

Result summary

# VBI Kanaalplaatvloer 260 Groen

VBI

Calculation number:	ReTHiNK-70116
Generation on:	22-05-2024
Issue date:	22-05-2024
Valid until:	22-05-2029
Status:	verified



R<THiNK

## 1 General information

### 1.1 PRODUCT

VBI Kanaalplaatvloer 260 Groen

### 1.2 VALIDITY

**Issue date:** 22-05-2024

**Valid until:** 22-05-2029

### 1.3 OWNER OF THE DECLARATION



**Manufacturer:** VBI

**Address:** Looveer 1, 6851 AJ Huissen

**E-mail:** vbi@vbi.nl

**Website:** www.vbi.nl

**Production location:** VBI gemiddeld (Q1 2024 HSK)

**Address production location:** Looveer 1, 6851 AJ Huissen

### 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

*Rene Kraaijenbrink*

Rene Kraaijenbrink, LBP Sigt

### 1.5 PRODUCT CATEGORY RULES

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

### 1.6 FUNCTIONAL UNIT

Één vierkante meter kanaalplaatvloer

Een kanaalplaatvloer inclusief wapening en voegvulling die voldoet aan het Bouwbesluit met een minimale levensduur van 100 jaar geproduceerd door VBI voor toepassing in Nederland, uitgedrukt per m<sup>2</sup>

reference\_unit: square meter (m2)

### 1.7 CONVERSION FACTORS

Description	Value	Unit
reference_unit	1	m2
weight_per_reference_unit	340.908	kg
Conversion factor to 1 kg	0.002933	m2

### 1.8 SCOPE OF DECLARATION AND SYSTEM BOUNDARIES

This is a Cradle to gate with options LCA. 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 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. 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 EPDs programs 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

Kanaalplaatvloeren zijn vrijdragende systeemvloeren van voorgespannen prefab beton voor toepassing als verdiepings- of dakvloer in woning- en utiliteitsbouw. De elementen zijn voorzien van holle kanalen waarmee circa 40% aan grondstoffen en 50% aan staal bespaard wordt. Kanaalplaatvloeren zijn geschikt voor het overbruggen van overspanningen tot 20 meter (afhankelijk van de dikte en belastingen). De werkende breedte van de vloerelementen is standaard 1200 mm. Mits remontabel toegepast zijn VBI kanaalplaten geschikt voor hoogwaardig hergebruik en voorzien van producentegarantie.

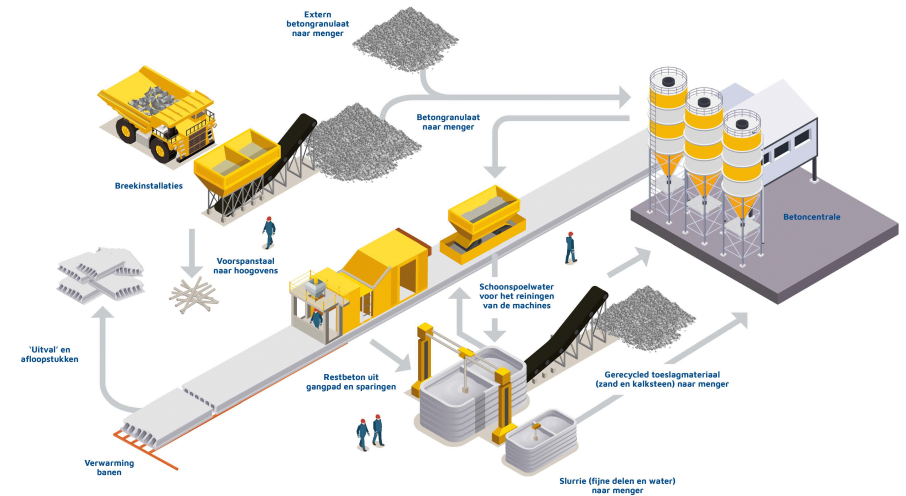
#### Producteigenschappen

- Werkende breedte: 300-1200mm
- Dikte kanaalplaatvloer: 150 t/m 500mm, zie producttype
- Sterkteklasse: C40/50 of C45/55
- Hoeveelheid wapening: zie invoer per vloertype

