

GRIPLINE[®]

BUCKETS (20LITER)

RESULT SUMMARY

Calculation number: ReTHiNK-76068

Generation on: 19-05-2025

Issue date: 19-05-2025

Valid until: 19-05-2030

Status: verified

R<THiNK

MEMBER OF THE BERDAL FAMILY

1 General information

1.1 PRODUCT

Buckets (20Liter)

1.2 VALIDITY

Issue date: 19-05-2025

Valid until: 19-05-2030

1.3 OWNER OF THE DECLARATION



Manufacturer: Berdal

Address: Bedrijvenpark Twente 193, 7602 KG Almelo

E-mail: verkoop@berdal.com

Website: <https://www.berdal.com/>

Production location: Berdal

Address production location: Bedrijvenpark Twente 193, 7602 KG Almelo

1.4 VERIFICATION OF THE DECLARATION

The independent verification is in accordance with the ISO 14025:2011. The LCA is in compliance with ISO 14040:2006 and ISO 14044:2006. The EN 15804+A2:2019 serves as the core PCR.

Internal External

A handwritten signature in black ink, appearing to be 'Tim Mol', written over a horizontal line.

Tim Mol, EcoReview NL B.V.

1.5 PRODUCT CATEGORY RULES

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

1.6 FUNCTIONAL UNIT

1 piece of 20 L construction bucket, with steel handle

1 bucket, with a capacity of 20 L, with a galvanized steel handle.

Reference unit: piece (p)

1.7 CONVERSION FACTORS

| Description | Value | Unit |
|---------------------------|----------|------|
| Reference unit | 1 | p |
| Weight per reference unit | 0.639 | kg |
| Conversion factor to 1 kg | 1.564137 | p |

1 General information

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 |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
| 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

Buckets, tubs and rectangular tubs are all containers used to carry, store or transport liquids, materials or objects. Capacity is measured in liters. Materials consist of recycled or virgin material. Resistance to breakage, leakage and temperature variations are important technical considerations.

2.2 APPLICATION (INTENDED USE OF THE PRODUCT)

Buckets, tubs and rectangular tubs have a wide range of uses, including:

Transport of Materials: Buckets, tubs and rectangular tubs are often used to transport various construction materials such as sand, cement, gravel, and mortar to different locations on a construction site.

Mixing Materials: They are ideal for mixing building materials, such as stirring cement and mortar. Construction workers can mix materials directly in the bucket to prepare small amounts of construction dust.

Tool Storage: Buckets, tubs and rectangular tubs can also serve as temporary storage for tools and smaller construction supplies so they are easily accessible while work is underway.

Waste collection: Construction work often produces small amounts of waste, such as pieces of wood, old nails, and packaging materials. Buckets, tubs and rectangular tubs can be used to collect this waste and dispose of it later.

Water transport: They are also used to transport and store water, for example for cleaning work or to moisten certain building materials.

Protection and Safety: In some cases, Buckets, tubs and rectangular tubs are used as a temporary cover or protection for building materials or openings on the construction site, to prevent dirt from entering or people from stepping into them.

2.3 DESCRIPTION PRODUCTION PROCESS

1. Recycled raw materials in big bags (granulate) are placed in the buffer rack after arrival.

2. Production takes the various raw materials (granules) needed for the silo.
3. The silo is filled with the raw materials indicated by the production manager (see example attachment).
4. The machines extract the raw material from the silo through a vacuum system
5. The percentage of raw materials is set in the computer
6. Plastic passes through the machine, which is heated until it becomes a molten mass.
7. The molded plastic is injected into the mold under high pressure.
8. Tub and rectangular tubs are end products and buckets are automatically fitted with a bracket.
9. Products are stacked on pallets and wrapped in foil per specified quantity.
10. The pallets are driven via a robot to an automated packaging machine.
11. This is followed by a cover through the automated packing machine, which protects the products against wind and weather when stored outside. The pallets are ready for transport to the customer. Outdoor storage is not climate dependent.

2.4 CONSTRUCTION DESCRIPTION

Within the LCA framework, module A5 is reserved for the construction phase, in which losses occur due to, for example, cutting losses, installation residues or waste on the construction site. In the case of tubs, buckets and tubs, there is no such construction phase, because these products are produced and delivered in their entirety without further assembly or processing on site. As a result, there is no material loss or waste that should be attributed to module A5, and this module is not considered in the LCA. The packaging material leaves the system in this phase. The processing of packaging waste is based on the default scenarios from the NMD Assessment method. Avoided impacts due to recycling and energy recovery are declared in module D.

