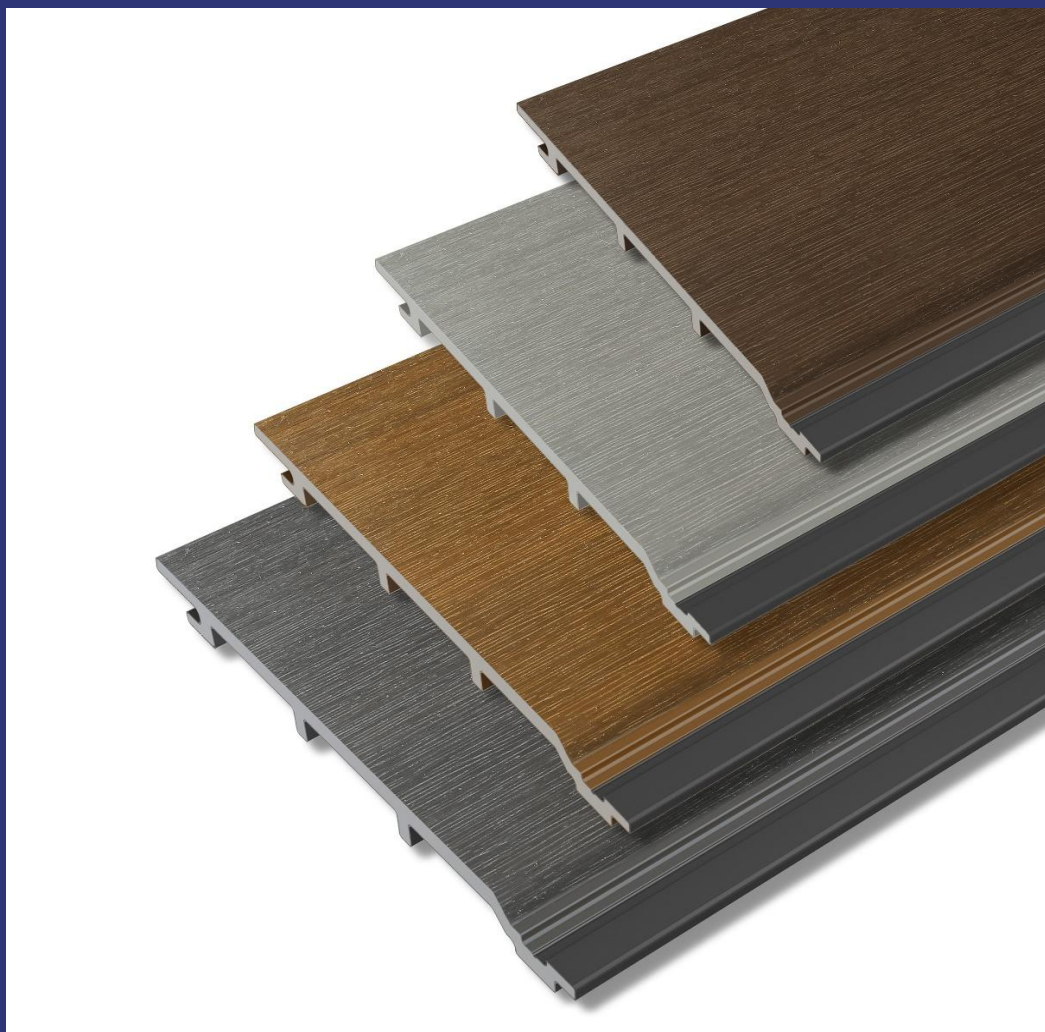


**Environmental
Product
Declaration**

According to ISO14025+EN15804 A2 (+indicators A1)

This declaration is for:
Fiberdeck[®] WEO Essential E class

Provided by:
Forestia SAS



MRPI[®] registration:
1.1.01118.2026

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

Date of first issue:
12-3-2026
Date of this issue:
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Expiry date:
12-3-2031

COMPANY INFORMATION

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MRPI® REGISTRATION

1.1.01118.2026

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® WEO Essential E class

DECLARED UNIT / FUNCTIONAL UNIT

1 m²

DESCRIPTION OF PRODUCT


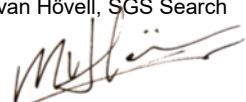
The WEO Essential is a wood plastic composite (WPC) product to be used for outdoor structures. WEO Essential Gardenwall combines the durability performance of co-extrusion with the warm appearance of wood. The random shades in the colors enhance the realistic impression of a natural material. Gardenwall gemaakt van houtcomposiet; hout-kunststof-composiet (HKC).