product description image

### 2.2 DESCRIPTION PRODUCTION PROCESS

Kanaalplaatvloeren worden geproduceerd middels het lange-bank systeem. Hierbij wordt het beton gestort in lange bekistingsmallen waarin meerdere kanaalplaatvloeren achter elkaar in een enkele stortgang worden geproduceerd. In de bekistingsmallen wordt voor het storten ontkistingsolie, (eventueel EPS voor geïsoleerde kanaalplaatvloeren) en voorspanwapening aangebracht. Als het beton uitgehard is worden de kanaalplaatvloeren op de juiste lengte gezaagd. Vervolgens worden de kanaalplaatvloeren met een kraan uit de mal genomen, gestapeld en getransporteerd naar het tasveld voor verdere uitharding. Enkele dagen later worden de platen afgeleverd bij de klant voor montage op de bouwplaats. De bekistingsmal is in deze studie beschouwd als kapitaalgoed en niet meegenomen in de LCA berekening.



### 2.3 CONSTRUCTION DESCRIPTION

In de toepassing (de constructiefase) worden de kanaalplaatvloeren met een kraan in de constructie aangebracht. Verder wordt de ruimte tussen twee vloerelementen gevuld met voegvulling.

Kanaalplaatvloeren worden in de regel afgewerkt met een afwerkvloer. Afhankelijk van de toepassing wordt op de kanaalplaatvloer een druklaag toegepast zodat de afwerkvloer ook een constructieve functie heeft. De afwerking is afhankelijk van de toepassing en daarom niet meegenomen in het milieuprofiel van de kanaalplaatvloer.

### 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.	7.83E-2	1.87E-2	1.10E-2	1.08E-1	8.79E-3	8.01E-3	0.00E+0	0.00E+0	0.00E+0	1.23E-3	1.35E-2	3.40E-3	1.79E-4	-1.98E-2	1.23E-1
GWP-total	kg CO2 eqv.	3.78E+1	2.51E+0	2.94E+0	4.32E+1	2.73E+0	2.13E+0	0.00E+0	0.00E+0	0.00E+0	1.18E-1	2.33E+0	5.46E-1	1.88E-2	-3.91E+0	4.72E+1
GWP-b	kg CO2 eqv.	2.80E-2	3.06E-3	-3.14E-1	-2.82E-1	2.07E-3	1.99E-1	0.00E+0	0.00E+0	0.00E+0	3.28E-5	1.07E-3	3.14E-3	3.71E-5	2.04E-2	-5.71E-2
GWP-f	kg CO2 eqv.	3.77E+1	2.50E+0	3.25E+0	4.35E+1	2.73E+0	1.91E+0	0.00E+0	0.00E+0	0.00E+0	1.18E-1	2.32E+0	5.43E-1	1.88E-2	-3.93E+0	4.72E+1
GWP-luluc	kg CO2 eqv.	2.05E-2	3.04E-3	1.66E-3	2.52E-2	8.32E-4	9.74E-4	0.00E+0	0.00E+0	0.00E+0	9.30E-6	8.52E-4	1.03E-4	5.25E-6	4.43E-4	2.84E-2
EP-m	kg N eqv.	2.05E-2	7.46E-3	4.46E-3	3.25E-2	1.93E-3	2.68E-3	0.00E+0	0.00E+0	0.00E+0	5.45E-4	4.75E-3	1.35E-3	6.14E-5	-4.67E-3	3.91E-2
EP-fw	kg P eqv.	1.08E-2	2.54E-5	4.35E-4	1.13E-2	2.17E-5	6.75E-5	0.00E+0	0.00E+0	0.00E+0	4.30E-7	2.34E-5	1.69E-5	2.11E-7	-1.41E-4	1.13E-2
EP-T	mol N eqv.	2.74E-1	8.22E-2	3.85E-2	3.94E-1	2.15E-2	3.04E-2	0.00E+0	0.00E+0	0.00E+0	5.98E-3	5.24E-2	1.50E-2	6.79E-4	-5.46E-2	4.66E-1
ODP	kg CFC 11 eqv.	9.59E-7	5.03E-7	3.13E-7	1.77E-6	6.71E-7	2.08E-7	0.00E+0	0.00E+0	0.00E+0	2.55E-8	5.13E-7	7.04E-8	7.75E-9	-1.98E-7	3.07E-6
POCP	kg NMVOC eqv.	7.15E-2	2.22E-2	8.66E-3	1.02E-1	8.44E-3	8.32E-3	0.00E+0	0.00E+0	0.00E+0	1.64E-3	1.50E-2	4.10E-3	1.97E-4	-2.37E-2	1.16E-1
ADP-f	MJ	2.33E+2	3.47E+1	3.74E+1	3.05E+2	4.44E+1	1.84E+1	0.00E+0	0.00E+0	0.00E+0	1.62E+0	3.51E+1	7.29E+0	5.26E-1	-3.47E+1	3.77E+2
ADP-mm	kg Sb-eqv.	1.07E-4	2.95E-5	4.37E-5	1.80E-4	4.86E-5	1.79E-5	0.00E+0	0.00E+0	0.00E+0	1.81E-7	5.89E-5	1.53E-6	1.72E-7	-6.90E-5	2.38E-4
WDP		4.45E+0	1.40E-1	-2.18E-1	4.37E+0	1.44E-1	1.22E+0	0.00E+0	0.00E+0	0.00E+0	2.18E-3	1.25E-1	3.30E-2	2.36E-2	-1.98E+1	-1.39E+1

