Environmental
Product
Declaration

According to ISO14025+EN15804 A2 (+indicators A1)

This declaration is for:
Particleboard

Provided by:
Centrum Hout

MRPI® registration:
1.1.01249.2026

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

Date of first issue:
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10-7-2031

COMPANY INFORMATION

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MRPI® REGISTRATION

1.1.01249.2026

DATE OF THIS ISSUE

10-7-2026

EXPIRY DATE

10-7-2031

SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by Fred van der Burgh, Agrodome B.V.. The LCA study has been done by Odile Koenders & Martijn van Hövell, SGS Search. The certificate is based on an LCA-dossier according to ISO14025+EN15804 A2 (+indicators A1). It is verified according to the 'Verification protocol for MRPI LCA project report & EPD 21th of May 2025, V. 5.2'. 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

Particleboard

DECLARED UNIT / FUNCTIONAL UNIT

1 m^3

DESCRIPTION OF PRODUCT

This EPD is representative for the particleboards of the categories P1, P2, P3, P4, P5, P6 and P7. Particle boards exist out of small chipped wood which are adhered by an adhesive.

VISUAL PRODUCT

MORE INFORMATION

www.centrumhout.nl

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 ISO14025+EN15804 A2 (+indicators A1) Internal: External: X
	Third party verifier: Fred van der Burgh, Agrodome B.V.
	[1] PCR = Product Category Rules

DETAILED PRODUCT DESCRIPTION

This is a market average EPD for particleboard.

Particle boards exist out of small chipped wood which are combined together with an adhesive. The production process starts with the debarking of the round wood logs. Then the logs are chipped and dried. The dried chips are sorted by sifting out oversized and undersized chips. When the correct length of chips remains, they are coated with a layer of adhesives. The coated chips are scattered onto a conveyor, from here on two different processes could happen. One process is the cutting of boards and then pressing the boards together, to finalize the boards, the boards are cut to size. The other process starts with the pressing of the boards in a continue press under high pressure and heat. The boards are then cut to size. Both boards need to acclimate before they are ready to be packed.

The RSL is 100 years for indoor applications, for other applications it is 75 years.

Technical specification	Amount	Unit
Density	658	kg/m3
Moisture content	7	%
Max thickness	38	mm
Min thickness	8	mm

Below the packaging material.

Packaging material	Amount	Unit
Wood	3,1	kg
Plastic	0,5	kg
Cardboard	1,1	kg
Steel	0,5	kg

Biogenic carbon content
Information on the biogenic carbon content of the glued lamintaed timber GLT is provided in the table below. Note that 1 kg of biogenic carbon is equivalent to 44 / 12 kg of CO2.

Biogenic carbon content	Unit	Amount of uptake per functional unit
Biogenic carbon content in product	kg C	264,7
Biogenic carbon content in accompanying packaging	kg C	1,8

Component (> 1%)	(%)
Wood	87%
Adhesives	13%

SCOPE AND TYPE

The dataset is an average EPD for particleboard. It is transported, installed and disposed of in the Netherlands.The scope of the EPD is cradle-to-grave and module D.

This EPD is according to the NMD Assessment Method version 1.2 [1]. 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].

