# Environmental Product Declaration

In accordance with EN 15804:2012+A2:2019/AC:2021, ISO 14025 and ISO 21930:2017 for:

## POLYCRETE MC- UAE

From

| | |
|---|---|
| Programme: | The International EPD® System, www.environdec.com |
| Programme operator: | EPD International AB |
| EPD registration number: | EPD-IES-0018256 |
| Publication date: | 2025-01-16 |
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*An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com*

# General information

## Programme information

| | |
|---|---|
| **Programme:** | The International EPD® System |
| **Address:** | EPD International AB<br>Box 210 60<br>SE-100 31 Stockholm<br>Sweden |
| **Website:** | www.environdec.com |
| **E-mail:** | info@environdec.com |

| **Accountabilities for PCR, LCA and independent, third-party verification** |
|---|
| **Product Category Rules (PCR)** |
| CEN standard EN 15804 and ISO 21930 serve as the Core Product Category Rules (PCR). |
| Product Category Rules (PCR): *PCR 2019:14 Construction products, version 1.3.4 Published on 2024.04.30 valid until: 2025.06.20.* |
| PCR review was conducted by: *Technical Committee of the International EPD System. Chair: Claudia A. Peña. Contact via info@environdec.com.* |
| **Life Cycle Assessment (LCA)** |
| LCA accountability: Henkel AG & Co. KGaA |
| **Third-party verification** |
| Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:<br><br>☒ EPD verification by accredited certification body<br><br>Third-party verification: *Cristina Gazulla Santos, CERTINALIA S.L.U. Certification is an approved certification body accountable for the third-party verification. The certification body is accredited by: ENAC (accreditation no. 125/C-PR283).* |
| Procedure for follow-up of data during EPD validity involves third party verifier:<br><br>☒ Yes ☐ No |

The EPD owner has the sole ownership, liability, and responsibility for the EPD. The current EPD complies also with ISO 21930:2017, Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

## Company information

Owner of the EPD:

Henkel AG & Co. KGaA
Henkelstraße 67
40589 Düsseldorf
Deutschland

Contact:

polybitdammam@henkel.com

Description of the organisation:
Henkel AG & Co. KGaA, commonly known as Henkel, is a German multinational chemical and consumer goods company headquartered in Düsseldorf, Germany.

Henkel Adhesive Technologies Construction is a division of Henkel which offers, among others, a wide choice of waterproofing systems tailored to varied needs. This EPD is focused on the key components of Cementitious mortar/grout. These components are mainly sold under the brand of Henkel Polybit.

For more information, please visit: www.henkelpolybit.com

Product-related or management system-related certifications: The plant located in Umm Al Thuoob, United Arab Emirates (UAE) holds certificates for ISO 9001, ISO 14001 and ISO 45001.

Name and location of production site(s):
Henkel Polybit Industries Ltd.
GMV5+3H6 – Umm Al Thuoob –
Emirate of Umm Al Quwain
United Arab Emirates

## Product information

Product name: POLYCRETE MC- UAE

Product identification: Polycrete MC is a high strength, shrinkage compensated, free flowing micro-concrete. The material is a blend of portland cement, graded aggregates, special fillers and additives used for repairing large volume of concrete repairs at thicknesses from 10mm to 250mm.

| Typical Applications | | Standards |
|---|---|---|
| Color & appearance | Grey powder | |
| Mixed density, [g/cc] | 2.3±0.05 | ASTM D 1475 |
| Application life, [minutes] | 30 | BS EN 196 |
| Compressive strength @28 days, [N/mm2] | >70 | ASTM C 579 |
| Pull off strength,[N/mm2] | > 1 | ASTM D 4541 |
| Tensile strength @ 28 days, [N/mm2 | >5 | ASTM C 307 |

| Typical Applications | | Standards |
|---|---|---|
| Flexural strength @ 28 days, [N/mm2 | >9 | ASTM C 580 |
| Water permeability @5 bar pressure, [mm] | <10 | BS EN 12390 |
| Application thickness, [mm/pour] | Minimum 10 Maximum 250 | |
| Application temp, [°C] | 5 to 45 | |

Product description: POLYCRETE MC– UAE is used as a fairing coat for the following purposes: as a pile head re-profiling and general void filling, large volume or area repairs where the use of hand or trowel applied mortars is impractical, it can be applied for large volume repairs in excess of 10 mm. the product can be applied in sections generally up to 250 mm, in repair areas with restricted access or high concentration of reinforcement, due to the plastic nature of the product, it can be used as grout and poured under a head of pressure. The application temperature should be between 5°C to 45°C. Application procedures may vary slightly depending upon site conditions.

