

MULCOL

FIRE PROTECTION

Environmental Product Declaration

According to EN15804+A2 (+indicators A1)

This declaration is for:
Multimortar

Provided by:
Mulcol International



MRPI® registration:

1.1.00589.2024

Program operator:

Stichting MRPI®

Publisher:

Stichting MRPI®

www.mrpi.nl

Date of first issue:

12-7-2024

Date of this issue:

11-6-2026

Expiry date:

12-7-2029



Nationale
MILIEUDATABASE

Page 1 of 10



COMPANY INFORMATION

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MRPI® REGISTRATION

1.1.00589.2024

DATE OF THIS ISSUE

11-6-2026

EXPIRY DATE

12-7-2029

SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by Anne Kees Jeeninga, Advieslab. The LCA study has been done by Martijn Blaak, EcoReview. The certificate is based on an LCA-dossier according to EN15804+A2 (+indicators A1). It is verified according to the 'Verification protocol for MRPI LCA project report & EPD 21th of May 2025, V. 5.2'. EPDs of construction products may not be comparable if they do not comply with EN15804+A2. Declaration of SVHC that are listed on the 'Candidate list of Substances of Very High Concern for authorisation' when content exceeds the limits for registration with ECHA.

PROGRAM OPERATOR

Stichting MRPI®
 Kingsfordweg 151
 1043 GR
 Amsterdam

PRODUCT

Multimortar

DECLARED UNIT / FUNCTIONAL UNIT

15 Mass (kg)

DESCRIPTION OF PRODUCT

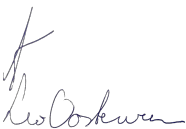

Multimortar creates a firestopping mass

VISUAL PRODUCT



MORE INFORMATION

<https://www.mulcol.com/multimortar>

| | |
|---|--|
| Ing. L. L. Oosterveen MSc. MBA Managing Director MRPI  | DEMONSTRATION OF VERIFICATION |
| | CEN standard EN15804 serves as the core PCR [1] |
| | Independent verification of the declaration and data according to EN15804+A2 (+indicators A1) Internal: _____ External: X |
| | Third party verifier: Anne Kees Jeeninga, Advieslab  |
| [1] PCR = Product Category Rules | |

DETAILED PRODUCT DESCRIPTION

Comprised of perlite and non-organic compounds, Multimortar is a dry white powder that creates a durable, thermal-insulating, and firestopping mass when mixed with water. When used to seal openings in walls or floors, it prevents the spread of fire and smoke through fire rated constructions while maintaining their acoustic properties. This product belongs to the Mulcol® Penetration Seal System and is compatible with other products such as the Multicollar Slim, Multiwrap, and Multimastic FB firestop boards. The reference service life of Multimortar is 30 years.

| Component (> 1%) | (kg / %) |
|------------------|----------|
| Cementmortar | 100,00% |

| Biogenic carbon content | Unit | Amount of uptake per functional unit |
|--|------|--------------------------------------|
| Biogenic carbon content in product | kg C | 0 |
| Biogenic carbon content in accompanying packaging | kg C | 0 |
| Note that 1 kg of biogenic carbon is equivalent to 44 / 12 kg of CO ₂ . | | |