VISUAL PRODUCT



MORE INFORMATION

<https://www.fiberdeck.nl>

<p>Ing. L. L. Oosterveen MSc. MBA Managing Director MRPI</p> 	<p>DEMONSTRATION OF VERIFICATION</p>
	<p>CEN standard EN15804 serves as the core PCR [1]</p>
	<p>Independent verification of the declaration and data according to ISO14025+EN15804 A2 (+indicators A1)</p> <p>Internal: _____ External: X</p>
	<p>Third party verifier: Martijn van Hövell, SGS Search</p> 
<p>[1] PCR = Product Category Rules</p>	

DETAILED PRODUCT DESCRIPTION

Product description and application:

The WEO Essential is a wood plastic composite (WPC) product to be used for outdoor structures. WEO Essential Gardenwall combines the durability performance of co-extrusion with the warm appearance of wood. The random shades in the colors enhance the realistic impression of a natural material.

For installing the WEO Essential, 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 WEO Essential 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 (EcolInvent 3.9)	Electricity, medium voltage {CN-ECGC} market for electricity, medium voltage Cut-off, U	0,852
Electricity from PV (EcolInvent 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 (EcolInvent 3.6)	Electricity, medium voltage {CN} market group for Cut-off, U	1,02
Electricity from PV (EcolInvent 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	10,4	kg/m ²
Hardness (Brinell)	50,1	N/mm ²
Modulus of elasticity	3620	Mpa
Bending strength	34,3	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	3,34 kg
Biogenic carbon content in accompanying packaging	0,15 kg
NOTE 1 kg biogenic carbon is equivalent to 44/12 kg of CO ₂	

SCOPE AND TYPE

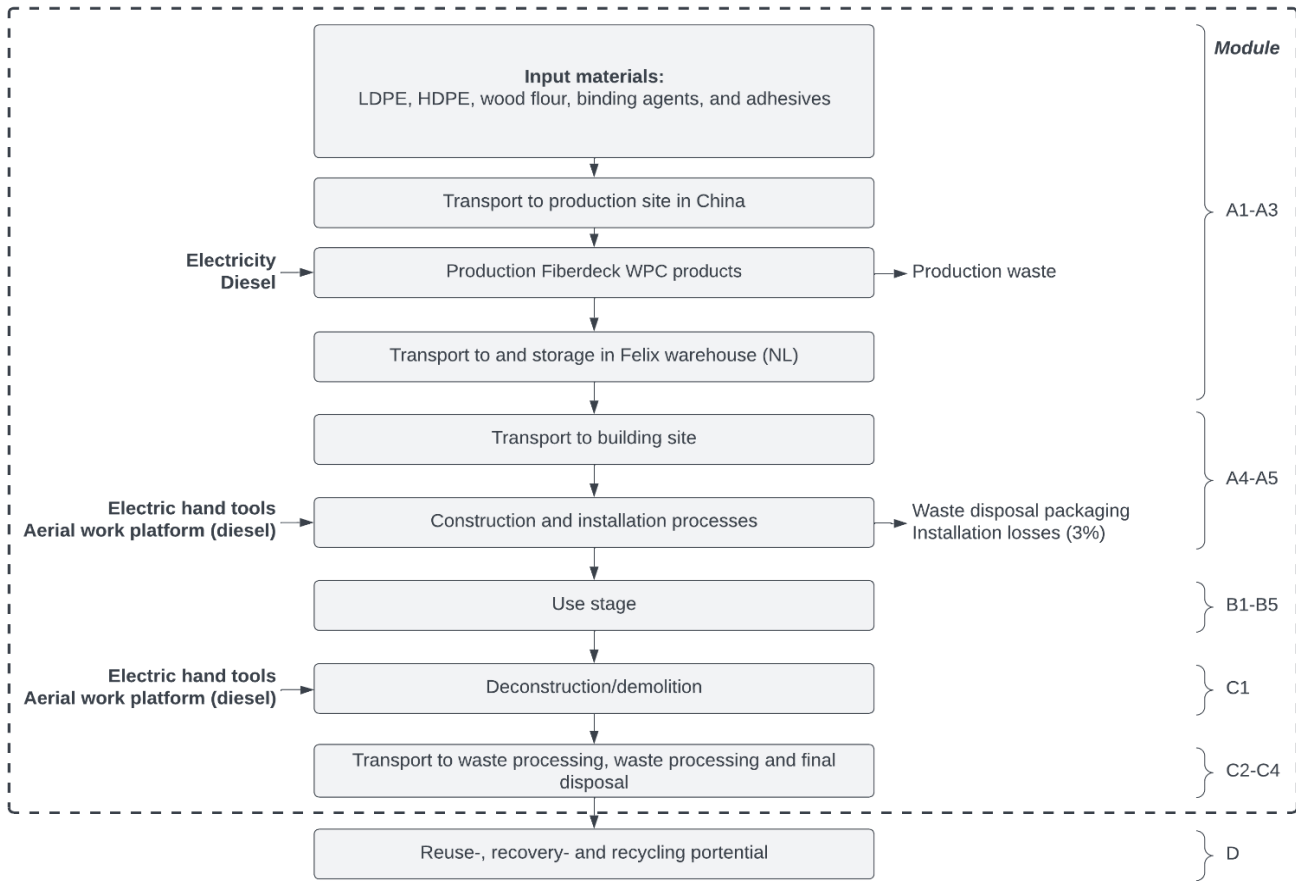
This EPD is based on a Cradle-to-Grave and module D LCA of Fiberdeck WPC products, produced in a single production site in Zhejiang (province), China. The Fiberdeck products are installed in the Netherlands, and at its end-of-life, it is treated according to the Dutch end-of-life scenarios. As a result, 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 WEO Essential products, manufactured by 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	1,64E-04	5,40E-06	5,64E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,97E-08	5,26E-06	2,17E-06	6,04E-08	-6,58E-06
ADPF	MJ	0,00E+00	0,00E+00	0,00E+00	3,25E+02	3,23E+00	1,19E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,68E-01	3,15E+00	1,95E+00	1,36E-01	-1,25E+02
GWP	kg CO2 eq.	0,00E+00	0,00E+00	0,00E+00	1,90E+01	2,11E-01	1,33E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,06E-02	2,06E-01	1,17E+01	7,13E-02	-6,70E+00
ODP	kg CFC11 eq.	0,00E+00	0,00E+00	0,00E+00	9,85E-07	3,75E-08	5,19E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,75E-09	3,65E-08	1,70E-08	1,38E-09	-8,33E-07
POCP	kg ethene eq.	0,00E+00	0,00E+00	0,00E+00	1,29E-02	1,28E-04	5,04E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,41E-06	1,24E-04	2,64E-04	1,80E-05	-1,96E-03
AP	kg SO2 eq.	0,00E+00	0,00E+00	0,00E+00	1,20E-01	9,29E-04	4,49E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,82E-05	9,05E-04	2,33E-03	3,93E-05	-1,09E-02
EP	kg (PO4) 3 eq.	0,00E+00	0,00E+00	0,00E+00	1,40E-02	1,83E-04	6,27E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,51E-06	1,78E-04	7,75E-04	3,74E-05	-2,84E-03