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 EN15084+A2

Abbr.	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
ETP-fw	CTUe	3.60E+2	2.93E+1	3.36E+1	4.23E+2	3.53E+1	3.73E+1	0.00E+0	0.00E+0	0.00E+0	9.79E-1	3.13E+1	5.91E+0	3.41E-1	-1.15E+2	4.19E+2
PM	disease incidence	9.68E-7	1.29E-7	1.30E-7	1.23E-6	2.40E-7	1.30E-7	0.00E+0	0.00E+0	0.00E+0	3.27E-8	2.09E-7	7.50E-8	3.47E-9	-3.18E-7	1.60E-6
HTP-c	CTUh	4.51E-8	1.01E-9	2.63E-9	4.87E-8	8.57E-10	5.61E-10	0.00E+0	0.00E+0	0.00E+0	3.42E-11	1.01E-9	1.40E-10	7.89E-12	-1.03E-9	5.03E-8
HTP-nc	CTUh	1.26E-6	2.60E-8	1.02E-7	1.39E-6	3.87E-8	1.72E-8	0.00E+0	0.00E+0	0.00E+0	8.41E-10	3.42E-8	3.97E-9	2.43E-10	4.92E-7	1.98E-6
IR	kBq U235 eqv.	1.07E+0	1.51E-1	8.70E-2	1.31E+0	1.94E-1	6.97E-2	0.00E+0	0.00E+0	0.00E+0	6.96E-3	1.47E-1	2.31E-2	2.16E-3	-2.24E-2	1.73E+0
SQP	Pt	1.69E+2	3.28E+1	3.36E+1	2.35E+2	5.08E+1	1.64E+1	0.00E+0	0.00E+0	0.00E+0	2.07E-1	3.04E+1	1.22E+0	1.10E+0	-3.34E+1	3.02E+2

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
	AAcidification 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
ILCD type / level 3	Potential Human exposure efficiency relative to U235 (IRP)	1
	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	1.07E-4	2.95E-5	4.38E-5	1.80E-4	4.86E-5	1.79E-5	0.00E+0	0.00E+0	0.00E+0	1.81E-7	5.89E-5	1.53E-6	1.72E-7	-6.90E-5	2.38E-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

