Result summary

PLEX Roadmark

Quartzline

Calculation number:	ReTHiNK-83836
Generation on:	06-05-2025
Issue date:	06-05-2025
Valid until:	06-05-2030
Status:	verified

R<THiNK

powered by nibe

1 General information

1.1 PRODUCT

PLEX Roadmark

1.2 VALIDITY

Issue date: 06-05-2025
Valid until: 06-05-2030

1.3 OWNER OF THE DECLARATION

Manufacturer: Quartzline
Address: W.A. Boogaerdtstraat 5, 3316 BN Dordrecht
E-mail: info@quartzline.nl
Website: www.quartzline.nl
Production location: EUROSTEP
Address production location: Tymiankowa 37/39, 95-054 Ksawerów

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 v1.1 March 2022

1.6 FUNCTIONAL UNIT

Plex Roadmark

Road marking with a 12-year lifespan, suitable for roads without traffic intensity limitations. This product includes reflective and surface-roughening materials. The paint can be applied in two ways: as a "smooth surface road marking" (solid line) or as a "structured road marking" (with gaps or patches within the line). The values in this Life Cycle Assessment (LCA) specifically pertain to the smooth surface road marking application.

This road marking paint is compatible with all types of asphalt. For reflection use glass beads. application will be around 1,5mm thick.

Reference unit: square meter (m2)

1.7 CONVERSION FACTORS

Description	Value	Unit
Reference unit	1	m2
Weight per reference unit	1.000	kg
Conversion factor to 1 kg	1.000000	m2

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)

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D

1 General information

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

Plex Roadmark is a durable and versatile material widely used for road markings on asphalt. Due to its excellent adhesion properties and wear resistance, Plex Roadmark is ideal for creating permanent markings such as lane divisions, bike paths, pedestrian crossings, and parking spaces.

Road markings made with Plex Roadmark not only offer high visibility but are also resistant to weather conditions, UV radiation, and heavy traffic loads. Additionally, Plex Roadmark can harden quickly, making it suitable for applications where minimal traffic disruption is required. This makes it an ideal choice for both urban and highway settings, where durability and application speed are crucial. Plex Roadmark is applicated by hand so no machinery is use to apply this product on the road.

2.2 APPLICATION (INTENDED USE OF THE PRODUCT)

Road markings are used to guide road users and enhance safety on the road. They provide visual cues about lane positions and directions, overtaking, turning lanes, speed, and the use of specific road sections such as bike lanes or bus lanes. Road markings also help regulate right-of-way and mark hazardous areas like curves or intersections. Additionally, they serve as aids in poor weather conditions or at night, when visibility is reduced.

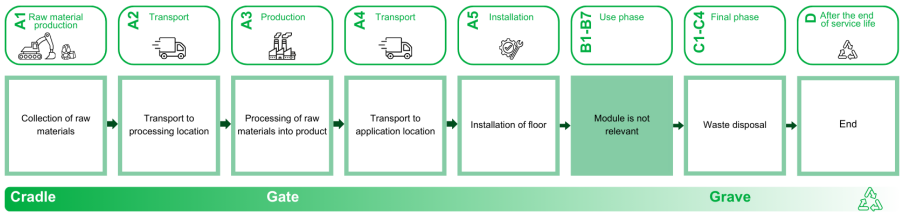
2 Product

Different types of markings and signals, such as warnings, arrows, and special traffic zones, Lane divisions, bike paths, pedestrian crossings, and parking spaces.

2.3 DESCRIPTION PRODUCTION PROCESS

Plex Roadmark consists primarily of resins, pigments, and specific additives that are carefully selected to ensure optimal properties for road marking. The resins, such as methyl methacrylate (MMA) or polyester resins, form the base of the Plex Roadmark and provide excellent adhesion and abrasion resistance. To ensure visibility, pigments are added. These pigments are chosen for their UV resistance and color fastness, allowing the markings to remain durably visible under various climatic conditions. Finally, additives such as glass beads for reflection or fillers to enhance the strength and durability of the marking are included.

The raw materials are then combined in large industrial mixers, where they are blended into a homogeneous base compound. During this mixing phase, the resins, pigments, and fillers are carefully combined to ensure a consistent formulation. An additional hardener or catalyst may be added to further optimize the curing time of the material.



2.4 CONSTRUCTION DESCRIPTION

Plex Roadmark material typically consists of a blend of omponents, such as resin and hardener. For optimal adhesion and rapid curing, these components are mixed in the correct ratio immediately before application. Modern application machines are often equipped with an integrated mixing system that automatically and evenly combines the components during application. This system ensures consistency in the material and enhances the adhesion of the marking to the road surface.

