ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804+A2*

Owner of the Declaration	Ideal standard International
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-IDE-20230198-IBB1-EN
Issue date	20.09.2023
Valid to	19.09.2028

Dual control and thermostatic fittings

Ideal Standard International

Institut Bauen und Umwelt e.V.

ECO PLATFORM EPD VERIFIED

www.ibu-epd.com | https://epd-online.com

1. General Information

Ideal Standard International

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Declaration number

EPD-IDE-20230198-IBB1-EN

This declaration is based on the product category rules:

Fittings and showers, 01.08.2021
(PCR checked and approved by the SVR)

Issue date

20.09.2023

Valid to

19.09.2028

Dipl.-Ing. Hans Peters
(Chairman of Institut Bauen und Umwelt e.V.)

Florian Pronold
(Managing Director Institut Bauen und Umwelt e.V.)

Dual control and thermostatic fittings

Owner of the declaration

Ideal standard International
Da Vincilaan 2
1935 Zaventem Belgium
France

Declared product / declared unit

1 kg of Dual control thermostatic fitting

Scope:

The EPD covers a range of Dual control and thermostatic fittings, produced by Ideal Standard in two production plants, respectively in Bulgaria and Germany.

The EPD includes the result of 1 kg of a representative product. The representative product is a product produced in Bulgaria and has an absolute weight that is closest to the average weight of all fittings. Note that in the EPD the LCI and LCA are converted to 1 kg of fitting. The representativeness of the selected product and an estimation of the variability has been calculated in the LCA background report.

Foreground data has been provided directly by Ideal Standard and background LCA data is based on Ecoinvent 3.8 and Industry 2.0 data. The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard EN 15804 serves as the core PCR
Independent verification of the declaration and data according to ISO 14025:2011
☐ internally ☒ externally

Vito D'Incognito,
(Independent verifier)

2. Product

2.1 Product description/Product definition

Thermostatic and Dual control fittings are a mechanical wall mounted fitting with hot and cold-water control. It includes many components: cartridge, handles, flexhose, connectors, spout, … The range of thermostatic and dual control covers several models and two commercial brands: Ideal Standard and Porcher.

Thermostatic: Fittings that keep the water at a pre-determined, fixed temperature, with one handle to control the water flow and pressure. Most commonly a shower mixer, but if a dual control or single lever basin mixer has a thermostatic function, this should be classed as thermostatic.

Dual Control: a two-handled mixer fitting.

No DOP and CE marking is available.

2.2 Application

Solution used in private and public bathrooms. Basin mixer is a plumbing fixture used to wash hands in lavatories and bathrooms by mixing hot and cold water.

2.3 Technical Data

Constructional data

Name	Value	Unit
Maximum load temperature permanent operation	65	°C
Maximum load temperature temporary operation	90	°C
Flow rate (indications for pressure range of 1-3 bar)	0.6 - 1.2	m^3/h
Sound emissions	20	dB

No DOP and CE marking is available.

2.4 Delivery status

The products are packed with a PE plastic bag, a coverage carton and are accompanied with an instruction and guarantee sheet.
The products can come in very different shapes and dimensions. An overview of all Dual control thermostatic fittings can be found on Ideal Standard's website and filter on 'Dual control' and 'Thermostatic':
https://www.idealstandard.co.uk/products/catalog/taps-and-mixers/basin-mixer-taps

2.5 Base materials/Ancillary materials

The main components of the product are: aerator, body, cap, cartridge, flexhose, fixation screws, fixation set, handle, lift rod, manifold and pop-up waste.

The material composition of the representative product:

- 95% Brass
- 4% stainless steel
- 1% Plastic

The composition of all products included in the scope varies between:

- 75-99% Brass
- 1-5% stainless steel
- 1-25% Plastic

This product does contain substances listed in the candidate list (date: 26.10.2022) exceeding 0.1 percentage by mass: 7439-92-1 (Pb)

This product does not contain other CMR substances in categories 1A or 1B which are not on the candidate list, exceeding 0.1 percentage by mass,

Biocide products were not added to this construction product and it has not been treated with biocide products as defined by the (EU) Ordinance on Biocide Products No. 528/2012.

2.6 Manufacture

Production brass components:
During the brass production Ideal Standard remelts internal scrap with some purchased metals (eg. Al, Cu ...) to adjust for the recipe. Besides, Ideal Standard also purchases brass rods and tubes from their suppliers. The brass ingots from remelted scrap and the purchased brass rods and tubes are cutted, shaved and/or turned to produce the different brass components. Finally the brass components are plated with nickel and chrome. Also note that Ideal Standard sometimes purchases completely finalized brass components if the demand is higher than the produced quantity.