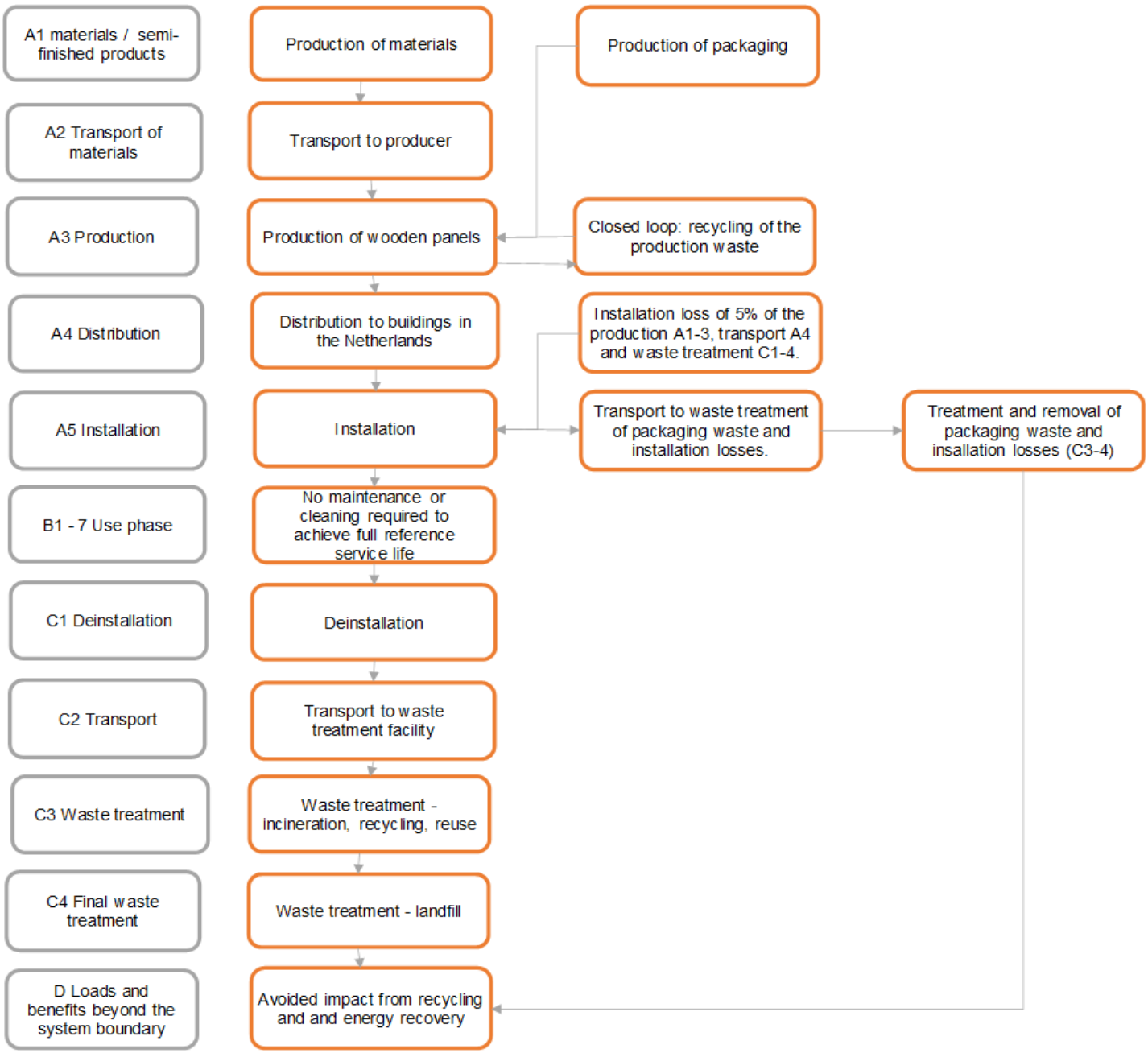
For this study, background data for the EN15804+A1 results are from the ecoinvent 3.6 database, released on 12 September 2019. The results are characterised with the EF 3.0 method.
The EN15804+A2 results are from the ecoinvent 3.9.1 database, released on 15 December 2022. The results are characterised with the EF 3.1 method.

LCA software SimaPro 10.2.0.2 has been used.

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



REPRESENTATIVENESS

The EPD is representative for particleboard of the Dutch market. A representative market coverage has been achieved in line with the requirements of NMD Assessment Method v1.2. When needed, worst-case assumptions have been made to complement production data.

The production process differs little between manufacturers. The main variations are found in the types of adhesives used, wood species, and minor differences in composition and density of the panels. At least one producer from each major geographical region in Europe and at least one producer for specific wood species are included.