Toxicity indicators and ECI (Dutch market)

HTP	kg DCB eq.	0,00E+00	0,00E+00	0,00E+00	1,22E+01	8,90E-02	4,34E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,52E-03	8,66E-02	5,09E-01	4,93E-03	-9,19E-01
FAETP	kg DCB eq.	0,00E+00	0,00E+00	0,00E+00	1,33E-01	2,60E-03	1,23E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	6,33E-05	2,53E-03	1,50E-01	2,23E-03	-1,56E-02
MAETP	kg DCB eq.	0,00E+00	0,00E+00	0,00E+00	6,15E+02	9,34E+00	3,49E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,50E-01	9,10E+00	3,13E+02	2,47E+00	-3,14E+01
TETP	kg DCB eq.	0,00E+00	0,00E+00	0,00E+00	3,61E-02	3,14E-04	1,34E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,34E-04	3,06E-04	8,72E-04	1,29E-05	-4,79E-03
ECI	euro	0,00E+00	0,00E+00	0,00E+00	2,77E+00	2,55E-02	1,35E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,06E-03	2,48E-02	6,82E-01	4,86E-03	-5,04E-01
ADPF	kg Sb eq.	0,00E+00	0,00E+00	0,00E+00	1,56E-01	1,55E-03	5,71E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,73E-04	1,51E-03	9,40E-04	6,53E-05	-6,03E-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
- 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	5,04E+00	2,35E-01	1,86E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,10E-02	2,28E-01	2,33E+01	6,42E-01	-6,98E+00
GWP-fossil	kg CO2 eq.	0,00E+00	0,00E+00	0,00E+00	1,78E+01	2,34E-01	1,32E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,10E-02	2,27E-01	1,17E+01	3,05E-02	-6,97E+00
GWP-biogenic	kg CO2 eq.	0,00E+00	0,00E+00	0,00E+00	-1,28E+01	0,00E+00	5,39E-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	1,16E+01	6,12E-01	0,00E+00
GWP-luluc	kg CO2 eq.	0,00E+00	0,00E+00	0,00E+00	1,69E-02	8,36E-04	6,09E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,54E-06	8,11E-04	5,57E-05	5,21E-06	-3,57E-03
ODP	kg CFC11 eq.	0,00E+00	0,00E+00	0,00E+00	4,02E-07	4,17E-09	1,81E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,97E-09	4,05E-09	6,42E-09	1,47E-10	-4,00E-07
AP	mol H+ eq.	0,00E+00	0,00E+00	0,00E+00	1,36E-01	1,12E-03	5,37E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,83E-05	1,09E-03	3,34E-03	4,79E-05	-1,51E-02
EP-fresh water	kg P eq.	0,00E+00	0,00E+00	0,00E+00	3,89E-04	2,33E-06	1,31E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,73E-07	2,26E-06	2,78E-06	3,08E-07	-6,40E-05
EP-marine	kg N eq.	0,00E+00	0,00E+00	0,00E+00	3,11E-02	4,27E-04	1,51E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,24E-05	4,14E-04	1,58E-03	7,86E-05	-4,77E-03
EP-terrestrial	mol N eq.	0,00E+00	0,00E+00	0,00E+00	3,42E-01	4,55E-03	1,66E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,40E-04	4,41E-03	1,75E-02	1,82E-04	-7,02E-02
POCP	kg NMVOC eq.	0,00E+00	0,00E+00	0,00E+00	1,02E-01	1,55E-03	4,90E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,94E-05	1,51E-03	4,52E-03	8,23E-05	-1,90E-02
ADP-minerals & metals	kg Sb eq.	0,00E+00	0,00E+00	0,00E+00	4,85E-05	7,34E-07	1,64E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,97E-08	7,12E-07	3,93E-07	1,45E-08	-2,42E-06
ADP-fossil	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	2,76E+02	3,36E+00	1,05E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,15E-01	3,26E+00	1,78E+00	1,37E-01	-1,07E+02
WDP	m3 world Deprived	0,00E+00	0,00E+00	0,00E+00	4,16E+00	2,06E-02	1,41E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,27E-03	2,00E-02	8,73E-02	5,82E-03	-5,79E-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 incidence	0,00E+00	0,00E+00	0,00E+00	1,15E-06	2,31E-08	6,37E-08	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,36E-10	2,25E-08	2,20E-08	9,56E-10	-1,70E-07
