

**Environmental
Product
Declaration**

According to EN15804+A2 (+indicators A1)

This declaration is for:
binderholz glued laminated timber GLT

Provided by:
Binderholz GmbH



MRPI® registration:
1.1.00974.2025

Program operator:
Stichting MRPI®
Publisher:
Stichting MRPI®
www.mrpi.nl

Date of first issue:
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13-9-2030

COMPANY INFORMATION

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MRPI® REGISTRATION

1.1.00974.2025

DATE OF THIS ISSUE

13-9-2025

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SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by Tim Mol, Eco Review. The LCA study has been done by Varun Ravikumar & Odile Koenders, SGS Search. The certificate is based on an LCA-dossier according to EN15804+A2 (+indicators A1). It is verified according to the 'MRPI®-EPD verification protocol November 2020.v4.0'. EPDs of construction products may not be comparable if they do not comply with EN15804+A2. Declaration of SVHC that are listed on the 'Candidate list of Substances of Very High Concern for authorisation' when content exceeds the limits for registration with ECHA.

PROGRAM OPERATOR

Stichting MRPI®
Kingsfordweg 151
1043 GR
Amsterdam

PRODUCT

binderholz glued laminated timber GLT

DECLARED UNIT / FUNCTIONAL UNIT

1 Volume (m3)

DESCRIPTION OF PRODUCT

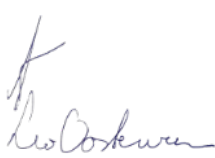
binderholz glued laminated timber GLT is a solid, bar-shaped wooden component. It consists of at least three grain-parallel lamella glued to each other and is produced in accordance with EN 14080.

VISUAL PRODUCT



MORE INFORMATION

<https://www.binderholz.com/en-us/products/glulam/>

Ing. L. L. Oosterveen MSc. MBA Managing Director MRPI	DEMONSTRATION OF VERIFICATION
	CEN standard EN15804 serves as the core PCR [1]
	Independent verification of the declaration and data according to EN15804+A2 (+indicators A1) Internal: External: X
	Third party verifier: Tim Mol, Eco Review 
	[1] PCR = Product Category Rules

DETAILED PRODUCT DESCRIPTION

Production

binderholz glued laminated timber GLT is made from at least three grain-parallel softwood lamellae. Each lamella is first dried in a kiln and sorted for strength.

Kiln-dried softwood lamellae with 9-14 % wood moisture are used after mechanical sorting according to their strength and joined by finger-jointing to form practically endlessly long lamellae, which are then trimmed, planed and bonded to form glulam beams in accordance with the length ordered. Two-component melamine urea formaldehyde glues (MUF glues) are used for finger jointing and surface bonding. PUR glues can also be used for finger jointing.

When the glue has cured completely, the timber surface is subjected to a final machining process and the custom-tailored trimming process. Impregnation with wood preservatives is possible depending on the purpose for which binderholz GLT is used.

Delivery

binderholz glued laminated timber GLT is manufactured in visible and non-visible qualities, as standard or consignment product and comes in specific sizes and setups. With the trimming options offered, binderholz GLT can be provided in the following sizes up to lot size 1:

binderholz GLT Standard

Width range: 60 to 280 mm

Height range: up to 1,280 mm

Length range: 6.00 to 18.00 m

binderholz GLT Ceiling elements

Standard widths: 600 and 1000 mm, special width range 240 mm and up

Height and thickness range: 60 to 280 mm

Length range: 6.00 to 18.00 m

binderholz GLT Special elements

Width range: 120 to 480 mm

Height range: up to 2,000 mm

Length range: 6.00 to 32.5 m

binderholz glued laminated timber GLT is delivered with a wood moisture content of 9-14 %.

Use stage

binderholz glued laminated timber GLT is used for all areas of up-to-date wood structures, from engineered residential and industrial constructions to bridge building. The components indicated apply for the composition during the period of use. Around 189.4 kg of carbon are bound in one m³ of binderholz GLT with a moisture content of 11 % while in use. This corresponds to a full oxidation of around 694,5 kg CO₂ equivalent.

No risks to water, air, and soil can arise if binderholz glued laminated timber GLT is used as intended. No health damage or adverse effects are to be expected based on current knowledge. With regard to formaldehyde, binderholz GLT is to be considered low in emission, due to the low adhesive content, the product's structure, and its type of use (formaldehyde emission class E1 according to EN 14080).