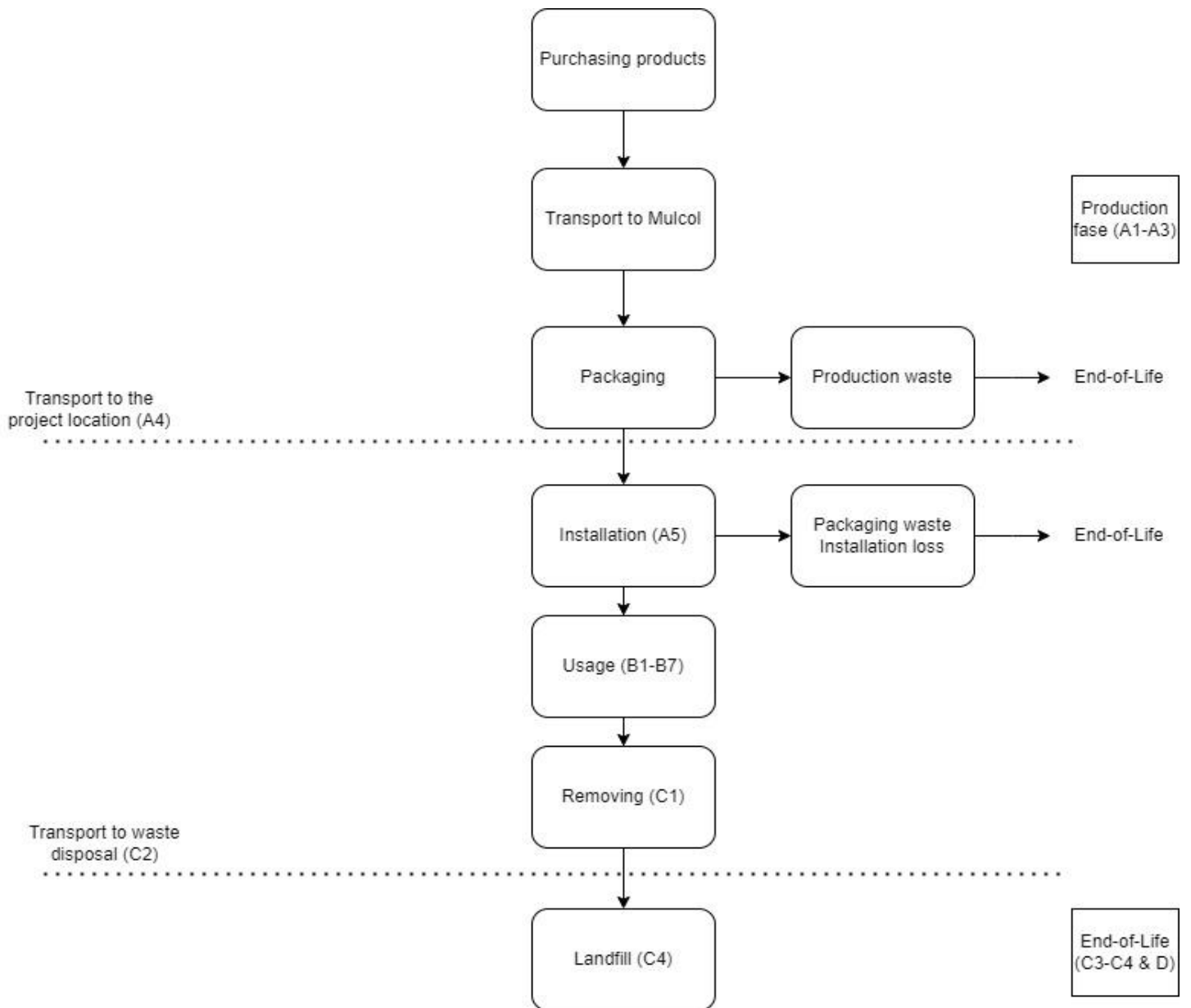
SCOPE AND TYPE

The LCA study is a cradle-to-gate (A-D) in accordance with the EN15804+A2 and the Dutch Determination method (Bepalingsmethode "Milieuprestatie Bouwwerken" versie 1.1 march 2022). The product is produced in the Netherlands and application of the results is only representable for products sold from the Oss facility. Simapro 9.5.0.0 software was used, using NMD 3.7 and Ecoinvent 3.6 databases.

| PRODUCT STAGE | | | CONSTRUCTION PROCESS STAGE | | USE STAGE | | | | | | | END OF LIFE STAGE | | | | BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES |
|---------------------|-----------|---------------|----------------------------|----------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|---|
| Raw material supply | Transport | Manufacturing | Transport gate to site | Assembly | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Reuse - Recovery - Recycling potential |
| 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 | x | x | x | x | x | x | x | x | x |

X = Modules Assessed

ND = Not Declared



ENVIRONMENTAL IMPACT per functional unit or declared unit (indicators A1)

| | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|------|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| ADPE | kg Sb eq. | 2,52E-04 | 1,98E-05 | 0,00E+00 | 2,72E-04 | 1,16E-06 | 4,15E-05 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 2,56E-06 | 7,23E-07 | 0,00E+00 | 0,00E+00 |
| ADPF | MJ | 3,02E+01 | 2,37E+01 | 0,00E+00 | 5,39E+01 | 1,05E+00 | 8,80E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,53E+00 | 2,20E+00 | 0,00E+00 | 0,00E+00 |
| GWP | kg CO2 eq. | 3,90E+00 | 1,71E+00 | 0,00E+00 | 5,61E+00 | 6,78E-02 | 8,78E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,00E-01 | 7,75E-02 | 0,00E+00 | 0,00E+00 |
| ODP | kg CFC11 eq. | 1,98E-07 | 2,95E-07 | 0,00E+00 | 4,93E-07 | 1,28E-08 | 8,24E-08 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,78E-08 | 2,58E-08 | 0,00E+00 | 0,00E+00 |
| POCP | kg ethene eq. | 1,05E-03 | 1,75E-03 | 0,00E+00 | 2,80E-03 | 4,13E-05 | 4,48E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 6,06E-05 | 8,26E-05 | 0,00E+00 | 0,00E+00 |
| AP | kg SO2 eq. | 1,17E-02 | 2,76E-02 | 0,00E+00 | 3,93E-02 | 1,76E-04 | 6,07E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 4,41E-04 | 5,67E-04 | 0,00E+00 | 0,00E+00 |
| EP | kg (PO4) 3 eq. | 1,79E-03 | 3,13E-03 | 0,00E+00 | 4,92E-03 | 2,91E-05 | 7,72E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 8,67E-05 | 1,09E-04 | 0,00E+00 | 0,00E+00 |

