

Result summary

# Breedplaatvloer 60mm CEM III 52,5 N (ei3.6)

Geelen Beton Wanssum B.V.

|                     |                |
|---------------------|----------------|
| Calculation number: | ReTHiNK-130461 |
| Generation on:      | 19-12-2025     |
| Issue date:         | 19-12-2025     |
| Valid until:        | 19-12-2030     |
| Status:             | verified       |

**R<THiNK**



# 1 General information

## 1.1 PRODUCT

Breedplaatvloer 60mm CEM III 52,5 N (ei3.6)

## 1.2 VALIDITY

**Issue date:** 19-12-2025

**Valid until:** 19-12-2030

## 1.3 OWNER OF THE DECLARATION



**Declaration owner:** Geelen Beton Wanssum B.V.

**Address:** Geijsterseweg 12A, 5861BL Wanssum

**E-mail:** info@geelen-beton.nl

**Website:** <https://www.geelen-beton.nl>

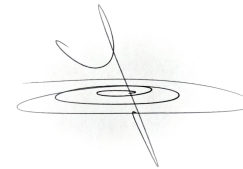
**Production location:** Geelen Beton Posterholt (ei3.6)

**Address production location:** Heerbaan 58, 6061EE Posterholt

## 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



Anne Kees Jeeninga, Advieslab

## 1.5 PRODUCT CATEGORY RULES

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

## 1.6 FUNCTIONAL UNIT

**m2 (Vloeren, constructief)**

Één vierkante meter vloer, die minimaal voldoet aan de eisen van het Bouwbesluit. Druklaag, bijlegwapening, dekvloer, isolatie, bevestigingsmiddelen en afwerking zijn buiten beschouwing gelaten.

Reference unit: square meter (m2)

## 1.7 CONVERSION FACTORS

| Description               | Value    | Unit |
|---------------------------|----------|------|
| Reference unit            | 1        | m2   |
| Weight per reference unit | 147.260  | kg   |
| Conversion factor to 1 kg | 0.006791 | 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 | 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 -<br>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<br>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

Breedplaatvloeren zijn beschikbaar in de volgende diktes: 50/60/70/80/90/100 mm. Op de bouwplaats wordt doorgaans een druklaag (voorzien van bijlegwapening) op de breedplaatvloer gestort. Deze betonnen laag en de bijlegwapening maken géén deel uit van dit rapport. Standaard breedtes zijn 2400 mm en 3000 mm, voorzien van een vellingkant aan beide zijden. Pasplaten hebben één vellingkant en één ruwe zijkant. Overige standaarden:

- Druksterkteklasse: C30/37 (andere sterkteklasse mogelijk)
- Milieuklasse: XC1 (andere milieuklasse mogelijk)
- Wapeningstaal: B500B, bestaande uit een deel gerecycled staal (% afhankelijk van staalleveranciers)
- Tralieliggers tot een vloerhoogte van 300mm, respectievelijk 3 à 4 tralies per strekkende meter
- Lijnvormige kunststof afstandhouders
- Gasbetonblokjes (standaard maten) voor doorvoeren van leidingen
- Open sparingen in polystyreen
- Elektradozen en voorzieningen t.b.v. mechanische ventilatie

De breedplaatvloeren worden geleverd onder het KOMO-productcertificaat. Certificaten, gerelateerde documenten en reguliere productinformatie zijn beschikbaar via de Geelen Beton-website:

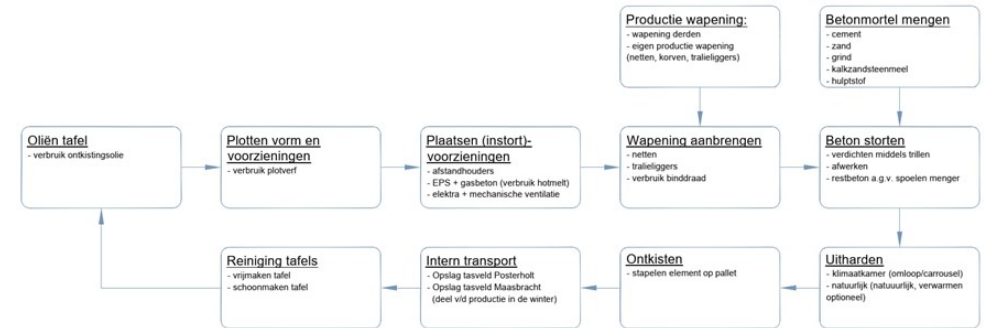
<https://www.geelen-beton.nl/product-kennis/breedplaatvloeren>

### 2.2 APPLICATION (INTENDED USE OF THE PRODUCT)

Breedplaatvloeren worden toegepast in vloeren, daken en soortgelijke constructies in de woning- en utiliteitsbouw. Op de bouwplaats wordt op de prefab schil doorgaans een druklaag incl. bijlegwapening aanbracht. De breedplaat tezamen met de druklaag zorgt voor de benodigde sterkte en stijfheid.

