonne, euro5 {RER} Cut-off, U	Sweden	155
Transport, freight, sea, ferry {GLO} Cut-off, U	Sweden	46,6
Transport, freight, lorry 16-32 metric tonne, euro5 {RER} Cut-off, U	GB	16,1
Transport, freight, sea, ferry {GLO} Cut-off, U	GB	72,5
Transport, freight, lorry 16-32 metric tonne, euro5 {RER} Cut-off, U	Germany	82,9
Transport, freight, lorry 16-32 metric tonne, euro5 {RER} Cut-off, U	Poland	326

A5 – Construction/Installation: This stage includes the activities related to the installation of the hard fiberboard. It is assumed that no energy or minimal energy (neglected) is required for installation. The end-of-life scenario of the packaging material is accounted for during this stage. The waste flows of packaging materials and their treatment are included in this stage.

Use Stage:

During a regular-use scenario, it is assumed that no maintenance, repair, replacement, and/or refurbishment is required. Hence this optional stage is not considered (B1–B5). Energy or water consumption is not needed and, therefore, not declared for the building operation (B6-B7).

End of Life Stage:

C1 – Deconstruction/Demolition: It is assumed that no energy is required to dismantle or demolish the hard fiberboard product. It is also assumed no emissions linked to the product occur during this module.
 C2 - Transport: The transport of the dismantled hard fiberboard is considered in this stage. A distance of 50 km is assumed for the waste treatment and disposal facilities.

C3-Waste processing: 7,5% of fiberboard is assumed to be treated as polyurethane for incineration. The remaining material (92,5%), considered as untreated waste wood and is <u>primarily</u> treated by incineration with fly ash extraction, with small share treated by open burning, and a final portion considered for disposal according to a European country's Ecoinvent waste treatment scenario.

C4 - Disposal: The remaining product (0,95% of the waste wood) is disposed of in a wet infiltration class landfill.

The main assumptions during the end-of-life stage are summarized in the following table:

PARAMETER	VALUE/DESCRIPTION						
Collection process specified by type	Dismantling of the Grigeo Baltwood UAB product. No energy or emissions were considered.						
Recovery system specified by type	Fiberboard treatment according to the Ecoinvent scenario: - 7,5% of polyurethane to incineration - 91,57% of waste wood to incineration - 0,049% of waste wood to open burning						
Disposal specified by type	 0,876% of waste wood to an open dump wet infiltration class (500mm). 						
Assumptions for scenario development (e.g., transportation)	Municipal waste collection service by 21 metric tonne lorry, 50 km to the waste treatment disposal sites.						

Benefits and loads beyond the system boundaries:





D – *Benefits or recovery:* The benefits and loads beyond the system boundaries include activities such as transporting recovered materials to a market where they could theoretically replace primary materials for reuse. To model derived benefits, substituted products have been treated as "avoided products" in SimaPro. The benefits from heat recovery from the waste wood treatment via incineration in C3 and also in A5 have been accounted for. The total thermal energy recovered (12.24 GJ) from the wood material has been calculated considering a calorific value (LHV) of 16.3 MJ/kg and an overall efficiency of 80% in an incineration plant. It is assumed that the heat produced in the incineration plant is used in a nearby facility, and no additional loads are included. No other benefits and loads are considered.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Pro	duct st	age	proc	ruction cess age	Use stage					End-of-life stage				Resource recovery stage		
	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-Recovery-Recycling- potential
Module	A1	A2	A3	A4	A5	B1	B2	В3	В4	В5	B6	B7	C1	C2	C3	C4	D
Modules declared	х	х	х	х	х	ND	ND	ND	ND	ND	ND	ND	х	х	х	х	х
Geography	EU	EU	LT	EU	EU	ND	ND	ND	ND	ND	ND	ND	EU	EU	EU	EU	EU
Specific data used	> 90%			-	-	-	-	-	-	-	-	-	-	-	-		
Variation – products	<5%				-	-	-	-	-	-	-	-	-	-	-	-	
Variation – sites		NO	T RELE\	/ANT		-	-	-	-	-	-	-	-	-	-	-	-





Content information

The following table corresponds to the weighted average material content for the painted and non-painted hard fiberboard products.

