

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:



CONCEALED CISTERNS from Hansgrohe Group

Covered products by the EPD:

| | |
|-------------------|--|
| Art. No. 01022180 | iFrame universal Concealed cistern 1120 |
| Art. No. 01025180 | iFrame universal Concealed cistern 1120, UK |
| Art. No. 01026180 | iFrame universal Concealed cistern 1120, Nordics |

| | |
|---------------------------------|---|
| Programme: | The International EPD® System |
| Programme operator: | EPD International AB |
| Type of EPD: | EPD of multiple products, based on a representative product |
| EPD registration number: | EPD-IES-0025541:001 |
| Version date: | 2026-04-30 |
| Valid until: | 2031-04-29 |

An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com



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General information

Programme information

| Programme | Address | Website | E-Mail |
|-------------------------------|---|--------------------|------------------------|
| The International EPD® System | EPD International AB Box 210 60 SE-100 31 Stockholm Sweden | www.environdec.com | support@environdec.com |

Accountabilities for PCR, LCA and independent, third-party verification

| | |
|-------------------------------------|---|
| Product Category Rules (PCR) | <p>CEN standard EN 15804 serves as the Core Product Category Rules (PCR)</p> <p>Product Category Rules (PCR): 2019:14 Construction products (EN 15804+A2) 2.0.1</p> <p>PCR review was conducted by: The Technical Committee of the International EPD System. See www.environdec.com for a list of members. Review chair: Rob Rouwette (chair), Noa Meron (co-chair). The review panel may be contacted via the Secretariat www.environdec.com/contact</p> |
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|------------------------------------|--|
| Life Cycle Assessment (LCA) | Shanthi Meganathan & Anna Carstens, brands & values GmbH, Hollerallee 14A, 28209 Bremen, Germany |
|------------------------------------|--|

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|---------------------------------|---|
| Third-party verification | <p>Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:</p> <p><input checked="" type="checkbox"/> Individual EPD verification without a pre-verified LCA/EPD tool</p> <p>Third-party verifier: Marcel Gómez Ferrer, Marcel Gómez Consultoria Ambiental</p> <p>Approved by: The International EPD® System</p> <p><i>Procedure for follow-up of data during EPD validity involves third party verifier:</i></p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> |
|---------------------------------|---|

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

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

| Company | Address | Website | E-Mail |
|-----------------|---|-------------------------|--------------------------|
| Hansgrohe Group | Auestraße 5 – 9 77761 Schiltach Germany | www.hansgrohe-group.com | info@hansgrohe-group.com |

Description of the organisation

The Hansgrohe Group, with its AXOR and hansgrohe brands, is based in the Black Forest town of Schiltach in Southern Germany and is considered one of the leading companies in the bathroom and kitchen industry. Founded in 1901 and known for its innovative spirit, excellently designed products, and strong quality, the company develops and manufactures faucets, showerheads, and shower systems that give water both form and function. Combined with sanitary ceramics and bathroom furniture, Hansgrohe offers holistic bathroom solutions from a single source. Unique innovations such as the first hand-held shower with multiple spray types, the first pull-out kitchen faucet, and the first shower bar have shaped the company's 125-year history. More than 15,000 active property rights underscore Hansgrohe's commitment to innovation. The company stands for long-lasting quality and responsibility toward people and the environment.

Sustainability is firmly embedded in its business practices – from resource-efficient manufacturing to technologies that help protect water as a resource and contribute to limiting and adapting to climate change.

With 35 subsidiaries, 23 sales offices, and distribution in more than 145 countries, the Hansgrohe Group operates worldwide. Since 1974, its brands and products have received more than 800 design awards. Hansgrohe products can be found in renowned cruise ships, international 5-star and boutique hotels, exclusive spas, luxury private bathrooms, as well as numerous public and private construction projects across the globe. High quality standards are ensured by eight wholly owned production sites – four in Germany and one each in France, Serbia, the United States, and China.

In the 2025 fiscal year, the Hansgrohe Group generated revenue of EUR 1.375 billion and employed around 5,600 people worldwide, about 60 percent of them in Germany.

We do not rest on what we have achieved. The Hansgrohe Group regularly sets itself new, ambitious corporate goals. To achieve them, we plan the necessary measures within the framework of the Hansgrohe management system. We transfer improvements that have proven successful at one location to the entire production network. We work in accordance with international standards: In this way, we ensure the high quality of all our products and services worldwide and guarantee safe jobs and the economical use of resources.

External auditing companies regularly put our management system to the test. It is certified according to international rules and is transparent and comprehensible for everyone. Hansgrohe complies with the standards

- ISO 9001** for quality management,
- ISO 14001** for environmental management,
- ISO 50001** for energy management and
- ISO 45001** for occupational safety management.



