Environmental Product Declaration

PrimaCover Standard surface protection fleece (EI3.9.1)

Primaverde BV

Publisher:	Primaverde BV
Programme operator:	Stichting NMD
Calculation number:	ReTHiNK-127196
Generation on:	12-11-2025
Issue date:	12-11-2025
Valid until:	12-11-2030
Status:	verified

R

1 General information

1.1 PRODUCT

PrimaCover Standard surface protection fleece (EI3.9.1)

1.2 VALIDITY

Issue date: 12-11-2025

Valid until: 12-11-2030

1.3 OWNER OF THE DECLARATION

PRIMACOVER®

Declaration owner: Primaverde BV

Address: Industrieweg 22a, 5145PV Waalwijk

E-mail: info@primaverde.nl

Website: www.primaverde.nl

Production location: Primaverde Nederland (niet de productielocatie)

Address production location: Industrieweg 22a, 5145PV Waalwijk

1.4 VERIFICATION OF THE DECLARATION

The independent verification is in accordance with the ISO 14025:2011. The LCA is in compliance with ISO 14040:2006 and ISO 14044:2006. The EN 15804+A2:2019 serves as the core PCR.

☐ Internal ☒ External

Pien van den Heuvel , So. Sustainability

1.5 PRODUCT CATEGORY RULES

NMD Determination method Environmental performance Construction works v1.2 January 2025

1.6 COMPARABILITY

In principle, a comparison or assessment of the environmental impacts of different products is only possible if they have been prepared in accordance with EN 15804+A2:2019. For the evaluation of the comparability, the following aspects have to be considered in particular: PCR used, functional or declared unit, geographical reference, the definition of the system boundary, declared modules, data selection (primary or secondary data, background database, data quality), scenarios used for use and disposal phases, and the life cycle inventory (data collection, calculation methods, allocations, validity period). PCRs and general program instructions of different EPD program operators may differ. Comparability needs to be evaluated. For further guidance, see EN 15804+A2:2019 and ISO 14025.

1.7 CALCULATION BASIS

LCA method R<THINK: NMD Determination method v 1.2 | set1+2

LCA software*: Simapro 9.6

Characterization method: Bepalingsmethode 'set 1', 'set2' & param (NMD 3.4) v1.00

LCA database profiles: ecoinvent (for version see references)

Version database: v3.20 (2025-10-21)

* Simapro is used for calculating the characterized results of the Environmental profiles within R<THINK.

1.8 LCA BACKGROUND REPORT

This EPD is generated on the basis of the LCA background report 'PrimaCover Standard surface protection fleece (EI3.9.1)' with the calculation identifier ReTHiNK-127196.

2 Product

2.1 PRODUCT DESCRIPTION

Primacover fleece is een vlies dat gebruikt wordt voor het tijdelijk beschermen van vloeren tijdens onderhoudsklussen, zoals schilderwerk. Het is een geponste non-woven stof, vervaardigd uit polyestervezels, gelamineerd op folie, geïmpregneerd met synthetische hars (waterige acrylaatcopolymeerdispersie). Het vlies wordt op de bodem gelegd en blijft op zijn plaats door de antisliplaag.

F-QS-24 00 Prozeßablauf Produktion_de, 28.05.2015
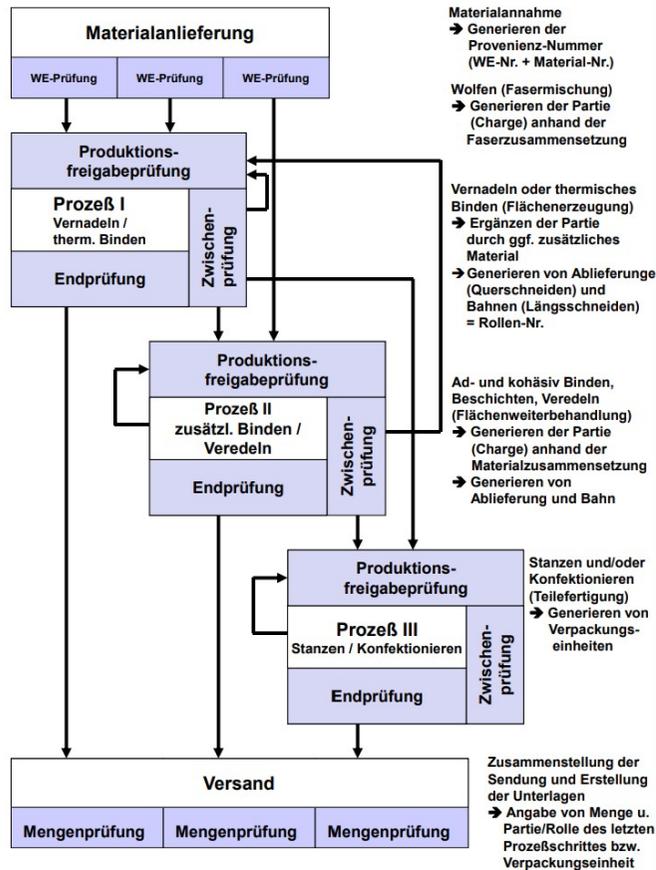
2.2 REFERENCE SERVICE LIFE