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.	ND	ND	ND	8,38E-03	5,49E-04	3,10E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,09E-06	2,15E-04	2,63E-04	5,98E-06	-8,59E-04
ADPF	MJ	ND	ND	ND	7,07E+03	4,96E+02	3,77E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,54E+01	1,26E+02	2,53E+02	1,33E+01	-1,47E+03
GWP	kg CO2 eq.	ND	ND	ND	3,68E+02	3,20E+01	2,50E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,91E+00	8,25E+00	1,02E+02	4,18E+00	-8,46E+01
ODP	kg CFC11 eq.	ND	ND	ND	4,81E-05	6,05E-06	9,92E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,86E-07	1,53E-06	3,70E-06	1,38E-07	-1,27E-05
POCP	kg ethene eq.	ND	ND	ND	5,72E-01	1,95E-02	2,94E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,20E-03	4,95E-03	1,86E-02	1,26E-03	-9,24E-02
AP	kg SO2 eq.	ND	ND	ND	1,95E+00	8,49E-02	9,62E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,33E-02	3,55E-02	1,20E-01	3,69E-03	-4,82E-01
EP	kg (PO4) 3 eq.	ND	ND	ND	3,26E-01	1,41E-02	2,18E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,63E-03	7,09E-03	2,41E-02	1,56E-03	-1,31E-01

Toxicity indicators and ECI (Dutch market)

HTP	kg DCB eq.	ND	ND	ND	2,12E+02	6,87E+00	1,14E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,19E+00	3,53E+00	2,31E+01	3,56E-01	-4,28E+01
FAETP	kg DCB eq.	ND	ND	ND	8,65E+00	2,89E-01	1,40E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,30E-02	1,03E-01	5,05E-01	3,67E-02	-1,10E+00
MAETP	kg DCB eq.	ND	ND	ND	1,88E+04	7,82E+02	8,99E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,61E+01	3,69E+02	1,45E+03	5,36E+01	-2,07E+03
TETP	kg DCB eq.	ND	ND	ND	1,13E+00	3,88E-02	6,05E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,16E-02	1,25E-02	6,12E-02	1,12E-03	-2,69E-01
ECI	euro	ND	ND	ND	5,21E+01	2,85E+00	3,08E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,95E-01	9,97E-01	8,07E+00	2,80E-01	-1,18E+01
ADPF	kg Sb eq.	ND	ND	ND	3,40E+00	2,38E-01	1,81E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,67E-02	6,06E-02	1,21E-01	6,42E-03	-7,08E-01

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
HTP = Human Toxicity Potential
FAETP = Fresh water aquatic ecotoxicity potential
MAETP = Marine aquatic ecotoxicity potential
TETP = Terrestrial ecotoxicity potential
ECI = Environmental Cost Indicator
ADPF = Abiotic Depletion Potential for fossil resources

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.	ND	ND	ND	-6,79E+02	3,50E+01	3,65E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,29E+00	9,55E+00	1,02E+03	8,22E+01	-8,20E+01
GWP-fossil	kg CO2 eq.	ND	ND	ND	2,98E+02	3,50E+01	2,80E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,28E+00	9,54E+00	1,23E+02	1,32E+00	-8,15E+01
GWP-biogenic	kg CO2 eq.	ND	ND	ND	-9,78E+02	1,03E-02	8,45E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,23E-03	3,16E-03	8,94E+02	8,09E+01	-2,36E-01
GWP-luluc	kg CO2 eq.	ND	ND	ND	6,19E-01	1,18E-02	5,74E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,73E-04	4,66E-03	4,05E-02	4,84E-04	-2,40E-01
ODP	kg CFC11 eq.	ND	ND	ND	1,66E-05	8,80E-07	5,61E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,07E-07	2,09E-07	3,05E-06	1,48E-08	-5,37E-06
AP	mol H+ eq.	ND	ND	ND	1,81E+00	8,93E-02	1,57E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,58E-02	4,45E-02	2,05E-01	4,58E-03	-6,13E-01
EP-fresh water	kg P eq.	ND	ND	ND	1,49E-02	2,36E-04	9,26E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,91E-05	7,84E-05	1,36E-03	1,12E-05	-4,22E-03
EP-marine	kg N eq.	ND	ND	ND	4,86E-01	2,62E-02	5,65E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,22E-03	1,75E-02	6,64E-02	3,32E-03	-1,79E-01
EP-terrestrial	mol N eq.	ND	ND	ND	5,99E+00	2,77E-01	6,31E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,64E-02	1,89E-01	7,37E-01	1,81E-02	-2,75E+00
POCP	kg NMVOC eq.	ND	ND	ND	2,34E+00	1,36E-01	1,99E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,15E-02	6,61E-02	2,15E-01	7,38E-03	-6,22E-01
ADP-minerals & metals	kg Sb eq.	ND	ND	ND	2,23E-03	5,86E-05	8,91E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,99E-06	2,97E-05	1,89E-04	1,34E-06	-1,79E-04
ADP-fossil	MJ, net calorific value	ND	ND	ND	6,10E+03	5,21E+02	5,43E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,85E+01	1,38E+02	4,14E+02	1,37E+01	-1,30E+03
WDP	m3 world eq. Deprived	ND	ND	ND	2,83E+02	2,81E+00	7,61E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,30E-01	6,77E-01	1,06E+01	5,94E-01	-2,25E+01