Glulam has been used in the building industry for over a hundred years. Accordingly, no end to the durability of binderholz GLT is known or to be expected if it is used according to its purpose. Therefore, the useful life of binderholz GLT is assumed to be identical to the overall useful life of the respective building, with the proviso of use for the intended purpose. Age-related impacts on binderholz GLT may result from its use according to the rules of engineering.

Due to its monolithic structure, binderholz glued laminated timber GLT can be reused or used for other purposes without any problem if it is selectively dismantled. If it cannot be reused as such, binderholz GLT can be used for generating process heat and electricity in thermal utilisation thanks to its high thermal value of 16,427 MJ/kg.

Detailed information is available at www.binderholz.com.

Component (> 1%)	(%)
Wood	95-100%
Adhesives	0-5%

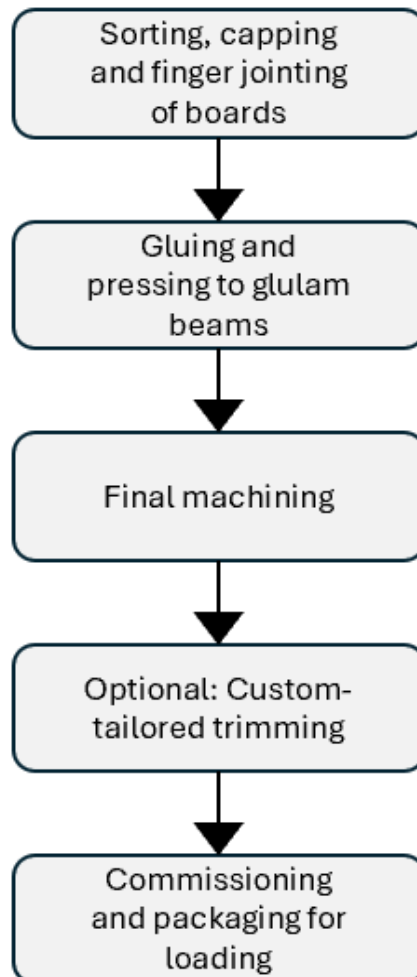
SCOPE AND TYPE

This EPD is based on a Cradle-to-Grave study of Glulam for building construction. This product is produced by Binderholz GmbH in Binderholz Glulam factory in Jenbach, Austria. The LCA is based on production data from Binderholz from 2024 and modeled in SimaPro 9.5. Furthermore, this EPD is not according to the NMD Assessment Method. However, it is drawn on the basis of the NMD Assessment Method version 1.2 [1] except for module D where it deviates from NMD assessment method. This document describes a standard operating procedure for drawing up an LCA of a Dutch construction product, in addition to the NEN EN15804 [2], ISO 14040 [3], ISO 14044 [4] and ISO14025 [5]. For this study, background data from the ecoinvent 3.6 database was selected.

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport gate to site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse - Recovery - Recycling potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

X = Modules Assessed

ND = Not Declared



ENVIRONMENTAL IMPACT per functional unit or declared unit (indicators A1)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADPE	kg Sb eq.	0,00E+00	0,00E+00	0,00E+00	6,95E-04	1,48E-04	3,14E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,76E-05	2,19E-05	2,50E-06	-3,12E-04
ADPF	MJ	0,00E+00	0,00E+00	0,00E+00	2,87E-01	9,31E-02	4,62E-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	2,18E-02	2,04E-02	2,68E-03	-1,87E+00
GWP	kg CO2 eq.	0,00E+00	0,00E+00	0,00E+00	3,80E+01	1,30E+01	9,23E+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	2,98E+00	1,06E+01	1,69E+00	-2,33E+02
ODP	kg CFC11 eq.	0,00E+00	0,00E+00	0,00E+00	5,55E-06	1,54E-06	4,56E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,52E-07	4,44E-07	5,85E-08	-1,48E-05
POCP	kg ethene eq.	0,00E+00	0,00E+00	0,00E+00	1,42E-01	6,73E-03	2,63E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,79E-03	1,44E-02	5,24E-04	-4,18E-02
AP	kg SO2 eq.	0,00E+00	0,00E+00	0,00E+00	1,59E-01	5,88E-02	1,56E-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	1,28E-02	7,63E-02	1,54E-03	-1,94E-01
EP	kg (PO4) 3 eq.	0,00E+00	0,00E+00	0,00E+00	5,78E-02	8,57E-03	3,53E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,56E-03	1,97E-02	6,69E-04	-3,90E-02