### 2.3 DESCRIPTION PRODUCTION PROCESS

De breedplaat worden deels in een carrouselstelsel en deels in een lange baan geproduceerd. Een plotter tekent de technische ontwerpen tot op enkele millimeters nauwkeurig af en plaatst bekisting op een stalen tafel. Wapening en andere voorzieningen, zoals elektrische installaties, worden aangebracht voordat het beton wordt gestort. De tafels in het carrouselstelsel worden vervolgens gestapeld in droogkamers voor het uithardingsproces. De vloeren in de lange baan drogen in de fabriekshal. Na het uitharden worden de breedplaatvloeren ontkist, gestapeld opgeslagen, met een elektrische kraan op de vrachtwagen geladen waarna deze naar de bouwplaats worden vervoerd.



### 2.4 CONSTRUCTION DESCRIPTION

De breedplaatvloeren worden met een kraan van de vrachtwagen getild en op de juiste positie gepositioneerd. Na aanbrengen van de benodigde bijlegwapening en voorzieningen wordt de druklaag op de vloer gestort.

## 2 Product



## 3 Results

## 3 Results

### 3.1 ENVIRONMENTAL IMPACT INDICATORS PER SQUARE METER (FIXED PART)

#### CORE ENVIRONMENTAL IMPACT INDICATORS EN 15804+A2

| Abbr.     | Unit                     | A1      | A2      | A3      | A1-<br>A3 | A4      | A5      | B1      | B2      | B3      | B6      | B7      | C1      | C2      | C3      | C4      | D        | Total    |
|-----------|--------------------------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|
| GWP-total | kg CO <sub>2</sub> eq.   | 6.97E+0 | 5.22E-1 | 1.46E+0 | 8.95E+0   | 1.38E+0 | 4.07E-1 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.23E+0 | 9.71E-1 | 4.09E-1 | 1.01E-2 | -7.95E-1 | 1.26E+1  |
| GWP-f     | kg CO <sub>2</sub> eq.   | 6.95E+0 | 5.21E-1 | 1.46E+0 | 8.93E+0   | 1.38E+0 | 4.07E-1 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.23E+0 | 9.70E-1 | 4.08E-1 | 1.01E-2 | -7.94E-1 | 1.25E+1  |
| GWP-b     | kg CO <sub>2</sub> eq.   | 1.40E-2 | 2.07E-4 | 3.18E-3 | 1.74E-2   | 5.48E-4 | 2.26E-4 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.23E-4 | 3.91E-4 | 3.88E-4 | 6.23E-6 | -1.37E-3 | 1.78E-2  |
| GWP-luluc | kg CO <sub>2</sub> eq.   | 2.79E-3 | 1.52E-4 | 4.29E-4 | 3.37E-3   | 4.04E-4 | 7.29E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 9.71E-5 | 3.56E-4 | 5.69E-5 | 2.29E-6 | -5.58E-4 | 3.80E-3  |
| ODP       | kg CFC 11 eq.            | 3.83E-7 | 1.23E-7 | 1.59E-7 | 6.64E-7   | 3.25E-7 | 8.24E-8 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.66E-7 | 2.14E-7 | 3.48E-8 | 3.30E-9 | -7.36E-8 | 1.52E-6  |
| AP        | mol H <sup>+</sup> eq.   | 2.90E-2 | 2.19E-3 | 6.86E-3 | 3.81E-2   | 5.81E-3 | 1.74E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.29E-2 | 5.63E-3 | 1.49E-3 | 7.65E-5 | -4.76E-3 | 6.10E-2  |
| EP-fw     | kg P eq.                 | 1.51E-4 | 3.98E-6 | 4.98E-5 | 2.05E-4   | 1.05E-5 | 3.41E-6 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 4.49E-6 | 9.79E-6 | 7.56E-6 | 9.18E-8 | -2.59E-5 | 2.15E-4  |
| EP-m      | kg N eq.                 | 6.28E-3 | 6.59E-4 | 2.30E-3 | 9.24E-3   | 1.75E-3 | 5.67E-4 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 5.69E-3 | 1.98E-3 | 5.85E-4 | 2.71E-5 | -1.32E-3 | 1.85E-2  |
| EP-T      | mol N eq.                | 7.85E-2 | 7.29E-3 | 2.57E-2 | 1.12E-1   | 1.93E-2 | 6.28E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 6.24E-2 | 2.19E-2 | 6.50E-3 | 2.90E-4 | -1.53E-2 | 2.13E-1  |
| POCP      | kg NMVOC eq.             | 2.09E-2 | 2.34E-3 | 7.78E-3 | 3.10E-2   | 6.21E-3 | 1.71E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.72E-2 | 6.24E-3 | 1.76E-3 | 8.46E-5 | -4.61E-3 | 5.96E-2  |
| ADP-mm    | kg Sb-eq.                | 1.11E-4 | 8.89E-6 | 1.41E-5 | 1.34E-4   | 2.36E-5 | 1.64E-6 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.89E-6 | 2.46E-5 | 8.51E-7 | 7.41E-8 | -8.83E-5 | 9.80E-5  |
| ADP-f     | MJ                       | 7.30E+1 | 8.11E+0 | 1.98E+1 | 1.01E+2   | 2.15E+1 | 5.72E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.70E+1 | 1.46E+1 | 3.16E+0 | 2.25E-1 | -9.69E+0 | 1.53E+2  |
| WDP       | m <sup>3</sup> world eq. | 7.83E+0 | 2.63E-2 | 1.69E-1 | 8.02E+0   | 6.99E-2 | 5.11E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.27E-2 | 5.24E-2 | 2.28E-2 | 1.01E-2 | -8.42E+0 | -1.75E-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 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) depreciation 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      | B6      | B7      | C1       | C2       | C3       | C4       | D         | Total   |
|--------|-------------------|---------|----------|----------|---------|----------|----------|---------|---------|---------|---------|---------|----------|----------|----------|----------|-----------|---------|
| PM     | disease incidence | 2.56E-7 | 4.72E-8  | 1.19E-7  | 4.23E-7 | 1.25E-7  | 8.88E-9  | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 3.42E-7  | 8.73E-8  | 3.18E-8  | 1.49E-9  | -7.96E-8  | 9.40E-7 |
| IR     | kBq U235 eq.      | 3.80E-1 | 3.54E-2  | 5.64E-2  | 4.72E-1 | 9.40E-2  | 2.50E-2  | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 7.27E-2  | 6.13E-2  | 1.01E-2  | 9.22E-4  | -2.83E-2  | 7.07E-1 |
| ETP-fw | CTUe              | 8.17E+1 | 6.46E+0  | 1.84E+1  | 1.07E+2 | 1.71E+1  | 3.85E+0  | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.02E+1  | 1.31E+1  | 4.76E+0  | 1.59E-1  | -1.61E+1  | 1.40E+2 |
| HTP-c  | CTUh              | 7.45E-9 | 1.59E-10 | 5.29E-10 | 8.14E-9 | 4.22E-10 | 6.51E-10 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 3.57E-10 | 4.23E-10 | 9.17E-11 | 3.43E-12 | -4.77E-10 | 9.61E-9 |
| HTP-nc | CTUh              | 1.15E-7 | 7.35E-9  | 1.49E-8  | 1.37E-7 | 1.95E-8  | 5.99E-9  | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 8.78E-9  | 1.43E-8  | 2.35E-9  | 1.07E-10 | 8.50E-9   | 1.96E-7 |
| SQP    | Pt                | 2.07E+1 | 9.29E+0  | 3.50E+0  | 3.35E+1 | 2.46E+1  | 1.04E+0  | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.16E+0  | 1.27E+1  | 5.45E-1  | 4.73E-1  | -9.63E+0  | 6.54E+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          |