RSL PRODUCT
Het PrimaCover vlies is een product voor eenmalig gebruiik. De levensduur is daarom op 999 jaar gezet zodat er geen vervangingen optreden tijdens de levenscyclus.

USED RSL (YR) IN THIS LCA CALCULATION:
999

RSL PARTS
Er zijn geen productonderdelen.

2.3 SUBSTANCES OF VERY HIGH CONCERN

No SVHC's to report

2.4 DESCRIPTION PRODUCTION PROCESS

1. Productie van halffabricaat – Nadelvlieslijn

· **Grondstofverwerking**: Vezelbalen worden geopend, gewogen en gemengd volgens productspecificaties. De vezels worden horizontaal gelaagd en via verticale frezen verwerkt.
· **Karderen en lagenopbouw**: Het vezelmengsel wordt naar een kaardmachine geleid waar de vezels worden gescheiden en geordend. Een kruislager legt de vezels in patronen om het gewenste gewicht te bereiken.
· **Vernaald (versteviging)**: Vezels worden mechanisch verbonden met behulp van naalden met weerhaken, wat zorgt voor een stabiel vlies.
· **Afwerking**: Het vlies wordt op breedte gesneden, opgerold en gelabeld.
· **Energiegebruik**: Apparatuur werkt op elektriciteit; vezeltransport gebeurt deels via luchtstromen.
· **Emissies**: Stof wordt afgezogen en gefilterd; polyestervezels veroorzaken minder dan 1% stof.
· **Afval**: Randen en opstartmateriaal worden hergebruikt in het proces (~6% afval).
· **Watergebruik**: Het proces is volledig waterloos.

2. Veredeling van eindproduct – PrimaCover Standard

· **Lamineren**: Een kunststof film wordt op het vlies gelamineerd.
· **Lijmcoating**: Thermoplastisch poeder wordt aangebracht en gesmolten om hechting mogelijk te maken. Een watergebaseerde lijm wordt gespoten om zelfklevende eigenschappen te creëren.
· **Drogen en koelen**: Het vlies passeert een sproeikabine en droogzone.

2 Product

· **Eindverwerking**: Het afgewerkte product wordt gesneden, opgerold, verpakt, gelabeld en gepalletiseerd.
· **Energiegebruik**: Drooginstallaties werken elektrisch, warmte wordt opgewekt met aardgas.
· **Emissies**: Emissies worden via twee schoorstenen afgevoerd; details staan in een apart emissierapport.
· **Afval**: Randen (~5%) worden afgevoerd als textielafval.

· **Watergebruik**: Ongeveer 0,005 L/m², voornamelijk voor de lijm, verdampt tijdens het drogen.

2.5 CONSTRUCTION DESCRIPTION

niet van toepassing

3 Calculation rules

3.1 FUNCTIONAL UNIT

m2 afdekvlies voor vloerbescherming

1m2 tijdelijke afdekvlies voor klus- en renovatieprojecten. Vervaardigd van 100% gerecycled PET.

Reference unit: square meter (m2)

3.2 CONVERSION FACTORS

Description	Value	Unit
Reference unit	1	m2
Weight per reference unit	0.175	kg
Conversion factor to 1 kg	5.714286	m2

3.3 SCOPE OF DECLARATION AND SYSTEM BOUNDARIES

This is a Cradle to gate with options, modules C1-C4 and module D EPD. The life cycle stages included are as shown below:

(X = module included, ND = module not declared)

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	ND	ND	X	X	X	X	X	X	X

The modules of the EN 15804 contain the following:

Module A1 = Raw material supply	Module B5 = Refurbishment
Module A2 = Transport	Module B6 = Operational energy use
Module A3 = Manufacturing	Module B7 = Operational water use
Module A4 = Transport	Module C1 = De-construction / Demolition
Module A5 = Construction - Installation process	Module C2 = Transport
Module B1 = Use	Module C3 = Waste Processing
Module B2 = Maintenance	Module C4 = Disposal
Module B3 = Repair	Module D = Benefits and loads beyond the product system boundaries
Module B4 = Replacement	

3.4 REPRESENTATIVENESS

This EPD is representative for PrimaCover Standard surface protection fleece (EI3.9.1), a product of Primaverde BV. The results of this EPD are representative for Netherlands.