Specialized spray machines or manual applicators are used to apply Plex Roadmark markings, depending on the desired shape and pattern (e.g., lines or symbols). The marking is applied in a layer thickness of 1.5 to 3 mm, with templates used where necessary to accurately create specific shapes, such as arrows or bicycle symbols.

3 Results

3.1 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	C1	C2	C3	C4	D	Total
GWP-total	kg CO_2 eq.	9.58E-1	1.29E-1	2.56E-1	1.34E+0	2.17E-2	5.90E-2	0.00E+0	0.00E+0	0.00E+0	3.28E-2	4.34E-3	0.00E+0	1.92E-5	-9.08E-2	1.37E+0
GWP-f	kg CO_2 eq.	9.56E-1	1.29E-1	2.56E-1	1.34E+0	2.17E-2	5.89E-2	0.00E+0	0.00E+0	0.00E+0	3.28E-2	4.34E-3	0.00E+0	1.92E-5	-9.09E-2	1.37E+0
GWP-b	kg CO_2 eq.	2.39E-3	5.19E-5	2.62E-4	2.71E-3	8.76E-6	1.32E-4	0.00E+0	0.00E+0	0.00E+0	5.94E-6	1.75E-6	0.00E+0	1.21E-8	1.20E-4	2.98E-3
GWP-luluc	kg CO_2 eq.	5.91E-5	4.73E-5	8.83E-5	1.95E-4	7.97E-6	1.14E-5	0.00E+0	0.00E+0	0.00E+0	2.58E-6	1.59E-6	0.00E+0	5.34E-9	5.94E-5	2.78E-4
ODP	kg CFC 11 eq.	9.99E-9	2.84E-8	1.23E-8	5.07E-8	4.80E-9	2.65E-9	0.00E+0	0.00E+0	0.00E+0	7.08E-9	9.58E-10	0.00E+0	7.89E-12	-2.46E-9	6.38E-8
AP	mol H+ eq.	5.51E-3	7.48E-4	1.79E-3	8.05E-3	1.26E-4	2.90E-4	0.00E+0	0.00E+0	0.00E+0	3.43E-4	2.52E-5	0.00E+0	1.82E-7	-3.61E-4	8.47E-3
EP-fw	kg P eq.	3.40E-5	1.30E-6	1.03E-5	4.55E-5	2.19E-7	2.37E-6	0.00E+0	0.00E+0	0.00E+0	1.19E-7	4.37E-8	0.00E+0	2.15E-10	-3.27E-6	4.50E-5
EP-m	kg N eq.	8.94E-4	2.63E-4	2.61E-4	1.42E-3	4.44E-5	5.39E-5	0.00E+0	0.00E+0	0.00E+0	1.51E-4	8.88E-6	0.00E+0	6.26E-8	-6.78E-5	1.61E-3
EP-T	mol N eq.	7.20E-3	2.90E-3	3.04E-3	1.31E-2	4.90E-4	5.30E-4	0.00E+0	0.00E+0	0.00E+0	1.66E-3	9.78E-5	0.00E+0	6.90E-7	-7.92E-4	1.51E-2
POCP	kg NMVOC eq.	3.59E-3	8.29E-4	1.22E-3	5.64E-3	1.40E-4	2.04E-4	0.00E+0	0.00E+0	0.00E+0	4.57E-4	2.79E-5	0.00E+0	2.00E-7	-5.16E-4	5.95E-3
ADP-mm	kg Sb-eq.	2.53E-6	3.26E-6	2.87E-5	3.45E-5	5.51E-7	1.14E-6	0.00E+0	0.00E+0	0.00E+0	5.03E-8	1.10E-7	0.00E+0	1.75E-10	-1.36E-7	3.62E-5

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)

3 Results

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
ADP-f	MJ	1.56E+1	1.94E+0	2.90E+0	2.04E+1	3.28E-1	8.60E-1	0.00E+0	0.00E+0	0.00E+0	4.51E-1	6.55E-2	0.00E+0	5.36E-4	-6.61E-1	2.15E+1
WDP	m3 world eq.	2.69E-1	6.95E-3	7.34E-2	3.50E-1	1.17E-3	1.23E-2	0.00E+0	0.00E+0	0.00E+0	6.05E-4	2.34E-4	0.00E+0	2.40E-5	-3.88E-2	3.25E-1

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)

