Environmental Product Declaration

Programme:
The International EPD® System
www.environdec.com

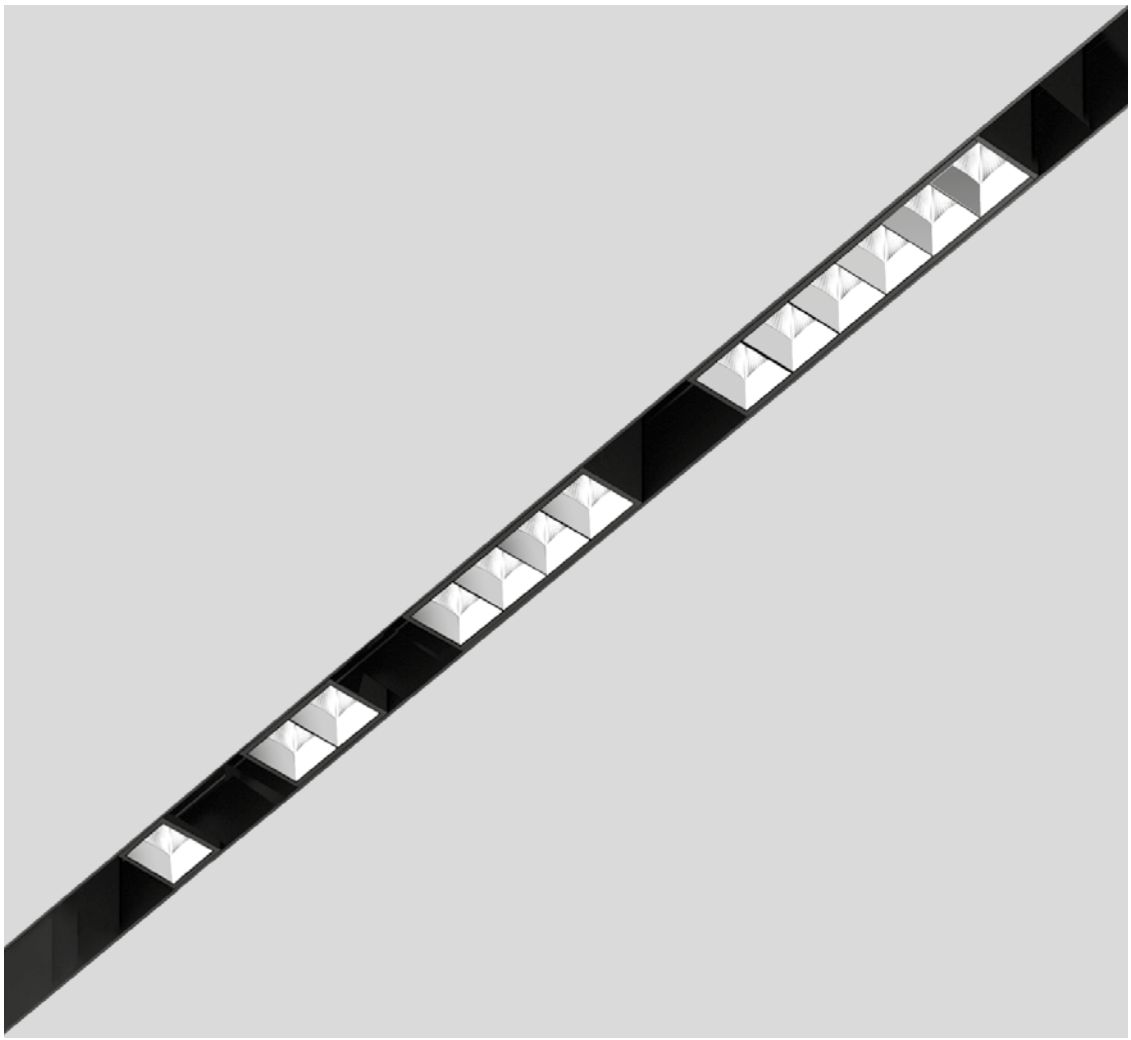
Programme operator:
EPD International AB

