Statement of Verification

BREG EN EPD No: 000770 Issue: 01

This is to verify that the Environmental Product Declaration provided by:

Halspan Limited

are in accordance with the requirements of:

EN 15804:2012+A2:2019

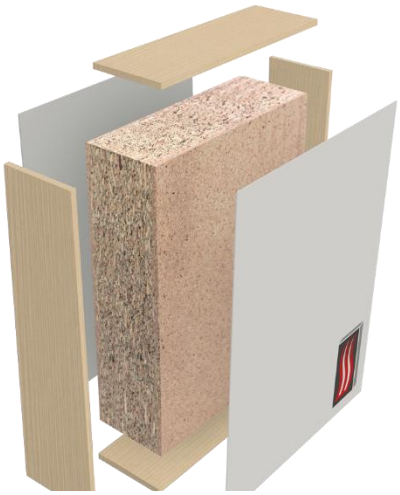
and

BRE Global Scheme Document SD207

This declaration is for:
1m^3 of particle board for Halspan 3-Layer Particleboard with an average density of 615 kg/m^3

Company Address

Halspan Limited
Regent House
Regent Centre
Linlithgow
EH49 7HU
United Kingdom



Signed for BRE Global Limited

Hayley Thomson
Operator

02 June 2026	02 June 2026	01 June 2031
Date of this Issue	Date of First Issue	Expiry Date

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Environmental Product Declaration

EPD Number: 000770

General Information

EPD Programme Operator	Applicable Product Category Rules
BRE Global Watford, Herts WD25 9XX United Kingdom	BRE Environmental Profiles 2025 Product Category Rules for Type III environmental product declaration of construction products to EN 15804+A2 PN 514 Rev 3.2
Commissioner of LCA study	**LCA consultant/Tool**
Halspan Limited Regent House Regent Centre Linlithgow EH49 7HU United Kingdom	Regina Poveda BRE LINA A2
Declared/Functional Unit	**Applicability/Coverage**
1m^3 of particle board for Halspan 3-Layer Particleboard with an average density of 615 kg/m3	Product Average.
EPD Type	**Background database**
Cradle to Gate with options	Ecoinvent 3.8

Demonstration of Verification
CEN standard EN 15804 serves as the core PCR [a]
Independent verification of the declaration and data according to EN ISO 14025:2010 ☒Internal ☐ External
(Where appropriate [b])Third party verifier: Kim Allbury
a: Product category rules b: Optional for business-to-business communication; mandatory for business-to-consumer communication (see EN ISO 14025:2010, 9.4)

Comparability
Environmental product declarations from different programmes may not be comparable if not compliant with EN 15804:2012+A2:2019. Comparability is further dependent on the specific product category rules, system boundaries and allocations, and background data sources. See Clause 5.3 of EN 15804:2012+A2:2019 for further guidance

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Information modules covered

Product			Construction		Use stage							End-of-life					Benefits and loads beyond the system boundary
					Related to the building fabric					Related to the building							
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		D
Raw materials supply	Transport	Manufacturing	Transport to site	Construction – Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction demolition	Transport	Waste processing	Disposal		Reuse, Recovery and/or Recycling potential
☑	☑	☑	☐	☑	☐	☐	☐	☐	☐	☐	☐	☑	☑	☑	☑		☑

Note: Ticks indicate the Information Modules declared.

Manufacturing site(s)

Pfleiderer Deutschland GmbH

Plant Neumarkt
Ingolstädter Str. 51,
92318 Neumarkt

Construction Product:

Product Description

Halspan 3-Layer Particleboard utilises a complex combination of chemical and engineering development. These blanks produce doors of altogether superior quality, strength and overall performance.

This LCA analysis is for the particleboards of Halspan 3-Layer Particleboard with an average density of 615 kg/m^3 and includes the variations of particle boards for fire door blanks, fire door blanks NAF, non-fire rated door blanks (NFR), non-fire rated door blanks NAF (NFR). It does not include the Fire door composite door blanks and Fire door composite door blanks NAF, since these have an additional component which is not measured in this EPD; however, these doors without that component have a similar density to the doors included in the EPD. The door designs are Prima, Prima Plus, Optima, Halspan, Veria, and Veria Plus. More information is available in the Annexes on page 17 and at Halspan website (https://www.halspan.com/door-cores/range/3-layer-particle-board).