ADPE	=	Abiotic Depletion Potential for non-fossil resources
ADPF	=	Abiotic Depletion Potential for fossil resources
GWP	=	Global Warming Potential
ODP	=	Depletion potential of the stratospheric ozone layer
POCP	=	Formation potential of tropospheric ozone photochemical oxidants
AP	=	Acidification Potential of land and water
EP	=	Eutrophication Potential

ENVIRONMENTAL IMPACT per functional unit or declared unit (core indicators A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO2 eq.	0,00E+00	0,00E+00	0,00E+00	4,00E+01	1,32E+01	9,35E+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	3,00E+00	1,08E+01	2,15E+00	-2,36E+02
GWP-fossil	kg CO2 eq.	0,00E+00	0,00E+00	0,00E+00	3,85E+01	1,31E+01	9,29E+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	3,00E+00	1,06E+01	3,18E-01	-2,36E+02
GWP-biogenic	kg CO2 eq.	0,00E+00	0,00E+00	0,00E+00	-6,94E+02	4,80E-02	6,25E-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	1,29E-03	6,60E+02	3,66E+01	0,00E+00
GWP-luluc	kg CO2 eq.	0,00E+00	0,00E+00	0,00E+00	1,01E+00	2,08E-02	1,20E-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	1,06E-03	1,79E-03	1,09E-04	-1,17E-01
ODP	kg CFC11 eq.	0,00E+00	0,00E+00	0,00E+00	6,74E-06	1,59E-06	5,02E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,91E-07	4,71E-07	7,30E-08	-1,56E-05
AP	mol H+ eq.	0,00E+00	0,00E+00	0,00E+00	2,12E-01	7,26E-02	2,03E-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	1,71E-02	1,12E-01	2,03E-03	-1,81E-01
EP-fresh water	kg PO4 eq.	0,00E+00	0,00E+00	0,00E+00	6,83E-03	7,89E-04	3,65E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,47E-05	1,06E-04	4,87E-06	-1,06E-02
EP-marine	kg N eq.	0,00E+00	0,00E+00	0,00E+00	6,16E-02	1,51E-02	5,61E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,11E-03	5,15E-02	1,39E-03	-4,65E-02
EP-terrestrial	mol N eq.	0,00E+00	0,00E+00	0,00E+00	7,17E-01	1,73E-01	6,54E-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	6,74E-02	5,90E-01	7,52E-03	5,26E-02
POCP	kg NMVOC eq.	0,00E+00	0,00E+00	0,00E+00	4,14E-01	5,10E-02	1,90E-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	1,93E-02	1,54E-01	2,69E-03	-2,02E-01
ADP-minerals & metals	kg Sb eq.	0,00E+00	0,00E+00	0,00E+00	6,94E-04	1,48E-04	3,14E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,76E-05	2,19E-05	2,50E-06	-3,12E-04
ADP-fossil	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	5,89E+02	2,15E+02	8,49E+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	4,60E+01	4,05E+01	5,56E+00	-3,35E+03
WDP	m3 world eq. Deprived	0,00E+00	0,00E+00	0,00E+00	2,06E+01	2,27E+00	7,72E-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	1,41E-01	1,28E+00	2,32E-01	-2,62E+01

GWP-total	=	Global Warming Potential total
GWP-fossil	=	Global Warming Potential fossil fuels
GWP-biogenic	=	Global Warming Potential biogenic total
GWP-luluc	=	Global Warming Potential land use and land use change
ODP	=	Depletion potential of the stratospheric ozone layer
AP	=	Acidification Potential, Accumulated Exceedence
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 Exceedence
POCP	=	Formation potential of tropospheric ozone photochemical oxidants
ADP-minerals & metals	=	Abiotic Depletion Potential for non-fossil resources [1]
ADP-fossil	=	Abiotic Depletion for fossil resources potential [1]
WDP	=	Water (user) deprivation potential, deprivation-weighted water consumption [1]

Disclaimer [1]:

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

ENVIRONMENTAL IMPACT per functional unit or declared unit (additional indicators A2)