EPD registration number:	S-P-09589
Publication date:	2023-06-30
Valid until:	2028-06-29

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

L1, L2, L4 & L6 MOVE IT 45

from XAL GmbH



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

EPD® THE INTERNATIONAL EPD® SYSTEM

ECO PLATFORM EPD VERIFIED

General information

Programme information

Programme: The International EPD® System

Address: EPD International AB
Box 210 60
SE-100 31 Stockholm
Sweden

Website: www.environdec.com

E-mail: info@environdec.com

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

Product Category Rules (PCR):
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)

Product Category Rules (PCR): PCR 2019:14 v.1.2.4 Construction products, valid until 2024-12-20, UN CPC code(s) – 46539 Other electric lamps and lighting fittings (including lamps and lighting fittings of a kind used for lighting public open spaces or thorough-fares)

PCR review was conducted by: The Technical Committee of the International EPD® System, Chair of the PCR review: Claudia A. Peña, info@environdec.com

Life Cycle Assessment (LCA)
LCA accountability: XAL GmbH, Auer-Welsbach-Gasse 36, 8055 Graz, Austria

Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

☒ EPD verification by individual verifier

Third party verifier:
Prof. Ing. Vladimír Kočí, Ph.D., MBA
LCA Studio
Šárecká 5, 16000
Prague 6 - Czech Republic
www.lcastudio.cz

Approved by: The International EPD® System

Procedure for follow-up of data during EPD validity involves third party verifier:

☐ Yes ☒ No

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 further information about comparability, see EN 15804 and ISO 14025.

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. The headquarters of our company, which was founded in 1989, is located in Graz with production sites and sales subsidiaries in 15 countries and catering to projects worldwide.

It all begins with a passion for light. For 30 years, XAL has been working with lighting designers, architects and planner to develop custom luminaires of the highest technical standard, which impress with their style and aesthetics. There is always one goal: to push the boundaries of the technically feasible, enabling visionary designs. We can meet this challenge because our employees in our design labs as well as production and sales locations around the world deliver top performance. Being on-site for our customers is essential for mutual success. Thanks to organisational efficiency and high inhouse production depth, we can tailor our response to the needs of our customers and continuously expand our existing product portfolio. Meeting seemingly impossible challenges is our daily motivation and inspiration. From novel concept to luminaire innovation: a path created by crossing borders. SEE THE LIGHT.

Product-related or management system-related certifications

XAL is certified according to several management and CSR standards.

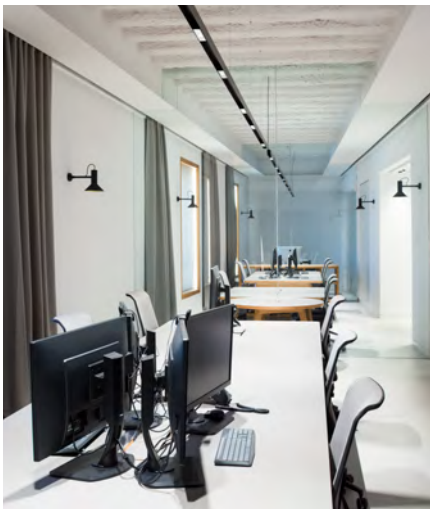
- **ISO 9001** – Quality management systems
- **ISO 14001** – Environmental management systems
- **ISO 45001** – Occupational health and safety management systems
- **Ecovadis** – regular evaluation of our corporate social responsibility based on objective criteria with a focus on the environment, labour 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 site is located in Graz (XAL GmbH, Austria), some parts are processed at Dongguan (To Be Lighting Co. Ltd.,China) and in Murska Sobota (XAL Svetila d.o.o., Slovenia).

