

Result summary

PCM Element (piece)

Orange Climate

Calculation number:	ReTHiNK-97718
Generation on:	16-06-2025
Issue date:	16-06-2025
Valid until:	16-06-2030
Status:	verified

R<THiNK

1 General information

1.1 PRODUCT

PCM Element (piece)

1.2 VALIDITY

Issue date: 16-06-2025

Valid until: 16-06-2030

1.3 OWNER OF THE DECLARATION



Manufacturer: Orange Climate

Address: Albert Einsteinweg 10, 5151 DL Drunen

E-mail: info@orangeclimate.nl

Website: www.orangeclimate.nl

Production location: Orange Climate B.V. - Autarkis

Address production location: Albert Einsteinweg 10, 5151 DL Drunen

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

A handwritten signature in blue ink, appearing to read "Gert-Jan Vroege".

Gert-Jan Vroege, Eco Intelligence

1.5 PRODUCT CATEGORY RULES

NMD Determination method Environmental performance Construction works v1.1 March 2022

1.6 FUNCTIONAL UNIT

piece (heat and cold storage)

One piece of heat and cold storage. HDPE element (575x275x13mm) containing an inorganic salt mixed with water (PCM) for cooling and heating. Energy storage in the phase transition region is 310 kJ. Excluding auxiliary construction or assembly related emissions.

Reference unit: piece (p)

1.7 CONVERSION FACTORS

Description	Value	Unit
Reference unit	1	p
Weight per reference unit	2.366	kg
Conversion factor to 1 kg	0.422654	p

1.8 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)

1 General information

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 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	

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+A2:2019. 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.

2 Product

2.1 PRODUCT DESCRIPTION

General Product Description

The PCM Element features a HDPE container filled with a PCM mixture. This product card is representative of the materialization of one piece HDPE-element with PCM and a weight of 2.366 kg/p. Excluding auxiliary structures, connections, integrated controls, measurements, and architectural provisions.

Measurements

Height: 275mm
Length: 575mm
Thickness: 13mm

Composition

The EPD is based on a Bill of Material consisting of 2 components. The PCM Element comprises the following components:

- 66% PCM mixture (chlorides)
- 24% PCM packaging (HDPE)

2.2 APPLICATION (INTENDED USE OF THE PRODUCT)

The PCM Element is designed to create a controlled indoor climate. It is commonly utilized in both commercial and residential settings to achieve optimal heating, cooling, and ventilation. There are several possible applications with the PCM Element, for example as part of air handling units, air distribution products and/or climate ceilings. The intended use aims to enhance comfort by ensuring uniform temperature distribution and effective

air quality control. For detailed features and specific applications, referring to the product's design and specifications provided by Orange Climate is recommended.

Phase Change Material

The chloride solution is intended to be a phase change material (PCM), capable of storing and releasing thermal energy efficiently. The ratio of salts ensures that the eutectic composition is optimal for maintaining energy storage properties, such as high latent heat and a phase change temperature within room temperature range. This makes it suitable for energy-saving applications like thermal regulation in buildings.

2.3 DESCRIPTION PRODUCTION PROCESS

1. Mixing the PCM and filling the HDPE-element.
2. Transporting the PCM Element to the factory of Inteco B.V. in Bostel.
3. Integrate the PCM Element within the intended application.
4. Transporting the PCM Element to the building site, either as part of a larger system or als individual component.
5. Assembly of the PCM Element at the building site.

2.4 CONSTRUCTION DESCRIPTION

The specific applications of the PCM Element are currently unknown and, as such, are not included within the scope of this document. However, it is unlikely that any potential applications of the PCM Element would result in significant emissions within A4.