UN CPC code: 3751

Geographical scope: Global.
The product under study is manufactured in the Umm Al Thuoob manufacturing site but can be used at a global scale

## LCA information

Declared unit: 1 kg of packed Polycrete MC

Time representativeness: All specific data related to the production plants and used for the study date from 2023.

Database(s) and LCA software used: This EPD is based on specific data and system information. The primary inventory data has been directly obtained from Henkel and corresponds to the product mentioned above. The product analysed in this study is manufactured in Henkel manufacturing plant located in Umm Al Thuoob (UAE).

The secondary data has been extracted from the generic Ecoinvent version 3.10 database, included in the SimaPro v9.6. software which is internationally recognised. Wherever possible, inventory data related to specific countries or on its absence, from Global in general has been selected. This has been used for the stage of production and transport of raw materials, as well as for electricity generation or waste management processes, over which the manufacturer has no direct influence.

Description of system boundaries: cradle-to-gate with modules C1-C4, module D and optional modules A4 and A5, covering the modules of extraction and processing of raw materials (A1), their transportation to the production plant (A2), the manufacturing process (A3), transport to construction site (A4), installation (A5), end of life (C1-C4) and potential benefits and loads from the reuse and recycling of the products at its end of life (D).

Product stage (A1-A3):

- Raw material supply (A1): this module considers the extraction and processing of raw materials used for the manufacture of the products.
- Transport of the raw materials (A2): this module consists of the transportation of all raw materials covered by module A1, from the extraction, production, and treatment site to the factory, considering the specific distances of each material supplier.
- Manufacturing of products (A3): this module refers to the production process of the Polycrete MC in the production plants. After accurately measuring all required raw materials according to the recipe, the materials are sequentially added to the mixer in a defined order. The mixing process is started, ensuring consistent blending by maintaining specified mixing times and speeds to achieve the desired product characteristics. Samples are then taken from the mixed batch for QC analysis, and adjustments are made as needed based on QC feedback. Once QC approval is obtained, the product is packed into designated bags (25 kg, Paper bag) and labeled with essential information. The chosen packaging type is the most representative in terms of sales volume. It also serves as the standard reference for all other packaging options analyzed for this product.

Installation stage (A4-A5):

- Transport from factory to construction site (A4): this module considers the distribution of the product and its packaging to the construction site

| Scenario information | Unit (by declared unit) |
|---|---|
| Fuel type and consumption of the vehicle | 16-32 tons trucks, with 34 L per 100 km fuel consumption |
| Distance | 167 km |

| Scenario information | Unit (by declared unit) |
|---|---|
| Capacity Utilization | 100% |
| Bulk density | 2350 kg/m$^3$ |
| Volume capacity utilisation factor | 1 |

- Installation (A5): this module considers the preparation of the product in order to be installed. One bag of Polycrete is mixed with pre-measured water as per the product's TDS (Technical Data sheet) and mixed in a suitable size drum using an approved grout paddle at a slow speed (300/400 rpm) with a heavy-duty drill till a homogenous and lump free consistency is achieved. Finally, the mixed mortar can be either trowel applied or poured into the repair area to fill the cavity at the required level within 30 minutes. curing shall be done by non degradable type of curing compound or wet hessian cloth. When cured with wet hessian cloth, the area shall be covered immediately with a high density polyethyelene sheet which shall be taped to all edges
- Additional technical information on module A5 according to EN 15804.

| Scenario information | Unit (by declared unit) |
|---|---|
| Auxiliary materials for installation | Water |
| Water use | 0.12 kg/kg product |
| Use of other resources | Electricity |
| Energy consumption during the installation | 0.008 kWh/kg product |
| Wastes and output flows as result of the waste treatment at the demolition point | No consumption |
| Direct emissions to air, soil and water | No applicable |

End of life stage (C):