GWP-total	=	Global Warming Potential total
GWP-fossil	=	Global Warming Potential fossil fuels
GWP-biogenic	=	Global Warming Potential biogenictotal
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 inci-dence	ND	ND	ND	2,23E-05	2,94E-06	1,35E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,54E-08	9,37E-07	2,19E-06	9,68E-08	-1,00E-05
IRP	kBq U235 eq.	ND	ND	ND	1,24E+01	2,44E-01	4,33E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,76E-02	7,13E-02	1,86E+00	7,55E-03	-1,58E+00
ETP-fw	CTUe	ND	ND	ND	1,54E+03	2,14E+02	2,35E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,17E+01	6,78E+01	1,24E+03	1,35E+01	-2,84E+02
HTP-c	CTUh	ND	ND	ND	3,31E-06	1,10E-08	8,94E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,13E-09	5,13E-09	1,09E-07	3,74E-10	-2,21E-07
HTP-nc	CTUh	ND	ND	ND	3,96E-06	2,23E-07	3,17E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,06E-08	1,07E-07	6,08E-07	1,14E-08	-1,59E-06
SQP	-	ND	ND	ND	4,89E+04	5,37E+02	6,22E+03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,72E+00	1,03E+02	1,88E+02	3,10E+01	-1,79E+04

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	ND	ND	ND	1,99E-02	3,27E-03	1,50E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,78E-04	8,68E-04	1,20E-03	6,80E-05	-5,33E-03
NHWD	kg	ND	ND	ND	4,41E+01	4,70E+01	1,24E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,00E-01	8,71E+00	1,16E+01	5,36E+01	-1,00E+01
RWD	kg	ND	ND	ND	1,32E-02	1,55E-04	2,35E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,88E-05	4,63E-05	1,43E-03	4,61E-06	-1,38E-03
CRU	kg	ND	ND	ND	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	2,74E+02	0,00E+00	0,00E+00
MFR	kg	ND	ND	ND	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	6,01E+01	0,00E+00	0,00E+00
MER	kg	ND	ND	ND	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	ND	ND	ND	0,00E+00	0,00E+00	1,72E+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	3,45E+02	0,00E+00	0,00E+00
ETE	MJ	ND	ND	ND	0,00E+00	0,00E+00	2,97E+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	2,00E+02	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	ND	ND	ND	7,09E+02	6,93E+00	1,07E+03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,51E-01	2,18E+00	5,18E+01	2,53E-01	-3,81E+03
PERM	MJ	ND	ND	ND	8,15E+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
PERT	MJ	ND	ND	ND	8,86E+03	6,93E+00	1,07E+03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,51E-01	2,18E+00	5,18E+01	2,53E-01	-3,81E+03
PENRE	MJ	ND	ND	ND	3,45E+03	5,21E+02	5,43E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,85E+01	1,38E+02	4,14E+02	1,37E+01	-1,30E+03
PENRM	MJ	ND	ND	ND	2,65E+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
PENRT	MJ	ND	ND	ND	6,10E+03	5,21E+02	5,43E+02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,85E+01	1,38E+02	4,14E+02	1,37E+01	-1,30E+03
SM	kg	ND	ND	ND	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	ND	ND	ND	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
NRSF	MJ	ND	ND	ND	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	ND	ND	ND	7,86E+00	8,98E-02	5,37E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,36E-03	2,25E-02	4,74E-01	1,45E-02	-6,25E-01

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
NRSF = Use of non-renewable secondary fuels
FW = Use of net fresh water

CALCULATION RULES

Declared unit is 1m3

Input and output data have been provided by producers of the past 5 years 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.