3 Results

3.1 ENVIRONMENTAL IMPACT INDICATORS PER PIECE

CORE ENVIRONMENTAL IMPACT INDICATORS EN 15804+A2

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
GWP-total	kg CO ₂ eq.	2.29E+0	7.50E-2	4.58E-1	2.82E+0	4.83E-2	2.73E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.08E-2	1.29E+0	8.43E-3	-1.03E+0	3.20E+0
GWP-f	kg CO ₂ eq.	2.33E+0	7.50E-2	4.82E-1	2.89E+0	4.82E-2	9.87E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.08E-2	1.29E+0	8.42E-3	-1.03E+0	3.24E+0
GWP-b	kg CO ₂ eq.	-4.47E-2	3.02E-5	-2.40E-2	-6.87E-2	1.94E-5	2.63E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.24E-5	2.28E-4	4.99E-6	-1.29E-3	-4.34E-2
GWP-luluc	kg CO ₂ eq.	1.86E-3	2.75E-5	7.91E-4	2.68E-3	1.77E-5	3.43E-7	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.13E-5	1.04E-4	2.98E-7	-1.62E-4	2.65E-3
ODP	kg CFC 11 eq.	2.67E-7	1.66E-8	4.44E-8	3.28E-7	1.06E-8	1.66E-10	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.79E-9	3.94E-8	1.86E-10	-1.60E-7	2.25E-7
AP	mol H ⁺ eq.	9.93E-3	4.35E-4	2.04E-3	1.24E-2	2.80E-4	6.40E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.78E-4	5.78E-4	5.25E-6	-1.40E-3	1.21E-2
EP-fw	kg P eq.	8.90E-5	7.55E-7	2.33E-5	1.13E-4	4.86E-7	1.56E-8	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.10E-7	3.87E-6	1.08E-8	-7.46E-6	1.10E-4
EP-m	kg N eq.	1.83E-3	1.53E-4	3.61E-4	2.35E-3	9.86E-5	2.41E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.29E-5	1.58E-4	3.18E-6	-3.22E-4	2.35E-3
EP-T	mol N eq.	1.82E-2	1.69E-3	4.07E-3	2.39E-2	1.09E-3	2.60E-5	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.93E-4	1.76E-3	1.93E-5	-3.59E-3	2.39E-2
POCP	kg NMVOC eq.	6.82E-3	4.82E-4	1.40E-3	8.69E-3	3.10E-4	7.98E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.98E-4	4.71E-4	7.39E-6	-1.21E-3	8.48E-3
ADP-mm	kg Sb-eq.	2.74E-5	1.90E-6	4.66E-6	3.39E-5	1.22E-6	2.81E-8	0.00E+0	0.00E+0	0.00E+0	0.00E+0	7.79E-7	1.63E-6	6.45E-9	-3.32E-6	3.43E-5
ADP-f	MJ	6.24E+1	1.13E+0	1.12E+1	7.48E+1	7.27E-1	1.11E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.64E-1	9.87E-1	1.43E-2	-1.80E+1	5.89E+1
WDP	m ³ world eq.	1.59E+0	4.04E-3	2.47E-1	1.84E+0	2.60E-3	1.06E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.66E-3	6.56E-2	6.11E-4	-1.72E-1	1.73E+0

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 stratospheric ozone 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) deprivation potential, deprivation-weighted water consumption (WDP)

3 Results

ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS EN 15804+A2

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
PM	disease incidence	6.85E-8	6.72E-9	1.45E-8	8.97E-8	4.32E-9	9.77E-11	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.76E-9	4.62E-9	9.91E-11	-6.46E-9	9.51E-8
IR	kBq U235 eq.	1.38E-1	4.74E-3	3.64E-2	1.79E-1	3.05E-3	4.91E-5	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.94E-3	4.07E-3	5.58E-5	-1.44E-2	1.74E-1
ETP-fw	CTUe	2.57E+1	1.01E+0	4.89E+0	3.16E+1	6.48E-1	2.60E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.14E-1	1.63E+1	1.52E-2	-3.33E+0	4.57E+1
HTP-c	CTUh	8.35E-10	3.27E-11	2.30E-10	1.10E-9	2.10E-11	2.03E-12	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.34E-11	2.46E-10	3.98E-13	-1.29E-10	1.25E-9
HTP-nc	CTUh	3.02E-8	1.11E-9	4.46E-9	3.57E-8	7.11E-10	2.14E-11	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.53E-10	5.11E-9	9.87E-12	-4.11E-9	3.79E-8
SQP	Pt	1.94E+1	9.80E-1	4.15E+0	2.45E+1	6.31E-1	4.96E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.02E-1	3.54E-1	3.37E-2	-1.91E+0	2.40E+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 idex (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

3 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	C1	C2	C3	C4	D	Total
ADPE	kg Sb eq.	2.74E-5	1.90E-6	4.68E-6	3.39E-5	1.22E-6	2.81E-8	0.00E+0	0.00E+0	0.00E+0	0.00E+0	7.79E-7	1.63E-6	6.45E-9	-3.32E-6	3.43E-5
GWP	kg CO ₂ eq.	2.27E+0	7.43E-2	4.73E-1	2.82E+0	4.78E-2	1.08E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.05E-2	1.29E+0	7.20E-3	-1.02E+0	3.18E+0
ODP	kg CFC 11 eq.	2.71E-7	1.32E-8	4.49E-8	3.29E-7	8.47E-9	1.40E-10	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.40E-9	3.96E-8	1.49E-10	-1.48E-7	2.35E-7
POCP	kg ethene eq.	1.55E-3	4.48E-5	2.87E-4	1.88E-3	2.88E-5	1.11E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.84E-5	4.52E-5	1.63E-6	-2.09E-4	1.77E-3
AP	kg SO ₂ eq.	8.25E-3	3.27E-4	1.68E-3	1.03E-2	2.10E-4	4.72E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.34E-4	4.50E-4	3.99E-6	-1.13E-3	9.94E-3
EP	Kg PO43- eq.	1.07E-3	6.44E-5	2.32E-4	1.36E-3	4.14E-5	1.02E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.64E-5	7.33E-5	1.61E-6	-1.57E-4	1.35E-3