Buckets, tubs and rectangular tubs are used manually during the construction process, so no inputs are required here.

3 Results

3.1 ENVIRONMENTAL IMPACT INDICATORS PER PIECE

CORE ENVIRONMENTAL IMPACT INDICATORS EN 15804+A2

| Abbr. | Unit | A1 | A2 | A3 | A1- A3 | A4 | A5 | B1 | B2 | B3 | C1 | C2 | C3 | C4 | D | Total |
|-----------|--------------------------|---------|---------|----------|-----------|----------|----------|---------|---------|---------|---------|---------|---------|----------|----------|---------|
| GWP-total | kg CO ₂ eq. | 6.35E-1 | 2.50E-2 | 3.16E-1 | 9.76E-1 | 8.89E-5 | 3.27E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.10E-2 | 1.32E+0 | 4.36E-5 | -9.24E-1 | 1.41E+0 |
| GWP-f | kg CO ₂ eq. | 5.97E-1 | 2.50E-2 | 3.37E-1 | 9.59E-1 | 8.88E-5 | 2.89E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.10E-2 | 1.32E+0 | 4.35E-5 | -9.24E-1 | 1.37E+0 |
| GWP-b | kg CO ₂ eq. | 3.76E-2 | 1.66E-5 | -2.17E-2 | 1.60E-2 | 3.58E-8 | 2.98E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 4.43E-6 | 2.41E-4 | 6.09E-8 | -1.38E-4 | 4.59E-2 |
| GWP-luluc | kg CO ₂ eq. | 5.72E-4 | 1.19E-5 | 6.53E-4 | 1.24E-3 | 3.26E-8 | 3.85E-7 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 4.03E-6 | 1.10E-4 | 1.22E-8 | -2.77E-5 | 1.32E-3 |
| ODP | kg CFC 11 eq. | 4.26E-8 | 5.23E-9 | 2.39E-8 | 7.17E-8 | 1.96E-11 | 1.75E-10 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.43E-9 | 4.06E-8 | 1.57E-11 | -1.12E-7 | 2.86E-9 |
| AP | mol H+ eq. | 6.65E-3 | 1.54E-4 | 1.45E-3 | 8.25E-3 | 5.15E-7 | 8.06E-6 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 6.38E-5 | 6.11E-4 | 3.79E-7 | -1.20E-3 | 7.73E-3 |
| EP-fw | kg P eq. | 3.22E-5 | 3.59E-7 | 1.91E-5 | 5.16E-5 | 8.95E-10 | 1.47E-8 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.11E-7 | 4.06E-6 | 5.60E-10 | -6.65E-6 | 4.91E-5 |
| EP-m | kg N eq. | 6.72E-4 | 5.42E-5 | 2.87E-4 | 1.01E-3 | 1.82E-7 | 3.33E-6 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.25E-5 | 1.67E-4 | 1.40E-7 | -3.14E-4 | 8.94E-4 |
| EP-T | mol N eq. | 2.37E-2 | 5.98E-4 | 3.53E-3 | 2.78E-2 | 2.00E-6 | 3.71E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.48E-4 | 1.86E-3 | 1.55E-6 | -3.55E-3 | 2.64E-2 |
| POCP | kg NMVOC eq. | 2.12E-3 | 1.69E-4 | 9.46E-4 | 3.23E-3 | 5.71E-7 | 9.99E-6 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 7.07E-5 | 5.03E-4 | 4.43E-7 | -1.37E-3 | 2.45E-3 |
| ADP-mm | kg Sb eq. | 6.41E-4 | 5.74E-7 | 1.01E-5 | 6.51E-4 | 2.25E-9 | 1.29E-8 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.79E-7 | 1.77E-6 | 3.82E-10 | -5.99E-4 | 5.47E-5 |
| ADP-f | MJ | 7.35E+0 | 3.75E-1 | 4.86E+0 | 1.26E+1 | 1.34E-3 | 9.19E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.66E-1 | 1.09E+0 | 1.17E-3 | -1.38E+1 | 9.37E-2 |
| WDP | m ³ world eq. | 1.43E-1 | 1.60E-3 | 1.40E-1 | 2.85E-1 | 4.79E-6 | 2.11E-4 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 5.93E-4 | 6.81E-2 | 5.49E-6 | -3.33E-2 | 3.21E-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) deprivation potential, deprivation-weighted water consumption (WDP)