Product information

General information

| | |
|-------------------------------|--|
| Product name | Concealed cisterns |
| Product identification | The EPD covers a group of concealed cisterns (representative item 01022180). |
| Product description | <p>Concealed cisterns consist of a precision-molded plastic cistern combined with metal and non-metal accessories like support frame, drainage pipe and valves. Designed for durability and functionality, the systems ensure efficient water storage and flushing functionality in sanitary environments.</p> <p>The cisterns are intended for use in buildings as part of modern bathroom installations. The concealed design supports aesthetic and space-saving requirements, making it ideal for wall-hung toilet systems.</p> <p>Manufacturing involves the preparation and drying of plastic granulates, injection moulding of parts, and final assembly with accessories such as push buttons and frames, followed by packaging.</p> |
| UN CPC Code | 42911 |
| Production site | Portugal |



Product information

Product scope

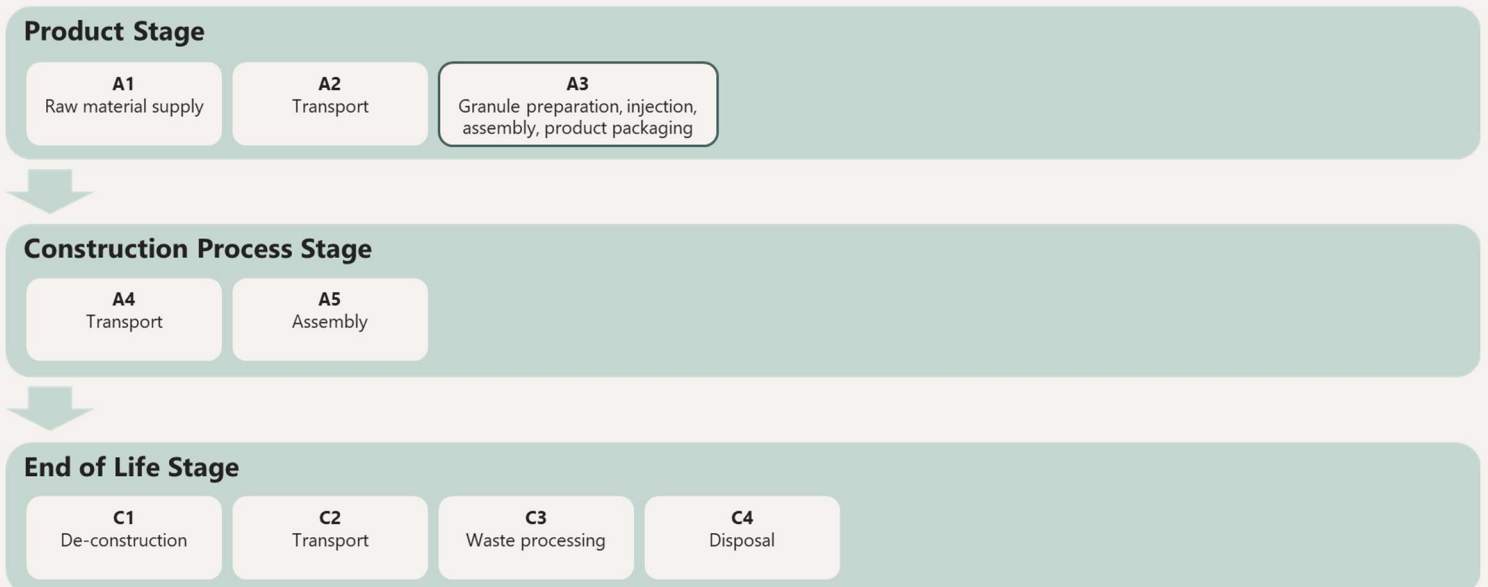
| Art. Nr. | Covered products in the EPD |
|----------|--|
| 01022180 | iFrame universal Concealed cistern 1120 for wall hung WC (representative item) |
| 01025180 | iFrame universal Concealed cistern 1120 for wall hung WC, UK |
| 01026180 | iFrame universal Concealed cistern 1120 for wall hung WC, Nordics |

LCA information

General information

| | |
|---------------------------------------|--|
| Declared unit | 1 piece of concealed cistern incl. packaging |
| Reference service life | A RSL (according to ISO 15686:1,-2,-7 and 8) cannot be declared for the product under consideration. A technical service life of 20 years is therefore assumed according to the manufacturer's specifications, which on average is approximately the duration of use by the consumers. |
| Time representativeness | 2025 |
| Database(s) & LCA software | Sphera LCA for Experts (fka GaBi) version 10.9 and Sphera Managed LCA Content Version 2024.2 |
| System boundaries | Cradle to gate with options, modules C1–C4, module D and with optional modules (A4–A5) |

System diagram



Benefits and Loads beyond the System Boundaries

LCA information

More information

Data Quality Assessment

Primary data include internal production and environmental data, supplier information and energy supply. Data were checked for plausibility and consistency, with attention to completeness and alignment with ISO 14044 requirements. For the upstream processes, generic data was selected.