3.5 CUT-OFF CRITERIA

In the Life cycle assessment the following cut-off criteria are applied:

3 Calculation rules

PRODUCT STAGE (A1-A3)

All input flows (e.g. raw materials, transportation, energy use, packaging, etc.) and output flows (e.g. production waste) are considered in this LCA. The total neglected input flows do therefore not exceed the limit of 5% of energy use and mass or 5% on impact per environmental effect.

CONSTRUCTION PROCESS STAGE (A4-A5)

All input flows (e.g. transportation to the construction site, additional raw material use for construction, installation energy (use)of energy use for assembly , etc.) and output flows (e.g. construction waste, packaging waste, etc.) are considered in this LCA. The total neglected input flows do therefore not exceed the limit of 5% of energy use and mass or 5% on impact per environmental effect.

USE STAGE (B1-B7)

All (known) input flows (e.g. raw materials, transportation, energy use, packaging, etc.) and output flows (e.g. emissions to soil, air and water, construction waste, packaging waste, end-of-life waste, etc.) related to the building fabric are considered in this LCA. The total neglected input flows do therefore not exceed the limit of 5% of energy use and mass or 5% on impact per environmental effect.

END OF LIFE STAGE (C1-C4)

All input flows (e.g. energy use for demolition or disassembly, transport to waste processing, etc.) and output flows (e.g. end-of-life waste processing of the product, etc.) are considered in this LCA. The total neglected input flows do therefore not exceed the limit of 5% of energy use and mass or 5% on impact per environmental effect.

BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY (D)

All benefits and loads beyond the system boundary resulting from reusable products, recyclable materials and/or useful energy carriers leaving the product system are considered in this LCA.

3.6 ALLOCATION

Allocation has not been applied in this LCA.

3.7 DATA COLLECTION & REFERENCE PERIOD

2024

4 Scenarios and additional technical information

4.1 TRANSPORT TO CONSTRUCTION SITE (A4)

For the transport from production place to assembly/user, the following scenario is assumed for module A4 of this EPD.

	Value and unit
Vehicle type used for transport	(ei3.9.1) Lorry (Truck), unspecified (default) | market group for (GLO)
Fuel type and consumption of vehicle	not available
Distance	350 km
Capacity utilisation (including empty returns)	50 % (loaded up and return empty)
Bulk density of transported products	inapplicable
Volume capacity utilisation factor	1

4.2 ASSEMBLY (A5)

The following information describes the scenarios for flows entering the system and flows leaving the system at module A5.

FLOWS ENTERING THE SYSTEM
There are no significant environment impacts as a result of materials or energy used in the construction stage (A5).

FLOWS LEAVING THE SYSTEM
The following output flows leaving the system at module A5 are assumed.

Description	Value	Unit
Output materials as result of loss during construction	15	%
Output materials as result of waste processing of materials used for installation/assembly at the building site	0.000	kg
Output materials as result of waste processing of used packaging	0.240	kg

4.3 USE STAGE (B1)

No significant environment impact in the use stage modules, because there is no (significant) emission to air, soil or water.

4.4 MAINTENANCE (B2)

For maintenance no input or output flows are modelled.

4 Scenarios and additional technical information

4.5 REPAIR (B3)

Repairs are not applicable within the functional unit and to achieve the reference service life.

4.6 OPERATIONAL ENERGY USE (B6)

Description	Service cycle (yr)	Number of cycles (n)	Amount per cycle	Total Amount	Unit

4.7 OPERATIONAL WATER USE (B7)

Description	Service cycle (yr)	Number of cycles (n)	Amount per cycle	Total Amount	Unit

4.8 DE-CONSTRUCTION, DEMOLITION (C1)

No inputs are needed for the product at the de-construction / demolition phase

4.9 TRANSPORT END-OF-LIFE (C2)

The following distances and transport conveyance are assumed for transportation during end of life for the different types of waste processing.

Waste Scenario	Transport conveyance	Not removed (stays in work) [km]	Landfill [km]	Incineration [km]	Recycling [km]	Re-use [km]
(ei3.9.1) plastics, via residue (NMD ID 43), no benefits sec mat.	(ei3.9.1) Lorry (Truck), unspecified (default) | market group for (GLO)	0	100	150	50	50
(ei3.9.1) plastics, via residue (NMD ID 43)	(ei3.9.1) Lorry (Truck), unspecified (default) | market group for (GLO)	0	100	150	50	50

The transport conveyance(s) used in the scenario(s) for transport during end of life has the following characteristics.

