Environmental Product Declaration

According to ISO14025+EN15804 A2 (+indicators A1)

This declaration is for:

Fiberdeck® Decking Boards Round Hollow Chamber | Brooklyn

Provided by:

Forestia SAS

MRPI® registration:

1.1.01115.2026

Program operator:

Stichting MRPI®

Publisher:

Stichting MRPI®

www.mrpi.nl

Date of first issue:

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Expiry date:

12-3-2031

COMPANY INFORMATION

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MRPI® REGISTRATION

1.1.01115.2026

DATE OF THIS ISSUE

12-3-2026

EXPIRY DATE

12-3-2031

SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by Martijn van Hövell, SGS Search. The LCA study has been done by Benthe Vermaas, LBP|SIGHT. 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

Fiberdeck® Decking Boards Round Hollow Chamber | Brooklyn

DECLARED UNIT / FUNCTIONAL UNIT

1 m^2

DESCRIPTION OF PRODUCT

The Fiberdeck Brooklyn decking boards are wood plastic composite (WPC) products to be used for outdoor decks in private spaces like homes, vacation houses, etc. Fiberdeck Brooklyn decking boards are durable due to the co-extrusion and have a realistic impression of natural wood. The boards are inspired by freshly sawn timber, and are available in various grey and brown colors. Terrasplanken gemaakt van houtcomposiet; hout-kunststof-composiet (HKC).

VISUAL PRODUCT

MORE INFORMATION

https://www.fiberdeck.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: Martijn van Hövell, SGS Search
	[1] PCR = Product Category Rules

DETAILED PRODUCT DESCRIPTION

Product description and application:
The Fiberdeck Decking products are wood plastic composite (WPC) products to be used for outdoor structures. Fiberdeck decking combines the durability performance of co-extrusion with the warm appearance of wood.

The Fiberdeck Brooklyn boards have round hollow chambers, and therefore have a significantly lower amount of WPC per m2 than the regular – massive - Fiberdeck Premium product.

The decking products are sold in two widths (138 mm and 210 mm), resulting in a slight variation (1-2%) in kg/m2 of the WPC material. Therefore, the highest mass has been used in this LCA to ensure representativity for both widths.

For installing the Fiberdeck Decking products, multiple options exist regarding the use of mounting materials depending on the desired application, and therefore these materials are placed outside the scope of the system boundary.

Production process:
The Fiberdeck Decking products are developed and tested in Europe, and produced in Zhejiang (province), China. The products are manufactured with HDPE, LDPE, wood flour, binding agents, and adhesives. The raw materials are mixed, pelleted, extruded and cut to the required size. During the production processes, electricity and diesel are used.

Finished products are packed with PET straps, stainless steel nails, recycled HDPE sheets and straps, LDPE film and plywood panels, and are placed on wooden pallets.

For the production processes, a combination of electricity from the grid and own production by PV is used. A market based approach is used, and the used processes are specified in the table below.

Type and database	Process	GWP (kg CO2 eq.) per kWh
Electricity from grid (EcoInvent 3.9)	Electricity, medium voltage {CN-ECGC}| market for electricity, medium voltage | Cut-off, U	0,852
Electricity from PV (EcoInvent 3.9)	Electricity, low voltage {CN-ZJ}| electricity production, photovoltaic, 3kWp slanted-roof installation, single-Si, panel, mounted | Cut-off, U	0,0943
Electricity from grid (EcoInvent 3.6)	Electricity, medium voltage {CN}| market group for | Cut-off, U	1,02
Electricity from PV (EcoInvent 3.6)	Electricity, low voltage {CN-ZJ}| electricity production, photovoltaic, 3kWp slanted-roof installation, single-Si, panel, mounted | Cut-off, U	0,0916

Technical data	Amount	Unit
Fire classification	E	Euroclass
Area density	19,9	kg/m^2
Hardness (Brinell)	66,5	N/mm^2
Modulus of elasticity	3510	Mpa
Bending strength	29,6	Mpa

Component (> 1%)	(%)
HDPE/LDPE	25,9
Wood flour	46,5
Binding agents & adhesives	27,6

Biogenic carbon content	Unit (expressed per functional unit or per declared unit)
Biogenic carbon content in product	6,38 kg
Biogenic carbon content in accompanying packaging	0,28 kg
NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO2	