Product Components	Weight, kg	Post-consumer material, weight	Biogenic material, weight-% and kg C/kg				
Wood Material	986 – 980	0,6%	100%, 0,43				
Paint	0-6	0%	0%				
Additives	14	0%	0%				
TOTAL	1000	0,6%	98,1%, 0,43				
Packaging materials	Weight, kg	Weight-% (versus the product)	Weight biogenic carbon, kg C/kg				
Packaging film	0,13	0%					
Wood pallet	35,05	3,5%	0,3				
Cardboard	0,06	0%	0,1				
Metal tape	0,69	0,1%	-				

No dangerous substances from the candidate list of SVHC are contained in the product.

Note: This EPD and its LCA study have been done considering two fiberboard products: unpainted and painted hard fiberboard, with the former representing 90% of fiberboard production and the latter 10%.

- Biogenic Carbon content in 1 declared unit of painted fiberboard.

Biogenic carbon content	Value (kg)
Carbon content in product	415,46
Carbon content in accompanying packaging	10,27

- Biogenic Carbon content in 1 declared unit of non-painted fiberboard.

Biogenic carbon content	Value (kg)
Carbon content in product	414,38
Carbon content in accompanying packaging	10,27



Results of the environmental performance indicators

Data results are now presented for the hard fiberboard product (weighted average for painted and non-painted products) in its declared unit of 1 metric ton.

wanuato	Results per declared unit												
			۲	cesults per o	declared un	lt							
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D				
GWP- fossil	kg CO ₂ eq.	1,4E+02	2,0E+02	4,4E+01	0,0E+00	7,8E+00	2,1E+02	0,0E+00	-6,0E+01				
GWP- biogenic	kg CO ₂ eq.	-1,6E+03	5,7E-02	5,9E+01	0,0E+00	2,4E-03	1,3E+03	1,0E+00	-2,2E+00				
GWP- luluc	kg CO ₂ eq.	1,8E+00	4,1E-03	7,0E-01	0,0E+00	1,5E-04	1,3E-03	0,0E+00	-3,0E-01				
GWP- total	kg CO ₂ eq.	-1,4E+03	2,0E+02	1,0E+02	0,0E+00	7,8E+00	1,6E+03	1,1E+00	-6,3E+01				
ODP	kg CFC 11 eq.	2,1E-06	4,1E-06	8,1E-07	0,0E+00	1,6E-07	5,7E-07	0,0E+00	-5,7E-06				
AP	mol H⁺ eq.	1,0E+00	1,1E+00	2,9E-01	0,0E+00	2,8E-02	3,0E-01	3,0E-06	-6,1E-01				
EP- freshwat er	kg P eq.	2,0E-02	1,5E-04	9,8E-03	0,0E+00	6,0E-06	1,1E-04	8,1E-07	-6,7E-03				
EP- marine	kg N eq.	3,1E-01	3,5E-01	1,2E-01	0,0E+00	1,2E-02	1,6E-01	1,0E-04	-1,9E-01				
EP- terrestrial	mol N eq.	3,7E+00	3,8E+00	1,3E+00	0,0E+00	1,3E-01	1,6E+00	7,6E-07	-1,9E+00				
POCP	kg NMVOC eq.	1,3E+00	1,2E+00	5,3E-01	0,0E+00	4,3E-02	3,9E-01	2,7E-04	-5,6E-01				
ADP- minerals &metals*	kg Sb eq.	1,8E-05	6,2E-06	4,4E-06	0,0E+00	2,6E-07	2,7E-06	0,0E+00	-1,6E-05				
ADP- fossil*	MJ	2,4E+03	2,6E+03	6,4E+02	0,0E+00	1,0E+02	1,3E+02	0,0E+00	-8,8E+02				
WDP*	m ³	-1,9E+02	-4,2E-01	1,1E+00	0,0E+00	-1,6E-02	0,0E+00	1,1E+00	-2,1E+02				
Acronyma	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 freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reac												

Mandatory impact category indicators according to EN 15804

Acronyms

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

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.