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          |
| <b>Disclaimer 1</b> – 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. |                                                      |            |
| <b>Disclaimer 2</b> – 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        | Total   |
|-------|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| ADPE  | kg Sb eq.              | 1.11E-4 | 8.89E-6 | 1.41E-5 | 1.34E-4 | 2.36E-5 | 1.64E-6 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.89E-6 | 2.46E-5 | 8.51E-7 | 7.41E-8 | -8.83E-5 | 9.81E-5 |
| GWP   | kg CO <sub>2</sub> eq. | 6.85E+0 | 5.17E-1 | 1.44E+0 | 8.81E+0 | 1.37E+0 | 4.04E-1 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.22E+0 | 9.62E-1 | 4.06E-1 | 9.63E-3 | -7.71E-1 | 1.24E+1 |
| ODP   | kg CFC 11 eq.          | 4.26E-7 | 9.77E-8 | 1.38E-7 | 6.61E-7 | 2.59E-7 | 6.65E-8 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.11E-7 | 1.71E-7 | 3.00E-8 | 2.62E-9 | -6.45E-8 | 1.34E-6 |
| POCP  | kg ethene eq.          | 2.97E-3 | 3.24E-4 | 1.08E-3 | 4.37E-3 | 8.59E-4 | 1.37E-4 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.24E-3 | 5.81E-4 | 1.33E-4 | 8.69E-6 | -6.62E-4 | 6.67E-3 |
| AP    | kg SO <sub>2</sub> eq. | 2.28E-2 | 1.70E-3 | 5.17E-3 | 2.97E-2 | 4.50E-3 | 1.32E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 9.19E-3 | 4.23E-3 | 1.09E-3 | 5.78E-5 | -3.68E-3 | 4.64E-2 |
| EP    | Kg PO43- eq.           | 4.23E-3 | 3.13E-4 | 1.04E-3 | 5.59E-3 | 8.31E-4 | 2.58E-4 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.09E-3 | 8.31E-4 | 2.40E-4 | 1.15E-5 | -5.82E-4 | 9.27E-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      | B6      | B7      | C1      | C2      | C3      | C4      | D        | Total   |
|-------|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| ADPF  | kg Sb eq.     | 2.89E-2 | 3.85E-3 | 1.03E-2 | 4.30E-2 | 1.02E-2 | 2.68E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 8.04E-3 | 7.08E-3 | 1.65E-3 | 1.08E-4 | -5.38E-3 | 6.74E-2 |
| HTP   | kg 1,4 DB eq. | 1.58E+0 | 2.45E-1 | 3.37E-1 | 2.17E+0 | 6.51E-1 | 1.22E-1 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 4.51E-1 | 4.05E-1 | 6.48E-2 | 3.64E-3 | -3.36E-1 | 3.53E+0 |