The doors have different densities according to their thicknesses and internal board specifications for the end application. Moreover, the particleboards are manufactured using the same materials and following the same manufacturing process and have the same ex-factory moisture content of 6-12%. While the proportion of each raw material increases with the size of the door, the composition per cubic metre (m^3) remains consistent across the product range.

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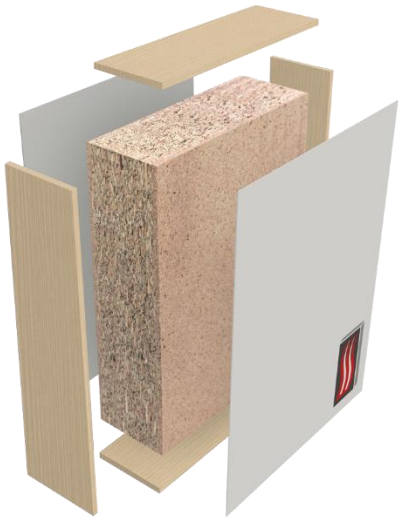
Technical Information

Halspan 3-Layer Particleboard

Property	Standard
Fire rating 30, 60, 90, 120	BS 476: Part 22, BS EN 1634-1 & BS EN 1363-1
Acoustic	BS EN ISO 10140-2:2010

Note: Technical information available in the Product Catalogues: Door Blanks & Cores Range Brochure. PP 04 – 27. https://www.halspan.com/resources/range/product-catalogues.



Main Product Contents

Material/Chemical Input	%
Recycled wood (Class II)	46.07%
Industrial roundwood	18.78%
Wood chips	13.54%
Wood particles	8.10%
Urea	6.78%
Water	4.70%
Other additives	2.03%

Note: The above product content is for all the products covered in this EPD.

Manufacturing Process

Wood raw materials from forest wood (industrial wood or forest wood chips), industrial wood waste (industrial wood waste, chips, wood flour) and recycled wood (reclaimed wood, bought from a supplier), initially prepared and dried, are used to produce raw particleboards. The fractions are sorted (partly before drying) and are mixed with binders before they are spread uniformly in horizontal layers and then subjected to pressure (pressed). The pressed boards or pressed endless board are cut and formatted (sized). During this process, wooden particles and wood waste are produced and sent to recycling for a third party.

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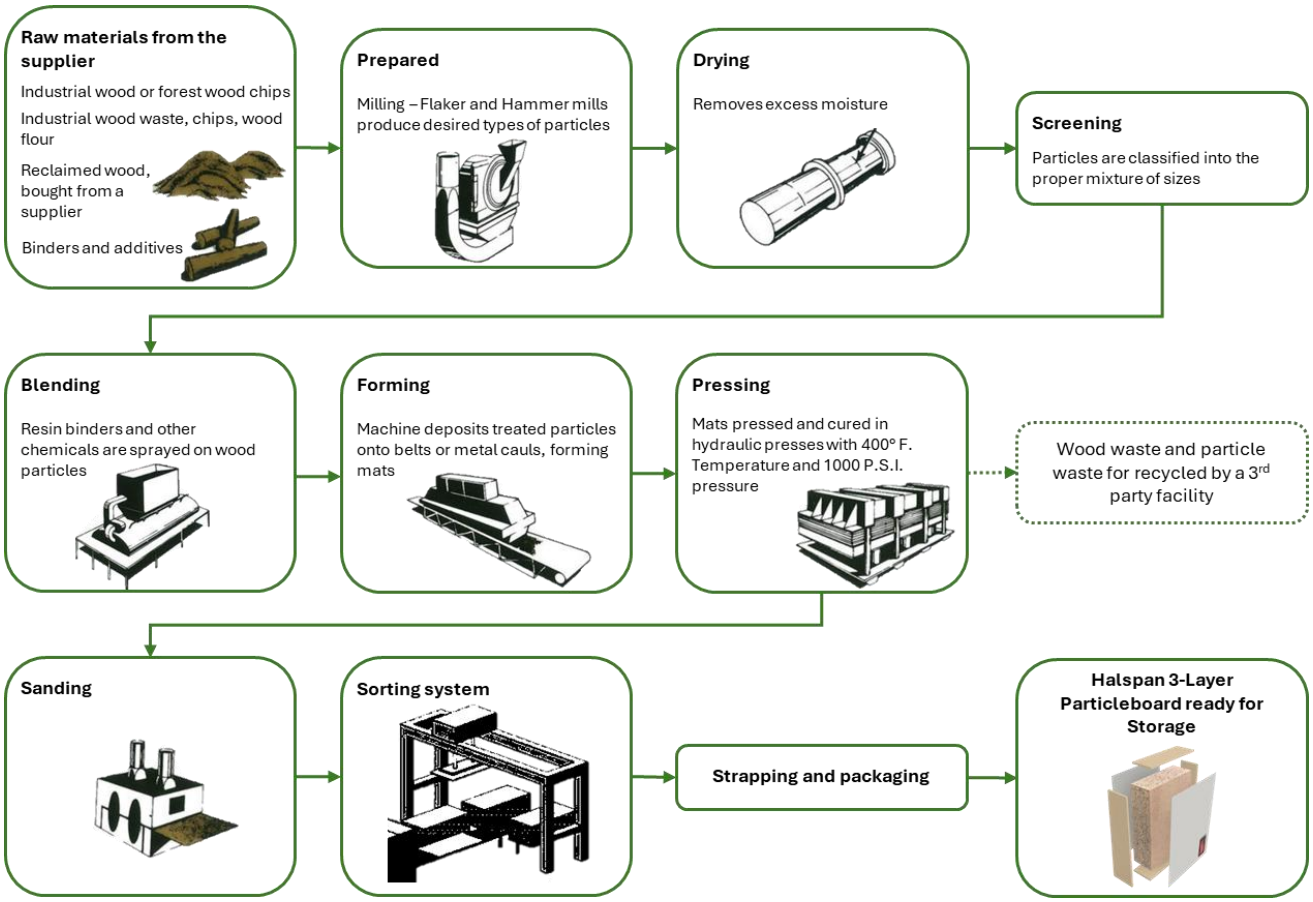
After the adhesives have fully hardened and cured, the boards are packed.