Foreground LCI data were modeled using Sphera LCA for Experts (GaBi) version 10.9 and manufacturer-provided data, including material inputs, outputs, and energy demands. The data collection period represents a planned production year, with justification for deviations from a full one-year period provided, in accordance with EN 15941 Section 7.3.3.

Background datasets were selected from Sphera Managed LCA Content databases (Servicepack 2024.2) and are generally not older than 10 years. Overall, the data are considered representative of standard production, with good consistency and completeness.

Overall, data quality is rated as good in accordance with EN 15941, with scores of 1.7 and 2.0 for the specific data and the background datasets used, respectively. There are no inventories with poor data quality.

Cut-off Criteria

All specific primary data from the manufacturer was considered, including material inputs, production processes, energy use, packaging, and waste treatment. No flows were cut off; even flows <1% of mass were modelled, with proxy datasets applied where no exact data was available. The resulting inventory fulfils EN 15804+A2 completeness requirements, covering >99% of total mass and energy inflows and at least 95% per life-cycle stage (A1–A3, A4–A5, C1–C4, D)

Scenario Description

Transport in A4 is modelled as truck transport from the warehouse to customers, with average distances representative of the declared market. A5 includes installation of the product and packaging disposal, modelled with recycling and incineration in line with regional practice. The installation of the declared product does not require energy, water or auxiliary materials and does not generate installation losses; therefore, no environmental impacts are assigned to installation activities. At end-of-life (C1–C4), no landfill option is considered; all materials are assumed to undergo recovery, recycling, or incineration with energy recovery, representing a realistic scenario. Module D accounts for the benefits and loads beyond the system boundary, from substitution of primary materials and energy.

End-of-life Scenario

Modules C1–C4 (End-of-life):

At end-of-life, dismantling and deconstruction impacts are considered negligible (C1). Waste materials are transported by truck (C2), with average distances of 80 km for recycling and 130 km for incineration with energy recovery. In the sorting facility (C3), materials are processed using diesel and electricity in line with EN 15804+A2 requirements (loading/unloading, mechanical sorting, frapping of steel, treatment of other materials). Steel and alloy fractions are assumed to reach end-of-waste status after sorting and are sent for recycling, while plastics and other combustibles are sent to incineration with energy recovery. No landfill option is modelled.

Module D (Beyond the system boundary):

Module D reports benefits and loads from the recycling of steel and brass (substituting primary material production) and energy recovery from incinerated materials. Only the net flows of secondary materials are credited, in accordance with EN 15804+A2.

Allocation in Steel

A mass-based allocation method is applied in line with EN 15804+A2. Inputs and outputs are assigned to the declared unit according to their proportional mass. For multi-material components, allocation is carried out based on the relative mass shares of each material. The steel frame (7.6 kg of 12.3 kg total product mass) is modelled using 100% primary steel. The cut-off method was applied for recycled materials, while burdens from recycling processes are included in Module C3–C4 and credits for material recovery are reported in Module D.

Electricity

For electricity supplied externally, the Portuguese residual electricity mix for 2023 is used. The total climate impact of the electricity used in manufacturing is 1.01 kg CO₂ eq/kWh (GWP-GHG), reflecting the combination of supplier residual electricity and on-site photovoltaic generation.

LCA information

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 | EU | EU | PT | Eastern Europe +POL | Eastern Europe +POL | - | - | - | - | - | - | - | Eastern Europe +POL | Eastern Europe +POL | Eastern Europe +POL | Eastern Europe +POL | Eastern Europe +POL |
| Share of primary data | 0% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation – products | <10% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Variation – sites | 0% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Maximum variations in the results of individual products compared to the representative product in %, if the variation in the result of an impact category is greater than 10%:

| LCA result of one declared unit product (A-C) | Unit | Min | Representative | Max |
|--|-----------|-------|----------------|-------|
| ADPE-potential for abiotic depletion of non-fossil resources | kg Sb eq. | -1.2% | 0% | 10.8% |

Content information

Product components & packaging materials

The content declaration refers to one HG iFrame universal (article. no. 01022180) in-wall flushing cistern system. The net product weight is 12.02 kg, while the packaging weight is 3.61 kg. The total gross weight is therefore 15.64 kg per declared unit. This EPD is based on representative product.

| Product components | Mass, kg per declared unit | Post-consumer material mass-% | Biogenic material mass-% and kg C per declared unit |
|---------------------|----------------------------|-------------------------------|---|
| Cardboard & Paper | 0.157 | 0% | 1.31%/0.06 |
| Steel | 8.319 | 0% | 0% |
| Brass | 0.15 | 0% | 0% |
| Plastics & Polymers | 3.15 | 0% | 0% |
| Rubbers | 0.252 | 0% | 0% |
| TOTAL | 12.02 | 0% | 1.31% /0.06 |

| Packaging materials | Mass, kg | Mass-% (versus the product) | Mass biogenic carbon, kg C per declared unit |
|---------------------|-------------|-----------------------------|--|
| Cardboard | 1.77 | 14.73% | 0.729 |
| Wood | 1.80 | 14.98% | 0.934 |
| Fixing screws | 0.01 | 0.10% | 0.000 |
| Paper | 0.04 | 0.32% | 0.016 |
| TOTAL | 3.62 | 30.12% | 1.679 |