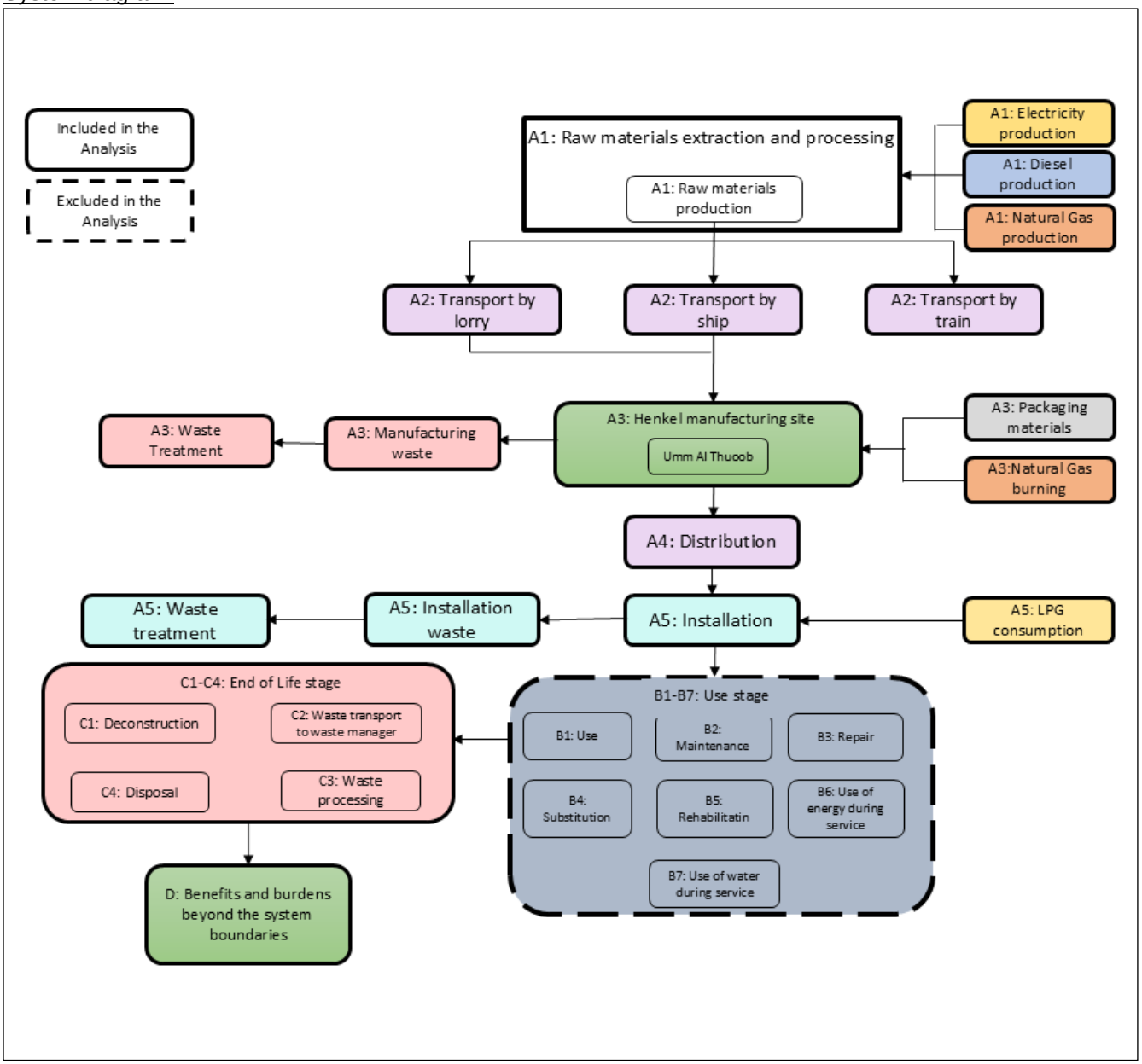
- Deconstruction or demolition (C1): this stage considers the dismantling of the products after its use. The consumption of energy and natural resources is negligible for deconstruction of the end-of-life product, as demolition of bitumen membrane roofing is assumed to be done manually. Thus, the impacts of demolition are assumed zero.
- Transport to the waste processing site (C2): this module considers a default distance of 50 km between the building where the product was installed and the waste manager facility (landfill).
- Waste processing (C3): this module includes the reconditioning of the products waste for its reuse or recycling. However, in this study it is assumed that the products cannot be reused nor recycled after its end of useful life. Thus, there are not environmental impacts allocated to this module. On the other hand, following the "polluter pays" principle, if there were impacts due to the reuse/recycling of this product, they would not be attributed to its life cycle.
- Disposal (C4): this module includes the final discharge of waste that has not been destined for recovery or treatment processes. It has been assumed that the 100% of the product are finally disposed in the landfill after its end of useful life.