	Value and unit
Vehicle type used for transport	(ei3.9.1) Lorry (Truck), unspecified (default) | market group for (GLO)

4 Scenarios and additional technical information

Fuel type and consumption of vehicle	not available
Capacity utilisation (including empty returns)	50 % (loaded up and return empty)
Bulk density of transported products	inapplicable
Volume capacity utilisation factor	1

4.10 END OF LIFE (C3, C4)

The scenario(s) assumed for end of life of the product are given in the following tables.
First the assumed percentages per type of waste processing are displayed, followed by the assumed amounts.

Waste Scenario	Region	Not removed (stays in work) [%]	Landfill [%]	Incineration [%]	Recycling [%]	Re-use [%]
(ei3.9.1) plastics, via residue (NMD ID 43), no benefits sec mat.	NL	0	20	80	0	0
(ei3.9.1) plastics, via residue (NMD ID 43)	NL	0	20	80	0	0

Waste Scenario	Not removed (stays in work) [kg]	Landfill [kg]	Incineration [kg]	Recycling [kg]	Re-use [kg]
(ei3.9.1) plastics, via residue (NMD ID 43), no benefits sec mat.	0.000	0.024	0.096	0.000	0.000
(ei3.9.1) plastics, via residue (NMD ID 43)	0.000	0.011	0.044	0.000	0.000
Total	**0.000**	**0.035**	**0.140**	**0.000**	**0.000**

4.11 BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY (D)

The presented Benefits and loads beyond the system boundary in this EPD are based on the following calculated Net output flows in kilograms and Energy recovery displayed in MJ Lower Heating Value.

Waste Scenario	Net output flow [kg]	Energy recovery [MJ]
(ei3.9.1) plastics, via residue (NMD ID 43), no benefits sec mat.	0.000	2.203
(ei3.9.1) plastics, via residue (NMD ID 43)	0.000	1.646
Total	**0.000**	**3.849**

5 Results

For the impact assessment long-term emissions (>100 years) are not considered. The results of the impact assessment are only relative statements that do not make any statements about end-points of the impact categories, exceedance of threshold values, safety margins or risks. The following tables show the results of the indicators of the impact assessment, of the use of resources as well as of waste and other output flows.

5.1 ENVIRONMENTAL IMPACT INDICATORS PER SQUARE METER

CORE ENVIRONMENTAL IMPACT INDICATORS EN 15804+A2

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO₂ eq.	2.50E-1	7.45E-4	-4.30E-2	2.08E-1	2.16E-2	5.91E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.65E-3	3.71E-1	3.87E-3	-1.65E-1
GWP-f	kg CO₂ eq.	2.49E-1	7.42E-4	2.78E-1	5.28E-1	2.16E-2	2.61E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.64E-3	3.71E-1	3.87E-3	-1.65E-1
GWP-b	kg CO₂ eq.	8.74E-4	2.42E-7	-3.23E-1	-3.22E-1	7.02E-6	3.29E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.18E-6	4.83E-5	2.04E-6	-6.88E-5
GWP-luluc	kg CO₂ eq.	4.03E-4	2.65E-6	1.18E-3	1.59E-3	7.69E-5	2.85E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.30E-5	3.42E-5	3.22E-7	-1.35E-4
ODP	kg CFC 11 eq.	3.23E-9	1.32E-11	5.13E-9	8.37E-9	3.84E-10	6.26E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.47E-11	1.01E-8	9.70E-12	-8.79E-9
AP	mol H+ eq.	1.17E-3	3.55E-6	1.44E-3	2.62E-3	1.03E-4	5.72E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.74E-5	1.52E-4	3.05E-6	-2.52E-4
EP-fw	kg P eq.	1.01E-5	7.38E-9	1.79E-5	2.80E-5	2.14E-7	4.95E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.62E-8	1.02E-6	6.46E-9	-2.07E-6
EP-m	kg N eq.	2.15E-4	1.35E-6	3.98E-4	6.14E-4	3.92E-5	1.56E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.62E-6	4.28E-5	2.67E-6	-8.37E-5
EP-T	mol N eq.	2.28E-3	1.44E-5	3.88E-3	6.17E-3	4.18E-4	1.61E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	7.06E-5	4.79E-4	1.19E-5	-1.11E-3
POCP	kg NMVOC eq.	9.67E-4	4.92E-6	1.39E-3	2.36E-3	1.43E-4	5.74E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.41E-5	1.36E-4	4.97E-6	-3.89E-4
ADP-mm	kg Sb-eq.	2.13E-6	2.32E-9	1.18E-6	3.31E-6	6.75E-8	6.49E-7	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.14E-8	1.65E-7	8.88E-10	-7.11E-8
ADP-f	MJ	5.88E+0	1.06E-2	5.59E+0	1.15E+1	3.09E-1	2.09E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.21E-2	2.52E-1	9.02E-3	-2.60E+0
WDP	m3 world eq.	1.45E-1	5.80E-5	9.92E-2	2.44E-1	1.69E-3	4.62E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.84E-4	1.69E-2	3.78E-4	-1.50E-2

