Result summary

MMP-ECO (v2)

MMP Eco

Calculation number:	ReTHiNK-87267
Generation on:	30-10-2024
Issue date:	30-10-2024
Valid until:	30-10-2029
Status:	verified

R<THiNK

powered by nibe

1 General information

1.1 PRODUCT

MMP-ECO (v2)

1.2 VALIDITY

Issue date: 30-10-2024
Valid until: 30-10-2029

1.3 OWNER OF THE DECLARATION

Manufacturer: MMP Eco
Address: Houtse parallelweg 31, 5706 AB Helmond
E-mail: MARIO.VANHOUT@MMP-ECO.NL
Website: https://mmp-eco.nl/
Production location: MMP-ECO
Address production location: Houtse Parallelweg 31, 5706 AB HELMOND

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 15804:2012+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 v1.1 March 2022

1.6 FUNCTIONAL UNIT

1 m2 exterior facade impregnating agent

1 m2 (0,25kg) of liquid facade impregnator for masonry facades, based on plant-derived, natural oils, used to prevent moisture penetration on and in the facade and mortar joints.

Reference unit: square meter (m2)

1.7 CONVERSION FACTORS

Description	Value	Unit
Reference unit	1	m2
Weight per reference unit	0.250	kg
Conversion factor to 1 kg	4.000000	m2

1 General information

1.8 SCOPE OF DECLARATION AND SYSTEM BOUNDARIES

This is a Cradle to gate with options 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	ND	ND	X	X	X	X	X

The modules of the EN15804 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	

1.9 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. 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 (5.3 Comparability of EPD for construction products) and ISO 14025 (6.7.2 Requirements for comparability).

2 Product

2.1 PRODUCT DESCRIPTION

MMP-ECO is a liquid facade impregnator for masonry facades, based on plant-derived, natural oils. The product is designed to effectively block moisture penetration into the facade. With natural resins, MMP-ECO provides long-lasting and sustainable protection.

The product is supplied in 5-liter jerry cans weighing 4.75 kg.

MMP-ECO has a vapor diffusion of 50% on a standard brick (TNO tested in 2022)

MMP-ECO has a lifespan of at least 20 years. Simultaniously, MMP-ECO will counteract the erosion of the mortar joints.

Density = 950 kg/m3

2.2 APPLICATION (INTENDED USE OF THE PRODUCT)

The blend of MMP-ECO is strategically formulated based on addressing the three main groups:

- Optimal Humidity and Facade Protection

Impregnating with MMP-ECO primarily aims to prevent moisture on and in the facade and mortar joints. A dry facade protects against erosion due to excessive moisture. MMP-ECO can reduce moisture in the facade, thus adapting it to optimal humidity.

- Sustainability and Energy Efficiency

With MMP-ECO, the maintenance of the facade and mortar joints is prolonged. An additional benefit is the increased insulation value of a drier facade, ultimately resulting in less energy consumption.

- Natural and Chemical-Free

MMP-ECO maintains its natural character by avoiding artificial chemical ingredients such as silicones, silanes, and PFAS. Unlike chemical impregnating agents, MMP-ECO contributes is free from substances harmful to the environment and difficult to degrade.

2.3 DESCRIPTION PRODUCTION PROCESS

The oils are weighed manually, and a compressor is used to fill the jerry cans. During this process VOCs and other emissions are prevented due to the compressor being a closed system. Waste, due to spilling e.g., is minimized in this closed system. However, as a worst-case assumption 1% of production waste is adhered to in A3. The energy source is provided by the solar panels installed on the roof of the production space. There's no internal transport during production process.

2.4 CONSTRUCTION DESCRIPTION

The product is pre-prepared for immediate use. Transfer the product into a bucket and utilize a block brush to administer MMP-ECO onto the facade. Apply MMP-ECO exclusively on dry surfaces. Note that the product is suitable for application only on porous substrates.