Production plastic components:
Some plastic components are produced at Ideal Standard. Plastic granulates are injection moulded into the correct shape. Afterwards they are plated with nickel and chrome.

Assembly
The final stage in the production process is the assembly of the different brass components, plastic components and purchased components (i.e screws, cartridges etc …), and the packaging.

2.7 Environment and health during manufacturing

Environmental, occupational health, safety and quality management at the Ideal Standard plants are in accordance with the following standards:

- *ISO 14001*
- *ISO 9001*
- *ISO 45001*

2.8 Product processing/Installation

Usually, the fitting is installed using an installation kit provided by Ideal Standard (i.e. EasyKit), but it can also be installed without.

2.9 Packaging

PE plastic bag and coverage carton are used to pack and transport the product to the supplier/customer. The product is also accompanied with an instruction and guarantee sheet.

2.10 Condition of use

The product will not change in material composition over the reference service life.

2.11 Environment and health during use

Under normal conditions of use, the product do not cause any adverse health effects or release of volatile organic compounds (VOCs) into indoor air.

No environmental impact on water, air or soil is expected.

2.12 Reference service life

Reference service life not relevant, as module B has not been declared.

2.13 Extraordinary effects

Fire

Not subjected to fire classification.

Water

No risks are expected to occur in terms of environment and human health.

Mechanical destruction
In case of mechanical destruction, no risks are expected to occur in terms of environment and human health.

2.14 Re-use phase
Recycling of the brass components is possible, and considered in this LCA study using the average European end-of-life scenario described in Annex C of the Product Environmental Footprint Pilots (PEFCR) 6.3 guidance, version March 2018.

Energy recovery of incineration of the plastic components is also considered in this study.

2.15 Disposal
According to the average European end-of-life scenario described in Annex C of the Product Environmental Footprint Pilots (PEFCR) 6.3 guidance (version March 2018), the following disposal scenarios have been considered: 5% of the brass and other metals parts are landfilled, 45% of the plastic parts are incinerated and 55% of the plastic parts are landfilled.

2.16 Further information
Additional information on Dual control thermostatic fitting produced by Ideal Standard can be found at: https://www.idealstandard.co.uk/products/catalog/taps-and-mixers/basin-mixer-taps

3. LCA: Calculation rules

3.1 Declared Unit

Declared unit

Name	Value	Unit
Declared unit	1	kg
Raw density (brass)	8890	kg/m³

This study reports the environmental impact of 1 kg of the representative Dual control and thermostatic fitting.

The representative product has been defined as follows:

- Calculate the average weight based on the weight and sold quantities of the product in 2021. A Dual control thermostatic fitting produced by Ideal Standard weighs between approximately 0,69 to 6,06 kg excluding packaging
- Select the product that has a weight closest to the average weight.
- Convert the data for the selected Dual control thermostatic fitting to 1 kg
- Using this approach the selected representative product is product 'B7547AA' and is produced in Bulgaria.

The representativeness of this product and an estimation of the variability has been studied in the LCA background report.

The environmental impact of a specific Dual control and thermostatic fitting can be calculated by multiplying the results of 1 kg of the representative Dual control thermostatic fitting with the respective weight of the product.

3.2 System boundary
Cradle-to-gate with options, including module A4-A5, C1-C4 and D

3.3 Estimates and assumptions
The data used in this study is based on the composition of a representative dual control and thermostatic fitting produced in Bulgaria (i.e. BG51). In the LCA background report the representativeness is checked and the variability is estimated for the total production of dual control and thermostatics produced in Europe by Ideal Standard.

Different production plants
First the difference between the Bulgarian (i.e. BG51) and the German (i.e. GE11) plant was investigated. For both the single score and most important impact indicators according to the PEF single score (climate change, resource use metals and ecotoxicity freshwater) the variance is less than 3% over the total life cycle (modules A1-C4). The maximal variance is 44%, for 'Climate change – biogenic', but this indicator only contributes <1% to 'Cllimate change – total'. As a result we can consider the production in Bulgaria is representative for both production plants.

Different product compositions
Secondly the variance in composition of the different dual control and thermostatic fittings is investigated. Note that Ideal Standards produces approximately 500 different SKUs (Stock keeping units), so it would not be feasible to model each SKU separately. Therefore, one has decided to estimate the variance by comparing the representative product with the dual control and thermostatic with the lowest weight and the highest weight. For both the single score and most important impact indicators the reference product has a higher impact than the other two products of the sample, respectively the highest and lowest weighted product. The maximal variance over all impact indicators is +10% for 'Ionising radiation', and -34% for 'Ecotoxicity freshwater'.