Dangerous substances, energy, transport, end of life & scenario D information

| Dangerous substances from the candidate list of SVHC for Authorisation | EC No. | CAS No. | Mass-% per declared unit |
|--|-----------|-----------|--------------------------|
| Lead (as a component in alloy) | 231-100-4 | 7439-92-1 | 0.03% |
| Dodecamethylcyclohexasiloxane | 208-762-8 | 540-97-6 | 0.00% |
| TOTAL | - | - | 0.03% |

Results of the environmental performance indicators

Mandatory impact category indicators according to EN 15804

| Results per declared unit | | | | | | | | | |
|---------------------------|---|-----------|----------|----------|----------|----------|----------|----------|-----------|
| Indicator | Unit | A1-3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
| GWP-total | kg CO2 eq. | 4.01E+01 | 1.92E+00 | 1.81E+00 | 0.00E+00 | 1.60E-01 | 1.10E+00 | 9.32E+00 | -2.49E+01 |
| GWP-fossil | kg CO2 eq. | 4.16E+01 | 1.88E+00 | 1.28E-01 | 0.00E+00 | 1.57E-01 | 1.04E+00 | 9.32E+00 | -2.49E+01 |
| GWP-biogenic | kg CO2 eq. | -1.61E+00 | 6.04E-03 | 1.68E+00 | 0.00E+00 | 4.90E-04 | 6.50E-02 | 3.26E-04 | 0.00E+00 |
| GWP-luluc | kg CO2 eq. | 9.65E-02 | 3.20E-02 | 3.72E-04 | 0.00E+00 | 2.57E-03 | 6.34E-04 | 3.05E-05 | -5.07E-03 |
| ODP | kg CFC-11 eq. | 2.56E-10 | 2.80E-13 | 6.76E-13 | 0.00E+00 | 2.27E-14 | 5.37E-13 | 5.42E-13 | -3.48E-11 |
| AP | mol H+ eq. | 1.11E-01 | 1.36E-02 | 1.23E-03 | 0.00E+00 | 6.02E-04 | 3.42E-04 | 1.14E-03 | -6.03E-02 |
| EP-freshwater | kg P eq. | 1.21E-04 | 8.12E-06 | 2.60E-07 | 0.00E+00 | 6.51E-07 | 2.65E-07 | 1.21E-07 | -1.58E-05 |
| EP-marine | kg N eq. | 3.61E-02 | 6.70E-03 | 4.19E-04 | 0.00E+00 | 2.82E-04 | 1.34E-04 | 3.13E-04 | -9.82E-03 |
| EP-terrestrial | mol N eq. | 3.88E-01 | 7.41E-02 | 5.46E-03 | 0.00E+00 | 3.16E-03 | 1.67E-03 | 5.62E-03 | -9.27E-02 |
| POCP | kg NMVOC eq. | 9.72E-02 | 1.31E-02 | 1.12E-03 | 0.00E+00 | 5.72E-04 | 3.11E-04 | 8.83E-04 | -3.68E-02 |
| ADP-minerals & metals* | kg Sb eq. | 6.08E-04 | 1.66E-07 | 8.72E-09 | 0.00E+00 | 1.34E-08 | 7.74E-09 | 5.67E-09 | -5.53E-04 |
| ADP-fossil* | MJ | 6.28E+02 | 2.50E+01 | 1.74E+00 | 0.00E+00 | 2.01E+00 | 1.06E+00 | 1.20E+00 | -2.97E+02 |
| WDP* | m3 world eq. deprived | 1.86E+00 | 2.94E-02 | 6.40E-01 | 0.00E+00 | 2.36E-03 | 9.14E-02 | 8.72E-01 | -2.27E+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.

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

Results of the environmental performance indicators

Additional mandatory and voluntary impact category indicators

| Results per declared unit | | | | | | | | | |
|---------------------------|------------------------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Indicator | Unit | A1-3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
| GWP-GHG ¹ | kg CO ₂ eq. | 4.17E+01 | 1.92E+00 | 1.28E-01 | 0.00E+00 | 1.59E-01 | 1.04E+00 | 9.32E+00 | -2.49E+01 |