**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-<br>A3 | A4      | A5      | B1      | B2      | B3      | B6      | B7      | C1      | C2      | C3      | C4      | D        | Total   |
|-------|---------------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| FAETP | kg 1,4 DB eq. | 3.37E-2 | 6.68E-3 | 7.99E-3 | 4.83E-2   | 1.77E-2 | 2.43E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 6.28E-3 | 1.18E-2 | 1.59E-3 | 1.73E-4 | -3.50E-3 | 8.48E-2 |
| MAETP | kg 1,4 DB eq. | 2.75E+2 | 2.62E+1 | 2.77E+1 | 3.29E+2   | 6.94E+1 | 8.98E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.19E+1 | 4.25E+1 | 5.40E+0 | 3.91E-1 | -1.69E+1 | 4.61E+2 |
| TETP  | kg 1,4 DB eq. | 1.25E-2 | 7.90E-4 | 5.01E-3 | 1.83E-2   | 2.09E-3 | 1.14E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 7.43E-4 | 1.43E-3 | 6.80E-4 | 9.16E-6 | 3.95E-3  | 2.83E-2 |

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

### 3.2 ENVIRONMENTAL IMPACT INDICATORS PER SQUARE METER (SCALABLE PART)

#### CORE ENVIRONMENTAL IMPACT INDICATORS EN 15804+A2

| Abbr.     | Unit                   | A1      | A2      | A3      | A1-<br>A3 | A4      | A5      | B1      | B2      | B3      | B6      | B7      | C1      | C2      | C3      | C4       | D        | Total   |
|-----------|------------------------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|---------|
| GWP-total | kg CO <sub>2</sub> eq. | 3.14E+0 | 8.64E-2 | 2.39E-2 | 3.25E+0   | 4.95E-2 | 1.67E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 3.61E-2 | 0.00E+0 | 1.34E-3  | -4.53E-1 | 2.90E+0 |
| GWP-f     | kg CO <sub>2</sub> eq. | 3.15E+0 | 8.63E-2 | 2.40E-2 | 3.26E+0   | 4.95E-2 | 1.68E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 3.61E-2 | 0.00E+0 | 1.34E-3  | -4.54E-1 | 2.91E+0 |
| GWP-b     | kg CO <sub>2</sub> eq. | 6.59E-1 | 3.42E-5 | 5.60E-3 | 6.64E-1   | 1.96E-5 | 3.32E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.45E-5 | 0.00E+0 | 8.47E-7  | 6.77E-4  | 6.68E-1 |
| GWP-luluc | kg CO <sub>2</sub> eq. | 1.29E-2 | 2.52E-5 | 1.13E-4 | 1.30E-2   | 1.45E-5 | 6.52E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.32E-5 | 0.00E+0 | 3.74E-7  | 3.35E-4  | 1.34E-2 |
| ODP       | kg CFC 11 eq.          | 3.89E-7 | 2.03E-8 | 3.46E-9 | 4.13E-7   | 1.16E-8 | 2.17E-9 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 7.96E-9 | 0.00E+0 | 5.52E-10 | -1.11E-8 | 4.24E-7 |
| AP        | mol H <sup>+</sup> eq. | 1.61E-2 | 3.63E-4 | 1.27E-4 | 1.66E-2   | 2.08E-4 | 8.53E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.09E-4 | 0.00E+0 | 1.27E-5  | -1.75E-3 | 1.54E-2 |
| EP-fw     | kg P eq.               | 2.88E-4 | 6.58E-7 | 2.32E-6 | 2.91E-4   | 3.78E-7 | 1.46E-6 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 3.64E-7 | 0.00E+0 | 1.50E-8  | -1.60E-5 | 2.77E-4 |

