

# Environmental Product Declaration

EPD of multiple products based on a representative product in accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:



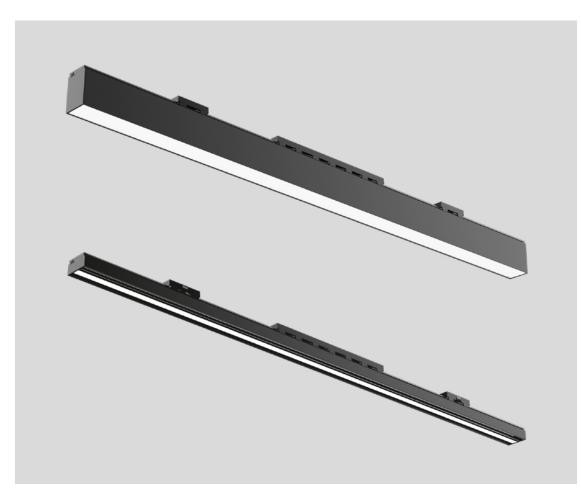
from XAL GmbH

#### Included products

305 for MOVE IT 25 | 305 for MOVE IT 25S | 605 for MOVE IT 25 | 605 for MOVE IT 25S | 1205 for MOVE IT 25 (=reference product) | 1205 for MOVE IT 25S | 2405 for MOVE IT 25 | 2405 for MOVE IT 25S

Programme The International EPD® System www.environdec.com

| Programme operator<br>EPD International AB |                     |
|--|---------------------|
| EPD registration number                    | EPD-IES-0015807:001 |
| Publication date                           | 2024-09-30          |
| Valid until                                | 2029-09-29          |



This EPD follows additional requirements for construction products considered as Electronic or Electric Equipment. 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





#### **Programme information**

| Programme | The International EPD®<br>System | CEN standard EN 15804 serves as the Core Product Category Rules (PCR)                              |
|-----------|----------------------------------|--|
|           |                                  | Product Category Rules (PCR)   |
| Address   | EPD International AB             | PCR 2019:14 Construction products version 1.3.4, 2024-04-30  |
|           | Box 210 60                       | UN CPC code(s): 4653 (Ver. 2.1) Lighting Equipment   |
|           | SE-100 31 Stockholm              |  |
|           | Sweden                           | PCR review was conducted by  |
|           |                                  | The Technical Committee of the International EPD® System   |
| Website   | www.environdec.com               |  |
|           |                                  | Life Cycle Assessment (LCA) accountability   |
| E-mail    | info@environdec.com              | XAL GmbH, Auer-Welsbach-Gasse 36, 8055 Graz, Austria   |
|           |                                  | Independent third-party verification of the declaration and data, according to ISO 14025:2006, via |

EPD verification by individual verifier

#### Third party verifier:

Marcel Gómez Marcel Gómez Consultoria Ambiental C/Navarra 66 Edificio B Bajos 3<sup>a</sup> 08320 El Masnou (Barcelona) www.marcelgomez.com

#### Approved by

The International EPD® System

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

EPDs within the same product category but registered in different EPD programs, or not compliant with EN 15804:2012+A2:2019/AC:2021, 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/declared 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 characterization factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804:2012+A2:2019/AC:2021 and ISO 14025:2006.

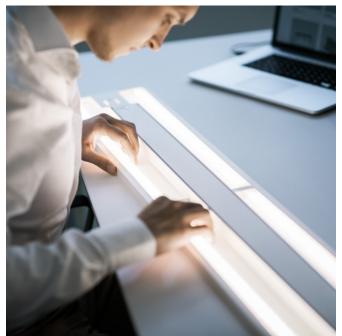
## Company information

### **Owner of the EPD**

XAL GmbH Auer-Welsbach-Gasse 36 8055 Graz AUSTRIA

epd@xal.com





## Description of the organisation

XAL is an internationally operating manufacturer of high-end luminaires and lighting solutions for shop, office, hotel and residential lighting. For 30 years, XAL has been working with lighting designers, architects and planners to develop custom luminaires of the highest technical standard, with a focus on style and aesthetics. While XAL mainly targets B2B costumers, we also provide our standard portfolio to B2C costumers.

With its headquarters in Graz, Austria, the XAL Group currently employs 1300 people worldwide and has 30 international subsidiaries. We are continuously working on further improving our products – whether in terms of durability, efficiency, the carbon footprint, or also with regard to the replaceability and reusability of components and materials.