SCOPE AND TYPE

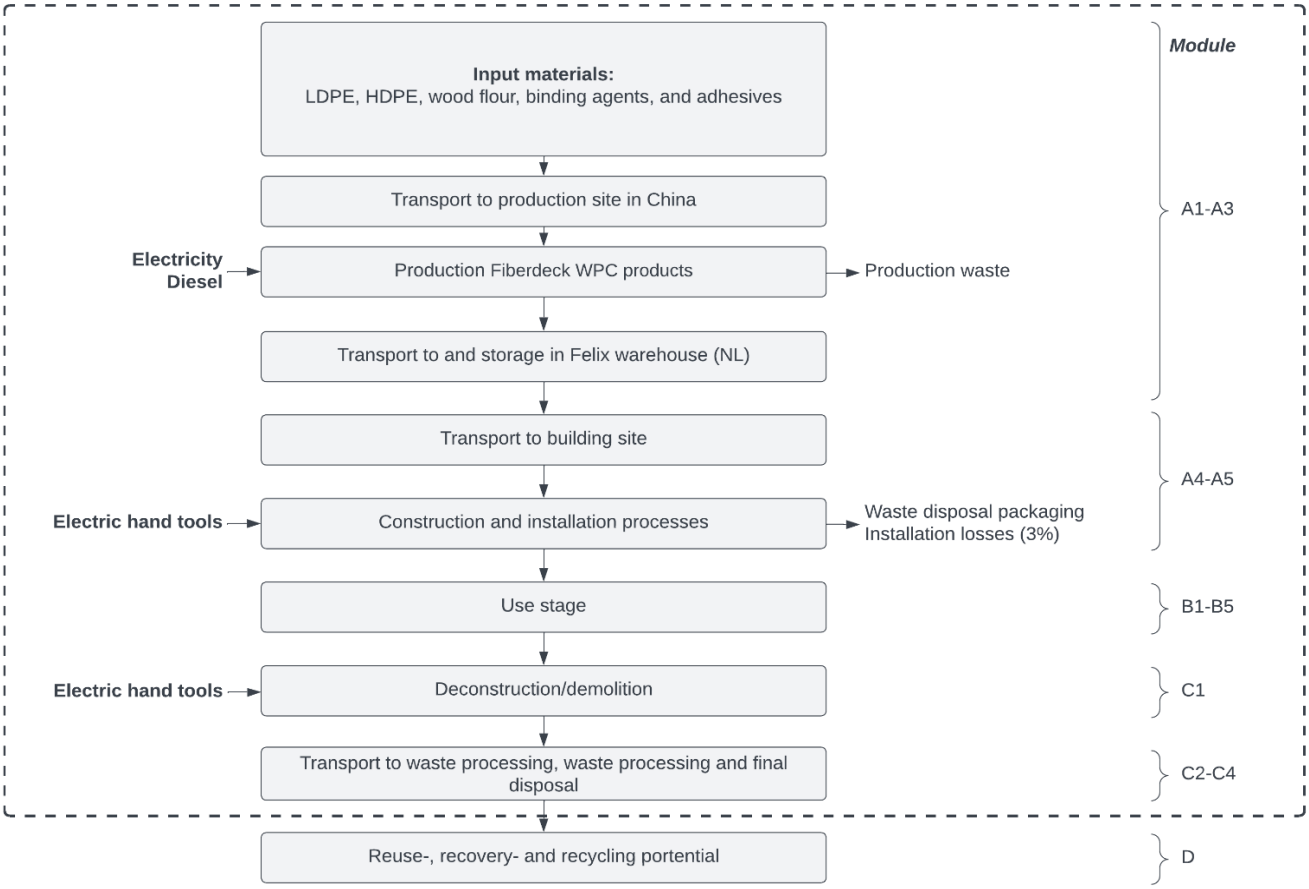
This EPD is based on a Cradle-to-Grave LCA and module D of Fiberdeck WPC products, produced in a single production site in Zhejiang (province), China. The Fiberdeck products are installed in the Netherlands, and at its end-of-life, it is treated according to the Dutch end-of-life scenarios. As a result, the EPD is representative for the Dutch market.

Company-specific data for the production stage has been collected by Forestia SAS. The LCI data has been evaluated by the LCA-practitioner and checked by the EPD verifier. Generic data has been used for the background processes, originating from the Ecoinvent 3.9 Cut-off by classification database (2022) using EF 3.1 (for Set 2 indicators) or from the Ecoinvent 3.6 Cut-off by classification database (2019) using EF 3.0 (for Set 1 indicators). For the calculation of the LCA results, the software program SimaPro 9.6.0.1 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 data used for the LCA is representative for the production of the Fiberdeck Decking Brooklyn, manufactured Forestia SAS in Zhejiang (province), China.