Resource use indicators

| Results per declared unit | | | | | | | | | |
|---------------------------|----------------|----------|----------|-----------|----------|----------|-----------|----------|-----------|
| Indicator | Unit | A1-3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
| PERE | MJ | 1.32E+02 | 2.16E+00 | 5.95E+01 | 0.00E+00 | 1.74E-01 | 2.98E+00 | 3.37E-01 | -3.30E+01 |
| PERM | MJ | 6.16E+01 | 0.00E+00 | -5.90E+01 | 0.00E+00 | 0.00E+00 | -2.59E+00 | 0.00E+00 | 0.00E+00 |
| PERT | MJ | 1.94E+02 | 2.16E+00 | 4.38E-01 | 0.00E+00 | 1.74E-01 | 3.94E-01 | 3.37E-01 | -3.30E+01 |
| PENRE | MJ | 4.88E+02 | 2.50E+01 | 1.74E+00 | 0.00E+00 | 2.01E+00 | 1.41E+02 | 1.20E+00 | -2.97E+02 |
| PENRM | MJ | 1.40E+02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | -1.40E+02 | 0.00E+00 | 0.00E+00 |
| PENRT | MJ | 6.28E+02 | 2.50E+01 | 1.74E+00 | 0.00E+00 | 2.01E+00 | 1.06E+00 | 1.20E+00 | -2.97E+02 |
| SM | kg | 1.92E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.06E+01 |
| 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 |
| NRSF | 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 |
| FW | m ³ | 1.21E-01 | 2.40E-03 | 1.51E-02 | 0.00E+00 | 1.93E-04 | 2.28E-03 | 2.04E-02 | -1.86E+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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water |
|----------|---|

¹ This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero.

Results of the environmental performance indicators

Waste indicators

| Results per declared unit | | | | | | | | | |
|------------------------------|------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Indicator | Unit | A1-3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
| Hazardous waste disposed | kg | 1.05E-05 | 9.59E-10 | 8.79E-10 | 0.00E+00 | 7.73E-11 | 7.26E-10 | 7.04E-10 | -2.61E-06 |
| Non-hazardous waste disposed | kg | 1.29E+00 | 4.09E-03 | 1.38E-01 | 0.00E+00 | 3.29E-04 | 2.17E-02 | 6.10E-02 | 1.81E+00 |
| Radioactive waste disposed | kg | 1.23E-02 | 4.56E-05 | 7.87E-05 | 0.00E+00 | 3.66E-06 | 7.75E-05 | 6.47E-05 | -8.44E-03 |

Output flow indicators

| Results per declared unit | | | | | | | | | |
|-------------------------------|------|----------|----------|----------|----------|----------|----------|----------|----------|
| Unit | Unit | A1-3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
| Components for re-use | 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 |
| Material for recycling | kg | 0.00E+00 | 0.00E+00 | 1.20E-02 | 0.00E+00 | 0.00E+00 | 1.07E+01 | 0.00E+00 | 0.00E+00 |
| Materials for energy recovery | 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 |
| Exported energy. electricity | MJ | 0.00E+00 | 0.00E+00 | 7.95E+00 | 0.00E+00 | 0.00E+00 | 1.97E+01 | 0.00E+00 | 2.01E+00 |
| Exported energy. thermal | MJ | 0.00E+00 | 0.00E+00 | 1.44E+01 | 0.00E+00 | 0.00E+00 | 3.51E+01 | 0.00E+00 | 3.59E+00 |

Other environmental performance indicators

| Results per declared unit | | | | | | | | | |
|--|-------------------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Indicator | Unit | A1-3 | A4 | A5 | C1 | C2 | C3 | C4 | D |
| Particulate matter (PM) | Disease incidence | 1.53E-06 | 5.74E-08 | 7.46E-09 | 0.00E+00 | 4.05E-09 | 1.95E-09 | 6.28E-09 | -5.53E-07 |
| Effect from human exposure to U235 (IR) | kBq U235 eq. | 1.59E+00 | 6.62E-03 | 1.24E-02 | 0.00E+00 | 5.31E-04 | 1.27E-02 | 1.03E-02 | -9.76E-01 |
| Ecosystem Toxicity (ETP-fw) | CTUe | 2.24E+02 | 1.86E+01 | 8.30E-01 | 0.00E+00 | 1.50E+00 | 5.53E-01 | 5.17E-01 | -2.93E+01 |
| Toxicity for human (carcinogenic) (HTP-c) | CTUh | 5.60E-08 | 3.76E-10 | 5.49E-11 | 0.00E+00 | 3.02E-11 | 2.04E-11 | 6.23E-11 | 5.65E-09 |
| Toxicity for human (non-carcinogenic) (HTP-nc) | CTUh | 4.23E-07 | 1.69E-08 | 2.20E-09 | 0.00E+00 | 1.35E-09 | 5.61E-10 | 6.94E-10 | -3.41E-08 |
| Soil Quality Index (SQP) | Dimensionless | 7.22E+02 | 1.23E+01 | 5.85E-01 | 0.00E+00 | 9.93E-01 | 4.68E-01 | 3.74E-01 | -3.05E+01 |

Additional LCA results: 100% Recycling/ Incineration Scenario for modules C1-C4 & D