Toxicity indicators and ECI (Dutch market)

| | | | | | | | | | | | | | | | | | | | |
|-------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| HTP | kg DCB eq. | 1,09E+00 | 7,09E-01 | 0,00E+00 | 1,80E+00 | 1,46E-02 | 2,83E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 4,23E-02 | 3,50E-02 | 0,00E+00 | 0,00E+00 |
| FAETP | kg DCB eq. | 1,68E-02 | 1,55E-02 | 0,00E+00 | 3,24E-02 | 6,13E-04 | 5,26E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,23E-03 | 8,32E-04 | 0,00E+00 | 0,00E+00 |
| MAETP | kg DCB eq. | 6,63E+01 | 6,03E+01 | 0,00E+00 | 1,27E+02 | 1,66E+00 | 2,03E+01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 4,44E+00 | 2,97E+00 | 0,00E+00 | 0,00E+00 |
| TETP | kg DCB eq. | 5,51E-03 | 2,49E-03 | 0,00E+00 | 8,00E-03 | 8,24E-05 | 1,25E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,49E-04 | 8,80E-05 | 0,00E+00 | 0,00E+00 |
| ECI | euro | 3,68E-01 | 3,00E-01 | 0,00E+00 | 6,68E-01 | 6,02E-03 | 1,04E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,21E-02 | 1,09E-02 | 0,00E+00 | 0,00E+00 |
| ADPF | kg Sb eq. | 1,45E-02 | 1,14E-02 | 0,00E+00 | 2,59E-02 | 5,06E-04 | 4,23E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 7,38E-04 | 1,06E-03 | 0,00E+00 | 0,00E+00 |

- ADPE = Abiotic Depletion Potential for non-fossil resources
- ADPF = Abiotic Depletion Potential for fossil resources
- GWP = Global Warming Potential
- ODP = Depletion potential of the stratospheric ozone layer
- POCP = Formation potential of tropospheric ozone photochemical oxidants
- AP = Acidification Potential of land and water
- EP = Eutrophication Potential
- HTP = Human Toxicity Potential
- FAETP = Fresh water aquatic ecotoxicity potential
- MAETP = Marine aquatic ecotoxicity potential
- TETP = Terrestrial ecotoxicity potential
- ECI = Environmental Cost Indicator
- ADPF = Abiotic Depletion Potential for fossil resources

ENVIRONMENTAL IMPACT per functional unit or declared unit (core indicators A2)

| Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|---------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| GWP-total kg CO2 eq. | 3,94E+00 | 1,72E+00 | 0,00E+00 | 5,66E+00 | 6,84E-02 | 8,86E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,01E-01 | 7,92E-02 | 0,00E+00 | 0,00E+00 |
| GWP-fossil kg CO2 eq. | 3,87E+00 | 1,72E+00 | 0,00E+00 | 5,59E+00 | 6,83E-02 | 8,75E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,01E-01 | 7,90E-02 | 0,00E+00 | 0,00E+00 |
| GWP-biogenic kg CO2 eq. | 6,69E-02 | 5,31E-05 | 0,00E+00 | 6,69E-02 | 3,29E-05 | 1,01E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 4,67E-05 | 1,57E-04 | 0,00E+00 | 0,00E+00 |
| GWP-luluc kg CO2 eq. | 1,78E-03 | 8,66E-04 | 0,00E+00 | 2,64E-03 | 1,70E-05 | 4,08E-04 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 3,71E-05 | 2,20E-05 | 0,00E+00 | 0,00E+00 |
| ODP kg CFC11 eq. | 2,43E-07 | 3,71E-07 | 0,00E+00 | 6,14E-07 | 1,61E-08 | 1,03E-07 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 2,23E-08 | 3,25E-08 | 0,00E+00 | 0,00E+00 |
| AP mol H+ eq. | 1,51E-02 | 3,45E-02 | 0,00E+00 | 4,96E-02 | 2,20E-04 | 7,68E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 5,87E-04 | 7,50E-04 | 0,00E+00 | 0,00E+00 |
| EP-fresh water kg P eq. | 6,91E-05 | 9,14E-06 | 0,00E+00 | 7,83E-05 | 4,76E-07 | 1,21E-05 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,02E-06 | 8,85E-07 | 0,00E+00 | 0,00E+00 |
| EP-marine kg N eq. | 4,07E-03 | 8,44E-03 | 0,00E+00 | 1,25E-02 | 5,04E-05 | 1,95E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 2,07E-04 | 2,58E-04 | 0,00E+00 | 0,00E+00 |
| EP-terrestrial mol N eq. | 4,61E-02 | 9,39E-02 | 0,00E+00 | 1,40E-01 | 5,68E-04 | 2,18E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 2,28E-03 | 2,84E-03 | 0,00E+00 | 0,00E+00 |
| POCP kg NMVOC eq. | 1,23E-02 | 2,50E-02 | 0,00E+00 | 3,73E-02 | 2,13E-04 | 5,86E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 6,51E-04 | 8,26E-04 | 0,00E+00 | 0,00E+00 |
| ADP-minerals & metals kg Sb eq. | 2,52E-04 | 1,98E-05 | 0,00E+00 | 2,72E-04 | 1,16E-06 | 4,15E-05 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 2,56E-06 | 7,23E-07 | 0,00E+00 | 0,00E+00 |
| ADP-fossil MJ, net calorific value | 2,67E+01 | 2,40E+01 | 0,00E+00 | 5,07E+01 | 1,06E+00 | 8,33E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,53E+00 | 2,21E+00 | 0,00E+00 | 0,00E+00 |
| WDP m3 world eq. Deprived | 4,03E-01 | 6,67E-02 | 0,00E+00 | 4,70E-01 | 4,51E-03 | 8,68E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 5,46E-03 | 9,90E-02 | 0,00E+00 | 0,00E+00 |

- GWP-total = Global Warming Potential total
- GWP-fossil = Global Warming Potential fossil fuels
- GWP-biogenic = Global Warming Potential biogenictotal
- GWP-luluc = Global Warming Potential land use and land use change
- ODP = Depletion potential of the stratospheric ozone layer
- AP = Acidification Potential, Accumulated Exceedence
- EP-freshwater = Eutrophication Potential, fraction of nutrients reaching freshwater end compartment
- EP-marine = Eutrophication Potential, fraction of nutrients reaching marine end compartment
- EP-terrestrial = Eutrophication Potential, Accumulated Exceedence
- POCP = Formation potential of tropospheric ozone photochemical oxidants
- ADP-minerals & metals = Abiotic Depletion Potential for non-fossil resources [1]
- ADP-fossil = Abiotic Depletion for fossil resources potential [1]
- WDP = Water (user) deprivation potential, deprivation-weighted water consumption [1]

Disclaimer [1]:

- 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 experience with the indicator.

ENVIRONMENTAL IMPACT per functional unit or declared unit (additional indicators A2)

| Unit | | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|--------|-------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| PM | Disease incidence | 1,63E-07 | 8,11E-08 | 0,00E+00 | 2,44E-07 | 4,74E-09 | 4,08E-08 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 9,09E-09 | 1,45E-08 | 0,00E+00 | 0,00E+00 |
| IRP | kBq U235 eq. | 9,55E-02 | 1,03E-01 | 0,00E+00 | 1,99E-01 | 4,56E-03 | 3,28E-02 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 6,40E-03 | 9,06E-03 | 0,00E+00 | 0,00E+00 |
| ETP-fw | CTUe | 7,16E+01 | 1,64E+01 | 0,00E+00 | 8,80E+01 | 7,75E-01 | 1,37E+01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,36E+00 | 1,43E+00 | 0,00E+00 | 0,00E+00 |
| HTP-c | CTUh | 1,20E-09 | 7,70E-10 | 0,00E+00 | 1,97E-09 | 1,96E-11 | 3,10E-10 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 4,42E-11 | 3,31E-11 | 0,00E+00 | 0,00E+00 |
| HTP-nc | CTUh | 3,59E-08 | 1,32E-08 | 0,00E+00 | 4,91E-08 | 6,25E-10 | 7,83E-09 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,49E-09 | 1,02E-09 | 0,00E+00 | 0,00E+00 |
| SQP | - | 4,44E+01 | 1,47E+01 | 0,00E+00 | 5,91E+01 | 1,21E+00 | 9,94E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,32E+00 | 4,63E+00 | 0,00E+00 | 0,00E+00 |

- PM = Potential incidence of disease due to PM emissions
- IRP = Potential Human exposure efficiency relative to U235 [1]
- ETP-fw = Potential Comparative Toxic Unit for ecosystems [2]
- HTP-c = Potential Comparative Toxic Unit for humans, cancer [2]
- HTP-nc = Potential Comparative Toxic Unit for humans, non-cancer [2]
- SQP = Potential soil quality index [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.