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	3,13E-04	1,03E-05	1,05E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,23E-08	1,00E-05	4,14E-06	1,15E-07	-1,26E-05
ADPF	MJ	0,00E+00	0,00E+00	0,00E+00	6,20E+02	6,17E+00	1,99E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,04E-01	6,01E+00	3,73E+00	2,59E-01	-2,40E+02
GWP	kg CO2 eq.	0,00E+00	0,00E+00	0,00E+00	3,63E+01	4,04E-01	2,35E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,26E-02	3,93E-01	2,23E+01	1,36E-01	-1,28E+01
ODP	kg CFC11 eq.	0,00E+00	0,00E+00	0,00E+00	1,88E-06	7,17E-08	6,77E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,93E-09	6,98E-08	3,25E-08	2,63E-09	-1,59E-06
POCP	kg ethene eq.	0,00E+00	0,00E+00	0,00E+00	2,47E-02	2,44E-04	7,88E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,70E-06	2,37E-04	5,04E-04	3,44E-05	-3,74E-03
AP	kg SO2 eq.	0,00E+00	0,00E+00	0,00E+00	2,30E-01	1,78E-03	7,29E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,06E-05	1,73E-03	4,46E-03	7,50E-05	-2,08E-02
EP	kg (PO4) 3 eq.	0,00E+00	0,00E+00	0,00E+00	2,67E-02	3,49E-04	9,05E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,93E-06	3,40E-04	1,48E-03	7,15E-05	-5,42E-03

Toxicity indicators and ECI (Dutch market)

HTP	kg DCB eq.	0,00E+00	0,00E+00	0,00E+00	2,33E+01	1,70E-01	7,65E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,68E-03	1,66E-01	9,73E-01	9,43E-03	-1,76E+00
FAETP	kg DCB eq.	0,00E+00	0,00E+00	0,00E+00	2,55E-01	4,96E-03	2,27E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,74E-05	4,83E-03	2,86E-01	4,27E-03	-2,98E-02
MAETP	kg DCB eq.	0,00E+00	0,00E+00	0,00E+00	1,17E+03	1,79E+01	6,36E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,66E-01	1,74E+01	5,98E+02	4,72E+00	-6,01E+01
TETP	kg DCB eq.	0,00E+00	0,00E+00	0,00E+00	6,89E-02	6,01E-04	2,34E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,43E-04	5,85E-04	1,67E-03	2,46E-05	-9,15E-03
ECI	euro	0,00E+00	0,00E+00	0,00E+00	5,30E+00	4,87E-02	2,34E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,19E-03	4,74E-02	1,30E+00	9,29E-03	-9,64E-01
ADPF	kg Sb eq.	0,00E+00	0,00E+00	0,00E+00	2,98E-01	2,97E-03	9,58E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,91E-04	2,89E-03	1,80E-03	1,25E-04	-1,15E-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.	0,00E+00	0,00E+00	0,00E+00	9,63E+00	4,50E-01	3,33E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,30E-02	4,36E-01	4,45E+01	1,23E+00	-1,33E+01
GWP-fossil	kg CO2 eq.	0,00E+00	0,00E+00	0,00E+00	3,40E+01	4,48E-01	2,30E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,30E-02	4,35E-01	2,23E+01	5,83E-02	-1,33E+01
GWP-biogenic	kg CO2 eq.	0,00E+00	0,00E+00	0,00E+00	-2,44E+01	0,00E+00	1,03E+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	2,22E+01	1,17E+00	0,00E+00
GWP-luluc	kg CO2 eq.	0,00E+00	0,00E+00	0,00E+00	3,23E-02	1,60E-03	1,14E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,64E-06	1,55E-03	1,06E-04	9,95E-06	-6,82E-03
ODP	kg CFC11 eq.	0,00E+00	0,00E+00	0,00E+00	7,68E-07	7,97E-09	2,91E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,16E-09	7,73E-09	1,23E-08	2,81E-10	-7,64E-07
AP	mol H+ eq.	0,00E+00	0,00E+00	0,00E+00	2,60E-01	2,14E-03	8,52E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,15E-05	2,08E-03	6,38E-03	9,15E-05	-2,88E-02
EP-fresh water	kg P eq.	0,00E+00	0,00E+00	0,00E+00	7,43E-04	4,46E-06	2,39E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,10E-07	4,32E-06	5,31E-06	5,89E-07	-1,22E-04
EP-marine	kg N eq.	0,00E+00	0,00E+00	0,00E+00	5,95E-02	8,15E-04	2,09E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,32E-05	7,91E-04	3,02E-03	1,50E-04	-9,12E-03
EP-terrestrial	mol N eq.	0,00E+00	0,00E+00	0,00E+00	6,53E-01	8,69E-03	2,30E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,49E-04	8,44E-03	3,35E-02	3,47E-04	-1,34E-01
POCP	kg NMVOC eq.	0,00E+00	0,00E+00	0,00E+00	1,94E-01	2,97E-03	6,79E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,19E-05	2,88E-03	8,63E-03	1,57E-04	-3,63E-02
ADP-minerals & metals	kg Sb eq.	0,00E+00	0,00E+00	0,00E+00	9,27E-05	1,40E-06	3,04E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,23E-08	1,36E-06	7,51E-07	2,76E-08	-4,63E-06
ADP-fossil	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	5,27E+02	6,42E+00	1,73E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,48E-01	6,23E+00	3,40E+00	2,61E-01	-2,05E+02
WDP	m3 world eq. Deprived	0,00E+00	0,00E+00	0,00E+00	7,95E+00	3,94E-02	2,59E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,54E-03	3,82E-02	1,67E-01	1,11E-02	-1,11E+00