More information: xal.com

Product information



Product name

L1, L2, L4 & L6 MOVE IT 45

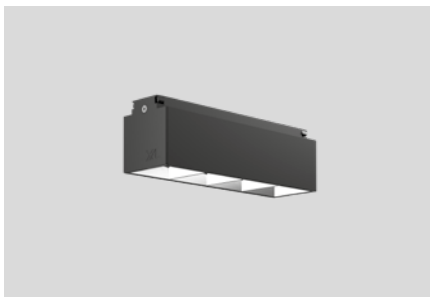
Product identification

The linear light insets can be used in many different variations. Available with different optics, a wide range of beam characteristics can be generated. The micro-faceted reflector technology ensures precise light distribution and minimum glare that is unequalled. The downlight optics for generating round and angular light projections are available with several beam angles. Choose the right inset with the right optics for your individual needs.

This EPD covers several variations of our MOVE IT 45 Insets

L1 MOVE IT 45

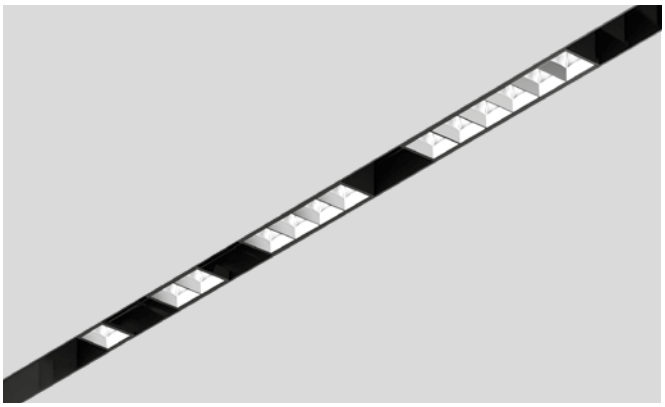
L2 MOVE IT 45



L4 MOVE IT 45

L6 MOVE IT 45

Product information



Product description

Linear light inset made of aluminium; surface anodised black; light inset can be installed and moved without tools by means of magnetic holders+locking; flush with profile system; power supplied via MOVE IT system track profile; hot plug protection; equipped with six light elements; high quality reflector with micro-faceted, aluminum-vaporised surface; Reflector chrome; passive cooling of the LEDs through improved heat sink geometry; binning initial MacAdam ≤ 3 SDCM; CRI ≥ 90; min. 80 % of luminous flux after 50 000 operating hours; energy efficient high power LEDs with very good colour rendering; degree of protection IP20; PC3 48 V; DALI single control; flicker-free visual comfort through analogue current control (minimum value 1%); light source not replaceable;

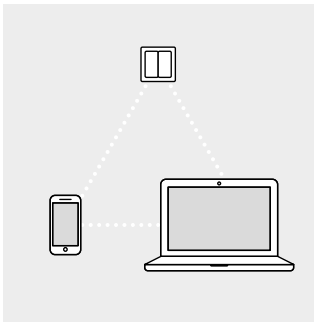
CB

The products covered by this EPD are not only thoroughly tested in our externally accredited in-house facilities but are also third-party tested: CB is available.

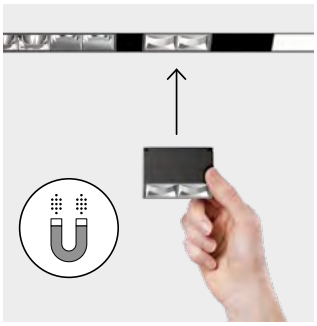
UN CPC code:

- UN CPC Version 2.1
- 46539

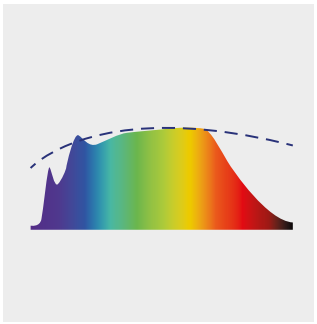
Other electric lamps and lighting fittings (including lamps and lighting fittings of a kind used for lighting public open spaces or thorough-fares)



Control Options
Easy control of the luminaires



Magnetic Mounting
Installation and assembly are quick and easy



Full spectrum LED
Healthy and eye-friendly light

LCA information

Functional unit / declared unit

1 sales unit (L6 MOVE IT 45 plus LED-Converter). The reflectors of the MOVE IT 45 Inset can be individually chosen out of 11 different inset types. The declared unit covers 9 (spot round, narrow medium round, medium round, flood round, wide flood round, medium square, flood square, wide flood square and rectangular) out of 11 available reflectors. The wallwasher and the wallwasher floor inset are not included, due to larger differences in the final luminaire.

