



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Mirror with LED lights
Suomen Lasitehdas Oy



EPD HUB, HUB-6547

Published on 30.05.2026, last updated on 30.05.2026, valid until 29.05.2026

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.2 (24 Mar 2025) and JRC characterization factors EF 3.1.



Created with One Click LCA

GLASSFACTORY.FI

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Suomen Lasitehdas Oy
Address	Kirjaltajantie 2, 06150 Porvoo, Finland
Contact details	myynti@lasitehdas.com
Website	https://lasitehdas.com

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804:2012+A2:2019/AC:2021 and ISO 14025
PCR	EPD Hub Core PCR Version 1.2, 24 Mar 2025
Sector	Manufactured product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-B7, and modules C1-C4, D
EPD author	Maria Ivanova Suomen Lasitehdas
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Vera Durão, as an authorised verifier acting for EPD Hub Limited

PRODUCT

Product name	Mirror with LED lights
Additional labels	Suomen Lasitehdas; Scandinavian Glassfactory; NordMir
Product reference	-
Place(s) of raw material origin	Finland, Belgium, Germany, China
Place of production	Porvoo, Finland
Place(s) of installation and use	Europe
Period for data	Calendar year 2024
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-
A1-A3 Specific data (%)	43,9

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m ²
Declared unit mass	10 kg
Mass of packaging	2 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	84,2
GWP-total, A1-A3 (kgCO ₂ e)	84,6
Secondary material, inputs (%)	1,84
Total energy use, A1-A3 (kWh)	359
Net freshwater use, A1-A3 (m ³)	1

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Suomen Lasitehdas Oy is a Finnish manufacturer of interior glass and mirror products based in Porvoo, Finland. The company designs and manufactures mirrors, glass partitions, sliding doors and other custom glass solutions for residential and commercial interiors.

PRODUCT DESCRIPTION

Product description:

The product is a wall-mounted illuminated mirror designed for indoor use in conditioned environments. It consists of a 4 mm thick glass mirror, an aluminium frame on its back, and an LED light. A safety film (PET) on the back of the mirror helps to keep glass shards together in case of breakage. The safety film is intended for handling and transport safety and does not affect the use phase of the product. The mirror is mounted using an aluminium rail.

The LED strip is installed along the perimeter of the mirror. Therefore, the total LED length depends on the geometry and dimensions of the mirror.

Product application:

The mirror with LED lights is intended for residential and commercial indoor spaces, especially bathrooms, bedrooms, dressing rooms, and hallways. It blends reflective features with mood lighting in one product.

Technical characteristics:

- 4 mm thick glass mirror
- Aluminium frame on the back
- LED strip lighting (50,000-hour service life, 7 W per meter)
- Safety film (PET) on the mirror's back
- IP44 rated (suitable for humid environments)
- Mains-powered electrical connection or power plug
- Designed for long-term use without the need for maintenance, repair or replacement during the reference service life

Operational energy use:

For the declared unit of 1 m², a reference mirror size of 1000 × 1000 mm is assumed, corresponding to a perimeter of 4 meters. The LED strip length is therefore 4 meters.

With a power of 7 W per meter, the total installed power is 28 W per declared unit. The LED lighting is assumed to operate for 8 hours per day over the reference service life.

Based on an operating time of 50,000 hours, the operational energy use (B6) is 1400 kWh per declared unit.

Further information can be found at:

<https://lasitehdas.com>

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	12	Aluminium (Finland), steel (Germany), transformer (China), circuit board (China)
Minerals	80	Glass (Belgium)
Fossil materials	8	Polymer (Germany), diode (China), wires and cables (China), silicone (China), reactive resins based on silane-modified polymer (China)
Bio-based materials	0	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0,64

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m2
Mass per declared unit	10 kg
Functional unit	Mirror with integrated LED lighting (7 W per meter) providing illumination over a reference service life of 50,000 hours
Reference service life	17 years

SUBSTANCES, REACH - VERY HIGH CONCERN

No substances of very high concern (SVHC) according to REACH candidate list, are present above 0.1% (w/w) in the product.

PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Not declared = ND.

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The product is a wall-mounted illuminated mirror designed for indoor use. It consists of a 4 mm thick glass mirror, an aluminium frame on its back, LED lighting components, transformer, electrical wiring, safety film (PET), and mounting rail.

Raw materials are sourced from suppliers located in Finland, Belgium, Germany, and China and transported to the production site in Porvoo, Finland.

The manufacturing process includes glass cutting, edge polishing, aluminium frame assembly, LED and electrical component installation, transformer installation, safety film application, cleaning, quality inspection, and packaging.

Packaging materials include corrugated cardboard and plastic packaging materials.

Production waste included in the model consists of glass waste and wastewater generated during manufacturing processes. Glass waste is treated according to the applied recycling scenario and wastewater is treated according to municipal wastewater treatment processes.

Transport assumptions for raw materials are based on supplier locations and typical freight transport distances. Road transportation by lorry is assumed for European suppliers and combined sea and road transportation for components sourced from China.

Transport distance for A3 waste treatment is assumed to be 100 km by lorry to local waste treatment facilities.

A market-based approach is used in modelling the electricity mix utilized in the factory. Manufacturing electricity use is modelled using the Finnish residual electricity mix dataset, in accordance with EPD Hub PCR requirements.

TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

The transport distance to the construction site is modelled as 500 km by lorry based on average customer delivery distances during the reference year.

The product is delivered packaged in corrugated cardboard and plastic packaging materials. Installation is assumed to be manual and requires only basic tools such as a drill and screws. No significant energy or water consumption occurs during installation.

Packaging waste generated during installation mainly consists of cardboard and plastic packaging materials. Cardboard packaging is assumed to be fully recycled, while plastic packaging is modelled according to the applied EU waste treatment scenarios, including recycling and energy recovery.

Transport distance for A5 waste treatment is assumed to be 100 km by lorry to local waste treatment facilities.

Waste treatment assumptions are based on EU average packaging waste treatment statistics from EUROSTAT and applied EU waste treatment scenarios in One Click LCA.

PRODUCT USE AND MAINTENANCE (B1-B7)