Additional mandatory and voluntary impact category indicators

Results per declared unit

Indicat	or Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP GHG	- kg CO ₂ eq.	1,5E+02	1,9E+02	6,1E-01	0,0E+00	7,5E+00	2,1E+02	7,5E-01	-6,2E+01

Resource use indicators

Results per declared unit										
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D	
PERE	MJ	4,3E+02	5,6E+00	4,0E+01	0,0E+00	2,3E-01	2,2E+00	0,0E+00	-6,6E+01	
PERM	MJ	1,7E+04	8,6E-01	1,0E+04	0,0E+00	3,6E-02	6,2E-01	0,0E+00	-8,7E+03	
PERT	MJ	1,7E+04	6,5E+00	1,0E+04	0,0E+00	2,7E-01	2,8E+00	0,0E+00	-8,8E+03	
PENRE	MJ	2,4E+03	2,6E+03	6,4E+02	0,0E+00	1,0E+02	1,3E+02	0,0E+00	-8,8E+02	
PENRM	MJ.	1,5E+00	7,2E-04	5,7E-01	0,0E+00	1,1E-05	7,0E-04	0,0E+00	-2,3E-01	
PENRT	MJ	2,4E+03	2,6E+03	6,4E+02	0,0E+00	1,0E+02	1,3E+02	0,0E+00	-8,8E+02	
SM	kg	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	
RSF	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	
NRSF	MJ	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	
FW	m³	-4,2E+00	6,5E-03	2,2E-01	0,0E+00	2,5E-04	0,0E+00	7,4E-02	-7,7E+00	

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; PENRM = Use of 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 resources; SM = Use of secondary material; RSF = Use of renewable secondary
fuels; NRSF = Use of non-renewable secondary fuels; FW = use of net fresh water





Waste indicators

Results per declared unit											
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D		
Hazardous waste disposed	kg	6,8E-03	1,6E-02	2,9E-03	0,0E+00	6,7E-04	2,5E-03	0,0E+00	-3,0E-03		
Non-hazardous waste disposed	kg	8,5E+00	1,3E-01	2,6E+00	0,0E+00	4,9E-03	6,4E+00	0,0E+00	-6,3E+00		
Radioactive waste disposed	kg	2,5E-03	2,1E-04	1,8E-03	0,0E+00	8,7E-06	4,9E-05	0,0E+00	-2,7E-03		

Output flow indicators

Results per functional or declared unit										
Indicator	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D	
Components for reuse	kg	0.0E+00								
Material for recycling	kg	6.3E-01	0.0E+00	7.5E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
Materials for energy recovery	kg	5.4E+00	0.0E+00	3.5E+01	0.0E+00	0.0E+00	9.2E+02	0.0E+00	0.0E+00	
Exported energy, electricity	MJ	0.0E+00	1.24E+04							
Exported energy, thermal	MJ	0.0E+00								

LCA Interpretation

Individual Life Cycle Assessments have been carried out for the Grigeo Baltwood UAB products to identify their environmental impact following the framework described in the ISO 14025 (2006), ISO 21930 (2007), and EN 15804:2012+A2:2019. Additionally, the PCR 2019:14 for construction products was followed during this study. The LCAs were performed for the painted and non-painted fiberboard products with a declared unit equal to 1 metric tonne of the product installed at the customer site.