Mandatory impact category indicators according to EN 15804, per declared unit

| Results per declared unit (Realistic end-of-life) | | | | | | | Results per declared unit (100% Recycling) | | | | | Results per declared unit (100% Incineration) | | | | |
|---|-----------------------|----------|----------|----------|----------|-----------|--|----------|----------|----------|-----------|---|----------|-----------|----------|-----------|
| Indicator | Unit | C1 | C2 | C3 | C4 | D | C1 | C2 | C3 | C4 | D | C1 | C2 | C3 | C4 | D |
| GWP-total | kg CO2 eq. | 0.00E+00 | 1.60E-01 | 1.10E+00 | 9.32E+00 | -2.49E+01 | 0.00E+00 | 1.57E-01 | 1.24E-01 | 0.00E+00 | -2.49E+01 | 0.00E+00 | 1.60E-01 | 9.01E-01 | 1.03E+01 | -6.20E+00 |
| GWP-fossil | kg CO2 eq. | 0.00E+00 | 1.57E-01 | 1.04E+00 | 9.32E+00 | -2.49E+01 | 0.00E+00 | 1.54E-01 | 5.82E-02 | 0.00E+00 | -2.49E+01 | 0.00E+00 | 1.57E-01 | 8.31E-01 | 1.03E+01 | -6.20E+00 |
| GWP-biogenic | kg CO2 eq. | 0.00E+00 | 4.90E-04 | 6.50E-02 | 3.26E-04 | 0.00E+00 | 0.00E+00 | 4.82E-04 | 6.50E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.90E-04 | 6.96E-02 | 3.89E-04 | 0.00E+00 |
| GWP-luluc | kg CO2 eq. | 0.00E+00 | 2.57E-03 | 6.34E-04 | 3.05E-05 | -5.07E-03 | 0.00E+00 | 2.53E-03 | 6.23E-04 | 0.00E+00 | -6.80E-03 | 0.00E+00 | 2.57E-03 | 3.84E-04 | 4.41E-05 | -5.68E-04 |
| ODP | kg CFC-11 eq. | 0.00E+00 | 2.27E-14 | 5.37E-13 | 5.42E-13 | -3.48E-11 | 0.00E+00 | 2.23E-14 | 4.70E-13 | 0.00E+00 | -9.95E-12 | 0.00E+00 | 2.27E-14 | 1.04E-11 | 6.39E-13 | -5.60E-11 |
| AP | mol H+ eq. | 0.00E+00 | 6.02E-04 | 3.42E-04 | 1.14E-03 | -6.03E-02 | 0.00E+00 | 5.77E-04 | 2.38E-04 | 0.00E+00 | -6.17E-02 | 0.00E+00 | 6.02E-04 | 1.41E-03 | 1.31E-03 | -6.60E-03 |
| EP-freshwater | kg P eq. | 0.00E+00 | 6.51E-07 | 2.65E-07 | 1.21E-07 | -1.58E-05 | 0.00E+00 | 6.40E-07 | 2.43E-07 | 0.00E+00 | -1.62E-05 | 0.00E+00 | 6.51E-07 | -3.11E-07 | 1.52E-07 | -1.05E-05 |
| EP-marine | kg N eq. | 0.00E+00 | 2.82E-04 | 1.34E-04 | 3.13E-04 | -9.82E-03 | 0.00E+00 | 2.70E-04 | 1.06E-04 | 0.00E+00 | -1.03E-02 | 0.00E+00 | 2.82E-04 | 8.11E-04 | 3.64E-04 | -2.00E-03 |
| EP-terrestrial | mol N eq. | 0.00E+00 | 3.16E-03 | 1.67E-03 | 5.62E-03 | -9.27E-02 | 0.00E+00 | 3.02E-03 | 1.17E-03 | 0.00E+00 | -9.71E-02 | 0.00E+00 | 3.16E-03 | 8.99E-03 | 6.40E-03 | -2.14E-02 |
| POCP | kg NMVOC eq. | 0.00E+00 | 5.72E-04 | 3.11E-04 | 8.83E-04 | -3.68E-02 | 0.00E+00 | 5.49E-04 | 2.32E-04 | 0.00E+00 | -3.99E-02 | 0.00E+00 | 5.72E-04 | 2.14E-03 | 1.02E-03 | -5.66E-03 |
| ADP-minerals & metals* | kg Sb eq. | 0.00E+00 | 1.34E-08 | 7.74E-09 | 5.67E-09 | -5.53E-04 | 0.00E+00 | 1.32E-08 | 7.05E-09 | 0.00E+00 | -5.55E-04 | 0.00E+00 | 1.34E-08 | -2.61E-07 | 6.67E-09 | -6.61E-07 |
| ADP-fossil* | MJ | 0.00E+00 | 2.01E+00 | 1.06E+00 | 1.20E+00 | -2.97E+02 | 0.00E+00 | 1.98E+00 | 9.17E-01 | 0.00E+00 | -3.81E+02 | 0.00E+00 | 2.01E+00 | 1.34E+01 | 1.41E+00 | -1.11E+02 |
| WDP* | m3 world eq. deprived | 0.00E+00 | 2.36E-03 | 9.14E-02 | 8.72E-01 | -2.27E+00 | 0.00E+00 | 2.32E-03 | 6.24E-03 | 0.00E+00 | -1.96E+00 | 0.00E+00 | 2.36E-03 | 1.32E+00 | 9.84E-01 | -6.88E-01 |