This LCA contains all relevant data, cut-off by classification is followed. 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 (annex E.2 of the EN 15804).

Representativeness	Quality level	Remarks
Geographical Representativeness	Good	The area covered by the group covers a greater area within which the desired area falls.
Technological Representativeness	Very good	The collected data directly relates to the manufacturing site, processes and product of the study.
Time Representativeness	Good	Data is between 2-5 years old.

The EPD follows a market-based approach on electricity modelling. Residual electricity mixes are used when available.

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 modeled using the ecoinvent database and data from producers.

A2. Transportation of raw materials to manufacturer
This includes the transport distance of the raw materials to production facilities.

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 truck. Because these locations are located throughout the country (the Netherlands), the transport is from production locations to Utrecht.The products are transported to the project location by truck. Because these locations are located throughout the country (the Netherlands), the transport is from production locations to Utrecht.

Transport	Distance (km)	Load capacity	Bulk density	Fuel
Truck	740	0,875	658	Diesel

A5. Construction and installation process
This module processes the packaging waste and includes the installation. Installation losses of 5% are considered, which is in line with the default value of NMD Assessment Method.

Depending on the application and the size of the project, machinery may be used to transport and lift the product on the project site. Given the large number of possibilities, a worst-case scenario is assumed in which a diesel powered wheel loader is used for 5 minutes. Average fuel consumption of 13,54 liter per hour for a wheel loader is considered [6].

Energy for installation	Amount	Unit
Diesel, burned in building machine	1,128	l

All packaging materials follow the NMD standard waste treatment scenarios, except for steel. It is assumed that the steel is used as e.g., nails in the wood packaging, thus it has been modelled as completely going to landfill.

Packaging waste	Incineration (%)	Landfill (%)	Recycling (%)	Reuse (%)
Wood	90%	10%	0%	0%
Plastic	80%	20%	0%	0%
Cardboard	90%	10%	0%	0%
Steel	0%	100%	0%	0%

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 is the same as the installation of the product: diesel powered wheel loader is used for 5 minutes.

C2. Transport to waste processing
This module includes transportation to the waste treatment facility. Default distances for transportation per truck from the NMD Assessment Method are used. In the end of life scenario, the new waste scenario of the NMD for wood 'contaminated' is used [7].

C3. Waste management
In the end-of-life stage the products are partly incinerated, sent to landfill, recycled and reused.

C4. Final waste processing
Includes the final waste processing by means of landfill.

Waste treatment	Transport distance (km)	Load capacity	Fuel type	Percentage	Amount (kg) per declared unit
Incineration	150	0,5	diesel	42%	281
Recycling	50	0,5	diesel	41%	274
Reuse	50	0,5	diesel	9%	60
Landfill	100	0,5	diesel	8%	53

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 wood chips.
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 processes of NMD Assessment Method are used for avoided energy production.
The reused material is modelled as avoided A1-A3 production (excluding biogenic carbon uptake).

DECLARATION OF SVHC

No substances of very high concern are present in concentrations greater than 0,1% by weight in the product.

REFERENCES

[1] NMD Bepalingsmethode (NMD Assessment method) Milieuprestatie Bouwwerken 1.2, NMD January 2025.
[2] EN 15804:2012+A2:2019 Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.
[3] ISO, 2006. “Environmental management. Life cycle assessment - Principles and framework”. ISO 14040:2006.
[4] ISO, 2006. “Environmental management. Life cycle assessment – Requirements and Guidelines”. ISO 14044:2006.
[5] ISO, 2000. “Environmental labels and declarations – Type III environmental declarations”, ISO/TR 14025:2000.
[6] "LCA Rapportage categorie 3 data Nationale Milieudatabase - Hoofdstuk 1000 t/m 8000 Processen”, from 2020 and compiled by SGS and Witteveen & Bosch
[7] Agrodome B.V. (juni, 2025). Rapport uitbreding forfaitaire Eindelevensscenario's, biobased materialen, Nationale Milieudatabase (NMD)'.

REMARKS

Life timber in housing (LIFE20GIE/NL/001073)

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