Besides, some other assumptions have been made:

- For production waste only most relevant production waste streams have been considered (waste of ancillary materials and smaller waste flows have been excluded).
- Only most relevant ancillary materials have been selected based on consumption rate andimportance in the production process.
- No data was available on the specific packaging per rawmaterial/component. Therefore the packaging of the raw materials have been calculated based on the packaging waste reported in the factory.

3.4 Cut-off criteria
The following processes are excluded because data was not available:

- Transport of packaging raw materials
- Packaging and transport of ancillary materials used during the production process
- Packaging and transport of ancillary materials used during installation

No further approximations have been made to replace the missing data, as they were considered to be not relevant based on the first iterations of the results

The following processes are considered below cut-off:

- For production waste only most relevant production waste streams have been considered (waste of ancillary materials and smaller waste flows have been excluded).
- Only most relevant ancillary materials have been selected based on consumption rate and importance in the production process.

- Environmental impacts caused by the personnel of the production plants are not included in the LCA, e.g. waste from the cafeteria and sanitary installations, accidental pollution caused by human mistakes, or environmental effects caused by commuter traffic. Heating or cooling of the plants in order to ensure a comfortable indoor climate for the personnel for example is also neglected.

3.5 Background data

Ecoinvent 3.8 and Industry 2.0

3.6 Data quality

Foreground data is specific to Ideal Standard and is collected for the reference year 2021. Background data is based on Ecoinvent 3.8 which is released in September 2021, and Industry 2.0.

In the LCA background report the representativeness of the reference product is checked and the variability is estimated for the total production of dual control and thermostatics produced in Europe by Ideal Standard. For more information see section 3.3.

3.7 Period under review

The data collected by Ideal Standard is based on data from the production year 2021 for Dual control thermostatic fittings.

3.8 Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product´s lifespan: Europe

3.9 Allocation

Allocation of secondary materials or secondary fuels is not applicable for this study.

At Ideal Standards, different products are produced. Only facility level data were available for some inputs/outputs. The facility level data have been allocated based on the produced mass.

- Amounts of the raw materials/components (module A1and A2) and the packaging of the final product have been extracted from the bill of material. No allocation was necessary.
- The data for the production process (module A3) i.e input and outputs such as energy consumption, water consumption, production waste, ancillary materials and emissions are based on factory averages (total amount in the factory converted to 1 kg based on the total production volume in kg).
- No data was available on the specific packaging per raw material/component (module A1). Therefore the packaging of the raw materials have been calculated based on the packaging waste reported in the factory, and allocated to 1 kg of product based on the total production volume.

3.10 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account. Ecoinvent 3.8 and Industry 2.0

4. LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

The product does not contain biogenic carbon, but its accompanying packaging contains 0.21 kg C per kg of product in the form of paper and cardboard.

Information on describing the biogenic carbon content at factory gate

Name	Value	Unit
Biogenic carbon content in product	-	kg C
Biogenic carbon content in accompanying packaging	0.15	kg C

Note: 1 kg biogenic Carbon is equivalent to 44/12 kg of CO2

Transport to the building site (A4)

Name	Value	Unit
Litres of fuel	260	l/100km
Transport distance	2000	km
Capacity utilisation (including empty runs)	Default value Ecoinvent	%
Gross density of products transported	Not calculated	kg/m^3
Capacity utilisation volume factor	Default value Ecoinvent	-

Installation into the building (A5)

It is considered that there is no assembly waste, based on the fact that the product is prefabricated and installed by hand.

Only the impact of packaging waste has been considered.

Name	Value	Unit
Packaging waste (paper and cardboard) PEF EOL scenario Europe for coverage carton packaging: 11 % incineration; 75 % recycling; 14 % landfill	0.469	kg
Packaging waste (PE) PEF EOL scenario Europe for PE packaging: 32 % incineration; 29 % recycling; 39 % landfill	0.002	kg

End of life (C1-C4)

According to the European average PEF scenario, 95% of the brass, steel and zamak are recycled and 5 % is landfilled. The European average PEF scenario for plastics describes 45 % incineration and 55 % landfill.

Name	Value	Unit
Collected as mixed construction waste	1	kg
Reuse	-	kg
Recycling	0.91	kg
Energy recovery	0.02	kg
Landfilling	0.07	kg

Reuse, recovery and/or recycling potentials (D), relevant scenario information

Module D contains the benefits and loads of recycling Brass and steel parts, and the benefits of energy recovery during the incineration of the plastics.