The energy used for production is sourced from Germany's national grid and biomass production.

Process flow diagram



Construction Installation

Module A5 has been declared. However, it only contains information on the disposal of the product packaging, with no details of the product's installation in the building. For this scenario, it is assumed that the packaging material produced as waste material is calculated based on the total m^3 supplied per declared unit, with end-of-life treatment accounted as sent to recycling in modules A3/A5 for biogenic carbon balance.

End of Life

The particle boards for Halspan 3-Layer Particleboard are made mainly of recycled wood (46.07%), the other raw materials are wood components, except for urea, water and other additives which altogether are 13.51% of the product. Currently, there is no process in place to deconstruct of the particleboards. Thus, an industrial average scenario End-of Life for Door leaf (solid), timber (softwood) has been used in accordance with EN 15804:2012+A2:2019 and BRE 2025 Product Category Rules (PN 514 Rev 3.2). i.e 68% incineration with energy recovery, 32% recycling.

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Life Cycle Assessment Calculation Rules

Declared / Functional unit description

1m^3 of particle board for Halspan 3-Layer Particleboard with an average density of 615 kg/m^3.

System boundary

The System boundary of the LCA study is defined using the modular approach set out in EN15804:2012+A2:2019 and BRE 2025, Product Category Rules (PN 514 Rev3.2). The LCA scope is Cradle to Gate with modules C and D, reporting Product Stage (A1-A3), End of Life (C1-C4) and Benefits and loads beyond System boundary (D).

Data sources, quality and allocation

Specific primary data derived from the particle boards of Halspan 3-Layer Particleboard production process in Pfleiderer Deutschland GmbH, Plant Neumarkt, Ingolstädter Str. 51, 92318 Neumarkt factory, have been collected covering a 12-month production data for all the 3-layer particleboards manufactured in the production facility from 01 January 2023 to 31 December 2023.

The door designs Prima, Prima Plus, Optima, Halspan, Veria, and Veria Plus belong to Halspan 3-Layer Particleboard doors category. The average density of these doors has been used to model the LCA results, based on 615kg/m^3.

This EPD covers the particle boards used to create Halspan 3-Layer Particleboard and accounts for 62.21% of total site production. Pfleiderer Deutschland GmbH unit manufactures other products in addition to Halspan-3 Layer Particleboard, so allocation of electricity, gas and water was done based on the total production output of the particle boards for Halspan-3 Layer Particleboard by m^3 according to the provisions of the BRE 2025 PCR PN514 Rev 3.2. and EN 15804:2012+A2:2019. The original data collection form has been used while doing an LCA analysis. Any wood waste and particle waste produced in the manufacturing process is sent to a third-party facility, where it is recycled. There is no uplift of the raw material as it is within tolerance.