3 Results

ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS EN 15804+A2

| Abbr. | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | C1 | C2 | C3 | C4 | D | Total |
|--------|-------------------|---------|----------|----------|---------|----------|----------|---------|---------|---------|---------|----------|----------|----------|-----------|---------|
| PM | disease incidence | 6.18E-8 | 2.19E-9 | 1.26E-8 | 7.66E-8 | 7.96E-12 | 8.18E-11 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 9.86E-10 | 5.15E-9 | 7.81E-12 | -7.98E-9 | 7.49E-8 |
| IR | kBq U235 eq. | 3.41E-2 | 1.64E-3 | 1.54E-2 | 5.12E-2 | 5.61E-6 | 3.67E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 6.95E-4 | 4.39E-3 | 5.81E-6 | -4.64E-3 | 5.17E-2 |
| ETP-fw | CTUe | 2.31E+1 | 3.43E-1 | 5.80E+0 | 2.92E+1 | 1.19E-3 | 3.84E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.48E-1 | 1.65E+1 | 5.62E-3 | -9.67E+0 | 3.63E+1 |
| HTP-c | CTUh | 2.17E-9 | 1.26E-11 | 6.02E-10 | 2.79E-9 | 3.88E-14 | 5.09E-12 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 4.80E-12 | 2.58E-10 | 5.40E-14 | -1.90E-10 | 2.86E-9 |
| HTP-nc | CTUh | 1.74E-8 | 3.77E-10 | 9.19E-9 | 2.69E-8 | 1.31E-12 | 2.93E-11 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.62E-10 | 5.31E-9 | 4.41E-12 | 1.49E-8 | 4.73E-8 |
| SQP | Pt | 3.68E+0 | 3.16E-1 | 6.63E+0 | 1.06E+1 | 1.16E-3 | 6.93E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.44E-1 | 4.33E-1 | 2.86E-3 | -1.64E+0 | 9.57E+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 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 |
| 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 |

3 Results

| ILCD classification | Indicator | Disclaimer |
|---------------------|--|------------|
| | Potential Comparative Toxic Unit for humans (HTP-c) | 2 |
| | Potential Comparative Toxic Unit for humans (HTP-nc) | 2 |
| | Potential Soil quality index (SQP) | 2 |

Disclaimer 1 – This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

CORE ENVIRONMENTAL IMPACT INDICATORS EN15804+A1

| Abbr. | Unit | A1 | A2 | A3 | A1- A3 | A4 | A5 | B1 | B2 | B3 | C1 | C2 | C3 | C4 | D | Total |
|-------|------------------------|---------|---------|---------|-----------|----------|----------|---------|---------|---------|---------|---------|---------|----------|----------|---------|
| ADPE | kg Sb eq. | 6.41E-4 | 5.74E-7 | 1.01E-5 | 6.51E-4 | 2.25E-9 | 1.29E-8 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.79E-7 | 1.77E-6 | 3.82E-10 | -5.99E-4 | 5.47E-5 |
| GWP | kg CO ₂ eq. | 5.97E-1 | 2.47E-2 | 3.38E-1 | 9.60E-1 | 8.81E-5 | 3.00E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.09E-2 | 1.31E+0 | 4.29E-5 | -9.09E-1 | 1.38E+0 |
| ODP | kg CFC 11 eq. | 4.34E-8 | 4.20E-9 | 2.31E-8 | 7.07E-8 | 1.56E-11 | 1.56E-10 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.93E-9 | 4.06E-8 | 1.27E-11 | -1.00E-7 | 1.33E-8 |
| POCP | kg ethene eq. | 4.33E-4 | 1.53E-5 | 1.72E-4 | 6.20E-4 | 5.31E-8 | 9.58E-7 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 6.57E-6 | 4.99E-5 | 4.23E-8 | -3.03E-4 | 3.75E-4 |
| AP | kg SO ₂ eq. | 4.28E-3 | 1.16E-4 | 1.14E-3 | 5.54E-3 | 3.87E-7 | 5.74E-6 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 4.79E-5 | 4.77E-4 | 2.82E-7 | -9.46E-4 | 5.12E-3 |
| EP | Kg PO43- eq. | 7.84E-4 | 2.27E-5 | 2.00E-4 | 1.01E-3 | 7.63E-8 | 1.33E-6 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 9.45E-6 | 7.77E-5 | 5.86E-8 | -1.38E-4 | 9.57E-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. | 3.58E-3 | 1.80E-4 | 2.50E-3 | 6.26E-3 | 6.48E-7 | 4.59E-6 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 8.02E-5 | 5.78E-4 | 5.30E-7 | -7.70E-3 | -7.75E-4 |
| HTP | kg 1,4 DB eq. | 1.21E+0 | 1.05E-2 | 2.76E-1 | 1.50E+0 | 3.71E-5 | 7.12E-4 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 4.59E-3 | 1.02E-1 | 3.76E-5 | -1.14E-1 | 1.49E+0 |
| FAETP | kg 1,4 DB eq. | 7.72E-3 | 2.85E-4 | 5.67E-3 | 1.37E-2 | 1.08E-6 | 1.74E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.34E-4 | 4.99E-3 | 1.19E-5 | -1.01E-3 | 1.78E-2 |