IRP	kBq U235 eq.	0,00E+00	0,00E+00	0,00E+00	3,78E-01	1,31E-03	1,27E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,53E-04	1,27E-03	1,22E-03	8,71E-05	-1,67E-02
ETP-fw	CTUe	0,00E+00	0,00E+00	0,00E+00	9,21E+01	2,48E+00	4,46E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,21E-01	2,40E+00	4,45E+00	1,86E-01	-6,38E+00
HTP-c	CTUh	0,00E+00	0,00E+00	0,00E+00	1,03E-08	1,24E-10	1,43E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,24E-12	1,20E-10	2,09E-09	4,63E-12	-1,80E-09
HTP-nc	CTUh	0,00E+00	0,00E+00	0,00E+00	1,61E-07	2,70E-09	6,77E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,33E-10	2,62E-09	2,40E-08	1,71E-10	-3,70E-08
SQP	-	0,00E+00	0,00E+00	0,00E+00	2,03E+02	2,65E+00	6,55E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,16E-02	2,57E+00	5,65E-01	3,02E-01	-2,24E+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	5,00E-04	2,14E-05	2,74E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,11E-07	2,08E-05	1,84E-05	6,94E-07	0,00E+00
NHWD	kg	0,00E+00	0,00E+00	0,00E+00	2,47E+00	2,22E-01	1,70E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,51E-04	2,15E-01	1,83E-01	5,21E-01	0,00E+00
RWD	kg	0,00E+00	0,00E+00	0,00E+00	2,71E-04	7,68E-07	9,19E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,23E-07	7,46E-07	8,00E-07	5,36E-08	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	2,15E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,54E-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	2,06E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,06E-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	2,57E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,39E-04	0,00E+00	4,00E+01	0,00E+00	0,00E+00
ETE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,43E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,40E-04	0,00E+00	6,88E+01	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	3,15E+01	4,75E-02	9,64E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,70E-03	4,61E-02	5,58E-02	2,91E-03	0,00E+00
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	8,49E+01	0,00E+00	2,55E+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	1,16E+02	4,75E-02	3,51E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,70E-03	4,61E-02	5,58E-02	2,91E-03	0,00E+00
PENRE	MJ	0,00E+00	0,00E+00	0,00E+00	2,29E+02	3,36E+00	9,18E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,62E-01	3,26E+00	1,78E+00	1,37E-01	0,00E+00
PENRM	MJ	0,00E+00	0,00E+00	0,00E+00	1,59E+02	0,00E+00	4,77E+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	3,88E+02	3,36E+00	1,40E+01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,62E-01	3,26E+00	1,78E+00	1,37E-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	1,07E-01	8,64E-04	3,92E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,42E-04	8,39E-04	4,55E-03	1,43E-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	-3,34E+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	3,17E+00	1,67E-01	0,00E+00
BCCpa	kg C	0,00E+00	0,00E+00	0,00E+00	-1,47E-01	0,00E+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	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 WEO Essential 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, plywood panels and wooden pallets. The products are transported to the warehouse in the Netherlands.

Construct, 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 and screwing machine, and diesel is used for an aerial work platform.

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.

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.