**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

| Abbr.  | Unit         | A1      | A2      | A3      | A1-<br>A3 | A4      | A5      | B1      | B2      | B3      | B6      | B7      | C1      | C2      | C3      | C4      | D        | Total   |
|--------|--------------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| EP-m   | kg N eq.     | 3.57E-3 | 1.09E-4 | 2.92E-5 | 3.71E-3   | 6.26E-5 | 1.92E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 7.37E-5 | 0.00E+0 | 4.38E-6 | -3.25E-4 | 3.54E-3 |
| EP-T   | mol N eq.    | 3.92E-2 | 1.21E-3 | 3.18E-4 | 4.07E-2   | 6.92E-4 | 2.11E-4 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 8.13E-4 | 0.00E+0 | 4.82E-5 | -3.79E-3 | 3.87E-2 |
| POCP   | kg NMVOC eq. | 1.31E-2 | 3.88E-4 | 9.47E-5 | 1.36E-2   | 2.22E-4 | 7.02E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.32E-4 | 0.00E+0 | 1.40E-5 | -2.58E-3 | 1.15E-2 |
| ADP-mm | kg Sb-eq.    | 3.11E-3 | 1.47E-6 | 2.65E-5 | 3.14E-3   | 8.44E-7 | 1.57E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 9.14E-7 | 0.00E+0 | 1.23E-8 | -3.06E-7 | 3.16E-3 |
| ADP-f  | MJ           | 6.35E+1 | 1.34E+0 | 5.29E-1 | 6.53E+1   | 7.70E-1 | 3.34E-1 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 5.44E-1 | 0.00E+0 | 3.75E-2 | -3.17E+0 | 6.39E+1 |
| WDP    | m3 world eq. | 1.80E+0 | 4.36E-3 | 1.46E-2 | 1.82E+0   | 2.50E-3 | 9.12E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.95E-3 | 0.00E+0 | 1.68E-3 | -8.65E-2 | 1.75E+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) depreciation potential, deprivation-weighted water consumption (WDP)

#### ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS EN 15804+A2

| Abbr.  | Unit              | A1      | A2       | A3       | A1-<br>A3 | A4       | A5       | B1      | B2      | B3      | B6      | B7      | C1      | C2       | C3      | C4       | D         | Total   |
|--------|-------------------|---------|----------|----------|-----------|----------|----------|---------|---------|---------|---------|---------|---------|----------|---------|----------|-----------|---------|
| PM     | disease incidence | 4.35E-7 | 7.81E-9  | 3.57E-9  | 4.46E-7   | 4.48E-9  | 2.27E-9  | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 3.24E-9  | 0.00E+0 | 2.47E-10 | -2.63E-8  | 4.30E-7 |
| IR     | kBq U235 eq.      | 3.51E-1 | 5.87E-3  | 3.12E-3  | 3.60E-1   | 3.36E-3  | 1.83E-3  | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.28E-3  | 0.00E+0 | 1.54E-4  | 7.75E-3   | 3.75E-1 |
| ETP-fw | CTUe              | 9.15E+1 | 1.07E+0  | 6.63E-1  | 9.33E+1   | 6.13E-1  | 4.73E-1  | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 4.85E-1  | 0.00E+0 | 2.43E-2  | -1.52E+1  | 7.97E+1 |
| HTP-c  | CTUh              | 4.74E-8 | 2.64E-11 | 4.03E-10 | 4.78E-8   | 1.51E-11 | 2.39E-10 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.57E-11 | 0.00E+0 | 5.62E-13 | -5.87E-11 | 4.81E-8 |
| HTP-nc | CTUh              | 1.30E-6 | 1.22E-9  | 1.18E-8  | 1.32E-6   | 6.98E-10 | 6.59E-9  | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 5.31E-10 | 0.00E+0 | 1.73E-11 | 8.79E-8   | 1.41E-6 |