Note that according to EN15804+A2 the recycled content amount of the brass (i.e. 54 %) has been taken into account in module D by subtracting this from the amount of scrap that will be recycled at the end-of-life.

Name	Value	Unit
Loads recycling of brass: Impact of the production process of brass excluding the production of raw materials	0.95*0.95-0.95*0.54 = 0.39	kg
Loads recycling of steel: Impact of the electric arc furnace production excluding the prodution of the raw materials	0.01	kg
Benefits recycling of brass: Avoided production of brass using 100 % primary materials	0.95*0.95-0.95*0.54 = 0.39	kg
Benefits recycling of steel: Avoided production of steel using 100 % primary materials	0.01	kg
Benefits energy recovery during incineration of plastics: 20 % avoided production of Heat from natural gas	0.15	MJ
Benefits energy recovery during incineration of plastics: 10 % avoided production of European average grid mix	0.08	MJ

5. LCA: Results

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

Product stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport from the gate to the 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	MND	MND	MNR	MNR	MNR	MND	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 kg Dual control thermostatic fitting

Parameter	Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq	3.99E+00	9.89E-02	5.77E+00	4.81E-01	7.37E-01	0	3.08E-02	1.39E-03	4.46E-02	-3.21E+00
GWP-fossil	kg CO_2 eq	3.95E+00	9.88E-02	6.46E+00	4.8E-01	1.8E-02	0	3.08E-02	1.38E-03	4.46E-02	-2.66E+00
GWP-biogenic	kg CO_2 eq	2.47E-02	3.54E-05	-6.92E-01	1.72E-04	7.19E-01	0	1.1E-05	7.46E-06	2.58E-06	-5.47E-01
GWP-luluc	kg CO_2 eq	8.26E-03	3.95E-05	3.76E-03	1.92E-04	8.17E-06	0	1.23E-05	3.19E-06	1.41E-06	-6.13E-03
ODP	kg CFC11 eq	2.29E-07	2.29E-08	5.26E-07	1.11E-07	3.7E-09	0	7.14E-09	7.14E-11	4.61E-10	-1.55E-07
AP	mol H^+ eq	2.77E-01	2.81E-04	3.53E-02	1.36E-03	7.04E-05	0	8.74E-05	7.89E-06	1.57E-05	-2.13E-01
EP-freshwater	kg P eq	9.24E-04	7.05E-07	9.36E-04	3.42E-06	2.08E-07	0	2.2E-07	1.45E-07	4.38E-08	-6.21E-04
EP-marine	kg N eq	1.15E-02	5.58E-05	5.07E-03	2.71E-04	2.03E-05	0	1.74E-05	1.05E-06	8.66E-06	-8.2E-03
EP-terrestrial	mol N eq	1.63E-01	6.22E-04	5.2E-02	3.02E-03	2.26E-04	0	1.94E-04	1.21E-05	6.64E-05	-1.16E-01
POCP	kg NMVOC eq	4.8E-02	2.39E-04	1.53E-02	1.16E-03	6.95E-05	0	7.44E-05	3.38E-06	1.8E-05	-3.53E-02
ADPE	kg Sb eq	4.06E-03	2.68E-07	9.89E-06	1.3E-06	4.67E-08	0	8.34E-08	7.81E-09	5.99E-09	-3.25E-03
ADPF	MJ	5.28E+01	1.5E+00	1.17E+02	7.28E+00	2.42E-01	0	4.67E-01	2.88E-02	2.31E-02	-3.36E+01
WDP	m^3 world eq deprived	5.09E+00	4.56E-03	2.82E+00	2.22E-02	1.51E-03	0	1.42E-03	3.38E-04	8.59E-04	-4.06E+00

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential)

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 kg Dual control thermostatic fitting

Parameter	Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	5.68E-07	7.94E-09	1.94E-07	3.86E-08	1.39E-09	0	2.47E-09	2.63E-11	1.65E-10	-4.28E-07
PERM	MJ	2.56E-01	6.5E-03	6.92E-01	3.16E-02	1.1E-03	0	2.03E-03	2.53E-04	1.07E-04	-1.63E-01
PERT	MJ	1.83E+03	1.18E+00	4.2E+01	5.71E+00	3.11E-01	0	3.66E-01	1.91E-02	1.29E-01	-1.3E+03
PENRE	MJ	5.65E-08	3.78E-11	2.02E-09	1.84E-10	2.47E-11	0	1.18E-11	9.63E-13	8.7E-12	-4.29E-08
PENRM	MJ	4.01E-06	1.19E-09	8.76E-08	5.77E-09	2.98E-10	0	3.7E-10	1.88E-11	8.66E-11	-3.24E-06
PENRT	MJ	9.11E+01	1.04E+00	4.95E+01	5.07E+00	1.75E-01	0	3.25E-01	1.89E-02	3.16E-02	-1.23E+02
SM	kg	5.17E-01	0	2.32E-01	0	0	0	0	0	0	4.17E-01
RSF	MJ	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0
FW	m^3	1.14E-01	1.1E-04	5.16E-02	5.35E-04	7.5E-05	0	3.43E-05	2.15E-05	3.4E-05	-8.71E-02