Benefits and loads beyond the system boundary (D): this module analyses the benefits and burdens related to the processes of recovery, reuse or recycling of waste from the products under study at their

end of life, which could form part of the life cycle of a new product. In this the entire product is landfill so mule D is assumed as 0 contribution.
The scenarios for modules C1-C4 and D are realistic and representative of one of the most probable alternatives. The scenarios do not include processes or procedures that are not in current use or whose feasibility have not been demonstrated.
The module collects the most likely scenarios based on the best knowledge currently available. Considerations about the end of life of the representative average product:

| **Parameter** | **Units per declared Unit (kg)** | **Value (per 1 kg)** |
|---|---|---|
| Waste collection process, specified by type | kg collected separately | 0.00 |
| | kg collected mixed with demolition waste | 1 |
| Recovery process waste, specified by type | kg for reuse | 0.00 |
| | kg for recycling | 0.00 |
| | kg for energy recovery | 0.00 |
| Waste disposal | kg to landfill | 1 |
| Considerations for scenarios development | Distance to waste manager (km) | 50 |

System diagram:




More information:

Company website for more information: https://www.henkel.de/

Name and contact information of LCA practitioner:

Henkel AG & Co. KGaA
Henkelstraße 67
40589 Düsseldorf
Deutschland

Cut-off rules: In accordance with the provisions of the Product Category Rules (PCR): PCR 2019:14 Construction products, version 1.3.4 Published on 2024.04.30 valid until: 2025.06.20., UNI-EN 15804:2012+A2:2020, at least 95% of total inflows (raw materials and energy) and outflows per module have been considered. The packaging for the distribution of the products has also been included.

The "polluter pays" principle has been applied.

The following processes have not been included in the scope of the study:

- Manufacture of equipment used in production, buildings or any other assets.
- Business trips.
- Maintenance activities at the production plants and research and development sites.
- Transportation of personnel to and within the plants.
- Diffuse particle emissions during the transport and storage of raw materials.

The hypotheses made during the study are detailed below:

- All the primary data used in this study correspond to 2023 and has been provided by Henkel.
- The plant of Umm Al Thuoob in United Arab Emirates uses full renewable electricity (solar). For this reason, the Ecoinvent database has been used to model the renewable energy.

| Source | Umm Al Thuoob |
|---|---|
| GWP-GHG (kg CO2 eq./kWh) | 0.05 |

- Regarding the transport of raw materials (module A2), specific distances have been introduced by supplier and material.
- For the transport of waste from production plant, specific distances have been introduced for each waste management facility, which has been provided by Henkel.
- For the distribution to the customer site, Henkel has indicated that the manufacturing sites supply to a radius of 167 km.
- For the preparation of waterproofing membrane, Henkel has provided primary data.
- The End-of-Life scenario for the products has been provided by Henkel, where it is assumed that the 100% goes to landfill.
- This EPD is based on specific data and system information

Data quality requirements: “Good" data quality has been obtained (4.08 out of 5). The method used to assess the representativeness of the data is found in “Table E.1 — Data quality level and criteria of the UN Environment Global Guidance on LCA database development” in the Annex E of the EN 15804+A2 standard.