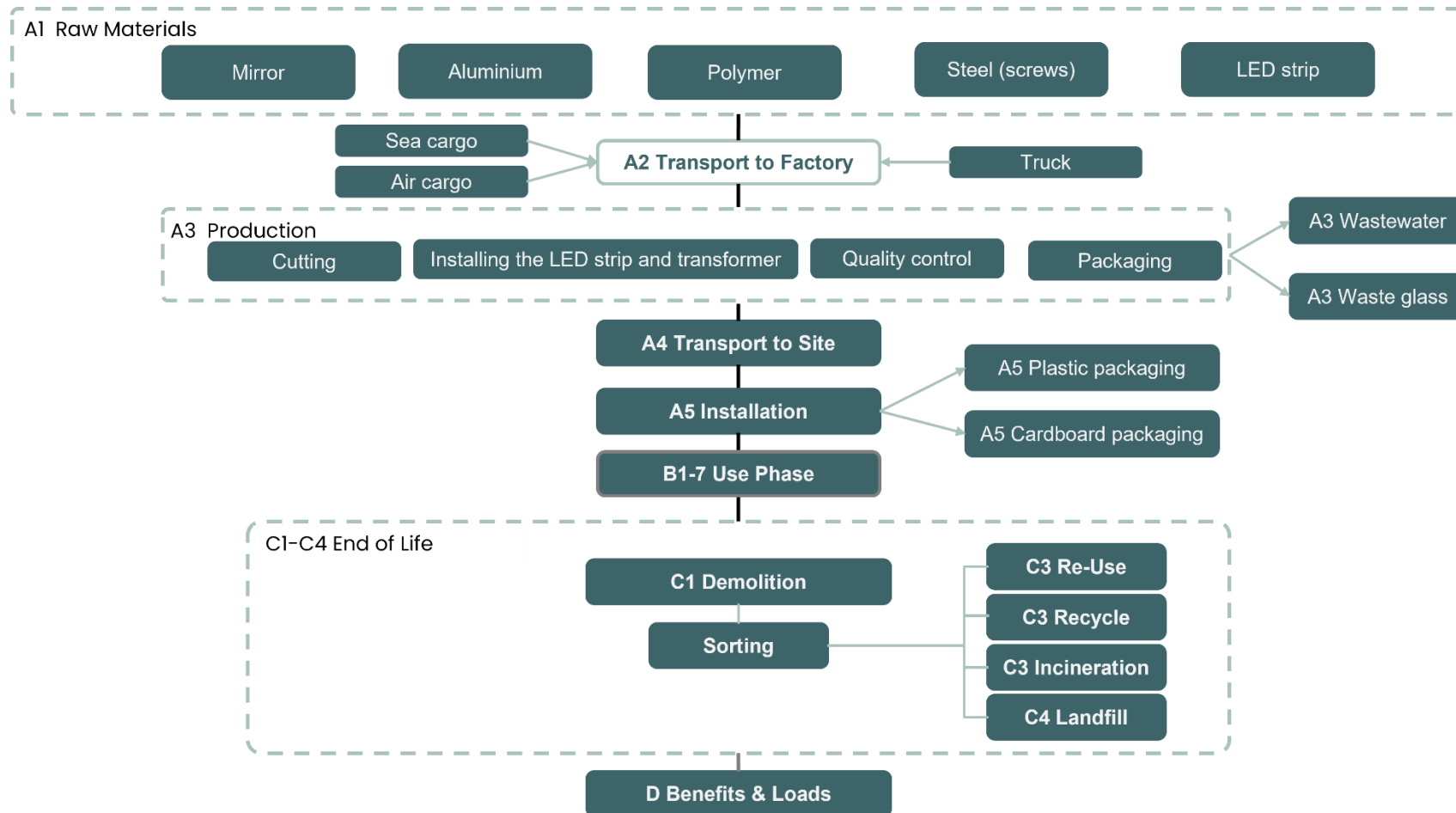
This EPD does not cover the use phase.

Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

The product is assumed to be dismantled manually at the end of its service life. The different material fractions are separated into glass, aluminium, steel, plastics, electronic components and cardboard packaging materials. Glass and aluminium are assumed to be recycled according to typical European recycling scenarios. Plastic materials and electronic components are treated according to applicable EU waste treatment scenarios including energy recovery and landfill. Cardboard packaging is assumed to be recycled according to European average packaging waste treatment statistics. Module D includes benefits and loads beyond the system boundary from material recycling and energy recovery processes.

SYSTEM DIAGRAM



LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

This LCA study includes the provision of all materials, transportation, energy and emission flows, and end of life processing of product. All industrial processes from raw material acquisition and pre-processing, production, product distribution and installation and end-of-life management are included.

Personnel-related activities, energy and water use related to company management and sales activities are excluded.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	No allocation
Packaging material	Physical Properties
Ancillary materials	Physical Properties
Manufacturing energy and waste	Physical Properties

No guarantees of origin (GOs) have been applied, and therefore no renewable electricity claims are made.

Combustible materials such as plastics, resins and silicone are modelled using "Energy as material" balancing. For these materials, the energy content is released at end-of-life (modules C3–C4), and therefore they are balanced in EOL.

Non-combustible materials and processes are balanced within the same life cycle stage.