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

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 kg Dual control thermostatic fitting

Parameter	Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
HWD	kg	1.58E-03	3.91E-06	9.64E-03	1.9E-05	5.9E-07	0	1.22E-06	2.37E-08	5E-08	-1.08E-03
NHWD	kg	1.58E+00	7.85E-02	1.15E+00	3.81E-01	7.79E-02	0	2.45E-02	1.12E-04	7.02E-02	-1.11E+00
RWD	kg	1.9E-04	1.01E-05	6.14E-04	4.92E-05	1.6E-06	0	3.16E-06	2.1E-07	1.28E-07	-1.23E-04
CRU	kg	0	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	5.62E-04	0	2.52E-01	0	0	9.15E-01	0	-1.17E+00
MER	kg	0	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	6.34E-02	0	0	0	5.44E-02	-1.18E-01

EET	MJ	0	0	0	0	1.27E-01	0	0	0	1.09E-01	-2.36E-01

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 kg Dual control thermostatic fitting

Parameter	Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D
PM	Disease incidence	5.68E-07	7.94E-09	1.94E-07	3.86E-08	1.39E-09	0	2.47E-09	2.63E-11	1.65E-10	-4.28E-07
IR	kBq U235 eq	2.56E-01	6.5E-03	6.92E-01	3.16E-02	1.1E-03	0	2.03E-03	2.53E-04	1.07E-04	-1.63E-01
ETP-fw	CTUe	1.83E+03	1.18E+00	4.2E+01	5.71E+00	3.11E-01	0	3.66E-01	1.91E-02	1.29E-01	-1.3E+03
HTP-c	CTUh	5.65E-08	3.78E-11	2.02E-09	1.84E-10	2.47E-11	0	1.18E-11	9.63E-13	8.7E-12	-4.29E-08
HTP-nc	CTUh	4.01E-06	1.19E-09	8.76E-08	5.77E-09	2.98E-10	0	3.7E-10	1.88E-11	8.66E-11	-3.24E-06
SQP	SQP	9.11E+01	1.04E+00	4.95E+01	5.07E+00	1.75E-01	0	3.25E-01	1.89E-02	3.16E-02	-1.23E+02

PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

Disclaimer 1 – for the indicator “Potential Human exposure efficiency relative to U235”. 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 or radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators “abiotic depletion potential for non-fossil resources”, “abiotic depletion potential for fossil resources”, “water (user) deprivation potential, deprivation-weighted water consumption”, “potential comparative toxic unit for ecosystems”, “potential comparative toxic unit for humans – cancerogenic”, “Potential comparative toxic unit for humans - not cancerogenic”, “potential soil quality index”. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high as there is limited experience with the indicator.

6. LCA: Interpretation

The results show that for the Dual control thermostatic fitting, the raw materials used in the formulation mix have a very significant impact on all impact categories, due to the use of brass. The brass has a dominant impact on 'Resource use – minerals and metals' in particular. Besides the production of the raw materials, also module A3 (mainly energy consumption during the manufacturing) has a significant contribution. For indicators such as ‘Global warming potential’ and ‘Resource use – fossils’ the contribution of module A3 is more than 50 %.

Outside the system’s boundaries, module D shows the benefits from recycling of the brass components and to a lesser extend the energy recovery from incineration of the plastic components. In module D the use of recycled content at the beginning of life has been taken into account in the calculations, as required by EN15804+A2.

7. Requisite evidence

8. References

Standards

EN15804
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PCR Part A
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Publisher

Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

+49 (0)30 3087748- 0
info@ibu-epd.com
www.ibu-epd.com

Programme holder

Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

+49 (0)30 3087748- 0
info@ibu-epd.com
www.ibu-epd.com

Author of the Life Cycle Assessment

Enperas
Thorpark 8300
3600 Genk
Belgium

+32 3 376 00 19
info@enperas.com
https://www.enperas.com/en/

Owner of the Declaration

Ideal standard International
Da Vincilaan 2
1935 Zaventem Belgium
France

+33622608444
eboukari@idealstandard.com
www.idealstandard.com