Unit		A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PM	Disease incidence	0,00E+00	0,00E+00	0,00E+00	3,16E-06	6,87E-07	1,03E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,71E-07	8,92E-07	3,83E-08	-5,77E-07
IRP	kBq U235 eq.	0,00E+00	0,00E+00	0,00E+00	2,11E+00	1,37E+00	2,20E-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	2,01E-01	1,50E-01	2,22E-02	-5,42E+00
ETP-fw	CTUe	0,00E+00	0,00E+00	0,00E+00	1,09E+03	2,24E+02	8,81E+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	3,74E+01	1,03E+02	5,41E+00	3,25E+03
HTP-c	CTUh	0,00E+00	0,00E+00	0,00E+00	4,50E-08	1,31E-08	4,19E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,33E-09	1,04E-07	1,50E-10	-3,33E-08
HTP-nc	CTUh	0,00E+00	0,00E+00	0,00E+00	1,20E-06	2,48E-07	7,06E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,46E-08	3,42E-07	5,91E-09	-1,13E-06
SQP	-	0,00E+00	0,00E+00	0,00E+00	3,95E+04	1,77E+02	4,16E+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	3,94E+01	1,23E+01	1,32E+01	-4,82E+03

- PM = Potential incidence of disease due to PM emissions
- IRP = Potential Human exposure efficiency relative to U235 [1]
- ETP-fw = Potential Comparative Toxic Unit for ecosystems [2]
- HTP-c = Potential Comparative Toxic Unit for humans, cancer [2]
- HTP-nc = Potential Comparative Toxic Unit for humans, non-cancer [2]
- SQP = Potential soil quality index [2]

Disclaimer [1]:

- This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste.

Disclaimer [2]:

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

OUTPUT FLOWS AND WASTE CATEGORIES per functional unit or declared unit (A1 en A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	kg	0,00E+00	0,00E+00	0,00E+00	2,11E-03	3,16E-04	1,08E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,18E-04	9,75E-05	8,52E-06	-2,75E-03
NHWD	kg	0,00E+00	0,00E+00	0,00E+00	1,60E+01	6,23E+00	7,44E-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	2,85E+00	2,38E+00	2,23E+01	-8,49E+00
RWD	kg	0,00E+00	0,00E+00	0,00E+00	2,94E-03	1,33E-03	2,56E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,13E-04	1,54E-04	3,35E-05	-5,58E-03
CRU	kg	0,00E+00	0,00E+00	0,00E+00	7,30E+00	0,00E+00	2,17E-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	2,17E+01	0,00E+00	0,00E+00
MFR	kg	0,00E+00	0,00E+00	0,00E+00	1,46E+01	0,00E+00	4,33E-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	4,33E+01	0,00E+00	0,00E+00
MER	kg	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	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	-3,47E+02	0,00E+00	2,89E+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	1,03E+03	0,00E+00	0,00E+00
ETE	MJ	0,00E+00	0,00E+00	0,00E+00	-5,98E+02	0,00E+00	4,98E+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	1,77E+03	0,00E+00	0,00E+00

HWD = Hazardous Waste Disposed
 NHWD = Non Hazardous Waste Disposed
 RWD = Radioactive Waste Disposed
 CRU = Components for reuse
 MFR = Materials for recycling
 MER = Materials for energy recovery
 EEE = Exported Electrical Energy
 ETE = Exported Thermal Energy

RESOURCE USE per functional unit or declared unit (A1 and A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	0,00E+00	0,00E+00	0,00E+00	-7,07E+03	0,00E+00	-7,04E+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	0,00E+00
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	7,07E+03	0,00E+00	7,04E+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	0,00E+00
PERT	MJ	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	0,00E+00
PENRE	MJ	0,00E+00	0,00E+00	0,00E+00	5,01E+02	2,27E+02	1,31E+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	4,89E+01	4,34E+01	5,91E+00	0,00E+00
PENRM	MJ	0,00E+00	0,00E+00	0,00E+00	1,29E+02	0,00E+00	-4,00E+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	0,00E+00
PENRT	MJ	0,00E+00	0,00E+00	0,00E+00	6,30E+02	2,27E+02	9,07E+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	4,89E+01	4,34E+01	5,91E+00	-3,62E+03
SM	kg	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	0,00E+00
RSF	MJ	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	0,00E+00
NSRF	MJ	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	0,00E+00
FW	m3	0,00E+00	0,00E+00	0,00E+00	1,18E+00	1,30E-01	5,60E-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	5,21E-03	1,79E-01	5,87E-03	-1,59E+00

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 resources excluding non-renewable 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 materials
RSF	=	Use of renewable secondary fuels
NSRF	=	Use of non-renewable secondary fuels
FW	=	Use of net fresh water

BIOGENIC CARBON CONTENT per functional unit or declared unit (A1 and A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
BBCpr	kg C	0,00E+00	0,00E+00	0,00E+00	1,89E+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	0,00E+00	0,00E+00	0,00E+00
BCCpa	kg C	0,00E+00	0,00E+00	0,00E+00	6,06E-03	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

BCCpr	=	Biogenic carbon content in product
BCCpa	=	Biogenic carbon content in packaging

CALCULATION RULES

Declared unit
1m3

Data collection

Input and output data have been provided by binderholz for the year 2024 for the following categories of data:

- Materials (raw materials and auxiliary materials);
- Energy (electricity and heat);
- Emissions to air, water and soil.