The L1, L2, L4 & L6 MOVE IT 45 version use the same material and production technology, but there are differences in weight for the aluminium profile, the number of reflectors and the size of the printed wiring board. These differences have been incorporated and therefore the difference in the environmental impact can be scaled using the given conversion factors found in the Annex.

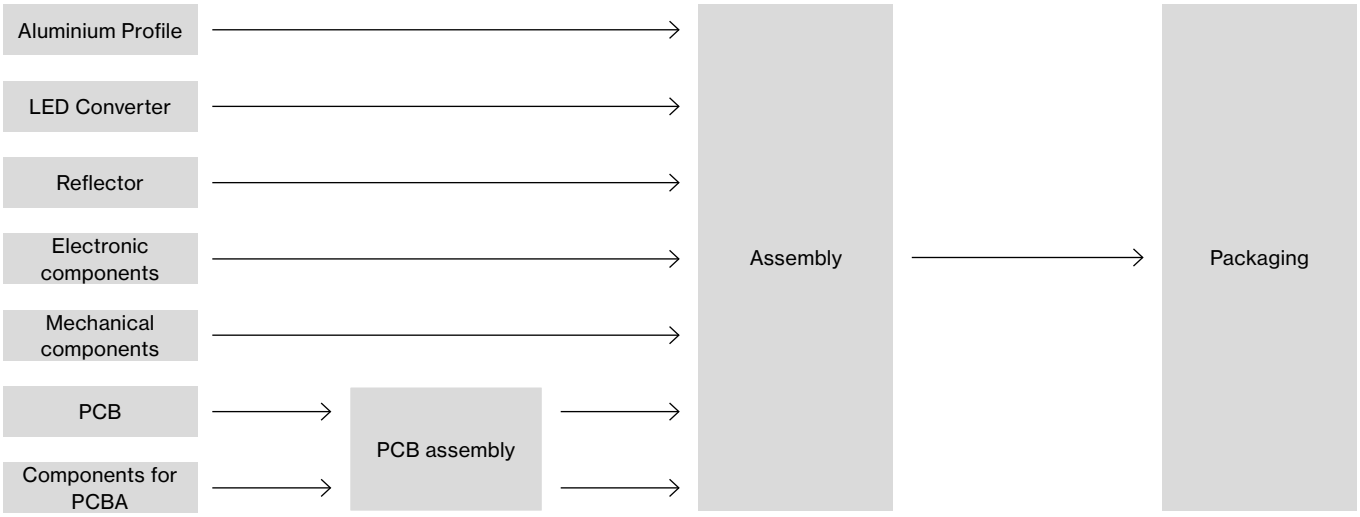
Reference service life:
13.25 years

Time representativeness: 2023

Database(s) and LCA software used:
GaBi 10.7.0.183

Description of system boundaries:
Cradle to gate with options: modules A1-A3, C1–C4, D and optional modules A4, A5 and B6.

System boundaries



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 GaBi. Sawing and milling of the aluminium profile is the only manufacturing step done in Murska Sobota, Slovenia. Populating the PCB and the assembly of the luminaire is performed in Graz, Austria. 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 is been accounted for using a worst-case approach.

Transport to building (A4)

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

Installation into building (A5)

No emissions occur during the installation. This module includes the waste treatment of the packaging.

Use phase (B6)

Electricity consumption during the use stage is modelled based on the technical parameters of the luminaires and is representative for 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 (91.72% - EU-28) and rest of world countries (8.28%). For the rest of world countries, an electricity mix for China is used following a worst-case approach.

End-of-life stage (C1-C4)

L6 MOVE IT 45 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.

LCA information

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.

Cut-off rule

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).