Secondary data has been obtained from the upstream and downstream processes that are beyond the control of the manufacturer from ecoinvent 3.8 database.

Detailed quantities of the particle board for Halspan 3-Layer Particleboard production and the German-specific scenarios have been modelled using BRE LINA A2. All ecoinvent datasets are completed within the context used and conform to the system boundary and the criteria for the exclusion of inputs and outputs, according to the requirement specified in EN15804 + A2.

ISO14044 guidance. **Quality Level**	**Geographical representativeness**	**Technical representativeness**	**Time representativeness**
Very Good	Data from area under study.	Data from processes and products under study. Same state of technology applied as defined in goal and scope (i.e., identical technology).	There is approximately 2 years between the Ecoinvent LCI reference year, and the time period for which the LCA was undertaken.

Specific European datasets have been selected from the ecoinvent LCI for this LCA. The quality level of geographical and technical representativeness is therefore very good. The quality level of time representativeness is very good as the background LCI datasets are based on ecoinvent v3.8 which was compiled in 2021. Therefore, there is approximately 3 years between the ecoinvent LCI reference year and the time period for which the LCA was undertaken.

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Power mix is location-based. The manufacturer uses the German grid electricity and biomass; therefore, these electricity datasets have been used for the LCA modelling (Ecoinvent 3.8). The GWP carbon footprint for using 1 kWh of electricity in Germany kwh is 0.7539 kgCO2e/kWh, and for heat and power co-generation, wood chips are 0.01002 kgCO2eq.

Cut-off criteria

All inputs and outputs have been included, as have all raw materials, packaging, energy and fuels, water consumption, production wastes, and wastewater leaving the site; ancillary materials and emissions to air and water are not measured. Upstream extraction and/or processing of inputs are included within the use of background datasets within LINA.
This EPD includes only the particleboards used to manufacture Halspan-3 Layer Particleboard doors: Fire door-FD, Particle board fire door blanks NAF, Particle board non fire rated door blanks NFR, and Particle board non fire rated door blanks NAF (NFR). Any other Halspan-3 Layer particleboard doors are not included, since they have Magnesium oxide and Medium-density fiberboard added to the manufacturing of the full core. This explains the difference in door densities between the excluded doors.

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LCA Results

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts									
			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)^{3-}$ eq
Product stage	Raw material supply	A1	-3.59E+02	1.53E+02	-5.12E+02	3.07E-01	2.68E-05	8.24E-01	3.51E-02
	Transport	A2	1.99E+01	1.99E+01	1.69E-02	7.80E-03	4.60E-06	8.07E-02	1.28E-03
	Manufacturing	A3	2.23E+02	1.25E+02	9.51E+01	4.99E-01	1.36E-05	1.74E+00	1.45E-01
	Total (Consumption grid)	A1-3	-1.16E+02	2.99E+02	-4.17E+02	8.13E-01	4.50E-05	2.65E+00	1.81E-01
Construction process stage	Construction	A5	-1.15E-04	-9.75E-05	-1.65E-05	-9.21E-07	8.21E-12	-1.43E-06	-4.38E-07
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.02E+01	1.02E+01	8.71E-03	4.01E-03	2.37E-06	4.15E-02	6.58E-04
	Waste processing	C3	9.96E+02	7.83E+00	9.88E+02	5.86E-03	8.02E-07	2.18E-01	5.60E-03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.76E+02	-1.73E+02	-2.46E+00	-2.41E-01	-1.23E-05	-1.01E+00	-1.01E-01

GWP-total = Global warming potential, total;
GWP-fossil = Global warming potential, fossil;
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; and
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

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LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts

			EP-marine	EP-terrestrial	POCP	ADP-mineral &metal	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	1.38E-01	1.87E+00	5.27E-01	2.81E-03	3.51E+03	2.64E+02	7.15E-06
	Transport	A2	2.43E-02	2.65E-01	8.13E-02	6.91E-05	3.00E+02	1.35E+00	1.71E-06
	Manufacturing	A3	8.70E-01	7.62E+00	1.34E+00	4.45E-04	1.68E+03	6.29E+02	2.23E-05
	Total (Consumption grid)	A1-3	1.03E+00	9.76E+00	1.95E+00	3.33E-03	5.49E+03	8.94E+02	3.11E-05
Construction process stage	Construction	A5	1.38E-08	-6.17E-08	1.95E-07	4.91E-10	-6.39E-03	-2.67E-04	1.64E-11
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.25E-02	1.37E-01	4.18E-02	3.55E-05	1.55E+02	6.95E-01	8.82E-07
	Waste processing	C3	1.06E-01	1.14E+00	2.98E-01	2.69E-05	9.69E+01	1.53E+01	1.72E-06
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.56E-01	-1.54E+00	-4.40E-01	-1.36E-04	-2.82E+03	-7.76E+01	-8.36E-06

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, accumulated exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;
ADP-fossil = Depletion potential of the stratospheric ozone layer;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and
PM = Particulate matter.

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LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts							
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U^{235} eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	1.02E+01	2.77E+03	1.32E-06	2.33E-06	1.60E+04
	Transport	A2	1.54E+00	2.34E+02	7.59E-09	2.46E-07	2.06E+02
	Manufacturing	A3	2.22E+01	2.25E+04	3.10E-07	8.73E-06	2.94E+04
	Total (Consumption grid)	A1-3	3.39E+01	2.55E+04	1.64E-06	1.13E-05	4.56E+04
Construction process stage	Construction	A5	-2.61E-04	-2.07E-03	1.70E-13	-9.88E-13	1.31E-03
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	7.94E-01	1.21E+02	3.91E-09	1.26E-07	1.06E+02
	Waste processing	C3	1.14E+00	1.63E+02	2.02E-07	6.03E-07	2.44E+01
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-4.88E+01	-2.56E+03	-5.47E-08	-1.44E-06	-4.51E+03

IRP = Potential human exposure efficiency relative to U235;
ETP-fw = Potential comparative toxic unit for ecosystems;
HTP-c = Potential comparative toxic unit for humans;
HTP-nc = Potential comparative toxic unit for humans; and
SQP = Potential soil quality index.

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LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing resource use, primary energy

			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	6.58E+01	3.41E+03	3.47E+03	2.77E+03	7.29E+02	3.50E+03
	Transport	A2	4.23E+00	0.00E+00	4.23E+00	2.95E+02	0.00E+00	2.95E+02
	Manufacturing	A3	6.43E+03	7.17E+02	7.15E+03	1.60E+03	1.87E+01	1.62E+03
	Total (Consumption grid)	A1-3	6.50E+03	4.13E+03	1.06E+04	4.67E+03	7.48E+02	5.42E+03
Construction process stage	Construction	A5	-1.22E-02	1.41E-02	1.92E-03	-3.07E-02	4.25E-02	1.17E-02
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	2.18E+00	0.00E+00	2.18E+00	1.52E+02	0.00E+00	1.52E+02
	Waste processing	C3	-8.60E+03	8.60E+03	1.93E+00	8.06E+01	0.00E+00	8.06E+01
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-6.42E+01	-1.06E+03	-1.12E+03	-2.83E+03	0.00E+00	-2.83E+03

PERE = Use of renewable primary energy excluding renewable primary energy 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;
PENRT = Total use of non-renewable primary energy resource

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LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ net calorific value	MJ net calorific value	m^3
Product stage	Raw material supply	A1	4.10E-05	0.00E+00	0.00E+00	6.18E+00
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	3.35E-02
	Manufacturing	A3	6.37E-01	0.00E+00	0.00E+00	1.47E+01
	Total (Consumption grid)	A1-3	6.37E-01	0.00E+00	0.00E+00	2.09E+01
Construction process stage	Construction	A5	0.00E+00	0.00E+00	0.00E+00	-6.89E-06
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	1.72E-02
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	3.60E-01
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	-1.93E+00

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

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LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	7.95E+00	1.48E+02	4.81E-03
	Transport	A2	3.31E-01	5.88E+00	2.03E-03
	Manufacturing	A3	8.83E+00	6.35E+02	6.35E-03
	Total (Consumption grid)	A1-3	1.71E+01	7.90E+02	1.32E-02
Construction process stage	Construction	A5	5.71E-05	2.59E-03	8.26E-08
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	1.70E-01	3.03E+00	1.05E-03
	Waste processing	C3	3.54E+00	6.27E+02	1.48E-04
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	-1.13E+01	-6.07E+02	-1.47E-02