Modules declared, geographical scope, share of specific data (in GWP-GHG results) and data variation (in GWP-GHG results):

| | Product stage | | | Construction process stage | | Use stage | | | | | | | End of life stage | | | | Resource recovery stage |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw material supply | Transport | Manufacturing | Transport | Construction installation | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Reuse-Recovery-Recycling-potential |
| **Module** | **A1** | **A2** | **A3** | **A4** | **A5** | **B1** | **B2** | **B3** | **B4** | **B5** | **B6** | **B7** | **C1** | **C2** | **C3** | **C4** | **D** |
| Modules declared | X | X | X | X | X | ND | ND | ND | ND | ND | ND | ND | X | X | X | X | X |
| Geography | GLO | GLO | UAE | UAE | GLO | ND | ND | ND | ND | ND | ND | ND | GLO | GLO | GLO | GLO | GLO |
| Specific data used | 18% | | | | | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation – products | 0% | | | | | - | - | - | - | - | - | - | - | - | - | - | |
| Variation – sites | 0% | | | | | - | - | - | - | - | - | - | - | - | - | - | |

## Content information

| Product components | Weight, (kg) | Post-consumer material, weight (kg) | Renewable material, weight (kg) | Biogenic material, weight (kg) of product | Biogenic material, weight |
|---|---|---|---|---|---|
| Organics, nonvolatiles | 0.01 | 0 | 0 | 0 | 0 |
| Inorganics | 0.99 | 0 | 0 | 0 | 0 |
| **TOTAL** | **1** | **0** | **0** | **0** | **0** |

| Packaging materials | Weight, kg | Weight-% (versus the product) | Biogenic material, weight-% of product | Weight biogenic carbon, kg | Weight biogenic CO2, kg |
|---|---|---|---|---|---|
| Paper and cardboard | 1.00E-06 | 9.85E-07 | 9.85E-07 | 5.00E-07 | 1.83E-06 |
| Wood | 7.20E-03 | 7.09E-03 | 7.09E-03 | 3.60E-03 | 1.32E-02 |
| Plastic | 8.82E-04 | 9.85E-07 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Metal | 2.34E-05 | 2.31E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| TOTAL | 8.11E-03 | 7.12E-03 | 7.09E-03 | 3.60E-03 | 1.32E-02 |

None of the components present in the final product are included in the "Candidate List of Substances of Very High Concern (SVHC) to the REACH Regulation (EC) No 1907/2006".
The conversion factor to convert from kg carbon to kg CO2 = 44 kg CO2/12 kg C

# Results of the environmental performance indicators

The environmental information related to the analysed products has been calculated with the SimaPro software version 9.6. As required by PCR 2019:14[1], the characterization factors indicated in Annex C of the EN 15804:2012+A2 standard have been used to estimate the potential environmental impacts (method EN 15804 + A2 Method V1.02 / EF 3.1 normalization and weighting set) . With respect to the results corresponding to the rest of the parameters under study, the following methodologies have been used: inventory data to calculate waste production, CED (Cumulative Energy Demand) to calculate energy use and inventory data for output flows. For the additional ISO 21930 indicators, TRACI (Tool for Reduction and Assessment of Chemicals and Other Environmental Impacts) and inventory data (for waste indicators) have been used.

The environmental results corresponding to the representative product of the waterproofing membrane family manufactured by Henkel and commercialized under the brand Polybit are shown below. These are divided by modules, covering the stages defined above in the system boundary section (A1-A3+A4-A5+B1-B7+C1-C4+D), and considering all the impact categories required by the PCR 2019:14 Construction products, version 1.3.4.

Estimated impact results are only relative statements that do not indicate impact category endpoints, exceedances of assessed thresholds, safety margins, or risks.

Results obtained in both the product stage (modules A1-A3) and installation stage (modules A4-A5) should not be used without considering those results obtained in modules C1-C4. Regarding C4 module, locally and additional calculation will be necessary based on the local applicable waste treatment scenario.

All infrastructure and capital goods are excluded for all the upstream, core and downstream processes.

[1] *Product Category Rules (PCR): PCR 2019:14 Construction products, version 1.3.4 Published on 2024.04.30 valid until: 2025.06.20*