### 3 Results

Abbr.	Unit	A1	A2	A3	A1- A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
GWP	Kg CO2 Equiv.	3.71E+1	2.48E+0	3.20E+0	4.28E+1	2.71E+0	1.90E+0	0.00E+0	0.00E+0	0.00E+0	1.17E-1	2.30E+0	5.36E-1	1.85E-2	-3.73E+0	4.66E+1
ODP	Kg CFC-11 Equiv.	9.44E-7	4.03E-7	2.76E-7	1.62E-6	5.35E-7	1.70E-7	0.00E+0	0.00E+0	0.00E+0	2.02E-8	4.09E-7	5.87E-8	6.14E-9	-1.99E-7	2.62E-6
POCP	Kg Ethene Equiv.	1.52E-2	1.50E-3	1.09E-3	1.78E-2	1.73E-3	7.94E-4	0.00E+0	0.00E+0	0.00E+0	1.19E-4	1.39E-3	3.06E-4	1.97E-5	-6.23E-3	1.59E-2
AP	Kg SO2 Equiv.	5.71E-2	1.37E-2	7.99E-3	7.88E-2	7.13E-3	5.89E-3	0.00E+0	0.00E+0	0.00E+0	8.80E-4	1.01E-2	2.48E-3	1.35E-4	-1.57E-2	8.97E-2
EP	Kg PO43- Equiv.	1.44E-2	2.93E-3	2.38E-3	1.97E-2	1.15E-3	1.21E-3	0.00E+0	0.00E+0	0.00E+0	2.00E-4	1.99E-3	5.54E-4	2.60E-5	-2.21E-3	2.26E-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	1.23E-1	1.66E-2	1.95E-2	1.59E-1	2.11E-2	9.38E-3	0.00E+0	0.00E+0	0.00E+0	7.70E-4	1.69E-2	3.80E-3	2.51E-4	-2.37E-2	1.87E-1
HTP	kg 1.4 DB	4.52E+0	8.47E-1	6.13E-1	5.98E+0	1.34E+0	4.25E-1	0.00E+0	0.00E+0	0.00E+0	4.32E-2	9.70E-1	1.27E-1	8.34E-3	-2.12E+0	6.77E+0
FAETP	kg 1.4 DB	1.71E-1	2.23E-2	1.29E-1	3.22E-1	3.64E-2	1.03E-2	0.00E+0	0.00E+0	0.00E+0	6.02E-4	2.83E-2	2.20E-3	1.98E-4	9.68E-3	4.10E-1
MAETP	kg 1.4 DB	4.09E+2	8.06E+1	5.78E+1	5.48E+2	1.43E+2	3.82E+1	0.00E+0	0.00E+0	0.00E+0	2.09E+0	1.02E+2	8.28E+0	7.08E-1	-2.28E+1	8.19E+2

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



### 3 Results

Abbr.	Unit	A1	A2	A3	A1- A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
TETP	kg 1.4 DB	2.23E-1	3.31E-3	7.34E-2	2.99E-1	4.31E-3	2.55E-3	0.00E+0	0.00E+0	0.00E+0	7.12E-5	3.43E-3	1.56E-3	2.10E-5	1.26E-1	4.37E-1