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	4.33E-8	1.16E-8	1.85E-8	7.34E-8	1.95E-9	2.45E-9	0.00E+0	0.00E+0	0.00E+0	9.09E-9	3.89E-10	0.00E+0	3.54E-12	-5.51E-9	8.17E-8
IR	kBq U235 eq.	3.31E-3	8.14E-3	5.43E-3	1.69E-2	1.37E-3	1.06E-3	0.00E+0	0.00E+0	0.00E+0	1.93E-3	2.74E-4	0.00E+0	2.20E-6	1.30E-3	2.28E-2
ETP-fw	CTUe	4.38E+0	1.73E+0	1.29E+1	1.90E+1	2.92E-1	8.18E-1	0.00E+0	0.00E+0	0.00E+0	2.72E-1	5.84E-2	0.00E+0	3.48E-4	-3.02E+0	1.74E+1
HTP-c	CTUh	2.43E-10	5.62E-11	7.90E-10	1.09E-9	9.48E-12	3.72E-11	0.00E+0	0.00E+0	0.00E+0	9.50E-12	1.89E-12	0.00E+0	8.03E-15	-4.09E-11	1.11E-9
HTP-nc	CTUh	3.33E-9	1.90E-9	5.72E-9	1.10E-8	3.20E-10	4.77E-10	0.00E+0	0.00E+0	0.00E+0	2.34E-10	6.40E-11	0.00E+0	2.47E-13	1.60E-8	2.81E-8
SQP	Pt	4.93E-1	1.69E+0	8.64E-1	3.04E+0	2.84E-1	1.55E-1	0.00E+0	0.00E+0	0.00E+0	5.76E-2	5.68E-2	0.00E+0	1.12E-3	-1.66E-1	3.43E+0

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)

3 Results

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
	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.

3 Results

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.	2.53E-6	3.26E-6	2.87E-5	3.45E-5	5.51E-7	1.14E-6	0.00E+0	0.00E+0	0.00E+0	5.03E-8	1.10E-7	0.00E+0	1.75E-10	-1.36E-7	3.62E-5
GWP	kg CO_2 eq.	9.17E-1	1.28E-1	2.46E-1	1.29E+0	2.15E-2	5.72E-2	0.00E+0	0.00E+0	0.00E+0	3.24E-2	4.30E-3	0.00E+0	1.88E-5	-8.50E-2	1.32E+0
ODP	kg CFC 11 eq.	9.15E-9	2.26E-8	1.24E-8	4.42E-8	3.82E-9	2.40E-9	0.00E+0	0.00E+0	0.00E+0	5.62E-9	7.62E-10	0.00E+0	6.27E-12	-3.14E-9	5.37E-8
POCP	kg ethene eq.	9.70E-4	7.70E-5	3.23E-4	1.37E-3	1.30E-5	4.44E-5	0.00E+0	0.00E+0	0.00E+0	3.30E-5	2.60E-6	0.00E+0	2.00E-8	-1.80E-4	1.28E-3
AP	kg SO_2 eq.	4.74E-3	5.61E-4	1.49E-3	6.80E-3	9.47E-5	2.42E-4	0.00E+0	0.00E+0	0.00E+0	2.44E-4	1.89E-5	0.00E+0	1.38E-7	-2.95E-4	7.10E-3
EP	Kg PO43- eq.	4.43E-4	1.11E-4	1.38E-4	6.92E-4	1.87E-5	2.84E-5	0.00E+0	0.00E+0	0.00E+0	5.56E-5	3.73E-6	0.00E+0	2.65E-8	-3.54E-5	7.63E-4

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.	7.64E-3	9.39E-4	1.64E-3	1.02E-2	1.58E-4	4.45E-4	0.00E+0	0.00E+0	0.00E+0	2.14E-4	3.16E-5	0.00E+0	2.56E-7	-5.31E-4	1.05E-2
HTP		1.15E-1	5.38E-2	9.98E-2	2.69E-1	9.07E-3	1.05E-2	0.00E+0	0.00E+0	0.00E+0	1.20E-2	1.81E-3	0.00E+0	8.50E-6	-5.32E-2	2.49E-1

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

3 Results

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
	kg 1,4 DB eq.															
FAETP	kg 1,4 DB eq.	4.41E-3	1.57E-3	1.34E-3	7.32E-3	2.65E-4	2.89E-4	0.00E+0	0.00E+0	0.00E+0	1.67E-4	5.29E-5	0.00E+0	2.02E-7	5.75E-4	8.67E-3
MAETP	kg 1,4 DB eq.	7.70E+0	5.65E+0	3.89E+0	1.72E+1	9.53E-1	7.98E-1	0.00E+0	0.00E+0	0.00E+0	5.81E-1	1.90E-1	0.00E+0	7.21E-4	3.94E-1	2.02E+1
TETP	kg 1,4 DB eq.	2.48E-4	1.90E-4	3.12E-4	7.50E-4	3.20E-5	1.12E-4	0.00E+0	0.00E+0	0.00E+0	1.98E-5	6.40E-6	0.00E+0	2.14E-8	4.08E-3	5.00E-3