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 eq.	2.90E-2	5.47E-4	5.06E-3	3.46E-2	3.52E-4	5.35E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.24E-4	5.27E-4	6.93E-6	-9.45E-3	2.63E-2
HTP	kg 1,4 DB eq.	5.61E-1	3.13E-2	1.71E-1	7.63E-1	2.01E-2	1.01E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.28E-2	9.22E-2	5.90E-4	-8.98E-2	8.00E-1
FAETP	kg 1,4 DB eq.	1.27E-2	9.14E-4	5.88E-3	1.95E-2	5.88E-4	2.11E-5	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.75E-4	4.82E-3	6.14E-4	-1.27E-3	2.46E-2

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

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 eq.	4.23E+1	3.29E+0	9.60E+0	5.52E+1	2.11E+0	1.36E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.35E+0	1.40E+1	6.13E-1	-5.18E+0	6.82E+1
TETP	kg 1,4 DB eq.	3.47E-3	1.11E-4	1.35E-3	4.94E-3	7.11E-5	1.48E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.53E-5	2.35E-4	1.02E-6	-6.46E-4	4.64E-3

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

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	5.16E+0	1.42E-2	8.38E-1	6.01E+0	9.10E-3	3.93E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.81E-3	1.01E-1	2.52E-4	-4.68E-1	5.66E+0
PERM	MJ	0.00E+0	0.00E+0	2.50E-1	2.50E-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	2.50E-1
PERT	MJ	5.16E+0	1.42E-2	1.09E+0	6.26E+0	9.10E-3	3.93E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.81E-3	1.01E-1	2.52E-4	-4.68E-1	5.91E+0
PENRE	MJ	4.27E+1	1.20E+0	8.76E+0	5.27E+1	7.72E-1	1.18E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.92E-1	1.05E+0	1.52E-2	-1.91E+1	3.60E+1
PENRM	MJ	2.41E+1	0.00E+0	3.22E+0	2.73E+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	-8.08E-1	2.65E+1
PENRT	MJ	6.69E+1	1.20E+0	1.20E+1	8.00E+1	7.72E-1	1.18E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.92E-1	1.05E+0	1.52E-2	-1.99E+1	6.25E+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	3.64E-2	1.38E-4	6.85E-3	4.34E-2	8.86E-5	5.20E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.65E-5	1.93E-3	1.49E-5	-3.68E-3	4.18E-2

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

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	4.50E-5	2.87E-6	1.38E-5	6.16E-5	1.84E-6	3.08E-8	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.18E-6	1.89E-6	2.17E-8	-2.13E-5	4.53E-5
NHWD	Kg	1.42E-1	7.17E-2	7.08E-2	2.85E-1	4.61E-2	4.38E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.94E-2	5.07E-1	5.69E-2	-2.10E-2	9.07E-1
RWD	Kg	1.25E-4	7.44E-6	3.39E-5	1.67E-4	4.79E-6	6.92E-8	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.05E-6	3.55E-6	8.47E-8	-1.57E-5	1.62E-4

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	2.29E-1	2.29E-1	0.00E+0	1.20E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.84E-2	0.00E+0	0.00E+0	2.70E-1
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	2.02E+1	2.02E+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	6.38E+0	6.38E+0
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	3.70E+0	3.70E+0

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 PIECE

BIOGENIC CARBON CONTENT

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

Biogenic carbon content	Amount	Unit
Biogenic carbon content in the product	0	kg C
Biogenic carbon content in accompanying packaging	0.007127	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	0.02613	kg CO2 (biogenic)

3 Results

3.4 ENVIRONMENTAL COST INDICATOR NL PER PIECE

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	€ 0.22	73,4 %
A2 Transport	€ 0.01	3,0 %
A3 Manufacturing	€ 0.05	16,9 %
A4 Transport from the gate to the site	€ 0.01	1,9 %
A5 Construction - Installation process	€ 0.00	0,1 %
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	1,2 %
C3 Waste processing	€ 0.08	25,8 %
C4 Disposal	€ 0.00	0,2 %
D Benefits and loads beyond the product system boundary	€ -0.07	-22,5 %
ECI NL 2010 per functional unit	€ 0.30	

4 Contact information

Publisher	Operator	Owner of declaration
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