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 experience with the indicator.

OUTPUT FLOWS AND WASTE CATEGORIES per functional unit or declared unit (A1 en A2)

| | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|------|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| HWD | kg | 6,26E-05 | 3,96E-05 | 0,00E+00 | 1,02E-04 | 2,62E-06 | 1,68E-05 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 3,87E-06 | 3,30E-06 | 0,00E+00 | 0,00E+00 |
| NHWD | kg | 5,33E-01 | 1,02E+00 | 0,00E+00 | 1,55E+00 | 9,23E-02 | 2,51E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 9,68E-02 | 1,50E+01 | 0,00E+00 | 0,00E+00 |
| RWD | kg | 1,21E-04 | 1,65E-04 | 0,00E+00 | 2,86E-04 | 7,21E-06 | 4,76E-05 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,00E-05 | 1,45E-05 | 0,00E+00 | 0,00E+00 |
| CRU | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| MFR | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| MER | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| EEE | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| ETE | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |

- HWD = Hazardous Waste Disposed
- NHWD = Non Hazardous Waste Disposed
- RWD = Radioactive Waste Disposed
- CRU = Components for reuse
- MFR = Materials for recycling
- MER = Materials for energy recovery
- EEE = Exported Electrical Energy
- ETE = Exported Thermal Energy

RESOURCE USE per functional unit or declared unit (A1 and A2)

| | Unit | A1 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|-------|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| PERE | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| PERM | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| PERT | MJ | 2,89E+00 | 2,02E-01 | 0,00E+00 | 3,09E+00 | 1,09E-02 | 4,71E-01 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,91E-02 | 1,79E-02 | 0,00E+00 | 0,00E+00 |
| PENRE | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| PENRM | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| PENRT | MJ | 2,84E+01 | 2,55E+01 | 0,00E+00 | 5,38E+01 | 1,13E+00 | 8,84E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,62E+00 | 2,35E+00 | 0,00E+00 | 0,00E+00 |
| SM | kg | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| RSF | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| NSRF | MJ | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| FW | m3 | 1,42E-02 | 2,11E-03 | 0,00E+00 | 1,63E-02 | 1,36E-04 | 2,84E-03 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 1,86E-04 | 2,36E-03 | 0,00E+00 | 0,00E+00 |

- PERE = Use of renewable primary energy excluding renewable primary energy 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 resources excluding non-renewable 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 materials
- RSF = Use of renewable secondary fuels
- NSRF = Use of non-renewable secondary fuels
- FW = Use of net fresh water

CALCULATION RULES

Energy and resource usage of the production facilities have been mass allocated based on data from 2023. A full calendar year of production data was used.

The resulting averages were calculated by aggregating the total energy and resource usage over the year and dividing by the number of production units or time periods. Capital goods, such as factory infrastructure, were excluded from this analysis to focus on operational energy and resource usage.

Primary data was collected from Mulcol International, covering production inputs, electricity use, welding operations, transport, and end-of-life scenarios. Background data was sourced from the Ecoinvent 3.6 database. Data quality is considered “good” to “very good” for all records in terms of time, geography, and technology representativeness, as assessed per EN 15804+A2 Annex E.

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

Multimortar is brought into the production facility (A1-A3). Then they are packed and shipped to the customer (A4). Installation loss percentages (A5) are according to the NMD Assessment Method. After their useful life they are shipped (C2) to waste processing to fully go into landfill (C2-C4). The transport distance to waste treatment is also calculated according to the NMD Assessment Method.

Electricity Mix – Global Warming Potential (GWP):

The NMD profile 0510-pro&Elektriciteitsverbruik, bouwmachine elektrisch, Grijze mix, per kWh input (electricity: 3.6 MJ/kWh; 3.6 MJ input equals 2.75 MJ output) was applied. This grey electricity mix is composed of the following energy sources: natural gas (81.25%), coal (10.93%), nuclear energy (4.42%), oil products (1.51%), and other non-renewable fuels (approximately 1.89%). The Global Warming Potential associated with this electricity mix is 6.23×10^{-1} kg CO₂-equivalent per kWh.

DECLARATION OF SVHC

Analysis show no SVHC present in the product.

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