## Mandatory impact category indicators according to EN 15804

| Results per declared unit | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **A4** | **A5** | **B1-B7** | **C1** | **C2** | **C3** | **C4** | **D** |
| GWP-fossil | kg $CO_2$ eq. | 6.04E-01 | 3.25E-02 | 1.50E-02 | MND | 0.00E+00 | 9.74E-03 | 0.00E+00 | 6.25E-03 | 0.00E+00 |
| GWP-biogenic | kg $CO_2$ eq. | 2.02E-02 | 8.42E-07 | -2.02E-02 | MND | 0.00E+00 | 2.52E-07 | 0.00E+00 | 8.62E-07 | 0.00E+00 |
| GWP-luluc | kg $CO_2$ eq. | 1.31E-04 | 1.30E-05 | 2.16E-06 | MND | 0.00E+00 | 3.89E-06 | 0.00E+00 | 3.22E-06 | 0.00E+00 |
| GWP-Total | kg $CO_2$ eq. | 6.25E-01 | 3.25E-02 | 1.51E-02 | MND | 0.00E+00 | 9.74E-03 | 0.00E+00 | 6.26E-03 | 0.00E+00 |
| ODP | kg CFC 11 eq. | 4.11E-09 | 4.69E-10 | 1.79E-10 | MND | 0.00E+00 | 1.41E-10 | 0.00E+00 | 1.81E-10 | 0.00E+00 |
| AP | mol H+ eq. | 1.88E-03 | 1.22E-04 | 3.80E-05 | MND | 0.00E+00 | 3.66E-05 | 0.00E+00 | 4.43E-05 | 0.00E+00 |
| EP-freshwater | kg P eq. | 7.73E-06 | 2.99E-07 | 1.33E-07 | MND | 0.00E+00 | 8.97E-08 | 0.00E+00 | 6.15E-08 | 0.00E+00 |
| EP-marine | kg N eq. | 5.28E-04 | 4.18E-05 | 1.02E-05 | MND | 0.00E+00 | 1.25E-05 | 0.00E+00 | 1.68E-05 | 0.00E+00 |
| EP-terrestrial | mol N eq. | 5.88E-03 | 4.61E-04 | 1.16E-04 | MND | 0.00E+00 | 1.38E-04 | 0.00E+00 | 1.84E-04 | 0.00E+00 |
| POCP | kg NMVOC eq. | 1.82E-03 | 1.69E-04 | 4.11E-05 | MND | 0.00E+00 | 5.07E-05 | 0.00E+00 | 6.60E-05 | 0.00E+00 |
| ADP-minerals and metals* | kg Sb eq. | 1.85E-06 | 1.05E-07 | 3.18E-08 | MND | 0.00E+00 | 3.13E-08 | 0.00E+00 | 9.77E-09 | 0.00E+00 |
| ADP-fossil* | MJ | 4.41E+00 | 4.58E-01 | 1.38E-01 | MND | 0.00E+00 | 1.37E-01 | 0.00E+00 | 1.53E-01 | 0.00E+00 |
| WDP* | $m^3$ | 5.93E-02 | 2.06E-03 | 6.52E-03 | MND | 0.00E+00 | 6.18E-04 | 0.00E+00 | 6.70E-03 | 0.00E+00 |
| Acronyms | GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; 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 Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption | | | | | | | | | |

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

## Additional mandatory and voluntary impact category indicators

| Results per declared unit | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **A4** | **A5** | **B1-B7** | **C1** | **C2** | **C3** | **C4** | **D** |
| GWP - GHG[3] | kg $CO_2$ eq. | 6.03E-01 | 3.24E-02 | 1.49E-02 | MND | 0.00E+00 | 9.69E-03 | 0.00E+00 | 6.21E-03 | 0.00E+00 |
| PM | disease inc. | 2.06E-08 | 2.61E-09 | 3.63E-10 | MND | 0.00E+00 | 7.80E-10 | 0.00E+00 | 1.01E-09 | 0.00E+00 |
| IRP[2] | kBq U-235 eq | 2.94E-03 | 1.48E-04 | 4.97E-05 | MND | 0.00E+00 | 4.42E-05 | 0.00E+00 | 3.79E-05 | 0.00E+00 |
| ETP-fw[1] | CTUe | 1.60E+00 | 1.22E-01 | 2.61E-02 | MND | 0.00E+00 | 3.64E-02 | 0.00E+00 | 2.10E-02 | 0.00E+00 |
| HTP-c[1] | CTUh | 1.17E-09 | 1.69E-10 | 2.33E-11 | MND | 0.00E+00 | 5.06E-11 | 0.00E+00 | 2.82E-11 | 0.00E+00 |
| HTP-nc[1] | CTUh | 4.01E-09 | 2.85E-10 | 7.25E-11 | MND | 0.00E+00 | 8.52E-11 | 0.00E+00 | 2.62E-11 | 0.00E+00 |
| SQP[1] | Pt | 1.47E+00 | 2.73E-01 | 2.68E-02 | MND | 0.00E+00 | 8.18E-02 | 0.00E+00 | 3.02E-01 | 0.00E+00 |

PM = Particulate matter; IRP = Ionizing radiation, human health; ETP-fw = Ecotoxicity freshwater - organic; HTP-c = Human health, carcinogenic effects; HTP-nc = Human health, non-carcinogenic effects; SQP = Land use; NR = Non relevant

[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 experienced with the indicator.