## Product-related or management system-related certifications

XAL is certified according to several management and CSR standards.

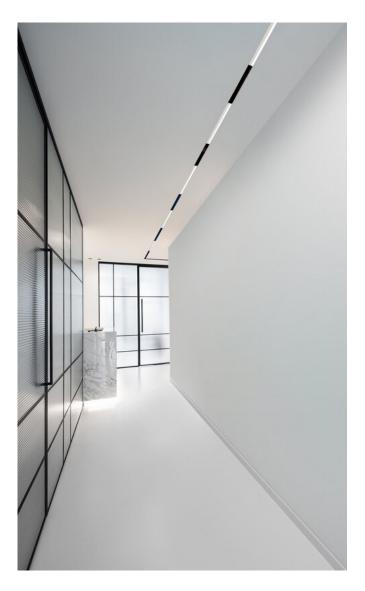
- ISO 9001 Quality management systems
- · ISO 14001 Environmental management systems
- ISO 45001 Occupational health and safety management systems
- **Ecovadis** regular evaluation of our corporate social responsibility based on objective criteria with a focus on the environment, labour and human rights, ethics and responsible procurement.
- UN Global Compact initiative our interactions with each other and our stakeholders, our supply chain management and our resource strategies are guided by the principles of the UN Global compact.

#### Name and location of production site(s)

The production sites are located in Murska Sobota (XAL Svetila d.o.o., Slovenia) and in Graz (XAL GmbH, Austria).

More information xal.com

## **Product information**



Product name

#### WALLWASHER FLUSH light inset for MOVE IT 25/25 S

#### **Product identification**

In the MOVE IT 25 and 25 S rail systems, spotlights, newly developed linear office inserts, and decorative lights can be combined. These are magnetically mounted and can be adjusted to spatial changes without the need for tools, offering flexibility. The linear light insets of the MOVE IT 25 product family can be used in many different variations. Available with different optics, a wide range of beam characteristics can be generated.

## This EPD covers several variations of the WALLWASHER FLUSH Insets

- WALLWASHER FLUSH 305 for MOVE IT 25
- WALLWASHER FLUSH 305 for MOVE IT 25 S
- WALLWASHER FLUSH 605 for MOVE IT 25
- WALLWASHER FLUSH 605 for MOVE IT 25 S
- WALLWASHER FLUSH 1205 for MOVE IT 25 (=reference product)
- WALLWASHER FLUSH 1205 for MOVE IT 25 S
- WALLWASHER FLUSH 2405 for MOVE IT 25
- WALLWASHER FLUSH 2405 for MOVE IT 25 S

### **Product description**

Linear light inset made of aluminium; light inset can be installed and moved without tools by means of magnetic holders+locking; surface anodised; flush with profile system; with specially computed, asymmetrical lens for homogeneous vertical lighting intensity; optical attachments available as accessories; with CSP (Chip-Scale-Packaging) technology for maximum efficiency; energy-efficient LEDs with very good colour rendering; hot plug protection; DALI single control..

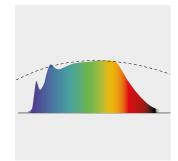
### **Product features**



Control Options Easy control of the luminaires



Magnetic Mounting Installation and assembly are quick and easy



Full Spectrum LED Healthy and eye-friendly light



The products covered by this EPD are thoroughly tested in our externally accredited in-house facilities. CB is available.

UN CPC code(s):4653 (Ver. 2.1) Lighting Equipment

#### **Declared unit**

The declared unit is one piece of the MOVE IT 25 LIGHT INSET (WALLWASHER FLUSH) including the LED-Converter. The weight of the product per declared unit is 0.960 kg.

For better comparison with other types of luminaires, conversion fac-tors are also available to convert the results to 1000 lumens during a reference lifetime of 35000 hours. This reference value is proposed by the PEP Category rules (PSR-0014-ed2.0-EN-2023 07 13). The conversion factors are available under "Additional environmental information".

The principles of "Modularity" and "polluter pay" have been followed.