The impact on the various environmental impact categories in the life cycle of declared unit of both fiberboard products is primarily driven by the production stage (A1-A3), with some exclusions where distribution module A4 also has significant impact, i.e. fossil resource use, ozone depletion etc. The production stage accounts for more than 50% of the impact in several impact categories, especially in water use and climate change – LULUC with more than 90% shares. At the climate change level, the fiberboard products deliver a total impact of 424 kg CO₂ eq/DU for the painted fiberboard and 399 kg CO₂ eq/DU for the non-painted one. The resulting value on climate change is driven mainly by the amount of biogenic carbon emitted from the incineration of the product sent in module C3.





Regarding primary energy demand, the transport of the product to the construction site (module A4) is the main contributor to the use of non-renewable energy. However, the raw material acquisition activities (module A1) have a higher share of impact on the overall primary energy consumption, including renewable and non-renewable energy.

The End-of-Life stage plays a small role in the environmental performance of the products (except in the climate change category), as it is assumed no energy is required for the demolition or dismantling of the fiberboard panels. However, module C3 significantly contributes to climate change, as the biogenic carbon stored in the product is modeled as released to the atmosphere once part of the product is incinerated.

Module D, accounting for benefits or loads beyond the system boundaries, greatly benefits most impact categories due to the potential benefit from the energy recovered from the wood-based material. The resulting impact in categories such as ozone depletion, resource use of minerals and metals, and water use in module D is negative (positive effect on the environment) as the energy exported prevents material use and harmful chemicals release otherwise occurring during business-as-usual heat production.

Additional social and economic information

Our company's business priorities are impeccable product quality, preservation of the environment, and the health and safety of our employees. Integrating certified management systems in our company is not just a formality but work carried out with complete dedication and responsibility.

- Grigeo Baltwood UAB has successfully operated with the ISO 9001 Quality Management System for over fifteen years. This system was adopted by the company in 1999. By actively maintaining and continuously improving it, the system guarantees the quality of production and efficient operation of the company.
- In 2012, the company implemented the ISO 14001 Environmental Management System, ensuring the continuous environmental performance of our company.
- In 2012, the company was awarded a FSC® Chain of Custody certificate (www.fsc.org/). This certifies that the products are made from wood purchased from responsibly managed forests, which combine environmental protection, social welfare, and long-term economic benefits.
- In 2016, the company implemented the OHSAS 18001:2007 Occupational Health and Safety Management Standard (ISO 45001 from 2021). This standard helps to ensure the company's occupational health and safety, reducing the likelihood of accidents at work and occupational morbidity.

Grigeo Baltwood UAB is part of the EFM organization (European Federation of MDF Manufacturers). Manufacturers using the wet-process system receive the NFB label for their products. This new natural product label certifies that the hardboard labeled with the NFB label complies with all European health and environmental standards. An NFB label on natural hardboard reassures consumers they have safe and health-friendly panels in their homes, furniture, and cars. Nfb-labeled hardboard is manufactured using natural wood fibers without any hazardous substances. The formaldehyde in the fiberboard is present in accordance with permissible amount (according to E1). NFB products are reusable and biodegradable.





Information related to Sector EPD

This EPD[®] is individual.

Differences versus previous versions

This document is the first version of EPD[®].





References

- General Programme Instructions of the International EPD[®] System. Version 4.0.
- PCR 2019:14. Construction Products. Version 1.2.5
- c-PCR-006 Wood and wood-based products for use in construction (EN 16485)
- EN 15804:2012+A2:2019 Sustainability of construction works. Environmental product Declarations. Core rules for the product category of construction products
- ISO 14040:2006: Environmental Management-Life Cycle Assessment-Principles and Framework
- ISO 14044:2006/Amd 2:2020 Environmental management. Life Cycle Assessment. Requirements and guidelines
- ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations. Principles and procedures
- Ecoinvent v3.9.1 Database
- C. Telmo, J. Lousada, Heating values of wood pellets from different species, Biomass and Bioenergy, Volume 35, Issue 7, 2011, Pages 2634-2639, ISSN 0961-9534, https://doi.org/10.1016/j.biombioe.2011.02.043.