ADPF=Depletion of abiotic resources-fossil fuels | **HTP**=Human toxicity | **FAETP**=Ecotoxicity. fresh water | **MAETP**=Ecotoxicity. marine water | **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	1.68E-1	2.43E-2	1.14E-1	3.07E-1	4.10E-3	3.39E-2	0.00E+0	0.00E+0	0.00E+0	2.44E-3	8.20E-4	0.00E+0	4.33E-6	1.47E-2	3.63E-1
PERM	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
PERT	MJ	1.68E-1	2.43E-2	1.14E-1	3.07E-1	4.10E-3	3.39E-2	0.00E+0	0.00E+0	0.00E+0	2.44E-3	8.20E-4	0.00E+0	4.33E-6	1.47E-2	3.63E-1

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

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
PENRE	MJ	1.61E+1	2.06E+0	3.05E+0	2.12E+1	3.48E-1	9.00E-1	0.00E+0	0.00E+0	0.00E+0	4.79E-1	6.95E-2	0.00E+0	5.69E-4	-6.87E-1	2.23E+1
PENRM	MJ	1.47E+0	0.00E+0	4.04E-2	1.52E+0	0.00E+0	4.55E-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	1.56E+0
PENRT	MJ	1.75E+1	2.06E+0	3.09E+0	2.27E+1	3.48E-1	9.46E-1	0.00E+0	0.00E+0	0.00E+0	4.79E-1	6.95E-2	0.00E+0	5.69E-4	-6.87E-1	2.39E+1
SM	Kg	3.88E-1	0.00E+0	1.44E-2	4.02E-1	0.00E+0	1.21E-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	4.14E-1
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	m^3	6.42E-3	2.37E-4	1.98E-3	8.64E-3	3.99E-5	4.01E-4	0.00E+0	0.00E+0	0.00E+0	2.32E-5	7.98E-6	0.00E+0	5.72E-7	-8.38E-4	8.27E-3

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

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	1.29E-6	4.93E-6	1.31E-5	1.93E-5	8.31E-7	8.04E-7	0.00E+0	0.00E+0	0.00E+0	1.23E-6	1.66E-7	0.00E+0	8.01E-10	-1.07E-5	1.17E-5
NHWD	Kg	2.41E-2	1.23E-1	3.92E-2	1.86E-1	2.08E-2	8.49E-3	0.00E+0	0.00E+0	0.00E+0	5.34E-4	4.15E-3	0.00E+0	3.64E-3	-8.65E-3	2.15E-1
RWD	Kg	3.49E-6	1.28E-5	5.59E-6	2.19E-5	2.16E-6	1.25E-6	0.00E+0	0.00E+0	0.00E+0	3.13E-6	4.31E-7	0.00E+0	3.52E-9	3.43E-7	2.92E-5

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

3 Results

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	1.95E-3	1.95E-3	0.00E+0	1.46E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.60E-1	0.00E+0	0.00E+0	3.77E-1
MFR	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	7.11E-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	7.11E-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	3.96E-2	3.96E-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	1.19E-3	4.08E-2
EET	MJ	0.00E+0	0.00E+0	1.25E-2	1.25E-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	3.76E-4	1.29E-2
EEE	MJ	0.00E+0	0.00E+0	7.27E-3	7.27E-3	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	2.18E-4	7.49E-3

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	kg C

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 2010	Share in total (%)
A1 Raw Materials Supply	€ 0.08	63,8 %
A2 Transport	€ 0.02	11,8 %
A3 Manufacturing	€ 0.03	22,9 %
A4 Transport from the gate to the site	€ 0.00	2,0 %
A5 Construction - Installation process	€ 0.01	4,0 %
B1 Use	€ 0.00	0,0 %
B2 Maintenance	€ 0.00	0,0 %
B3 Repair	€ 0.00	0,0 %
C1 De-construction / demolition	€ 0.00	3,3 %
C2 Transport	€ 0.00	0,4 %
C3 Waste processing	€ 0.00	0,0 %
C4 Disposal	€ 0.00	0,0 %
D Benefits and loads beyond the product system boundary	€ -0.01	-8,2 %
ECI NL 2010 per functional unit	**€ 0.13**	

4 Contact information

Publisher	Operator	Owner of declaration
Quartzline W.A. Boogaerdtstraat 5 3316 BN Dordrecht , NL	**Stichting NMD** Visseringlaan 22b 2288 ER Rijswijk, NL	**Quartzline** W.A. Boogaerdtstraat 5 3316 BN Dordrecht , NL
E-mail: info@quartzline.nl **Website:** www.quartzline.nl	**E-mail:** info@milieudatabase.nl **Website:** www.milieudatabase.nl	**E-mail:** info@quartzline.nl **Website:** www.quartzline.nl