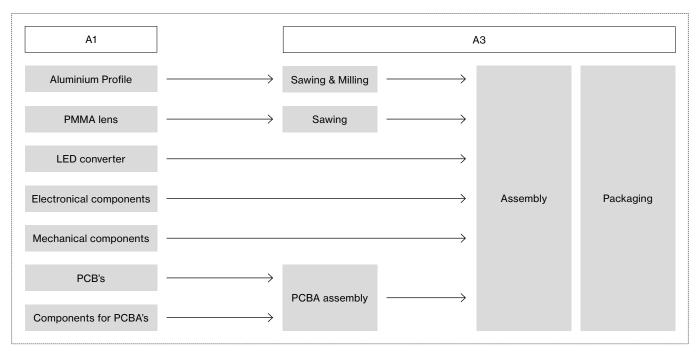
**Reference service life** 13.25 years

Time representativeness 2023

Database(s) and LCA software used LCA for Experts 10.7.1.28

**Description of system boundaries** Cradle to grave and module D

#### System diagram (A3 – Manufacturing)



#### Product stage (A1 – A3)

Raw materials are found in the components used for the luminaire production. The raw materials and the necessary process steps have been modelled using LCA for Experts. The Population of the PCBA is done in Graz, Austria. All components are then supplied to Murska Sobota, Slovenia where sawing and milling of the aluminum profile, sawing of the lens, and the final assembly of the luminaire is done. The corresponding electricity mix has been used for all manufacturing steps. Transportation of all the components is incorporated. For the components which are delivered from China, aggregated data has been used, since transportation involved various routes and transport vehicles. Packaging for the components has been accounted for using a worst-case approach. The ESD-packaging is reused one time within the company, therefore only ½ of the weight is taken into account for the production and the recycling. Since connectors typically consist of various material compositions, the EPDs of XAL GmbH assume plastic/metal connectors with a ratio of 50/50.

### Transport to building (A4)

Transport is modelled for countries where the sales share is more than >4% and modelled to the capital cities (Berlin, London, Zurich, Rome, Vienna, Copenhagen, Stockholm).

The product market includes countries all over the world.

| Weighted distance | 979.44 km                   |
|-------------------|-----------------------------|
| Truck used        | Class EURO 6, 26-28 t       |
| Fuel type         | Diesel (0.00287 kg/100 kkm) |

#### Installation into building (A5)

No emissions occur during the installation. This module includes the waste treatment of the packaging. For the transport-packaging, the euro pallet is reused 28 times, therefore only 1/28 of the weight is taken into account for the production and the end of life of the pallet.

## Packaging waste including product and transport packaging:

| Material          | Weight (kg) |
|-------------------|-------------|
| Cardboard         | 0.600       |
| Polyethylene film | 0.007       |
| Wooden Pallet     | 0.006       |

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#### Use, maintenance, repair, replacement and refurbishment (B1, B2, B3, B4, B5)

These stages include the use, maintenance, repair, replacement and refurbishment of the product, which do not contribute to the environmental impacts of the product's declared unit.

### **Operational Energy Use (B6)**

Electricity consumption during the use stage is modelled based on the technical parameters of the luminaires and is representative for a reference service life of 13.25 years with a weighted average of the following applications – office (60%), hotel (15%), restaurant (15%), and retail (10%). Geography of the electricity mix is modelled by sales shares and is representative for European countries (91.57% - EU-28) and rest of world countries (8.43%). For the rest of world countries, an electricity mix for China is used following a worst-case approach.

The energy consumption is calculated using the formula from EN 15193:2007: Energy consumption [kWh] = {Pa x FCP x FO x (FD x tD + FN x tN) + Pp x ty} x 1/1.000 x a

The results are presented in the additional information chapter.

| Scenario                      | WALLWASHER<br>FLUSH 1205 for 25 | Unit  |
|-------------------------------|---------------------------------|-------|
| Electricity use (13.25 years) | 946.57                          | kWh   |
| Active power                  | 22.30                           | W     |
| Passive power                 | 0.20                            | W     |
| Total active time             | 41406.25                        | hours |
| Total passive time            | 74663.75                        | hours |
| Dimmable                      | non-dimmable,<br>DALI-2 control | -     |
| Presence control              | No                              | -     |

#### **Operational water use (B7)**

No water is consumed during the use stage. Therefore, this stage does not contribute to the environmental impacts of the product's declared unit.