**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)

3 Results

| Abbr. | Unit | A1      | A2      | A3      | A1-A3   | A4      | A5      | B1      | B2      | B3      | B6      | B7      | C1      | C2      | C3      | C4      | D        | Total   |
|-------|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| SQP   | Pt   | 2.00E+1 | 1.54E+0 | 1.82E-1 | 2.17E+1 | 8.82E-1 | 1.16E-1 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 4.72E-1 | 0.00E+0 | 7.86E-2 | -7.00E-1 | 2.26E+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          |
|                     | Abiotic depletion potential for non-fossil resources (ADP-minerals&metals)                          | 2          |
| ILCD type / level 3 | 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      | B6      | B7      | C1      | C2      | C3      | C4       | D        | Total   |
|-------|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|---------|
| ADPE  | kg Sb eq.              | 7.28E-5 | 1.47E-6 | 6.36E-7 | 7.49E-5 | 8.44E-7 | 3.83E-7 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 9.14E-7 | 0.00E+0 | 1.23E-8  | -3.06E-7 | 7.67E-5 |
| GWP   | kg CO <sub>2</sub> eq. | 4.34E+0 | 8.56E-2 | 3.44E-2 | 4.46E+0 | 4.91E-2 | 2.28E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 3.58E-2 | 0.00E+0 | 1.32E-3  | -4.23E-1 | 4.15E+0 |
| ODP   | kg CFC 11 eq.          | 4.58E-7 | 1.62E-8 | 3.97E-9 | 4.78E-7 | 9.28E-9 | 2.47E-9 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 6.34E-9 | 0.00E+0 | 4.38E-10 | -1.47E-8 | 4.82E-7 |
| POCP  | kg ethene eq.          | 4.13E-3 | 5.37E-5 | 2.80E-5 | 4.21E-3 | 3.08E-5 | 2.14E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.16E-5 | 0.00E+0 | 1.40E-6  | -9.20E-4 | 3.37E-3 |
| AP    | kg SO <sub>2</sub> eq. | 1.92E-2 | 2.81E-4 | 1.55E-4 | 1.96E-2 | 1.61E-4 | 9.97E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.57E-4 | 0.00E+0 | 9.62E-6  | -1.43E-3 | 1.86E-2 |
| EP    | Kg PO43- eq.           | 3.39E-3 | 5.19E-5 | 2.81E-5 | 3.47E-3 | 2.98E-5 | 1.76E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 3.09E-5 | 0.00E+0 | 1.86E-6  | -1.70E-4 | 3.38E-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      | B6      | B7      | C1      | C2      | C3      | C4      | D        | Total   |
|-------|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| ADPF  | kg Sb eq.     | 3.21E-2 | 6.37E-4 | 2.59E-4 | 3.30E-2 | 3.65E-4 | 1.69E-4 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.63E-4 | 0.00E+0 | 1.79E-5 | -2.61E-3 | 3.12E-2 |
| HTP   | kg 1,4 DB eq. | 2.53E+0 | 4.06E-2 | 1.97E-2 | 2.59E+0 | 2.33E-2 | 1.32E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.51E-2 | 0.00E+0 | 5.95E-4 | -2.64E-1 | 2.38E+0 |
| FAETP | kg 1,4 DB eq. | 1.21E-1 | 1.11E-3 | 1.07E-3 | 1.23E-1 | 6.34E-4 | 6.19E-4 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 4.40E-4 | 0.00E+0 | 1.41E-5 | 3.28E-3  | 1.28E-1 |
| MAETP | kg 1,4 DB eq. | 2.61E+2 | 4.33E+0 | 2.29E+0 | 2.67E+2 | 2.48E+0 | 1.36E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.58E+0 | 0.00E+0 | 5.04E-2 | 2.74E+0  | 2.76E+2 |
| TETP  | kg 1,4 DB eq. | 2.69E-1 | 1.31E-4 | 2.47E-3 | 2.71E-1 | 7.50E-5 | 1.36E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 5.32E-5 | 0.00E+0 | 1.49E-6 | 2.21E-2  | 2.95E-1 |

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

## 3 Results

### 3.3 ENVIRONMENTAL IMPACT INDICATORS PER SQUARE METER (FIXED PART)

#### PARAMETERS DESCRIBING RESOURCE USE

| Abbr. | Unit           | A1      | A2      | A3      | A1-<br>A3 | A4      | A5      | B1      | B2      | B3      | B6      | B7      | C1      | C2      | C3      | C4      | D        | Total   |
|-------|----------------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| PERE  | MJ             | 3.92E+0 | 1.02E-1 | 3.44E+0 | 7.46E+0   | 2.71E-1 | 9.77E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 9.17E-2 | 1.83E-1 | 1.86E-1 | 1.86E-3 | -4.92E-1 | 7.80E+0 |
| 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 | 0.00E+0  | 0.00E+0 |
| PERT  | MJ             | 3.92E+0 | 1.02E-1 | 3.44E+0 | 7.46E+0   | 2.71E-1 | 9.77E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 9.17E-2 | 1.83E-1 | 1.86E-1 | 1.86E-3 | -4.92E-1 | 7.80E+0 |
| PENRE | MJ             | 7.39E+1 | 8.61E+0 | 1.98E+1 | 1.02E+2   | 2.28E+1 | 6.05E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.80E+1 | 1.55E+1 | 3.37E+0 | 2.39E-1 | -1.03E+1 | 1.58E+2 |
| PENRM | MJ             | 2.81E+0 | 0.00E+0 | 1.35E+0 | 4.17E+0   | 0.00E+0 | 2.22E-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 | -1.41E-3 | 4.19E+0 |
| PENRT | MJ             | 7.67E+1 | 8.61E+0 | 2.11E+1 | 1.06E+2   | 2.28E+1 | 6.07E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.80E+1 | 1.55E+1 | 3.37E+0 | 2.39E-1 | -1.04E+1 | 1.62E+2 |
| SM    | Kg             | 2.03E+0 | 0.00E+0 | 1.71E-2 | 2.05E+0   | 0.00E+0 | 1.02E-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  | 2.06E+0 |
| RSF   | MJ             | 4.51E+0 | 0.00E+0 | 3.45E-2 | 4.54E+0   | 0.00E+0 | 2.27E-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  | 4.57E+0 |
| NRSF  | MJ             | 8.40E+0 | 0.00E+0 | 6.42E-2 | 8.47E+0   | 0.00E+0 | 4.23E-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  | 8.51E+0 |
| FW    | m <sup>3</sup> | 1.99E-1 | 9.24E-4 | 8.80E-3 | 2.09E-1   | 2.45E-3 | 1.47E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 8.73E-4 | 1.78E-3 | 1.28E-3 | 2.40E-4 | -1.97E-1 | 1.94E-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