*[2]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*

*[3]The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013*

## Resource use indicators

| Results per declared unit | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **A4** | **A5** | **B1-B7** | **C1** | **C2** | **C3** | **C4** | **D** |
| PERE | MJ | 1.33E-02 | 2.22E-01 | 3.68E-03 | MND | 0.00E+00 | 1.80E-03 | 0.00E+00 | 1.42E-03 | 0.00E+00 |
| PERM | MJ | 2.16E-01 | -2.16E-01 | 0.00E+00 | MND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| PERT | MJ | 2.30E-01 | 6.01E-03 | 3.68E-03 | MND | 0.00E+00 | 1.80E-03 | 0.00E+00 | 1.42E-03 | 0.00E+00 |
| PENRE | MJ | 1.42E+00 | 5.50E-01 | 1.50E-01 | MND | 0.00E+00 | 1.46E-01 | 0.00E+00 | 3.39E+00 | 0.00E+00 |
| PENRM | MJ | 3.29E+00 | -6.35E-02 | 0.00E+00 | MND | 0.00E+00 | 0.00E+00 | 0.00E+00 | -3.23E+00 | 0.00E+00 |
| PENRT | MJ | 4.71E+00 | 4.87E-01 | 1.50E-01 | MND | 0.00E+00 | 1.46E-01 | 0.00E+00 | 1.63E-01 | 0.00E+00 |
| SM | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | MND | 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 | MND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| NRSF | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | MND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| FW | $m^3$ | 1.62E-03 | 6.17E-05 | 1.60E-04 | MND | 0.00E+00 | 1.85E-05 | 0.00E+00 | 1.60E-04 | 0.00E+00 |
| Acronyms | 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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water | | | | | | | | | |

## Waste indicators

| Results per declared unit | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **A4** | **A5** | **B1-B7** | **C1** | **C2** | **C3** | **C4** | **D** |
| Hazardous waste disposed | kg | 7.59E-03 | 5.45E-04 | 1.46E-04 | MND | 0.00E+00 | 1.63E-04 | 0.00E+00 | 1.13E-04 | 0.00E+00 |
| Non-hazardous waste disposed | kg | 3.04E-01 | 4.31E-03 | 2.89E-03 | MND | 0.00E+00 | 1.29E-03 | 0.00E+00 | 1.66E-03 | 0.00E+00 |
| Radioactive waste disposed | kg | 1.92E-06 | 9.20E-08 | 3.13E-08 | MND | 0.00E+00 | 2.76E-08 | 0.00E+00 | 2.38E-08 | 0.00E+00 |

## Output flow indicators

| Results per declared unit | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **A4** | **A5** | **B1-B7** | **C1** | **C2** | **C3** | **C4** | **D** |
| Components for re-use | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | MND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Material for recycling | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | MND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Materials for energy recovery | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | MND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Exported energy, electricity | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | MND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Exported energy, thermal | MJ | 0.00E+00 | 0.00E+00 | 0.00E+00 | MND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