**ADPF**=Depletion of abiotic resources-fossil fuels | **HTP**=Human toxicity | **FAETP**=Ecotoxicity, fresh water | **MAETP**=Ecotoxicity, marine water (MAETP) | **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	1.54E+1	6.33E-1	1.42E+1	3.03E+1	5.58E-1	1.39E+0	0.00E+0	0.00E+0	0.00E+0	8.79E-3	4.39E-1	4.15E-1	4.25E-3	-2.16E+0	3.09E+1
PERM	MJ	0.00E+0	0.00E+0	1.46E+0	1.46E+0	0.00E+0	3.29E-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	1.49E+0
PERT	MJ	1.61E+1	6.33E-1	1.57E+1	3.24E+1	5.58E-1	8.43E-1	0.00E+0	0.00E+0	0.00E+0	8.79E-3	4.39E-1	4.15E-1	4.25E-3	-2.16E+0	3.25E+1
PENRE	MJ	2.19E+2	3.68E+1	3.93E+1	2.95E+2	4.71E+1	2.57E+1	0.00E+0	0.00E+0	0.00E+0	1.72E+0	3.72E+1	7.77E+0	5.58E-1	-3.64E+1	3.79E+2
PENRM	MJ	7.89E-5	0.00E+0	3.20E-1	3.20E-1	0.00E+0	3.31E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	-1.11E-5	3.21E-1
PENRT	MJ	2.30E+2	3.68E+1	4.00E+1	3.07E+2	4.71E+1	1.95E+1	0.00E+0	0.00E+0	0.00E+0	1.72E+0	3.72E+1	7.77E+0	5.58E-1	-3.64E+1	3.84E+2
SM	Kg	3.70E+1	0.00E+0	1.34E+0	3.83E+1	0.00E+0	6.47E-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	3.90E+1
RSF	MJ	1.90E+1	0.00E+0	6.85E-1	1.97E+1	0.00E+0	2.97E-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	2.00E+1
NRSF	MJ	3.37E+1	0.00E+0	1.21E+0	3.49E+1	0.00E+0	2.92E-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	3.52E+1
FW	M3	5.36E-1	5.36E-3	1.63E-2	5.58E-1	5.05E-3	2.96E-2	0.00E+0	0.00E+0	0.00E+0	8.36E-5	4.27E-3	2.43E-3	5.61E-4	-4.62E-1	1.38E-1

**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	1.79E-3	8.76E-5	2.44E-4	2.13E-3	1.08E-4	5.20E-5	0.00E+0	0.00E+0	0.00E+0	4.42E-6	8.88E-5	1.27E-5	7.86E-7	-3.45E-4	2.05E-3
NHWD	Kg	2.44E+0	1.52E+0	4.59E-1	4.41E+0	3.86E+0	9.54E-1	0.00E+0	0.00E+0	0.00E+0	1.92E-3	2.22E+0	1.02E+0	3.57E+0	-4.41E-1	1.56E+1
RWD	Kg	4.15E-4	2.30E-4	7.77E-5	7.23E-4	3.03E-4	2.37E-3	0.00E+0	0.00E+0	0.00E+0	1.13E-5	2.30E-4	3.27E-5	3.45E-6	-5.77E-5	3.61E-3

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	5.24E-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	5.24E-3
MFR	Kg	1.97E-1	0.00E+0	1.22E+1	1.24E+1	0.00E+0	2.25E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.37E+2	0.00E+0	0.00E+0	3.72E+2
MER	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.18E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.18E-6
EE	MJ	0.00E+0	0.00E+0	1.38E-1	1.38E-1	0.00E+0	2.17E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.76E-1	7.14E-1
EET	MJ	0.00E+0	0.00E+0	8.73E-2	8.73E-2	0.00E+0	1.38E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	3.64E-1	4.52E-1
EEE	MJ	0.00E+0	0.00E+0	5.07E-2	5.07E-2	0.00E+0	7.98E-5	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.11E-1	2.62E-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	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	Share in total (%)
A1 Raw Materials Supply	€ 2.73	74,0 %
A2 Transport	€ 0.30	8,0 %
A3 Manufacturing	€ 0.29	7,8 %
A4 Transport from the gate to the site	€ 0.32	8,6 %
A5 Construction - Installation process	€ 0.17	4,7 %
B1 Use	€ 0.00	0,0 %
B2 Maintenance	€ 0.00	0,0 %
B3 Repair	€ 0.00	0,0 %
C1 De-construction / demolition	€ 0.02	0,4 %
C2 Transport	€ 0.28	7,5 %
C3 Waste processing	€ 0.06	1,5 %
C4 Disposal	€ 0.00	0,1 %
D Benefits and loads beyond the product system boundary	€ -0.47	-12,8 %
<b>ECI NL per functional unit</b>	<b>€ 3.69</b>	

## 4 Contact information

Publisher

Operator

Owner of declaration

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