GWP-total=Global Warming Potential total (GWP-total) | **GWP-f**=Global Warming Potential fossil fuels (GWP-fossil) | **GWP-b**=Global Warming Potential biogenic (GWP-biogenic) | **GWP-luluc**=Global Warming Potential land use and land use change (GWP-luluc) | **ODP**=Depletion potential of the stratosperic ozon layer (ODP) | **AP**=Acidification potential, Accumulated Exceedance (AP) | **EP-fw**=Eutrophication potential, fraction of nutrients reaching freshwater end compartment (EP-freshwater) | **EP-m**=Eutrophication potential, fraction of nutrients reaching marine end compartment (EP-marine) | **EP-T**=Eutrophication potential, Accumulated Exceedance (EP-terrestrial) | **POCP**=Formation potential of tropospheric ozone (POCP) | **ADP-mm**=Abiotic depletion potential for non fossil resources (ADP mm) | **ADP-f**=Abiotic depletion for fossil resources potential (ADP fossil) | **WDP**=Water (user) deprication potential, deprivation-weighted water consumption (WDP)

5 Results

ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS EN 15804+A2

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B6	B7	C1	C2	C3	C4	D
PM	disease incidence	1.09E-8	7.33E-11	2.28E-8	3.38E-8	2.13E-9	7.67E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.59E-10	1.29E-9	6.35E-11	-2.62E-9
IR	kBq U235 eq.	1.23E-2	4.15E-6	1.06E-2	2.29E-2	1.20E-4	4.13E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.03E-5	8.87E-4	5.09E-6	-4.02E-4
ETP-fw	CTUe	1.02E+0	7.84E-3	1.46E+0	2.49E+0	2.28E-1	2.50E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.84E-2	4.30E+0	3.05E-2	-1.46E-1
HTP-c	CTUh	1.32E-10	3.93E-13	1.55E-10	2.88E-10	1.14E-11	1.04E-10	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.93E-12	6.62E-11	2.56E-13	-3.42E-11
HTP-nc	CTUh	2.89E-9	8.54E-12	2.54E-9	5.44E-9	2.48E-10	1.39E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.18E-11	6.88E-10	9.11E-12	-5.49E-10
SQP	Pt	1.28E+0	8.39E-3	2.60E+1	2.73E+1	2.44E-1	4.26E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.11E-2	7.05E-2	2.03E-2	-1.40E+1

PM=Potential incidence of disease due to PM emissions (PM) | **IR**=Potential Human exposure efficiency relative to U235 (IRP) | **ETP-fw**=Potential Comparative Toxic Unit for ecosystems (ETP-fw) | **HTP-c**=Potential Comparative Toxic Unit for humans (HTP-c) | **HTP-nc**=Potential Comparative Toxic Unit for humans (HTP-nc) | **SQP**=Potential soil quality index (SQP)

CLASSIFICATION OF DISCLAIMERS TO THE DECLARATION OF CORE AND ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS

ILCD classification	Indicator	Disclaimer
ILCD type / level 1	Global warming potential (GWP)	None
	Depletion potential of the stratospheric ozone layer (ODP)	None
	Potential incidence of disease due to PM emissions (PM)	None
ILCD type / level 2	Acidification potential, Accumulated Exceedance (AP)	None
	Eutrophication potential, Fraction of nutrients reaching freshwater end compartment (EP-freshwater)	None
	Eutrophication potential, Fraction of nutrients reaching marine end compartment (EP-marine)	None
	Eutrophication potential, Accumulated Exceedance (EP-terrestrial)	None
	Formation potential of tropospheric ozone (POCP)	None
	Potential Human exposure efficiency relative to U235 (IRP)	1
ILCD type / level 3	Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)	2
	Abiotic depletion potential for fossil resources (ADP-fossil)	2
	Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	2
	Potential Comparative Toxic Unit for ecosystems (ETP-fw)	2

5 Results

ILCD classification	Indicator	Disclaimer
	Potential Comparative Toxic Unit for humans (HTP-c)	2
	Potential Comparative Toxic Unit for humans (HTP-nc)	2
	Potential Soil quality index (SQP)	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 disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

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 experienced with the indicator.