### End-of-life stage (C1 - C4)

The product is presumed to be decomposed manually; therefore, no emissions should occur. For the corresponding waste destinations, the following distances are used:

- To recycling facility 250 km
- To incineration facility 50 km
- To landfill 100 km for metal and electronic parts, 20 km for plastic parts and packaging waste

Based on official statistics and literature, waste treatment options are taken into account for Europe and rest of the world countries.

| Scenario (luminaire +<br>mounting accessory) | WALLWASHER FLUSH<br>1205 for 25 | Unit |
|--|---------------------------------|------|
| Collected separately                         | 0.960                           | kg   |
| Collected with mixed (construction) waste    | -                               | kg   |
| For reuse                                    | -                               | kg   |
| For recycling                                | 0.551                           | kg   |
| For energy recovery                          | 0.152                           | kg   |
| For final disposal                           | 0.256                           | kg   |

#### Module D

According to the guidelines of EN 15804+A2 and the PCR from EPD International, calculations are made for Module D. The loads and benefits result from the export of secondary materials and the energy which comes from incineration and landfilling. In Module D also the benefits from the product packaging waste are included.

| Scenario (contributing materials, incl. packaging) | WALLWASHER FLUSH<br>1205 for 25 | Unit |
|--|---------------------------------|------|
| Materials for recycling                            | 1.04E+00                        | kg   |
| Materials for export of secondary fuels            | -                               | kg   |
| Materials for incineration                         | 2.16E-01                        | kg   |
| Materials for land filling                         | 3.17E-01                        | kg   |

#### **Cut-off rules**

Consistent with the PCR, a minimum of 95% of total inflows (mass and energy) are included. In addition, materials and processes with insignificant contributions of less than 1% are also included. For the use and end-of-life stage, scenarios are used, factoring in geographical conditions (such as electricity mix) and applications (waste treatment practices).

The following processes have been excluded:

- Manufacture of equipment used in production, buildings or any other capital goods;
- · The transportation of personnel to the plant;
- Transportation of personnel within the plant;
- Research and development activities;
- Long-term emissions.

#### **Data quality**

Based on site specific information, this LCA study reflects the production for 2023. Components are supplied by external vendors, therefore manufacturing processes are modelled using LCA for Experts, with the best fitting representative geographical conditions and applications.

### **Electricity grid**

For the manufacturing in Graz, Austria, the corresponding electricity grid mix as stated on the invoice is used: Hydro (87.3%), Wind (8.4%), Solar (2%), Biomass (1.4%), other RE (0.9%).

For Murska Sobota, Slovenia, the electricity used is 100% from Hydro Power.

| Environmental impact of the electricity used in | AUT   | SLO   |
|---|-------|-------|
| CO₂ eq. [kg/kWh]                                | 0.008 | 0.005 |

## 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<br>recovery<br>stage |                  |          |   |
|----------------------|--|-----------|---------------|-----------|------------------------------|-----|-------------|------------|-------------|-------------------|---------------------------|--------------------------|-------------------------------|-------------------------------|------------------|----------|---|
|                      | Raw material<br>supply                   | Transport | Manufacturing | Transport | Construction<br>installation | Use | Maintenance | Repair     | Replacement | Refurbishment     | Operational<br>energy use | Operational<br>water use | De-construction<br>demolition | Transport                     | Waste processing | Disposal | Reuse-Recov-<br>ery-Recycling-<br>potential |
| Module               | A1                                       | A2        | A3            | A4        | A5                           | B1  | B2          | <b>B</b> 3 | B4          | B5                | <b>B</b> 6                | B7                       | C1                            | C2                            | C3               | C4       | D   |
| Modules declared     | х  | х         | х             | х         | х                            | х   | х           | х          | х           | х                 | х                         | х                        | х                             | х                             | х                | х        | х   |
| Geography            | GLO                                      | GLO       | AUT,<br>SLO   | GLO       | GLO                          | GLO | GLO         | GLO        | GLO         | GLO               | GLO                       | GLO                      | GLO                           | GLO                           | GLO              | GLO      | GLO   |
| Specific data used   |  | 64.4%     |               |           | -                            | -   | -           | -          | -           | -                 | -                         | -                        | -                             | -                             | -                | -        | -   |
| Variation – products | -76                                      | % / +8    | 6%            |           | -                            | -   | -           | -          | -           | -                 | -                         | -                        | -                             | -                             | -                | -        | -   |
| Variation – sites    | 2  | sites, C  | 1%            |           | -                            | -   | -           | -          | -           | -                 | -                         | -                        | -                             | -                             | -                | -        | -   |
| Acronyms             |  |           |               |           |                              | G   | LO = GI     | obal, A    | UT = Aı     | ustria, S         | SLO = S                   | lovenia                  |                               |                               |                  |          |   |