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	0,00E+00	0,00E+00	0,00E+00	2,20E-06	4,42E-08	7,39E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,44E-10	4,29E-08	4,20E-08	1,83E-09	-3,25E-07
IRP	kBq U235 eq.	0,00E+00	0,00E+00	0,00E+00	7,22E-01	2,50E-03	2,30E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,02E-04	2,43E-03	2,33E-03	1,66E-04	-3,19E-02
ETP-fw	CTUe	0,00E+00	0,00E+00	0,00E+00	1,76E+02	4,74E+00	7,19E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,35E-01	4,59E+00	8,50E+00	3,56E-01	-1,22E+01
HTP-c	CTUh	0,00E+00	0,00E+00	0,00E+00	1,97E-08	2,37E-10	2,68E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,52E-12	2,30E-10	4,00E-09	8,85E-12	-3,44E-09
HTP-nc	CTUh	0,00E+00	0,00E+00	0,00E+00	3,07E-07	5,15E-09	1,24E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,42E-10	5,00E-09	4,58E-08	3,26E-10	-7,07E-08
SQP	-	0,00E+00	0,00E+00	0,00E+00	3,89E+02	5,06E+00	1,23E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,30E-02	4,91E+00	1,08E+00	5,77E-01	-4,29E+02

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	9,55E-04	4,09E-05	3,57E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,44E-07	3,97E-05	3,51E-05	1,33E-06	0,00E+00
NHWD	kg	0,00E+00	0,00E+00	0,00E+00	4,71E+00	4,24E-01	3,22E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,86E-04	4,11E-01	3,49E-01	9,95E-01	0,00E+00
RWD	kg	0,00E+00	0,00E+00	0,00E+00	5,18E-04	1,47E-06	1,67E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,70E-07	1,42E-06	1,53E-06	1,02E-07	0,00E+00
CRU	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
MFR	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,10E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,77E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MER	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,19E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,19E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,92E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,48E-04	0,00E+00	7,64E+01	0,00E+00	0,00E+00
ETE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,47E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,55E-04	0,00E+00	1,32E+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	0,00E+00	0,00E+00	0,00E+00	6,01E+01	9,07E-02	1,83E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,81E-03	8,80E-02	1,07E-01	5,57E-03	0,00E+00
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	1,62E+02	0,00E+00	4,87E+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	0,00E+00	0,00E+00	0,00E+00	2,22E+02	9,07E-02	6,70E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,81E-03	8,80E-02	1,07E-01	5,57E-03	0,00E+00
PENRE	MJ	0,00E+00	0,00E+00	0,00E+00	4,37E+02	6,43E+00	1,47E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,98E-01	6,24E+00	3,40E+00	2,62E-01	0,00E+00
PENRM	MJ	0,00E+00	0,00E+00	0,00E+00	3,04E+02	0,00E+00	9,12E+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	0,00E+00	0,00E+00	0,00E+00	7,41E+02	6,43E+00	2,38E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,98E-01	6,24E+00	3,40E+00	2,62E-01	0,00E+00
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	2,05E-01	1,65E-03	7,15E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,51E-04	1,60E-03	8,70E-03	2,73E-04	0,00E+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	-6,38E+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	6,06E+00	3,19E-01	0,00E+00
BCCpa	kg C	0,00E+00	0,00E+00	0,00E+00	-2,81E-01	0,00E+00	2,81E-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	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

The reference year of this study is 2024. The LCA was carried out in accordance with the requirements and guidelines of the NMD "Bepalingsmethode Milieuprestatie Bouwwerken" (Environmental Performance Assessment Method for Construction Works) (version 1.2, January 2025) and the NMD-Verification protocol (version 1.2, August 2024). The NMD-Assessment method is based on ISO 14040 - ISO14044 and NEN-EN 15804:2012 + A2 (2019).