CORE ENVIRONMENTAL IMPACT INDICATORS EN15804+A1

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B6	B7	C1	C2	C3	C4	D
ADPE	kg Sb eq.	2.13E-6	2.33E-9	1.19E-6	3.32E-6	6.77E-8	6.52E-7	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.14E-8	1.65E-7	8.89E-10	-7.12E-8
GWP	kg CO_2 eq.	2.48E-1	7.41E-4	2.81E-1	5.30E-1	2.15E-2	2.63E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.63E-3	3.71E-1	3.70E-3	-1.64E-1
ODP	kg CFC 11 eq.	2.90E-9	1.09E-11	4.67E-9	7.58E-9	3.18E-10	6.15E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.36E-11	1.03E-8	7.96E-12	-7.36E-9
POCP	kg ethene eq.	9.92E-5	1.24E-7	1.14E-4	2.14E-4	3.61E-6	3.94E-5	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.09E-7	5.10E-6	6.84E-7	-2.05E-5
AP	kg SO_2 eq.	9.68E-4	2.64E-6	1.08E-3	2.05E-3	7.68E-5	4.42E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.30E-5	1.18E-4	2.29E-6	-1.75E-4
EP	Kg PO43- eq.	1.19E-4	5.00E-7	2.37E-4	3.56E-4	1.45E-5	7.94E-5	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.45E-6	1.93E-5	1.19E-6	-5.00E-5

ADPE=Depletion of abiotic resources-elements | GWP=Global warming | ODP=Ozone layer depletion | POCP=Photochemical oxidants creation | AP=Acidification of soil and water | EP=Eutrophication

NATIONAL ANNEX NMD

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B6	B7	C1	C2	C3	C4	D
ADPF	kg Sb eq.	2.78E-3	5.18E-6	2.66E-3	5.45E-3	1.50E-4	1.00E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.54E-5	1.35E-4	4.40E-6	-1.39E-3
HTP	kg 1,4 DB eq.	1.28E-1	2.63E-4	9.10E-2	2.19E-1	7.64E-3	5.78E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.29E-3	2.56E-2	2.31E-4	-1.09E-2
FAETP	kg 1,4 DB eq.	5.44E-3	1.62E-5	5.21E-3	1.07E-2	4.69E-4	2.84E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	7.92E-5	1.42E-3	1.86E-4	-4.82E-4

ADPF=Depletion of abiotic resources-fossil fuels | HTP=Human toxicity | FAETP=Ecotoxicity. fresh water | MAETP=Ecotoxicity. marine water | TETP=Ecotoxicity. terrestric

5 Results

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B6	B7	C1	C2	C3	C4	D
MAETP	kg 1,4 DB eq.	1.37E+1	5.89E-2	9.81E+0	2.36E+1	1.71E+0	8.36E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.89E-1	4.28E+0	2.12E-1	-1.12E+0
TETP	kg 1,4 DB eq.	2.65E-3	2.77E-6	2.15E-3	4.80E-3	8.06E-5	9.98E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.36E-5	1.86E-4	3.73E-6	-5.04E-4

ADPF=Depletion of abiotic resources-fossil fuels | **HTP**=Human toxicity | **FAETP**=Ecotoxicity. fresh water | **MAETP**=Ecotoxicity. marine water | **TETP**=Ecotoxicity. terrestric

5.2 INDICATORS DESCRIBING RESOURCE USE AND ENVIRONMENTAL INFORMATION BASED ON LIFE CYCLE INVENTORY (LCI)

PARAMETERS DESCRIBING RESOURCE USE

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B6	B7	C1	C2	C3	C4	D
PERE	MJ	5.13E-1	1.50E-4	1.82E+0	2.33E+0	4.37E-3	3.72E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	7.36E-4	2.99E-2	1.71E-4	-2.58E+0
PERM	MJ	0.00E+0	0.00E+0	3.12E+0	3.12E+0	0.00E+0	4.68E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PERT	MJ	5.13E-1	1.50E-4	4.94E+0	5.45E+0	4.37E-3	8.40E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	7.36E-4	2.99E-2	1.71E-4	-2.58E+0
PENRE	MJ	5.83E+0	1.06E-2	3.83E+0	9.67E+0	3.09E-1	1.82E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.22E-2	2.52E-1	9.02E-3	-2.54E+0
PENRM	MJ	5.07E-2	0.00E+0	1.77E+0	1.82E+0	0.00E+0	2.72E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	-6.54E-2
PENRT	MJ	5.88E+0	1.06E-2	5.59E+0	1.15E+1	3.09E-1	2.09E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.22E-2	2.52E-1	9.02E-3	-2.60E+0
SM	Kg	1.20E-1	0.00E+0	6.00E-3	1.26E-1	0.00E+0	1.89E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
RSF	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	m³	4.20E-3	2.57E-6	2.87E-3	7.08E-3	7.46E-5	1.39E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.26E-5	5.01E-4	9.24E-6	-2.44E-4