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

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LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Other environmental information describing output flows – at end of life						
			CRU	MFR	MER	EE
			kg	kg	kg	MJ per energy carrier
Product stage	Raw material supply	A1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	A2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Manufacturing	A3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Total (Consumption grid)	A1-3	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Construction process stage	Construction	A5	0.00E+00	2.86E-03	3.33E-11	0.00E+00
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	0.00E+00	0.00E+00	0.00E+00	2.19E+03
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse;
MFR = Materials for recycling

MER = Materials for energy recovery;
EE = Exported Energy

Biogenic carbon (product)	Biogenic carbon (packaging)
kg C	kg C
2.03E+02	4.94E-02

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Scenarios and additional technical information

Scenarios and additional technical information			
Scenario	Parameter	Units	Results
A5 - Construction	In this scenario, only the packaging waste is considered because of the biogenic carbon content.		
C1 - Deconstruction	The demolition approach employed for the building will differ considerably on a site-by-site basis due to its dependence on various factors, such as construction methodology and local geography. Due to the product's value, it is advised that the dismantling process is done manually and mechanically to facilitate material recovery. There are no impacts associated with this module. During the deconstruction of the wood, it is assumed that 100% will be recovered from the demolition site and it be sent to the waste processing facility.		
C2 - Transport	100 km by road has been modelled for module C2 as a typical distance from the demolition site to the incineration with energy recovery plant site. However, end-users of the EPD can use this information to calculate the impacts of a bespoke transport distance for module C2 if required		
	Transport distance	km	100
	Road transport Lorry	Metric ton	16-32
C3 – Waste processing	Since there is no specific End-of-Life scenario for Halspan 3-Layer Particleboard, an industrial average End-of-Life scenario has been used to model the LCA based on EN 15804:2012+A2:2019 and BRE 2025 Product Category Rules (PN 514 Rev 3.2). i.e Door leaf (solid), timber (softwood) 68% Incineration, 32% Recycling.		
	Wood waste to incineration	kg	418.2
	Wood waste to recycling	kg	196.8
C4 - Disposal	There are no landfill-waste emissions from the C1 to C3 stages. As a result, there are no impacts to module C4.		
Module D	Considering the assumptions made at the End-of-Life, 68% of waste wood will be incinerated in Europe, European without Switzerland datasets have been selected for heat and electricity. The dataset used to calculate the avoided impacts of heat and electricity consumption in a future system was 'Heat, district or industrial, other than natural gas {Europe without Switzerland}| market for heat, district or industrial, other than natural gas | EN15804, U', 'Heat, district or industrial, natural gas {Europe without Switzerland}| market for heat, district or industrial, natural gas | EN15804, U. ', 'Electricity, high voltage {Europe without Switzerland}| market group for electricity, high voltage | EN15804, U' all of them are from 2021. From the 32% of the wood waste that will go to recycling, only the virgin material will be considered. Therefore, the 46.07% of the recycled wood will be removed from the 32% and only the remaining 17.26% of the wood waste will count as benefits due to the recycling of wood waste.		
	Benefits due to incineration of waste wood	Kg	418.2
	Benefits due to recycling of waste wood	Kg	106

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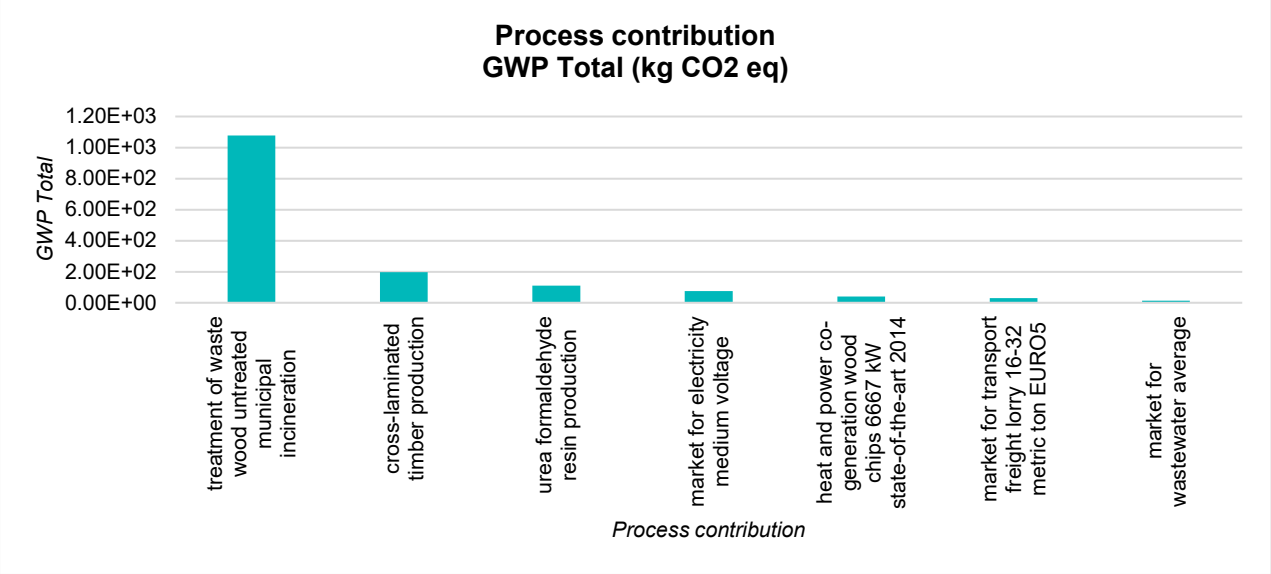
Interpretation of results