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

3 Results

| Abbr. | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | C1 | C2 | C3 | C4 | D | Total |
|-------|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| MAETP | kg 1,4 DB eq. | 2.20E+1 | 1.03E+0 | 1.11E+1 | 3.42E+1 | 3.89E-3 | 5.07E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 4.82E-1 | 1.45E+1 | 3.17E-3 | -3.39E+0 | 4.58E+1 |
| TETP | kg 1,4 DB eq. | 2.88E-3 | 3.95E-5 | 2.75E-3 | 5.66E-3 | 1.31E-7 | 1.39E-6 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.62E-5 | 2.66E-4 | 9.34E-8 | 4.67E-3 | 1.06E-2 |

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

3.2 INDICATORS DESCRIBING RESOURCE USE AND ENVIRONMENTAL INFORMATION BASED ON LIFE CYCLE INVENTORY (LCI)

PARAMETERS DESCRIBING RESOURCE USE

| Abbr. | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | C1 | C2 | C3 | C4 | D | Total |
|-------|----------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|
| PERE | MJ | 8.39E-1 | 8.32E-3 | 1.33E+0 | 2.18E+0 | 1.68E-5 | 3.54E-4 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.08E-3 | 1.07E-1 | 6.57E-5 | -2.73E-1 | 2.01E+0 |
| PERM | MJ | 0.00E+0 | 0.00E+0 | 2.49E-1 | 2.49E-1 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.49E-1 |
| PERT | MJ | 8.39E-1 | 8.32E-3 | 1.58E+0 | 2.42E+0 | 1.68E-5 | 3.54E-4 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.08E-3 | 1.07E-1 | 6.57E-5 | -2.73E-1 | 2.26E+0 |
| PENRE | MJ | 7.79E+0 | 3.98E-1 | 4.85E+0 | 1.30E+1 | 1.42E-3 | 9.78E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.76E-1 | 1.16E+0 | 1.24E-3 | -1.60E+1 | -1.60E+0 |
| PENRM | MJ | 0.00E+0 | 0.00E+0 | 2.13E-1 | 2.13E-1 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 7.33E-1 | 9.46E-1 |
| PENRT | MJ | 7.79E+0 | 3.98E-1 | 5.06E+0 | 1.33E+1 | 1.42E-3 | 9.78E-3 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.76E-1 | 1.16E+0 | 1.24E-3 | -1.53E+1 | -6.49E-1 |
| SM | Kg | 9.39E-3 | 0.00E+0 | 2.31E-4 | 9.62E-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 | 0.00E+0 | 9.62E-3 |
| 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 | 5.34E-3 | 6.28E-5 | 4.32E-3 | 9.73E-3 | 1.63E-7 | 1.22E-5 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 2.02E-5 | 2.00E-3 | 1.45E-6 | -1.14E-3 | 1.06E-2 |

PERE=Use of renewable primary energy excluding renewable primary energy resources used as raw materials | **PERM**=Use of renewable primary energy resources used as raw materials | **PERT**=Total use of renewable primary energy resources | **PENRE**=Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials | **PENRM**=Use of non-renewable primary energy resources used as raw materials | **PENRT**=Total use of non-renewable primary energy resources | **SM**=Use of secondary material | **RSF**=Use of renewable secondary fuels | **NRSF**=Use of non-renewable secondary fuels | **FW**=Net use of fresh water