PERE=Use of renewable primary energy excluding renewable primary energy resources used as raw materials | **PERM**=Use of renewable primary energy resources used as raw materials | **PERT**=Total use of renewable primary energy resources | **PENRE**=Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials | **PENRM**=Use of non-renewable primary energy resources used as raw materials | **PENRT**=Total use of non-renewable primary energy resources | **SM**=Use of secondary material | **RSF**=Use of renewable secondary fuels | **NRSF**=Use of non-renewable secondary fuels | **FW**=Net use of fresh water

5 Results

OTHER ENVIRONMENTAL INFORMATION DESCRIBING WASTE CATEGORIES

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B6	B7	C1	C2	C3	C4	D
HWD	Kg	7.17E-6	6.78E-8	9.30E-6	1.65E-5	1.97E-6	4.39E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.32E-7	8.90E-7	4.45E-8	-1.09E-5
NHWD	Kg	3.57E-2	7.02E-4	5.89E-2	9.53E-2	2.04E-2	1.55E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.44E-3	1.45E-1	3.51E-2	-6.58E-3
RWD	Kg	8.14E-6	2.43E-9	8.62E-6	1.68E-5	7.07E-8	3.01E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.19E-8	6.23E-7	3.11E-9	-2.89E-7

HWD=Hazardous waste disposed | **NHWD**=Non-hazardous waste disposed | **RWD**=Radioactive waste disposed

ENVIRONMENTAL INFORMATION DESCRIBING OUTPUT FLOWS

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B6	B7	C1	C2	C3	C4	D
CRU	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.75E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MER	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EE	MJ	0.00E+0	0.00E+0	4.03E-2	4.03E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.20E+0
EET	MJ	0.00E+0	0.00E+0	2.55E-2	2.55E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.39E+0
EEE	MJ	0.00E+0	0.00E+0	1.48E-2	1.48E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	8.07E-1

CRU=Components for re-use | **MFR**=Materials for recycling | **MER**=Materials for energy recovery | **EE**=Exported energy | **EET**=Exported Energy, Thermic | **EEE**=Exported Energy, Electric

5 Results

5.3 INFORMATION ON BIOGENIC CARBON CONTENT PER SQUARE METER

BIOGENIC CARBON CONTENT

The following Information describes the biogenic carbon content in (the main parts of) the product at the factory gate per square meter:

Biogenic carbon content	Amount	Unit
Biogenic carbon content in the product	0	kg C
Biogenic carbon content in accompanying packaging	0.08909	kg C

UPTAKE OF BIOGENIC CARBON DIOXIDE

The following amount of carbon dioxide uptake is taken into account. Related uptake and release of carbon dioxide in downstream processes are not taken into account in this number although they do appear in the presented results. One kilogram of biogenic Carbon content is equivalent to 44/12 kg of biogenic carbon dioxide uptake.

| Uptake Biogenic Carbon dioxide	Amount	Unit
Packaging	0.3267	kg CO2 (biogenic)

5 Results

5.4 ENVIRONMENTAL COST INDICATOR NL PER SQUARE METER

Using the environmental cost indicator (ECI) method, which is presented in the NMD Determination Method (2020), the results are aggregated to the single-point score. The ECI is a relevant valuation method, especially in the Dutch construction sector. In the Netherlands, it is a prerequisite for public tenders. The aim of the indicator is to show the shadow price for environmental impacts of a product or project. The application of single-point scores is an additional assessment tool for eco-balance results. However, it must be pointed out that weightings are always based on a value maintenance and not on a scientific basis (EN 14040). The ECI results are shown in the following table.

Module EN15804	ECI NL 2010	Share in total (%)
A1 Raw Materials Supply	€ 0.03	31,7 %
A2 Transport	€ 0.00	0,1 %
A3 Manufacturing	€ 0.03	31,2 %
A4 Transport from the gate to the site	€ 0.00	2,5 %
A5 Construction - Installation process	€ 0.02	22,4 %
B1 Use	€ 0.00	0,0 %
B2 Maintenance	€ 0.00	0,0 %
B3 Repair	€ 0.00	0,0 %
B6 Operational Energy Use	€ 0.00	0,0 %
B7 Operational Water Use	€ 0.00	0,0 %
C1 De-construction / demolition	€ 0.00	0,0 %
C2 Transport	€ 0.00	0,4 %
C3 Waste processing	€ 0.02	22,4 %
C4 Disposal	€ 0.00	0,3 %
D Benefits and loads beyond the product system boundary	€ -0.01	-11,0 %
ECI NL 2010 per functional unit	**€ 0.10**	