The bulk of environmental impacts is attributed to the Product Module covered by information modules A1-A3 of EN 15804:2012+A2:2019. i.e Manufacturing process. The GWP total for A3 is 2.23E+02 kg CO2 eq.

The GWP Total process contribution is shown in the table below, and it indicates that the major contributor is the incineration of waste wood, which accounts for 1.08E+03 kg CO2 eq.



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Annexes

The technical characteristics of each Halspan 3-Layer Particleboard are summaries on the table below.

	Dimensions		Weight	Density
Particle Board Fire Door Blanks				
Fire Doors - FD			kg/m2	kg/m3
Prima FD30 44mm	Single Doors 2900 x 1203mm 3317 x 1050mm	Double Doors 2900 x 1153mm 3342 x 928mm	27.7	630
Optima FD30 44mm	Single Doors 2135 x 1200mm 2800 x 915mm Single Doors 2438 x 1219mm	Double Doors 2135 x 1100mm 2600 x 910mm Double Doors 2438 x 1219mm	27.3	620
Prima FD60 54mm	Single Doors 2441 x 1384mm 3050 x 825mm	Double Doors 2300 x 1142mm 2850 x 825mm	34	630
Optima FD60 54mm	Single Doors 2441 x 1384mm 3050 x 825mm	Double Doors 2300 x 1142mm 2850 x 825mm	33.5	620
Halspan FD90 64mm	Single Doors 2800 x 1020mm 2856 x 1000mm	Double Doors 2150 x 940mm 2200 x 915mm	40.3	630
Particle Board Fire Door Blanks NAF				
Prima Plus FD30 44mm	Single Doors 2040 x 1080mm 2428 x 900mm	Double Doors 2040 x 1030mm 2328 x 900mm	27	630
Prima Plus FD60 54mm	Single Doors 2039 x 901mm 2189 x 826mm	Double Doors 2039 x 851mm 2089 x 826mm	34	630
Particle Board Non-Fire Rated Door Blanks (NFR)				
Veria 44mm	Standard Supplied Sizes (Alternative size/thickness on request) 2135 x 915mm 2440 x 1220mm		25.5	550
Particle Board Non-Fire Rated Door Blanks NAF (NFR)				
Veria Plus NFR 44mm	Standard Supplied Sizes (Alternative size/thickness on request) 2135 x 915mm 2440 x 1220mm		25.5	600
Fire Door Composite Door Blanks *				
Halspan FD120 60mm	Single Doors 2395 x 1024mm 2665 x 915mm	Double Doors 2395 x 999mm 2615 x 915mm	48	800
Fire Door Composite Door Blanks NAF *				
Prima Plus FD90 62mm	Single Doors 2400 x 1297mm 3103 x 1000mm	Double Doors 2400 x 1272mm 3050 x 1000mm	46	744
Prima Plus FD120 62mm	Single Doors 2400 x 1105mm 2640 x 1000mm	Double Doors 2400 x 1080mm 2590 x 1000mm	47	744

** Note: Fire Door Composite Door Blanks and Fire Door Composite Door Blanks NAF are not included in this LCA analysis, because manufacturing the full core requires additional inputs, which are not measured in this analysis.*

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