#### OTHER ENVIRONMENTAL INFORMATION DESCRIBING WASTE CATEGORIES

| Abbr. | Unit | A1      | A2      | A3      | A1-<br>A3 | A4      | A5      | B1      | B2      | B3      | B6      | B7      | C1      | C2      | C3      | C4      | D        | Total   |
|-------|------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| HWD   | Kg   | 2.59E-3 | 1.97E-5 | 2.61E-2 | 2.87E-2   | 5.21E-5 | 1.57E-4 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 4.62E-5 | 3.71E-5 | 5.53E-6 | 3.36E-7 | -3.77E-5 | 2.89E-2 |
| NHWD  | Kg   | 4.62E-1 | 7.05E-1 | 1.00E-1 | 1.27E+0   | 1.87E+0 | 4.27E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.01E-2 | 9.28E-1 | 4.94E-1 | 1.51E+0 | -9.09E-2 | 6.05E+0 |
| RWD   | Kg   | 3.85E-4 | 5.54E-5 | 7.30E-5 | 5.13E-4   | 1.47E-4 | 3.80E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.18E-4 | 9.61E-5 | 1.41E-5 | 1.47E-6 | -3.22E-5 | 8.95E-4 |

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

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ENVIRONMENTAL INFORMATION DESCRIBING OUTPUT FLOWS

| Abbr. | Unit | A1      | A2      | A3      | A1-A3   | A4      | A5      | B1      | B2      | B3      | B6      | B7      | C1      | C2      | C3      | C4      | D       | Total   |
|-------|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| CRU   | Kg   | 0.00E+0 | 0.00E+0 | 2.58E-5 | 2.58E-5 | 0.00E+0 | 4.43E-6 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 8.60E-4 | 0.00E+0 | 0.00E+0 | 8.90E-4 |
| MFR   | Kg   | 3.37E-1 | 0.00E+0 | 1.02E+0 | 1.35E+0 | 0.00E+0 | 7.10E-1 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.41E+2 | 0.00E+0 | 0.00E+0 | 1.43E+2 |
| MER   | Kg   | 0.00E+0 | 0.00E+0 | 2.15E-6 | 2.15E-6 | 0.00E+0 | 1.07E-8 | 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 | 2.16E-6 |
| EE    | MJ   | 0.00E+0 | 0.00E+0 | 1.28E+0 | 1.28E+0 | 0.00E+0 | 1.98E-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 | 0.00E+0 | 2.22E+0 | 3.50E+0 |
| EET   | MJ   | 0.00E+0 | 0.00E+0 | 4.04E-1 | 4.04E-1 | 0.00E+0 | 1.25E-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 | 0.00E+0 | 7.02E-1 | 1.11E+0 |
| EEE   | MJ   | 0.00E+0 | 0.00E+0 | 2.35E-1 | 2.35E-1 | 0.00E+0 | 7.28E-7 | 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 | 4.08E-1 | 6.42E-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

3.4 ENVIRONMENTAL IMPACT INDICATORS PER SQUARE METER (SCALABLE PART)

PARAMETERS DESCRIBING RESOURCE USE

| Abbr. | Unit | A1      | A2      | A3      | A1-A3   | A4      | A5      | B1      | B2      | B3      | B6      | B7      | C1      | C2      | C3      | C4      | D        | Total   |
|-------|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| PERE  | MJ   | 4.18E+0 | 1.69E-2 | 3.65E-2 | 4.24E+0 | 9.69E-3 | 2.13E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 6.81E-3 | 0.00E+0 | 3.03E-4 | 9.20E-2  | 4.37E+0 |
| PERM  | MJ   | 2.46E-3 | 0.00E+0 | 2.10E-5 | 2.49E-3 | 0.00E+0 | 1.24E-5 | 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-3 |
| PERT  | MJ   | 4.63E+0 | 1.69E-2 | 4.04E-2 | 4.69E+0 | 9.69E-3 | 2.35E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 6.81E-3 | 0.00E+0 | 3.03E-4 | 9.20E-2  | 4.82E+0 |
| PENRE | MJ   | 6.32E+1 | 1.43E+0 | 5.27E-1 | 6.52E+1 | 8.17E-1 | 3.33E-1 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 5.77E-1 | 0.00E+0 | 3.98E-2 | -3.29E+0 | 6.36E+1 |
| PENRM | MJ   | 7.10E-3 | 0.00E+0 | 6.03E-5 | 7.16E-3 | 0.00E+0 | 3.58E-5 | 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  | 7.20E-3 |
| PENRT | MJ   | 6.44E+1 | 1.43E+0 | 5.37E-1 | 6.63E+1 | 8.17E-1 | 3.39E-1 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 5.77E-1 | 0.00E+0 | 3.98E-2 | -3.29E+0 | 6.48E+1 |
| SM    | Kg   | 4.56E+0 | 0.00E+0 | 3.87E-2 | 4.60E+0 | 0.00E+0 | 2.30E-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  | 4.62E+0 |