6 Interpretation of results
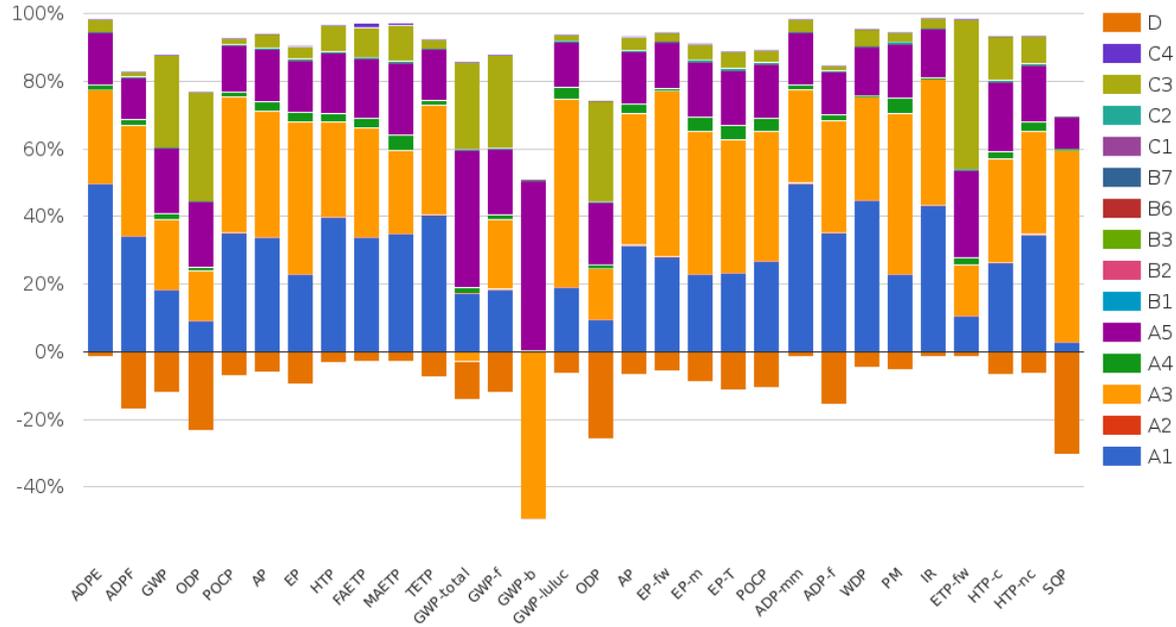
Module A3 is the largest contributor to the total environmental impact. this is caused mainly by the packaging i.e. the cardboard roll.

Environmental Cost Indicator NL 2010

Phase EN15804	Environmental Cost Indicator NL 2010 per phase (€)	Share in total (%)
A1 Raw Materials Supply	0,016399	21%
A2 Transport	0,00106	1%

6 Interpretation of results

A3 Manufacturing	0,0422	53%
A4 Transport from the gate to the site	0,001016	1%
A5 Construction - Installation process	0,021807	27%
B1 Use	0	0%
B2 Maintenance	0	0%
B3 Repair	0	0%
B4 Replacement	0	0%
B5 Refurbishment	0	0%
C1 De-construction / demolition	0	0%
C2 Transport	0,000407	1%
C3 Waste processing	0,022515	28%
C4 Disposal	0,000275	0%
D Benefits and loads beyond the product system boundary	-0,02637	-33%
Total € per functional unit	0,079306	

7 References

ISO 14040
ISO 14040:2006-10, Environmental management - Life cycle assessment - Principles and framework; EN ISO 14040:2006

ISO 14044
ISO 14044:2006-10, Environmental management - Life cycle assessment - Requirements and guidelines; EN ISO 14044:2006

ISO 14025
ISO 14025:2011-10, Environmental labels and declarations — Type III environmental declarations — Principles and procedures

EN 15804+A1
EN 15804+A1: 2013: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

EN 15804+A2
EN 15804+A2: 2019: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

NMD-verification protocol
NMD-Toetsingsprotocol Opname data in de Nationale Milieudatabase, Versie *1.2, August 2024*

NMD Determination method
Bepalingsmethode Milieuprestatie Bouwwerken, Berekeningswijze voor het bepalen van de milieuprestatie van bouwwerken gedurende hun gehele levensduur, gebaseerd op de EN 15804+A2, versie *1.2, January 2025*

Ecoinvent
ecoinvent Version 3.6, September 2019

RETHINK characterization method
ecoinvent 3.6: EN 15804+A1 indicators (CML-IA Baseline v3.06), EN 15804+A2 indicators (EF 3.0)

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