3 Results

OTHER ENVIRONMENTAL INFORMATION DESCRIBING WASTE CATEGORIES

| Abbr. | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | C1 | C2 | C3 | C4 | D | Total |
|-------|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| HWD | Kg | 1.01E-4 | 9.22E-7 | 1.62E-5 | 1.18E-4 | 3.40E-9 | 2.14E-8 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 4.20E-7 | 2.06E-6 | 1.43E-9 | -1.07E-4 | 1.33E-5 |
| NHWD | Kg | 2.15E-1 | 2.13E-2 | 5.60E-2 | 2.93E-1 | 8.50E-5 | 1.84E-2 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.05E-2 | 5.21E-1 | 4.86E-3 | -1.79E-2 | 8.30E-1 |
| RWD | Kg | 3.16E-5 | 2.45E-6 | 1.44E-5 | 4.85E-5 | 8.82E-9 | 5.00E-8 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.09E-6 | 3.94E-6 | 7.70E-9 | -7.29E-6 | 4.63E-5 |

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

ENVIRONMENTAL INFORMATION DESCRIBING OUTPUT FLOWS

| Abbr. | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | C1 | C2 | C3 | C4 | D | Total |
|-------|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| CRU | Kg | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |
| MFR | Kg | 0.00E+0 | 0.00E+0 | 1.55E-2 | 1.55E-2 | 0.00E+0 | 9.42E-4 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.42E-1 | 0.00E+0 | 0.00E+0 | 1.58E-1 |
| MER | Kg | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |
| EE | MJ | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 1.98E+1 | 1.98E+1 |
| EET | MJ | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 6.27E+0 | 6.27E+0 |
| EEE | MJ | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 3.64E+0 | 3.64E+0 |

CRU=Components for re-use | MFR=Materials for recycling | MER=Materials for energy recovery | EE=Exported energy | EET=Exported Energy, Thermic | EEE=Exported Energy, Electric

3 Results

3.3 INFORMATION ON BIOGENIC CARBON CONTENT PER PIECE

BIOGENIC CARBON CONTENT

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

| Biogenic carbon content | Amount | Unit |
|---|----------|------|
| Biogenic carbon content in the product | 0 | kg C |
| Biogenic carbon content in accompanying packaging | 0.008091 | kg C |

UPTAKE OF BIOGENIC CARBON DIOXIDE

The following amount of carbon dioxide uptake is taken into account. Related uptake and release of carbon dioxide in downstream processes are not taken into account in this number although they do appear in the presented results. One kilogram of biogenic Carbon content is equivalent to 44/12 kg of biogenic carbon dioxide uptake.

| Uptake Biogenic Carbon dioxide | Amount | Unit |
|--------------------------------|---------|-------------------|
| Packaging | 0.02967 | kg CO2 (biogenic) |

3 Results

3.4 ENVIRONMENTAL COST INDICATOR NL PER PIECE

Using the environmental cost indicator (ECI) method, which is presented in the NMD Determination Method (2020), the results are aggregated to the single-point score. The ECI is a relevant valuation method, especially in the Dutch construction sector. In the Netherlands, it is a prerequisite for public tenders. The aim of the indicator is to show the shadow price for environmental impacts of a product or project. The application of single-point scores is an additional assessment tool for eco-balance results. However, it must be pointed out that weightings are always based on a value maintenance and not on a scientific basis (EN 14040). The ECI results are shown in the following table.

| Module EN15804 | ECI NL 2010 | Share in total (%) |
|---|--------------------|---------------------------|
| A1 Raw Materials Supply | € 0.17 | 70,1 % |
| A2 Transport | € 0.00 | 1,3 % |
| A3 Manufacturing | € 0.05 | 21,0 % |
| A4 Transport from the gate to the site | € 0.00 | 0,0 % |
| A5 Construction - Installation process | € 0.00 | 0,1 % |
| B1 Use | € 0.00 | 0,0 % |
| B2 Maintenance | € 0.00 | 0,0 % |
| B3 Repair | € 0.00 | 0,0 % |
| C1 De-construction / demolition | € 0.00 | 0,0 % |
| C2 Transport | € 0.00 | 0,5 % |
| C3 Waste processing | € 0.08 | 33,2 % |
| C4 Disposal | € 0.00 | 0,0 % |
| D Benefits and loads beyond the product system boundary | € -0.06 | -26,2 % |
| ECI NL 2010 per functional unit | € 0.24 | |

4 Contact information

Publisher

Operator

Owner of declaration

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