| Results per declared unit (Realistic end-of-life) | | | | | | | Results per declared unit (100% Recycling) | | | | | Results per declared unit (100% Incineration) | | | | |
|---|------------------------|----------|----------|----------|----------|-----------|--|----------|----------|----------|-----------|---|----------|----------|----------|-----------|
| Indicator | Unit | C1 | C2 | C3 | C4 | D | C1 | C2 | C3 | C4 | D | C1 | C2 | C3 | C4 | D |
| GWP-GHG ¹ | kg CO ₂ eq. | 0.00E+00 | 1.59E-01 | 1.04E+00 | 9.32E+00 | -2.49E+01 | 0.00E+00 | 1.57E-01 | 5.88E-02 | 0.00E+00 | -2.49E+01 | 0.00E+00 | 1.59E-01 | 8.31E-01 | 1.03E+01 | -6.20E+00 |
| Particulate matter (PM) | Disease incidence | 0.00E+00 | 4.05E-09 | 1.95E-09 | 6.28E-09 | -5.53E-07 | 0.00E+00 | 3.91E-09 | 1.13E-09 | 0.00E+00 | -5.60E-07 | 0.00E+00 | 4.05E-09 | 3.07E-08 | 7.44E-09 | -5.42E-08 |
| Effect from human exposure to U235 (IR) | kBq U235 eq. | 0.00E+00 | 5.31E-04 | 1.27E-02 | 1.03E-02 | -9.76E-01 | 0.00E+00 | 5.21E-04 | 1.15E-02 | 0.00E+00 | -7.84E-02 | 0.00E+00 | 5.31E-04 | 1.96E-01 | 1.20E-02 | -1.36E+00 |
| Ecosystem Toxicity (ETP-fw) | CTUe | 0.00E+00 | 1.50E+00 | 5.53E-01 | 5.17E-01 | -2.93E+01 | 0.00E+00 | 1.47E+00 | 4.86E-01 | 0.00E+00 | -9.17E+01 | 0.00E+00 | 1.50E+00 | 2.20E+00 | 6.14E-01 | -1.58E+01 |
| Toxicity for human (carcinogenic) (HTP-c) | CTUh | 0.00E+00 | 3.02E-11 | 2.04E-11 | 6.23E-11 | 5.65E-09 | 0.00E+00 | 2.97E-11 | 1.43E-11 | 0.00E+00 | 4.15E-09 | 0.00E+00 | 3.02E-11 | 1.43E-10 | 7.02E-11 | -1.26E-09 |
| Toxicity for human (non-carcinogenic) (HTP-nc) | CTUh | 0.00E+00 | 1.35E-09 | 5.61E-10 | 6.94E-10 | -3.41E-08 | 0.00E+00 | 1.33E-09 | 4.35E-10 | 0.00E+00 | -1.28E-07 | 0.00E+00 | 1.35E-09 | 3.24E-09 | 8.56E-10 | -2.96E-08 |
| Soil Quality Index (SQP) | Dimensionless | 0.00E+00 | 9.93E-01 | 4.68E-01 | 3.74E-01 | -3.05E+01 | 0.00E+00 | 9.76E-01 | 4.20E-01 | 0.00E+00 | -2.21E+01 | 0.00E+00 | 9.93E-01 | 2.69E+00 | 4.42E-01 | -2.19E+01 |

¹ This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero.