#### **Content information**

| Product components            | Weight, kg | Weight-%<br>(versus total<br>weight) | Post-<br>consumer<br>material,<br>weight-% | Biogenic<br>material,<br>weight-% /<br>declared unit | Biogenic<br>material, kg C /<br>declared unit |
|-------------------------------|------------|--------------------------------------|--|--|---|
| Aluminium                     | 0.655      | 68.16                                | 8.35                                       | 0.00   | 0.00  |
| Polymethylmethacrylate (PMMA) | 0.132      | 13.75                                | 0.00                                       | 0.00   | 0.00  |
| Neodymium                     | 0.039      | 4.04                                 | 0.00                                       | 0.00   | 0.00  |
| Polycarbonate                 | 0.033      | 3.47                                 | 0.00                                       | 0.00   | 0.00  |
| Epoxy resin                   | 0.015      | 1.56                                 | 0.00                                       | 0.00   | 0.00  |
| Glass fibers                  | 0.013      | 1.38                                 | 0.00                                       | 0.00   | 0.00  |
| Steel                         | 0.016      | 1.69                                 | 0.00                                       | 0.00   | 0.00  |
| Copper                        | 0.015      | 1.59                                 | 0.00                                       | 0.00   | 0.00  |
| Ferrites                      | 0.011      | 1.11                                 | 0.00                                       | 0.00   | 0.00  |
| TOTAL                         | 0.960      | 100.00                               | 5.69                                       | 0.00   | 0.00  |

| Packaging materials | Weight, kg | Weight-%<br>(versus the product) | Weight biogenic carbon,<br>kg C/declared unit |
|---------------------|------------|----------------------------------|---|
| Paper               | 0.018      | 1.90                             | 0.009   |
| Cardboard           | 0.294      | 30.57                            | 0.162   |
| TOTAL               | 0.312      | 32.48                            | 0.171   |

The products do not contain any REACH and RoHS SVHC substances in amounts greater than 0.1 % (1000 ppm).

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.

Usage of results from A1-A3 without considering the results of module C is not encouraged.

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## Mandatory impact category indicators according to EN 15804+A2 (based on EF 3.1)

Results per piece of WALLWASHER FLUSH 1205 mm

| Indicator                   | Unit                   | A1 – A3   | A4       | A5       | B1 – B5  | B6       | B7       | C1       | C2       | C3       | C4       | D         |
|-----------------------------|------------------------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| GWP – fossil                | kg CO <sub>2</sub> eq. | 2.01E+01  | 6.13E-01 | 2.57E-02 | 0.00E+00 | 3.23E+02 | 0.00E+00 | 0.00E+00 | 1.90E-02 | 4.49E-01 | 8.66E-03 | -5.27E+00 |
| GWP –<br>biogenic           | kg $\rm CO_2$ eq.      | -1.53E+00 | 0.00E+00 | 1.53E+00 | 0.00E+00 | 1.22E-03  |
| GWP – luluc                 | kg $\rm CO_2$ eq.      | 9.99E-03  | 3.90E-04 | 1.22E-04 | 0.00E+00 | 6.95E-02 | 0.00E+00 | 0.00E+00 | 1.76E-04 | 7.95E-06 | 1.11E-05 | -7.97E-04 |
| GWP – total                 | kg $\rm CO_2$ eq.      | 1.85E+01  | 6.13E-01 | 1.55E+00 | 0.00E+00 | 3.23E+02 | 0.00E+00 | 0.00E+00 | 1.90E-02 | 4.49E-01 | 8.66E-03 | -5.27E+00 |
| ODP                         | kg CFC 11<br>eq.       | 2.72E-10  | 1.07E-13 | 2.84E-14 | 0.00E+00 | 5.74E-09 | 0.00E+00 | 0.00E+00 | 1.66E-15 | 2.33E-13 | 1.63E-14 | -5.70E-12 |
| AP                          | mol H+ eq.             | 1.09E-01  | 3.92E-03 | 6.73E-05 | 0.00E+00 | 1.06E+00 | 0.00E+00 | 0.00E+00 | 2.72E-05 | 9.97E-05 | 3.85E-05 | -1.93E-02 |
| EP –<br>freshwater          | kg P eq.               | 1.42E-04  | 7.11E-05 | 5.47E-07 | 0.00E+00 | 1.15E-03 | 0.00E+00 | 0.00E+00 | 6.93E-08 | 5.44E-08 | 1.00E-08 | -2.01E-06 |
| EP – marine                 | kg N eq.               | 1.63E-02  | 8.20E-04 | 2.97E-05 | 0.00E+00 | 1.93E-01 | 0.00E+00 | 0.00E+00 | 1.00E-05 | 2.69E-05 | 9.76E-06 | -2.68E-03 |
| EP –<br>terrestrial         | mol N eq.              | 1.75E-01  | 7.71E-03 | 2.85E-04 | 0.00E+00 | 2.04E+00 | 0.00E+00 | 0.00E+00 | 1.19E-04 | 4.58E-04 | 1.07E-04 | -2.95E-02 |
| POCP                        | kg NMVOC<br>eq.        | 4.88E-02  | 2.04E-03 | 8.81E-05 | 0.00E+00 | 5.39E-01 | 0.00E+00 | 0.00E+00 | 2.39E-05 | 7.25E-05 | 3.01E-05 | -8.25E-03 |
| ADP – minerals<br>& metals* | kg Sb eq.              | 8.47E-04  | 1.28E-07 | 1.12E-09 | 0.00E+00 | 5.64E-05 | 0.00E+00 | 0.00E+00 | 1.23E-09 | 3.84E-09 | 4.44E-10 | -6.77E-05 |
| ADP – fossil*               | MJ                     | 2.69E+02  | 8.91E+00 | 2.76E-01 | 0.00E+00 | 6.23E+03 | 0.00E+00 | 0.00E+00 | 2.58E-01 | 3.01E-01 | 1.25E-01 | -7.57E+01 |
| WDP*                        | m³                     | 9.16E+00  | 2.07E-01 | 1.18E-02 | 0.00E+00 | 7.11E+01 | 0.00E+00 | 0.00E+00 | 2.19E-04 | 4.60E-02 | 2.18E-04 | -2.87E-01 |