Data quality

Based on site specific information, this LCA study reflects the production for 2022. Components are supplied by external vendors, therefore manufacturing processes are modelled using GaBi, 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%). Since only renewable energy is used, the climate impact for CO2 emissions is 0.

For Murska Sobota, Slovenia, the corresponding electricity grid mix is: Coal (46.27%), Natural Gas (19.11%), Nuclear Power (12.47%), Hydro (10.23%), Other fossils (6.42%), Solar (2.43%), Bioenergy (1.98%), Oil (0.73%) and Wind (0.36%)

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						x		x	x	x	x	x
Geography	GLO	GLO	AUT, SLO	RER	RER RoW						RER RoW		RER RoW	RER RoW	RER RoW	RER RoW	RER RoW
Specific data used	>90% GWP-GHG					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	<10% GWP-GHG difference between product versions					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%					-	-	-	-	-	-	-	-	-	-	-	-
Acronyms	GLO = Global, RER = Europe, RoW = Rest of the World, AUT = Austria, SLO = Slovenia																

Content information

Product components	Weight, kg	Weight-% (versus total weight)	Post-consumer material, weight-%	Biogenic material, weight-% and kg C/kg
Zinc	2.64E-01	35.62%	0%	0%
Aluminium	2.18E-01	29.46%	20%	0%
Polycarbonate	6.83E-02	9.22%	0%	0%
Steel	3.66E-02	4.94%	25%	0%
Polyamide	2.36E-02	3.19%	0%	0%
Epoxy resin	2.24E-02	3.03%	0%	0%
Glass fibers	2.02E-02	2.73%	0%	0%
Neodymium	1.94E-02	2.62%	0%	0%
Copper	1.27E-02	1.71%	0%	0%
Copper in alloy	1.18E-02	1.59%	0%	0%
Ferrites	1.07E-02	1.44%	0%	0%
Adhesive based on silane modified polymers	6.67E-03	0.90%	0%	0%
Tin	5.73E-03	0.77%	0%	0%
Silicon dioxide (SiO2)	4.83E-03	0.65%	0%	0%
Electrolyte	1.86E-03	0.25%	0%	0%
Zincoxide	1.58E-03	0.21%	0%	0%
Natural rubber (NR)	1.52E-03	0.21%	0%	0%
Polyphenylene sulfide (PPS)	1.51E-03	0.20%	0%	0%
Aluminum oxide (Al2O3)	1.45E-03	0.20%	0%	0%
Polytetrafluorethylene (PTFE)	1.22E-03	0.16%	0%	0%
Ethylene-propylene-diene terpolymer (EPDM)	1.01E-03	0.14%	0%	0%
Unsaturated polyester (UP)	7.61E-04	0.10%	0%	0%
Paper	6.66E-04	0.09%	0%	0.01%
Unalloyed steel (Fe-C)	6.63E-04	0.09%	0%	0%
Silikonbasis	6.00E-04	0.08%	0%	0%
Tin in alloy	4.45E-04	0.06%	0%	0%
Polyamide 6 (PA6)	3.92E-04	0.05%	0%	0%
Zinc in alloy	2.96E-04	0.04%	0%	0%
Silver in alloy	1.87E-04	0.03%	0%	0%
Tetrabromobisphenol A (TBBA)	1.76E-04	0.02%	0%	0%
Silver	1.67E-04	0.02%	0%	0%
Silicon	1.60E-04	0.02%	0%	0%
Polyvinyl chloride (PVC)	1.55E-04	0.02%	0%	0%
Silicone (SI)	1.52E-04	0.02%	0%	0%
Nickel in alloy	1.39E-04	0.02%	0%	0%
Calcium carbonate (CaCO3)	1.01E-04	0.01%	0%	0%
Antimony oxide (Diantimony trioxide) (Sb2O3)	9.91E-05	0.01%	0%	0%
Diisononyl phthalate (DINP)	8.08E-05	0.01%	0%	0%
Bismuth oxide (Bi2O3)	8.01E-05	0.01%	0%	0%
Polyethylenterephthalat (PET)	6.00E-05	0.01%	0%	0%
Nickel	4.36E-05	0.01%	0%	0%
Palladium in alloy	3.80E-05	0.01%	0%	0%
Dotand	3.76E-05	0.01%	0%	0%
Hausmannite ((Mn+2)(Mn+3)2O 4)	3.19E-05	0.00%	0%	0%
Nickeloxide	2.63E-05	0.00%	0%	0%
Cobaltoxide (Co3O4)	2.53E-05	0.00%	0%	0%
Glass	1.88E-05	0.00%	0%	0%
Nylon 6.6 (PA66)	1.56E-05	0.00%	0%	0%
Lead	1.52E-05	0.00%	0%	0%
Inorganic flame retardants	9.61E-06	0.00%	0%	0%
Carbon black	9.12E-06	0.00%	0%	0%
Iron in alloy	8.91E-06	0.00%	0%	0%