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



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| Abbr. | Unit           | A1      | A2      | A3      | A1-<br>A3 | A4      | A5      | B1      | B2      | B3      | B6      | B7      | C1      | C2      | C3      | C4      | D        | Total   |
|-------|----------------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| RSF   | MJ             | 1.87E-3 | 0.00E+0 | 1.59E-5 | 1.88E-3   | 0.00E+0 | 9.41E-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 | 0.00E+0 | 0.00E+0  | 1.89E-3 |
| NRSF  | MJ             | 6.25E-3 | 0.00E+0 | 5.31E-5 | 6.30E-3   | 0.00E+0 | 3.15E-5 | 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  | 6.33E-3 |
| FW    | m <sup>3</sup> | 5.41E-2 | 1.53E-4 | 4.48E-4 | 5.47E-2   | 8.77E-5 | 2.75E-4 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 6.63E-5 | 0.00E+0 | 4.00E-5 | -1.64E-3 | 5.35E-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

#### OTHER ENVIRONMENTAL INFORMATION DESCRIBING WASTE CATEGORIES

| Abbr. | Unit | A1      | A2      | A3      | A1-<br>A3 | A4      | A5      | B1      | B2      | B3      | B6      | B7      | C1      | C2      | C3      | C4      | D        | Total   |
|-------|------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| HWD   | Kg   | 3.72E-3 | 3.26E-6 | 3.12E-5 | 3.75E-3   | 1.87E-6 | 1.88E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.38E-6 | 0.00E+0 | 5.60E-8 | -5.44E-5 | 3.72E-3 |
| NHWD  | Kg   | 9.75E-1 | 1.17E-1 | 1.14E-2 | 1.10E+0   | 6.70E-2 | 7.30E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 3.45E-2 | 0.00E+0 | 2.54E-1 | -4.44E-2 | 1.42E+0 |
| RWD   | Kg   | 4.19E-4 | 9.17E-6 | 3.70E-6 | 4.32E-4   | 5.26E-6 | 2.21E-6 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 3.57E-6 | 0.00E+0 | 2.46E-7 | 2.68E-6  | 4.46E-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-<br>A3 | A4      | A5      | B1      | B2      | B3      | B6      | B7      | C1      | C2      | C3      | C4      | D       | Total   |
|-------|------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| CRU   | Kg   | 4.04E-4 | 0.00E+0 | 3.43E-6 | 4.07E-4   | 0.00E+0 | 2.04E-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 | 0.00E+0 | 0.00E+0 | 4.09E-4 |
| MFR   | Kg   | 4.86E-1 | 0.00E+0 | 4.52E-2 | 5.31E-1   | 0.00E+0 | 2.68E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 4.84E+0 | 0.00E+0 | 0.00E+0 | 5.39E+0 |
| MER   | Kg   | 6.06E-7 | 0.00E+0 | 5.15E-9 | 6.11E-7   | 0.00E+0 | 3.06E-9 | 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 | 6.14E-7 |
| EE    | MJ   | 6.70E-6 | 0.00E+0 | 5.69E-8 | 6.75E-6   | 0.00E+0 | 3.38E-8 | 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 | 6.79E-6 |

**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

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| Abbr. | Unit | A1      | A2      | A3      | A1-A3   | A4      | A5      | B1      | B2      | B3      | B6      | B7      | C1      | C2      | C3      | C4      | D       | Total   |
|-------|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| EET   | MJ   | 1.02E-4 | 0.00E+0 | 8.65E-7 | 1.03E-4 | 0.00E+0 | 5.13E-7 | 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 | 1.03E-4 |
| EEE   | MJ   | 5.97E-5 | 0.00E+0 | 5.07E-7 | 6.02E-5 | 0.00E+0 | 3.01E-7 | 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 | 6.05E-5 |

**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

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### 3.5 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

### 3.6 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                                 | € 1.27        | 67,7 %             |
| A2 Transport                                            | € 0.07        | 3,8 %              |
| A3 Manufacturing                                        | € 0.14        | 7,7 %              |
| A4 Transport from the gate to the site                  | € 0.17        | 9,1 %              |
| A5 Construction - Installation process                  | € 0.04        | 2,3 %              |
| 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                         | € 0.16        | 8,7 %              |
| C2 Transport                                            | € 0.12        | 6,4 %              |
| C3 Waste processing                                     | € 0.03        | 1,8 %              |
| C4 Disposal                                             | € 0.00        | 0,1 %              |
| D Benefits and loads beyond the product system boundary | € -0.15       | -7,8 %             |
| <b>ECI NL 2010 per functional unit</b>                  | <b>€ 1.87</b> |                    |

## 4 Contact information

| Publisher                                                                                                                                                                                                                                                                                                                                                              | Operator                                                                                                                                                                                                                                                                                                                                                      | Owner of declaration                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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