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; 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 piece of WALLWASHER FLUSH 1205 mm Unit Α4 C2 СЗ C4 D Indicator A1 - A3 Α5 B1 - B5 **B6 B7** C1 GWP - GHG<sup>1</sup> 0.00E+00 -5.27E+00 kg CO<sub>2</sub> eq 1.70E+01 6.13E-01 2.57E-02 0.00E+00 3.23E+02 0.00E+00 1.90E-02 4.49E-01 8.66E-03 PM 4.41E-08 4.45E-10 -1.88E-07 disease inc. 1.37E-06 4.99E-10 0.00E+00 1.04E-05 0.00E+00 0.00E+00 2.19E-10 1.10E-09 IRP – HE\*\* ka U235-ea 1.64E+00 1.89E-02 6.41E-04 0.00E+00 8.25E+01 0.00E+00 0.00E+00 4.83E-05 3.26E-03 1.98E-04 -1.09E+00 ETP - fw\* CTUe 1.10E+02 5.51E+00 1.82E-01 0.00E+00 1.47E+03 0.00E+00 0.00E+00 1.82E-01 1.08E-01 4.65E-02 -1.90E+01 CTUh  $HTP - c^*$ 9.30E-09 8.94E-10 6.07E-12 0.00E+00 1.11E-07 0.00E+00 0.00E+00 3.67E-12 9.18E-12 6.20E-12 -2.44E-09  $HTP - nc^*$ CTUh 3.18E-07 3 29E-09 443E-10 0.00E+00 160F-06 0.00E+00 0.00E+00 162E-10 6 22F-10 6 25E-10 -8 81F-08 dimension-SQP 8.54E+01 2.37E+01 9.01E-02 0.00E+00 2.60E+03 0.00E+00 0.00E+00 1.08E-01 1.01E-01 1.58E-02 1.47E+02 less PM = particulate matter emissions. IRP-HE = ionizing radiation potential-human exposure. ETP-fw = ecotoxicity (freshwater). HTP-c = human toxicity potential.

Acronyms PM = particulate matter emissions. IRP-HE = ionizing radiation potential-human exposure. ETP-tw = ecotoxicity (freshwater). HTP-c = human toxicity potential. cancer effects. HTP-nc = human toxicity potential. non-cancer effects. SQP = land use related impacts.