Iron	7.48E-06	0.00%	0%	0%
Calcium zinc stearate (Ca/Zn)	6.87E-06	0.00%	0%	0%
Colophony	6.49E-06	0.00%	0%	0%
Gold	5.41E-06	0.00%	0%	0%
Gold in alloy	5.36E-06	0.00%	0%	0%
Titanium	2.13E-06	0.00%	0%	0%
Chromium in alloy	9.01E-07	0.00%	0%	0%
Platinum in alloy	5.36E-07	0.00%	0%	0%
Lead glas (PbO)	2.08E-08	0.00%	0%	0%
TOTAL	7.41E-01	100%	3.35%	0%

Packaging materials	Weight, kg	Weight-% (versus total weight)	Weight biogenic carbon, kg C/kg
Corrugated paper	7.10E-02	9.57%	1.14E-02
Paper	2.07E-02	2.79%	6.84E-02
Polyethylenterephthalat (PET)	6.32E-03	0.85%	0.00E-00
Polyester	7.58E-04	0.10%	0.00E-00
TOTAL	9.87E-02	13.32%	7.98E-02

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

Potential environmental impact – mandatory indicators according to EN 15804

Results per functional or declared unit

Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	A5	B6	C1	C2	C3	C4	D
GWP-fossil	kg CO_2 eq.	1.66E+01	1.13E+00	3.69E-01	1.80E+01	1.37E-01	3.67E-02	3.24E+02	0.00E+00	1.54E-02	4.15E-01	9.04E-03	-3.07E+00
GWP-biogenic	kg CO_2 eq.	-3.16E-01	-2.69E-04	1.45E-04	-3.16E-01	-9.90E-02	5.79E-01	2.85E+00	0.00E+00	-2.16E-04	6.79E-04	-1.46E-04	-3.03E-01
GWP-luluc	kg CO_2 eq.	9.30E-03	6.23E-04	2.36E-05	9.94E-03	1.04E-03	3.74E-05	6.52E-02	0.00E+00	1.41E-04	1.28E-04	1.09E-05	-5.56E-04
GWP-total	kg CO_2 eq.	1.62E+01	1.13E+00	3.70E-01	1.77E+01	3.87E-02	6.15E-01	3.27E+02	0.00E+00	1.53E-02	4.16E-01	8.90E-03	-3.37E+00
ODP	kg CFC 11 eq.	2.84E-10	1.08E-13	3.53E-12	2.87E-10	3.29E-13	8.91E-14	5.10E-09	0.00E+00	1.34E-15	4.33E-13	1.62E-14	-3.59E-12
AP	mol H^+ eq.	9.06E-02	6.71E-03	5.37E-04	9.78E-02	2.68E-04	2.91E-04	7.66E-01	0.00E+00	2.19E-05	5.20E-04	3.74E-05	-2.02E-02
EP-freshwater	kg P eq.	1.26E-04	3.97E-07	3.93E-07	1.27E-04	4.89E-07	2.27E-07	1.00E-03	0.00E+00	5.57E-08	2.09E-07	9.84E-09	-1.54E-06
EP-marine	kg N eq.	1.36E-02	2.53E-03	1.15E-04	1.63E-02	9.60E-05	1.36E-04	1.78E-01	0.00E+00	8.06E-06	2.09E-04	9.48E-06	-2.12E-03
EP-terrestrial	mol N eq.	1.45E-01	2.77E-02	1.23E-03	1.74E-01	1.10E-03	1.57E-03	1.88E+00	0.00E+00	9.56E-05	2.36E-03	1.04E-04	-2.32E-02
POCP	kg NMVOC eq.	4.10E-02	6.93E-03	3.41E-04	4.83E-02	2.75E-04	3.53E-04	4.89E-01	0.00E+00	1.92E-05	5.81E-04	2.93E-05	-6.88E-03
ADP-minerals & metals*	kg Sb eq.	1.53E-03	8.76E-09	4.57E-08	1.53E-03	1.02E-08	1.07E-09	4.31E-05	0.00E+00	9.85E-10	1.71E-08	4.18E-10	-1.55E-04
ADP-fossil*	MJ	2.03E+02	1.57E+01	4.43E+00	2.24E+02	1.96E+00	2.81E-01	6.13E+03	0.00E+00	2.08E-01	2.42E+00	1.28E-01	-4.38E+01
WDP*	m^3	6.52E+00	1.55E-03	1.15E-02	6.54E+00	5.97E-03	6.09E-02	7.69E+01	0.00E+00	1.76E-04	3.90E-02	1.70E-04	-2.18E-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; 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.