Abbreviations

| | |
|--|--|
| ABS | Acrylonitrile-Butadiene-Styrene |
| AT | Austria |
| BE | Belgium |
| CAS No. | Chemical Abstracts Service Number |
| CEN | European Committee for Standardization |
| CFC-11 eq. | Chlorofluorocarbon-11 Equivalents |
| CH | Switzerland |
| CO2 eq. | Carbon Dioxide Equivalents |
| DE | Germany |
| EC No. | European Community Number |
| EGY | Egypt |
| EN | European Norm (Standard) |
| EPD | Environmental Product Declaration |
| GLO | Global |
| GPI | General Programme Instructions |
| ISO | International Organization for Standardization |
| kg | Kilogram |
| kg C | Kilograms of Carbon |
| kg CO2 eq. | Kilograms of Carbon Dioxide Equivalent |
| LCA | Life Cycle Assessment |
| LCI | Life Cycle Inventory |
| m ³ | Cubic Meter |
| MDF | Medium density fiberboard |
| MJ | Megajoule |
| MNR | Module Not Relevant |
| N eq. | Nitrogen Equivalents |
| NBR | Nitrile butadiene rubber |
| ND | Not Declared |
| ND | Not Declared |
| NMVOG | Non-Methane Volatile Organic Compounds |
| P eq. | Phosphorus Equivalents |
| PCR | Product Category Rules |
| PEF | Product Environment Footprint |
| POL | Poland |
| POM | Polyoxymethylene granulate |
| PP | Polypropylene |
| RER | Europe |
| Sb eq. | Antimony Equivalents |
| SVHC | Substances of Very High Concern |
| Environmental impact indicators (EN 15804) | |
| GWP | Global Warming Potential |
| GWP-GHG | Global Warming Potential for greenhouse gases (kg CO2 eq) |
| EP | Eutrophication Potential |
| GWP-total | Total Global Warming Potential(kg CO2 eq.) |
| GWP-fossil | Global Warming Potential from fossil (kg CO2 eq.) |
| GWP-biogenic | Global Warming Potential biogenic (kg CO2 eq.) |
| GWP-luluc | Global Warming Potential land use and land use change (kg CO2 eq.) |
| ODP | Ozone Depletion Potential (kg CFC-11 eq.) |
| AP | Acidification potential,(mol H+ eq.) |
| EP-freshwater | Freshwater eutrophication potential (kg P eq.) |

| | |
|---------------------|--|
| EP-marine | Marine eutrophication potential (kg N eq.) |
| EP-terrestrial | Terrestrial eutrophication potential (mol N eq.) |
| POCP | Photochemical Ozone Creation Potential (kg NMVOC eq.) |
| ADP | Abiotic Depletion Potential |
| ADP-minerals&metals | Abiotic depletion potential for non-fossil resources (kg Sb eq.) |
| ADPF | Abiotic depletion potential for fossil resources (MJ) |
| WDP | Water Deprivation Potential (m ³) |
| PERE | Renewable primary energy (excluding as raw materials) (MJ) |
| PERM | Renewable primary energy used as raw materials (MJ) |
| PERT | Total renewable primary energy (MJ) |
| PENRE | Non-renewable primary energy (excluding as raw materials) (MJ) |
| PENRM | Non-renewable primary energy used as raw materials (MJ) |
| PENRT | Total use of non-renewable primary energy resources (MJ) |
| SM | Use of secondary material (kg) |
| RSF | Use of renewable secondary fuels (MJ) |
| NRSF | Use of non-renewable secondary fuels (MJ) |
| FW | Use of net fresh water (m ³) |
| HWD | Hazardous waste disposed (kg) |
| NHWD | Non-hazardous waste disposed (kg) |
| RWD | Radioactive waste disposed (kg) |
| CFR | Components for Reuse (kg) |
| MR | Material for Recycling (kg) |
| MER | Materials for Energy Recovery (kg) |
| EEE | Exported Energy, Electricity (MJ) |
| EET | Exported Energy, Thermal (MJ) |



References

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|---|---|
| EN 15804 | EN 15804:2012+A2:2019/AC:2021, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products. |
| EN 14025 | EN ISO 14025:2006, Environmental labels and declarations — Type III environmental declarations — Principles and procedures. |
| ISO 14040 | ISO 14040:2006, Environmental management- Life cycle assessment – Principles and framework. |
| ISO 14044 | ISO 14044:2006, Environmental management — Life cycle assessment — Requirements and guidelines. |
| ISO 15686 | ISO 15686 (Parts 1, 2, 7, and 8):2011, Buildings and constructed assets — Service life planning. |
| Sphera Managed LCA | Managed LCA Content. Content Version 2024.2. Leinfelden-Echterdingen: Sphera Solutions GmbH |
| ECHA Candidate List | Candidate List of Substances of Very High Concern for Authorisation (ECHA Candidate List), dated 14.06.2023, published in accordance with Article 59(10) of the REACH Regulation. Helsinki: European Chemicals Agency |
| European Waste Catalogue | European Waste Catalogue, Waste Catalogue Ordinance of 10 December 2001 (Federal Law Gazette I page 3379), which was last amended by Article 3 of the Ordinance of 17 July 2017 (Federal Law Gazette I page 2644) |
| PCR 2019:14 | PCR of EPD International in chapter 1: PCR 2019:14 Construction products and construction services. Version 2.0.1. EPD International, 2025 [PCR 2019:14] |
| GPI | General Programme Instructions of International EPD System. Version 5.0.1 |
| Hansgrohe Group | Background report for Concealed Cisterns, 2026, Version 1.1 |

Version History

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| Original Version | 2026-04-30 |
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CONTACT

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| Programme: | The International EPD® System |
| Programme operator: | EPD International AB |
| Owner of the Declaration: | Hansgrohe Group |
| Author of the Life Cycle Assessment: | brands & values GmbH |