Waste and other economic flows have also been included in the data collection.

Allocation

For allocation, the principles of EN 15804 have been followed. Different types of products are produced at the production site. Since the production processes of these products are similar, energy use is attributed to different products based on annual production and weight per cubic meter. Material inputs are known per product and directly attributed to the products in question. During the production of the GLT, other products are produced as well. An economic allocation is done to attribute the impact of the production to the respective products in modules A1, A2 and A3.

Cut-off

This LCA contains all relevant data. The following processes are not included in this LCA:

- Assumed is that the maintenance and use of auxiliary equipment have a negligible contribution to the total (<1%). Because of this, these processes are not taken in account in this LCA, except such processes that are included in the Ecoinvent background data.
- Assumed is that the capital goods and infrastructure processes have a negligible contribution. These processes are not taken in account in this LCA, except such processes that are included in the Ecoinvent background data.

There is no reason to believe that relevant in- or outputs are excluded from this study.

Data quality level and criteria from the Product Environmental Footprint Category Rules

Representativeness	Quality level	Remarks
Geographical Representativeness	Very good	Data used is obtained from the area under study
Technical Representativeness	Good	The collected data directly relates to the manufacturing site, processes and product of the study.
Time Representativeness	Good	<2 year difference The production data has been collected for reference year 2023. This data was the most recent data available at the time of conducting the LCA study.

Energy modelling

Binderholz purchases green electricity from its energy supplier. The supplier-specific consumption data has been applied for the electricity use in the EPD.

Upstream energy	Energy dataset	GWP (kg CO2e/kWh)	Share in stage A1-3 (%)
Electricity	Consumption mix	0,0387	5%

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

A1. Supply of raw materials

This module declares the sourcing and processing of all raw materials and energy that take place upstream of the production process. Materials used in the production were modelled using the ecoinvent database and data from binderholz, as well as raw material data from the suppliers.

A2. Transportation of raw materials to manufacturer

This includes the transport distance of the raw materials to binderholz's production facility.

A3. Production

This module covers the production process and includes all processes related to production. The use of energy, the generation of waste, and direct emissions from the production process are taken into account.

A4. Transport to project location

The products are transported to the project location by train for the first 90% of the distance and rest by truck. Because these locations are located throughout the country (the Netherlands), the starting point is from production location to Utrecht.

Transport	Distance (km)
Lorry >32 metric ton, EURO6	94,5
Train, electric	850,5

A5. Construction and installation process

This module includes the processing of packaging waste and the production and processing of installation losses as well as energy required for installation.

B1-7. Usage phase

The product as assessed for this EPD does not require any maintenance during the use phase.

C1. De-construction demolition

The product uninstallation process uses no or very little energy, therefore the impact in this module is considered negligible.

C2. Transport to waste processing

This module includes transportation to the waste treatment facility. Default distances from the NMD Assessment scenario for wood is used. It is considered that 10% of the material is recycled, 5% reused, 80% incinerated and 5% landfilled.

C3. Waste management

In the end-of-life stage the products are partly incinerated, sent to landfill, recycled and reused. The default NMD end-of-life scenario for beams and planks (#34) is used.

C4. Final waste processing

Includes the final waste processing by means of landfill.

Transport	Distance (km)
Recycling	50
Landfill	50
Incineration	100

D. Income and expenditure beyond the system boundaries

In module D, the avoided production of material through recycling and avoided production of electricity and heat through incineration are included in this module.

The material that is recycled is believed to replace raw wood. The material that is incinerated is based on the lower calorific value of the material and the average efficiency of waste incineration plants in the Netherlands, namely 18% electricity and 31% heat. For the avoided energy consumption, a distinction is made between energy from biomass and fossil raw materials.

The heat recovery process in Module D for heat recovery from wood incineration uses heat replaced by burning natural gas instead of incineration of wood chips and deviates from the NMD determination method.

DECLARATION OF SVHC

No substances of very high concern are present in concentrations greater than 0.1% by weight in the product

REFERENCES

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- [2] EN 15804:2012+A2:2019 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.
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