Potential environmental impact – additional mandatory and voluntary indicators

Results per functional or declared unit

Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	A5	B6	C1	C2	C3	C4	D
GWP-GHG	kg CO_2 eq.	1.66E+01	1.13E+00	3.69E-01	1.81E+01	1.38E-01	3.68E-02	3.24E+02	0.00E+00	1.56E-02	4.15E-01	9.05E-03	-3.07E+00
PM	disease inc.	1.23E-06	5.95E-08	3.73E-09	3.76E-09	1.59E-08	9.83E-10	7.55E-06	0.00E+00	1.76E-10	4.38E-09	4.29E-10	-1.84E-07
IRP_HE**	kg U235-EQ	8.37E-01	9.17E-04	2.37E-02	2.37E-02	1.97E-03	2.14E-03	1.47E+02	0.00E+00	3.89E-05	1.51E-02	2.04E-04	-5.49E-01
ETP-fw*	CTUe	1.05E+02	8.32E+00	9.02E-01	9.03E-01	1.18E+00	1.36E-01	2.55E+03	0.00E+00	1.45E-01	4.72E-01	4.47E-02	-1.45E+01
HTP-c*	CTUh	7.07E-09	1.42E-10	2.28E-10	2.39E-10	3.26E-11	6.43E-12	9.29E-08	0.00E+00	2.95E-12	2.61E-11	6.04E-12	-1.49E-09
HTP-nc*	CTUh	4.13E-07	5.73E-09	1.16E-09	1.18E-09	1.33E-09	3.13E-10	2.28E-06	0.00E+00	1.57E-10	1.93E-09	6.31E-10	-5.90E-08
SQP	dimension-less	5.58E+01	4.11E-01	1.01E+00	1.07E+00	2.96E+01	7.91E-02	2.24E+03	0.00E+00	8.67E-02	3.51E-01	1.54E-02	4.57E+01

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

[1] 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.