<sup>1</sup> 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**

|           |                |          | Re       | sults per p |          | LLWASHE  | R FLUSH  | 20511111 |          | -        |          |           |
|-----------|----------------|----------|----------|-------------|----------|----------|----------|----------|----------|----------|----------|-----------|
| Indicator | Unit           | A1 - A3  | A4       | A5          | B1 – B5  | B6       | B7       | C1       | C2       | C3       | C4       | D         |
| PERE      | MJ             | 1.05E+02 | 1.26E+01 | 3.09E-02    | 0.00E+00 | 4.00E+03 | 0.00E+00 | 0.00E+00 | 1.83E-02 | 1.28E-01 | 1.34E-02 | -3.02E+00 |
| PERM      | MJ             | 0.00E+00 | 0.00E+00 | 0.00E+00    | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |
| PERT      | MJ             | 1.05E+02 | 1.26E+01 | 3.09E-02    | 0.00E+00 | 4.00E+03 | 0.00E+00 | 0.00E+00 | 1.83E-02 | 1.28E-01 | 1.34E-02 | -3.02E+00 |
| PENRE     | MJ             | 2.70E+02 | 8.99E+00 | 2.77E-01    | 0.00E+00 | 6.23E+03 | 0.00E+00 | 0.00E+00 | 2.59E-01 | 3.01E-01 | 1.25E-01 | -7.58E+01 |
| PENRM     | MJ             | 0.00E+00 | 0.00E+00 | 0.00E+00    | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |
| PENRT     | MJ             | 2.70E+02 | 8.99E+00 | 2.77E-01    | 0.00E+00 | 6.23E+03 | 0.00E+00 | 0.00E+00 | 2.59E-01 | 3.01E-01 | 1.25E-01 | -7.58E+01 |
| SM        | kg             | 0.00E+00 | 0.00E+00 | 0.00E+00    | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |
| RSF       | MJ             | 0.00E+00 | 0.00E+00 | 0.00E+00    | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00  |
| 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 | 0.00E+00 | 0.00E+00 | 0.00E+00  |
| FW        | m <sup>3</sup> | 2.94E-01 | 5.19E-03 | 2.93E-04    | 0.00E+00 | 2.16E+00 | 0.00E+00 | 0.00E+00 | 2.01E-05 | 1.12E-03 | 1.01E-05 | -4.87E-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-renew-Acronyms able 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 used as raw materials; PENRT = Total use of non-renewable primary energy resources used as raw materials; PENRT = Total 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

### Waste indicators

#### Results per piece of WALLWASHER FLUSH 1205 mm

| Indicator                          | Unit | A1 – A3  | A4       | A5       | B1 - B5  | B6        | B7       | C1       | C2       | C3       | C4       | D         |
|------------------------------------|------|----------|----------|----------|----------|-----------|----------|----------|----------|----------|----------|-----------|
| Hazardous<br>waste<br>disposed     | kg   | 2.29E-06 | 1.13E-08 | 6.27E-12 | 0.00E+00 | -5.55E-07 | 0.00E+00 | 0.00E+00 | 9.58E-13 | 8.03E-12 | 9.21E-12 | -4.89E-08 |
| Non-hazardous<br>waste<br>disposed | kg   | 2.44E+00 | 9.05E-02 | 4.83E-02 | 0.00E+00 | 5.32E+00  | 0.00E+00 | 0.00E+00 | 3.73E-05 | 4.76E-02 | 3.11E-01 | -1.07E+00 |
| Radioactive<br>waste<br>disposed   | kg   | 1.08E-02 | 2.28E-04 | 4.05E-06 | 0.00E+00 | 8.89E-01  | 0.00E+00 | 0.00E+00 | 3.35E-07 | 2.27E-05 | 1.44E-06 | -4.98E-03 |

#### **Output flow indicators**

#### Results per piece of WALLWASHER FLUSH 1205 mm

| Indicator                        | Unit | A1 – A3  | Α4       | A5       | B1 – B5  | B6       | B7       | C1       | C2       | C3       | C4       | D        |
|----------------------------------|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Components for re-use            | kg   | 0.00E+00 |
| Material for recycling           | kg   | 2.01E-01 | 0.00E+00 | 4.89E-01 | 0.00E+00 | 5.37E-01 |
| Materials for<br>energy recovery | kg   | 0.00E+00 | 0.00E+00 | 6.36E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.03E-01 | 0.00E+00 | 0.00E+00 |
| Exported energy, electricity     | MJ   | 0.00E+00 |
| Exported energy, thermal         | MJ   | 0.00E+00 |