3 Results

3.1 ENVIRONMENTAL IMPACT INDICATORS PER SQUARE METER

CORE ENVIRONMENTAL IMPACT INDICATORS EN15804+A2

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
AP	mol H+ eqv.	3.91E-3	1.42E-3	9.65E-4	6.30E-3	3.78E-5	1.03E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.96E-5	0.00E+0	2.26E-5	-6.81E-5	7.34E-3
GWP-total	kg CO2 eqv.	1.39E+0	5.37E-2	1.87E-1	1.63E+0	6.52E-3	4.25E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.38E-3	0.00E+0	2.99E-2	-5.20E-2	2.04E+0
GWP-b	kg CO2 eqv.	6.17E-1	5.16E-5	-3.20E-2	5.85E-1	3.01E-6	1.28E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.56E-6	0.00E+0	2.17E-5	-2.03E-5	7.13E-1
GWP-f	kg CO2 eqv.	3.25E-1	5.36E-2	2.14E-1	5.92E-1	6.51E-3	2.30E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.37E-3	0.00E+0	2.98E-2	-5.20E-2	8.11E-1
GWP-luluc	kg CO2 eqv.	4.44E-1	4.17E-5	4.77E-3	4.49E-1	2.39E-6	6.73E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.24E-6	0.00E+0	1.21E-6	-1.70E-5	5.16E-1
EP-m	kg N eqv.	3.88E-3	3.59E-4	2.21E-4	4.46E-3	1.33E-5	6.95E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.90E-6	0.00E+0	7.62E-6	-1.87E-5	5.16E-3
EP-fw	kg P eq	3.93E-3	6.47E-7	4.62E-5	3.97E-3	6.57E-8	5.96E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.40E-8	0.00E+0	4.57E-8	-2.21E-7	4.57E-3
EP-T	mol N eqv.	1.34E-2	3.99E-3	2.06E-3	1.95E-2	1.47E-4	3.21E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	7.60E-5	0.00E+0	8.40E-5	-2.26E-4	2.28E-2
ODP	kg CFC 11 eqv.	4.71E-8	1.01E-8	1.21E-8	6.93E-8	1.44E-9	1.54E-8	0.00E+0	0.00E+0	0.00E+0	0.00E+0	7.45E-10	0.00E+0	8.17E-10	-6.45E-9	8.12E-8
POCP	kg NMVOC eqv.	2.41E-3	1.04E-3	7.06E-4	4.16E-3	4.19E-5	7.06E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.17E-5	0.00E+0	3.05E-5	-7.05E-5	4.89E-3
ADP-f	MJ	4.22E+0	7.11E-1	5.13E+0	1.01E+1	9.82E-2	1.68E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.09E-2	0.00E+0	6.22E-2	-9.38E-1	1.10E+1
ADP-mm	kg Sb-eqv.	2.37E-5	4.47E-7	1.90E-6	2.61E-5	1.65E-7	4.19E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	8.55E-8	0.00E+0	2.82E-8	-6.08E-8	3.05E-5
WDP		1.86E+0	2.27E-3	9.79E-2	1.96E+0	3.51E-4	3.02E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.82E-4	0.00E+0	2.68E-3	-6.66E-3	2.26E+0

AP=Acidification (AP) | **GWP-total**=Global warming potential (GWP-total) | **GWP-b**=Global warming potential - Biogenic (GWP-b) | **GWP-f**=Global warming potential - Fossil (GWP-f) | **GWP-luluc**=Global warming potential - Land use and land use change (GWP-luluc) | **EP-m**=Eutrophication marine (EP-m) | **EP-fw**=Eutrophication, freshwater (EP-fw) | **EP-T**=Eutrophication, terrestrial (EP-T) | **ODP**=Ozone depletion (ODP) | **POCP**=Photochemical ozone formation - human health (POCP) | **ADP-f**=Resource use, fossils (ADP-f) | **ADP-mm**=Resource use, minerals and metals (ADP-mm) | **WDP**=Water use (WDP)

3 Results

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
	m3 world eqv.															

AP=Acidification (AP) | **GWP-total**=Global warming potential (GWP-total) | **GWP-b**=Global warming potential - Biogenic (GWP-b) | **GWP-f**=Global warming potential - Fossil (GWP-f) | **GWP-luluc**=Global warming potential - Land use and land use change (GWP-luluc) | **EP-m**=Eutrophication marine (EP-m) | **EP-fw**=Eutrophication, freshwater (EP-fw) | **EP-T**=Eutrophication, terrestrial (EP-T) | **ODP**=Ozone depletion (ODP) | **POCP**=Photochemical ozone formation - human health (POCP) | **ADP-f**=Resource use, fossils (ADP-f) | **ADP-mm**=Resource use, minerals and metals (ADP-mm) | **WDP**=Water use (WDP)

ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS EN15804+A2

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
ETP-fw	CTUe	5.20E+1	5.32E-1	4.22E+0	5.67E+1	8.76E-2	1.03E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.54E-2	0.00E+0	5.16E-2	-2.01E-1	6.70E+1
PM	disease incidence	6.45E-8	2.22E-9	8.11E-9	7.48E-8	5.86E-10	1.21E-8	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.04E-10	0.00E+0	4.32E-10	-4.33E-10	8.78E-8
HTP-c	CTUh	7.54E-10	3.42E-11	7.62E-11	8.65E-10	2.84E-12	1.60E-10	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.47E-12	0.00E+0	3.27E-12	-5.84E-12	1.03E-9
HTP-nc	CTUh	1.39E-8	4.88E-10	1.88E-9	1.62E-8	9.58E-11	3.04E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.96E-11	0.00E+0	4.40E-11	-1.29E-10	1.93E-8
IR	kBq U235 eqv.	1.25E-2	3.26E-3	6.76E-3	2.25E-2	4.11E-4	4.08E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.13E-4	0.00E+0	2.45E-4	-3.93E-4	2.71E-2
SQP	Pt	2.65E+1	2.04E-1	1.81E+0	2.85E+1	8.52E-2	4.39E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.41E-2	0.00E+0	1.48E-1	-1.74E+0	3.15E+1

ETP-fw=Ecotoxicity, freshwater (ETP-fw) | **PM**=Particulate Matter (PM) | **HTP-c**=Human toxicity, cancer (HTP-c) | **HTP-nc**=Human toxicity, non-cancer (HTP-nc) | **IR**=Ionising radiation, human health (IR) | **SQP**=Land use (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

3 Results

ILCD classification	Indicator	Disclaimer
ILCD type / level 2	Depletion potential of the stratospheric ozone layer (ODP)	None
	Potential incidence of disease due to PM emissions (PM)	None
	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
	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	C1	C2	C3	C4	D	Total
ADPE	Kg Sb	2.38E-5	4.47E-7	1.90E-6	2.61E-5	1.65E-7	4.20E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	8.55E-8	0.00E+0	2.82E-8	-6.08E-8	3.06E-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

3 Results

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
GWP	Kg CO2 Equiv.	8.30E-1	5.32E-2	2.14E-1	1.10E+0	6.46E-3	3.05E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.35E-3	0.00E+0	2.56E-2	-5.12E-2	1.39E+0
ODP	Kg CFC-11 Equiv.	4.54E-8	8.18E-9	1.12E-8	6.48E-8	1.15E-9	1.45E-8	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.94E-10	0.00E+0	6.55E-10	-5.70E-9	7.60E-8
POCP	Kg Ethene Equiv.	6.20E-4	6.24E-5	1.42E-4	8.25E-4	3.90E-6	1.33E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.02E-6	0.00E+0	6.17E-6	-1.26E-5	9.57E-4
AP	Kg SO2 Equiv.	2.68E-3	1.13E-3	7.85E-4	4.60E-3	2.84E-5	7.57E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.47E-5	0.00E+0	1.71E-5	-5.18E-5	5.36E-3
EP	Kg PO43- Equiv.	1.74E-2	1.30E-4	2.70E-4	1.78E-2	5.58E-6	2.68E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.89E-6	0.00E+0	4.07E-6	-8.80E-6	2.04E-2

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	C1	C2	C3	C4	D	Total
ADPF	Kg Sb	2.22E-3	3.35E-4	2.58E-3	5.14E-3	4.75E-5	8.56E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.46E-5	0.00E+0	3.00E-5	-4.98E-4	5.60E-3
HTP	kg 1.4 DB	3.83E-1	2.82E-2	5.39E-2	4.65E-1	2.72E-3	8.21E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.41E-3	0.00E+0	1.49E-3	-3.98E-3	5.49E-1
FAETP	kg 1.4 DB	6.03E-1	4.63E-4	7.79E-3	6.11E-1	7.94E-5	9.24E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.11E-5	0.00E+0	5.85E-4	-6.15E-5	7.04E-1