Use of resources

Results per functional or declared unit

Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	A5	B6	C1	C2	C3	C4	D
PERE	MJ	5.88E+01	1.08E-01	7.01E+00	6.59E+01	1.48E+00	6.07E-02	3.46E+03	0.00E+00	1.47E-02	3.74E-01	1.33E-02	-5.42E+00
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	5.88E+01	1.08E-01	7.01E+00	6.59E+01	1.48E+00	6.07E-02	3.46E+03	0.00E+00	1.47E-02	3.74E-01	1.33E-02	-5.42E+00
PENRE	MJ	2.04E+02	1.57E+01	4.43E+00	2.24E+02	1.96E+00	2.82E-01	6.13E+03	0.00E+00	2.08E-01	2.42E+00	1.28E-01	-4.39E+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	0.00E+00
PENRT	MJ	2.04E+02	1.57E+01	4.43E+00	2.24E+02	1.96E+00	2.82E-01	6.13E+03	0.00E+00	2.08E-01	2.42E+00	1.28E-01	-4.39E+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	0.00E+00
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
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	0.00E+00
FW	m^3	1.88E-01	1.19E-04	4.64E-03	1.93E-01	2.76E-04	1.45E-03	3.10E+00	0.00E+00	1.62E-05	1.10E-03	8.92E-06	-2.55E-02

Acronyms: PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

Waste production and output flows

Waste production

Results per functional or declared unit

Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	A5	B6	C1	C2	C3	C4	D
Hazardous waste disposed	kg	6.38E-06	1.74E-11	-7.50E-10	-8.02E-10	-2.55E-11	1.13E-11	-4.61E-07	0.00E+00	7.71E-13	4.70E-09	9.57E-12	-1.91E-08
Non-hazardous waste disposed	kg	1.77E+00	6.82E-04	1.08E-02	1.09E-02	3.88E-04	2.22E-02	4.32E+00	0.00E+00	3.00E-05	8.54E-02	2.96E-01	-6.18E-01
Radioactive waste disposed	kg	6.94E-03	6.57E-06	2.98E-04	2.98E-04	1.80E-05	1.33E-05	8.90E-01	0.00E+00	2.69E-07	9.88E-05	1.47E-06	-2.57E-03

Output flows

Results per functional or declared unit

Indicator	Unit	A1	A2	A3	Tot. A1-A3	A4	A5	B6	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	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	1.85E-01	1.85E-01	0.00E+00	7.77E-02	0.00E+00	0.00E+00	0.00E+00	3.05E-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	3.54E-01	0.00E+00	0.00E+00	0.00E+00	1.40E-01	0.00E+00	0.00E+00
Exported energy. electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy. thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Additional environmental information

Reference service life (per application)

	Office	Hospital	Hotel	Restaurant	Retail
RSL, years	60	0	15	15	10

Use phase (B6)

Scenario	L6 MOVE IT 45	Unit
Electricity use (14 years)	884.46	kWh
Active power	20.8	W
Passive power	0.2	W
Total active time	41406.25	hours
Total passive time	73640	hours
Dimmable	DALI-2 control	-
DALI-2 control	No	-
Presence control	No	-

End-of-Life (C1-C4)

Scenario (product)	L6 MOVE IT 45	Unit
Collected separately	0.741	kg
Collected with mixed (construction) waste	0	kg
For reuse	0	kg
For recycling	0.388	kg
For energy recovery	0.057	kg
For final disposal	0.296	kg

Module D

Scenario (contributing materials, incl. packaging)	L6 MOVE IT 45	Unit
Materials for recycling	0.460	Unit
Materials for export of secondary fuels	0	kg
Materials for incineration	0.069	kg
Materials for landfilling	0.311	kg

Annex

The L1, L2, L4 & L6 MOVE IT 45 version use the same material and production technology, but there are differences in weight for the aluminium profile, the amount of reflectors and the size of the printed wiring board. These differences have been incorporated in the model and therefore the difference in the environmental impact can be scaled using the given conversion factors.

Results for 1 sales unit of MOVE IT 45 Inset

MOVE IT 45	A1 – A3: Production	A4: Transport	A5: Installation	B6: Use stage	C1-C4: End of life	D: Resource – recovery
L1	0.64	0.56	1	0.16	0.55	0.37
L2	0.72	0.65	1	0.33	0.64	0.50
L4	0.83	0.82	1	0.67	0.82	0.75
L6	1	1	1	1	1	1

References

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Product category rules (PCR) 2019:14 Construction products version 1.2.5, 2022, The EPD International, 2022

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

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

GaBi 10.7.0.183

Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE)

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

Photos

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