XL

All WALLWASHER FLUSH Insets for MOVE IT 25 and 25 S belong to an environmental homogenous family as described in chapter 3.6.1. of the PEP-PCR-ed4-EN-2021 09 06:

-The materials and manufacturing processes of the luminaires are identical and only differ in mass

-The packaging materials and manufacturing processes are identical

-The products use the same logistic circuit

-Installation and use conditions are the same

-The technology of the light source is the same

-The luminaires are recycled according to the same regulatory requirements

The calculation of the scaling factors are based on the extrapolation rules of PeP described in chapter 3.6.2. – 3.6.8. (P.E.P., 2021).

|         | Conversion factors |      |      |      |       |      |  |  |  |  |
|---------|--------------------|------|------|------|-------|------|--|--|--|--|
| Variant | A1-A3              | A4   | A5   | B6   | C1-C4 | D    |  |  |  |  |
| 305     | 0.24               | 0.24 | 0.25 | 0.25 | 0.23  | 0.24 |  |  |  |  |
| 305 S   | 0.20               | 0.24 | 0.25 | 0.25 | 0.23  | 0.12 |  |  |  |  |
| 605     | 0.50               | 0.51 | 0.50 | 0.50 | 0.51  | 0.50 |  |  |  |  |
| 605 S   | 0.41               | 0.50 | 0.50 | 0.50 | 0.47  | 0.24 |  |  |  |  |
| 1205    | 1                  | 1    | 1    | 1    | 1     | 1    |  |  |  |  |
| 1205 S  | 0.83               | 1.01 | 1.00 | 1.00 | 0.97  | 0.58 |  |  |  |  |
| 2405    | 1.86               | 2.46 | 2.09 | 1.99 | 1.94  | 2.38 |  |  |  |  |
| 2405 S  | 1.54               | 2.46 | 2.08 | 1.99 | 1.88  | 1.39 |  |  |  |  |

## Results for 1,000 lumens during a reference life of 35,000 hours (PSR-0014-ed2.0-EN-2023 07 13)

A conversion factor can be used for converting the results to 1 000 lumens during a reference life of 35 000 hours.

| Variant | A1 – A3 | A4   | A5   | B6   | C1 – C4 | D    |
|---------|---------|------|------|------|---------|------|
| 305     | 2.2     | 2.2  | 2.2  | 1.86 | 2.2     | 2.2  |
| 305 S   | 2.2     | 2.2  | 2.2  | 1.86 | 2.2     | 2.2  |
| 605     | 1.1     | 1.1  | 1.1  | 0.96 | 1.1     | 1.1  |
| 605 S   | 1.1     | 1.1  | 1.1  | 0.93 | 1.1     | 1.1  |
| 1205    | 0.55    | 0.55 | 0.55 | 0.46 | 0.55    | 0.55 |
| 1205 S  | 0.55    | 0.55 | 0.55 | 0.46 | 0.55    | 0.55 |
| 2405    | 0.27    | 0.27 | 0.27 | 0.23 | 0.27    | 0.27 |
| 2405 S  | 0.27    | 0.27 | 0.27 | 0.23 | 0.27    | 0.27 |
|         |         |      |      |      |         |      |

### Information related to the sectorial EPD

This EPD is not sectoral.

### **Differences from previous versions**

This is the first version of the EPD.

EN 15193-1:2017+A1:2021 Energy performance of building – Energy requirements for lighting

EN 15804:2012+A2:2019/AC:2021 Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products.

European court of auditors, EU actions and existing challenges on electronic waste, Review No. 4, 2021

General Programme Instructions of the International  $\mathsf{EPD}^{\circledast}$  System. Version 4.0.

ISO 14025:2006 - Environmental labels and declarations - Type III environmental declarations - Principles and procedures

ISO 14040:2021 Environmental management – Life cycle assessment – Principles and framework

ISO 14044:2021 Environmental management – Life cycle assessment – Requirements and guidelines

LCA for Experts 10.7.1.28

PCR-ed4-EN-2021 09 062021. P.E.P. Association. <u>Product Category</u> <u>Rules for Electrical, Electronic and HVAC-R Products</u>.

Product category rules (PCR) 2019:14 Construction products version 1.3.4., 2024-04-30, The EPD International, 2024

#### Photo credits

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