Data quality
Data quality requirements follow EN15804+A2:2019. The foreground data collected by the manufacturer are based on yearly production amounts. The technological, geographical and temporal coverage reflects the physical reality as far as possible. Data quality is assessed as good on average to the goal and scope of the study.

Allocation
All material inputs and outputs have been collected at the product level.

Cut-off
In compliance to the EN15804 and the additional requirements in the NMD Assessment Method the following cut-off criteria have been applied:
- All input and output flows for which specific information was available have been included in the calculations.
- A cut-off process must contribute less than 1% of the energy usage and 1% of the total mass of the unit process. An excluded process cannot contribute over 5% to a single environmental impact indicator per module.
- The total number of excluded input streams can account for maximum 5% of the energy usages and mass.

No input streams have been disregarded in this LCA.

Within the system boundaries of this LCA study, and in compliance with EN 15804, the following inputs and output have been excluded from the LCA study:
- Overhead processes, like office departments, personal transportation, etc.
- Production, maintenance and the end of life stage of capital goods like buildings, machinery, etc.

It is not to be expected for the upper mentioned processes to contribute significantly to the environmental profile of the products.

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

Production, A1-A3
The Fiberdeck Decking products are produced at a single production site in Zhejiang (province), China. The products are manufactured with LDPE, HDPE, wood flour, binding agents, and adhesives. The raw materials are mixed, pelleted, extruded and cut to the required size. During the production processes, electricity and diesel are used, and raw materials are lost (7% of input materials) of which 100% will be internally recycled after shredding for the production of the same products.

Finished products are packed with PET straps, stainless steel nails, recycled HDPE sheets and straps, LDPE film and plywood panels, and are placed on wooden pallets. The products are transported to the warehouse in the Netherlands.

Construction and installation, A4-A5
In compliance with the NMD Assessment Method, the average transport distance of 150 km is applied for warehouses that are located in the Netherlands, and 3% of the products will be lost during the construction stage.

For the installation of the product, electricity is used for a radial saw.

The packaging materials are processed as waste in A5, in accordance with the standard end-of-life scenarios as prescribed by the NMD Assessment Method and given in the table below.

Use, B1-B7
There are no expected emissions, repairs, replacements or refurbishments during the life span of the products. No regular maintenance is required in order to guarantee the performance of products throughout its life span. The products are recommended to be cleaned once a year, but this is for aesthetic purposes only and is therefore not a part of the scope according to the NMD Assessment Method. Furthermore, there is no operational energy- or water usage throughout the life span of the products. As such this module has been declared as “0”.

End-of-life, C1-C4
It is assumed that the deconstruction stage, regarding the energy consumption of mobile machinery, corresponds to the installation stage (module A5).

The NMD Assessment Method prescribes standard values for end-of-life scenarios, and are used in this LCA. The Fiberdeck WPC boards will be incinerated (95%) and landfilled (5%).

Loads and benefits beyond the system boundary, D
Concerning loads and benefits beyond the system boundary (module D), it is assumed that the fraction of materials that are incinerated (Fiberdeck WPC boards), result in avoided energy production.

As 0% of the WPC boards is recycled, there is a net loss of secondary material. In accordance with the NMD Assessment Method (version 1.2), this loss is considered as a net 0 loss.

Loads and benefits from the waste processing of the packaging, installation losses (A5) have also been included in the calculation of module D.

Material for waste processing and disposal	Landfill (%)	Incineration (%)	Recycling (%)	C2 transport distance (km)
Fiberdeck WPC boards	5	95	0	147,5
Wood pallet and plywood	10	85	5	140
LDPE film and HDPE sheet/straps	10	85	5	140
PET straps	20	80	0	140
Stainless steel nails	1	0	99	50,5

DECLARATION OF SVHC

The product does not contain materials listed in the “Candidate list of Substances of Very High Concern for authorization”.

REFERENCES

[1] The NMD "Bepalingsmethode Milieuprestatie Bouwwerken" (Environmental Performance Assessment Method for Construction Works) (version 1.2, January 2025) and the NMD-Verification protocol (version 1.2, August 2024).
[2] NEN-EN 15804 Duurzaamheid van bouwwerken - Milieuverklaringen van producten - Basisregels voor de productgroep bouwproducten;
[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.