## Additional ISO 21930 mandatory impact categories and indicators

| Results per declared unit | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Indicator** | **Unit** | **A1-A3** | **A4** | **A5** | **B1-B7** | **C1** | **C2** | **C3** | **C4** | **D** |
| High-Level radioactive waste | kg | 1.92E-06 | 9.20E-08 | 3.13E-08 | MND | 0.00E+00 | 2.76E-08 | 0.00E+00 | 2.38E-08 | 0.00E+00 |
| Intermediate/low-level radioactive waste | kg | 0.00E+00 | 0.00E+00 | 0.00E+00 | MND | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |
| Global warming potential (GWP 100) | kg CO2 eq | 6.03E-01 | 3.21E-02 | 1.48E-02 | MND | 0.00E+00 | 9.61E-03 | 0.00E+00 | 6.10E-03 | 0.00E+00 |
| Ozone depletion potential (ODP) | kg CFC-11 eq | 4.70E-09 | 5.09E-10 | 1.97E-10 | MND | 0.00E+00 | 1.52E-10 | 0.00E+00 | 1.93E-10 | 0.00E+00 |
| Eutrophication potential (EP) | kg N eq | 1.46E-04 | 8.44E-06 | 2.40E-06 | MND | 0.00E+00 | 2.53E-06 | 0.00E+00 | 2.81E-06 | 0.00E+00 |
| Acidification potetential (AP) | kg SO2 eq | 1.65E-03 | 1.09E-04 | 3.30E-05 | MND | 0.00E+00 | 3.27E-05 | 0.00E+00 | 4.00E-05 | 0.00E+00 |
| Photochemical oxidant creation potential (POCP) | kg O3 eq | 3.27E-02 | 2.65E-03 | 6.43E-04 | MND | 0.00E+00 | 7.94E-04 | 0.00E+00 | 1.07E-03 | 0.00E+00 |

### Information on biogenic carbon content

| Results per functional or declared unit | | |
|---|---|---|
| **BIOGENIC CARBON CONTENT** | **Unit** | **QUANTITY** |
| Biogenic carbon content in product | kg C | 0 |
| Biogenic carbon content in packaging | kg C | 3.60E-03 |

*Note: 1 kg biogenic carbon is equivalent to 44/12 kg $CO_2$.*

## Differences versus previous versions

This document corresponds to the first version of the EPD of the POLYCRETE MC - UAE product manufactured by Henkel.

# References


- General Programme Instructions of the International EPD® System. Version 4.0.
- Product Category Rules PCR 2019:14 Construction products, version 1.3.4. Published on 2024.04.30 valid until: 2025.06.20, based on the European standard UNI-EN 15804:2012+A2:2020.
- UNI-EN ISO 14040:2006 – Environmental management – Life Cycle Assessment – Principles and framework.
- UNI-EN ISO 14044:2006 – Environmental management – Life Cycle Assessment – Requirements.
- UNI-EN ISO 14025:2006- Labels and environmental declarations.
- ISO/TR 14047: 2003 – Environmental management – Life Cycle Assessment – LCI application examples.
- ISO/TS 14048: 2003 – Environmental management – Life Cycle Assessment – Data inventory.
- ISO/TR 14049: 2000 – Environmental management – Life Cycle Assessment – Examples of application of objectives and scope and inventory analysis.
- UNI-EN 15804:2012+A2: Sustainability in construction. Product environmental statements. Commodity category rules for construction products.
- ISO (2017): ISO 21930:2017, Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services

# VERIFICATION STATEMENT CERTIFICATE

## *CERTIFICADO DE DECLARACIÓN DE VERIFICACIÓN*

*Certificate No. / Certificado nº: EPD09726*

CERTINALIA S.L.U., confirms that independent third-party verification has been conducted of the Environmental Product Declaration (EPD) on behalf of:
*CERTINALIA S.L.U., confirma que se ha realizado verificación de tercera parte independiente de la Declaración Ambiental de Producto (DAP) en nombre de:*

**HENKEL AG & CO. KGAA**
**Henkelstraße 67**
**40589 Düsseldorf**
**Deutschland**

for the following product:
*para el siguiente producto:*

**Cementitious mortar POLYCRETE MC - UAE**
***Mortero cementoso POLYCRETE MC - UAE***

with registration number **EPD-IES-0018256** in the International EPD® System *(www.environdec.com).*
*con número de registro **EPD-IES-0018256** en el Sistema International EPD® (www.environdec.com).*

it´s in conformity with:
*es conforme con:*

- **ISO 14025:2010 Environmental labels and declarations. Type III environmental declarations.**
- **General Programme Instructions for the International EPD® System v4.0.**
- **PCR 2019:14 Construction products (EN 15804+A2) v.1.3.4.**
- **UN CPC 3751 Non-refractory mortars and concretes.**

| | |
|---|---|
| Issued date / *Fecha de emisión:* | 15/01/2025 |
| Update date / *Fecha de actualización:* | 15/01/2025 |
| Valid until / *Válido hasta:* | 14/01/2030 |
| Serial Nº / *Nº Serie:* | EPD0972600-E |

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*Manager*

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