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

3 Results

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
MAETP	kg 1.4 DB	1.84E+1	2.10E+0	5.38E+0	2.59E+1	2.85E-1	5.82E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.48E-1	0.00E+0	8.01E-1	-1.79E-1	3.28E+1
TETP	kg 1.4 DB	2.62E-1	9.40E-5	2.94E-3	2.65E-1	9.61E-6	3.98E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.98E-6	0.00E+0	5.27E-6	-1.76E-5	3.05E-1

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

3.2 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	C1	C2	C3	C4	D	Total
PERE	MJ	3.22E+0	1.78E-2	5.53E-2	3.29E+0	1.23E-3	5.05E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.37E-4	0.00E+0	1.08E-3	-3.19E-1	3.48E+0
PERM	MJ	0.00E+0	0.00E+0	3.37E-1	3.37E-1	0.00E+0	5.06E-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	3.88E-1
PERT	MJ	3.22E+0	1.78E-2	3.92E-1	3.63E+0	1.23E-3	5.56E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.37E-4	0.00E+0	1.08E-3	-3.19E-1	3.87E+0
PENRE	MJ	5.01E+0	7.55E-1	4.35E+0	1.01E+1	1.04E-1	1.70E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.40E-2	0.00E+0	6.61E-2	-9.53E-1	1.11E+1
PENRM	MJ	0.00E+0	0.00E+0	1.16E+0	1.16E+0	0.00E+0	1.74E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	-8.26E-2	1.25E+0
PENRT	MJ	5.01E+0	7.55E-1	5.51E+0	1.13E+1	1.04E-1	1.87E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.40E-2	0.00E+0	6.61E-2	-1.04E+0	1.23E+1
SM	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
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
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
FW	M3	4.94E-2	1.06E-4	2.54E-3	5.20E-2	1.20E-5	8.03E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.20E-6	0.00E+0	6.52E-5	-9.57E-5	6.01E-2

PERE=renewable primary energy ex. raw materials | **PERM**=renewable primary energy used as raw materials | **PERT**=renewable primary energy total | **PENRE**=non-renewable primary energy ex. raw materials | **PENRM**=non-renewable primary energy used as raw materials | **PENRT**=non-renewable primary energy total | **SM**=use of secondary material | **RSF**=use of renewable secondary fuels | **NRSF**=use of non-renewable secondary fuels | **FW**=use of net fresh water

3 Results

OTHER ENVIRONMENTAL INFORMATION DESCRIBING WASTE CATEGORIES

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
HWD	Kg	5.74E-4	8.70E-7	9.20E-6	5.84E-4	2.49E-7	8.80E-5	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.29E-7	0.00E+0	9.55E-8	-1.06E-6	6.72E-4
NHWD	Kg	1.22E-1	5.03E-3	2.13E-2	1.48E-1	6.23E-3	7.12E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.23E-3	0.00E+0	2.51E-1	-8.26E-4	4.79E-1
RWD	Kg	1.16E-5	4.81E-6	6.21E-6	2.26E-5	6.45E-7	4.18E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.34E-7	0.00E+0	3.72E-7	-5.31E-7	2.76E-5

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	C1	C2	C3	C4	D	Total
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
MFR	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.12E-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	2.12E-2
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
EE	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	-6.03E-1	-6.03E-1
EET	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	-3.81E-1	-3.81E-1
EEE	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	-2.21E-1	-2.21E-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

3 Results

3.3 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	0.009624	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	0.03529	kg CO2 (biogenic)

3 Results

3.4 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	Share in total (%)
A1 Raw Materials Supply	€ 0.28	75,8 %
A2 Transport	€ 0.01	3,1 %
A3 Manufacturing	€ 0.02	6,2 %
A4 Transport from the gate to the site	€ 0.00	0,2 %
A5 Construction - Installation process	€ 0.06	15,1 %
B1 Use	€ 0.00	0,0 %
B2 Maintenance	€ 0.00	0,0 %
B3 Repair	€ 0.00	0,0 %
C1 De-construction / demolition	€ 0.00	0,0 %
C2 Transport	€ 0.00	0,1 %
C3 Waste processing	€ 0.00	0,0 %
C4 Disposal	€ 0.00	0,4 %
D Benefits and loads beyond the product system boundary	€ 0.00	-0,9 %
ECI NL per functional unit	**€ 0.37**	

4 Contact information

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