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	-

No grouping

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator for EPD Hub V3 and EPD Process Certification v3.2.5. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.10.1/3.11/3.12 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1/3.11/3.12 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

Bibliography and references used in modeling

A5

Plastic packaging EU scenario
(source: EUROSTAT,
https://ec.europa.eu/eurostat/databrowser/view/env_waspac__custom_85

19242/default/table?lang=en)

(averaged from Debunking Efficient Recovery: The Performance of EU Incineration Facilities, 2023 <https://zerowasteeurope.eu/wp-content/uploads/2023/01/Debunking-Efficient-Recovery-Full-Report-EN.docx.pdf>)

Cardboard packaging EU scenario

(source: EUROSTAT,

https://ec.europa.eu/eurostat/databrowser/view/env_waspac__custom_8519259/default/table?lang=en)

(averaged from Debunking Efficient Recovery: The Performance of EU Incineration Facilities, 2023 <https://zerowasteeurope.eu/wp-content/uploads/2023/01/Debunking-Efficient-Recovery-Full-Report-EN.docx.pdf>)

C2-C4

Glass

(source: Gervasio, H. & Dimova, S., JRC Technical report: Model for Life Cycle Assessment (LCA) of buildings, 2018)

Aluminium

(source: European Aluminium, 2022, <https://european-aluminium.eu/blog/enabling-the-circular-economy-with-aluminium/>)

Construction (Plastics Europe 2020)

(source: Plastics Europe, 2020)

Glass electrics (transformer + LED lights)

(source: EN 50693)

Steel (screws)

(source: <https://worldsteel.org/wp-content/uploads/Life-cycle-inventory-LCI-study-2020-data-release.pdf>)

ENVIRONMENTAL IMPACT DATA

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

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	4,53E+01	3,39E+00	3,59E+01	8,46E+01	6,79E-01	3,69E+00	ND	ND	ND	ND	ND	2,17E+02	ND	0,00E+00	1,52E-01	5,41E-02	6,90E-02	-1,66E+00
GWP – fossil	kg CO ₂ e	4,50E+01	3,39E+00	3,59E+01	8,42E+01	6,78E-01	1,34E+00	ND	ND	ND	ND	ND	2,12E+02	ND	0,00E+00	1,52E-01	5,42E-02	6,94E-02	-1,64E+00
GWP – biogenic	kg CO ₂ e	1,56E-01	2,86E-04	-1,07E-02	1,45E-01	1,43E-04	2,35E+00	ND	ND	ND	ND	ND	7,76E-01	ND	0,00E+00	3,91E-05	-1,15E-04	-3,81E-04	-2,01E-02
GWP – LULUC	kg CO ₂ e	1,05E-01	4,02E-04	8,11E-02	1,87E-01	2,56E-04	1,01E-04	ND	ND	ND	ND	ND	4,12E+00	ND	0,00E+00	8,16E-05	5,98E-05	4,55E-05	-1,36E-03
Ozone depletion pot.	kg CFC-11e	1,93E-06	5,29E-08	8,07E-07	2,79E-06	1,36E-08	2,03E-09	ND	ND	ND	ND	ND	4,09E-06	ND	0,00E+00	2,52E-09	8,17E-10	1,76E-09	-4,39E-08
Acidification potential	mol H ⁺ e	4,02E-01	1,94E-02	1,48E-01	5,69E-01	2,35E-03	7,42E-04	ND	ND	ND	ND	ND	1,10E+00	ND	0,00E+00	5,27E-04	4,79E-04	4,78E-04	-8,08E-03
EP-freshwater ²⁾	kg Pe	4,43E-02	6,11E-05	1,34E-02	5,77E-02	4,55E-05	4,69E-05	ND	ND	ND	ND	ND	8,17E-02	ND	0,00E+00	1,21E-05	2,92E-05	7,02E-06	-5,14E-04
EP-marine	kg Ne	6,59E-02	6,87E-03	2,91E-02	1,02E-01	7,82E-04	6,17E-04	ND	ND	ND	ND	ND	1,92E-01	ND	0,00E+00	1,75E-04	1,18E-04	1,84E-04	-1,42E-03
EP-terrestrial	mol Ne	7,36E-01	7,53E-02	3,38E-01	1,15E+00	8,51E-03	2,43E-03	ND	ND	ND	ND	ND	2,05E+00	ND	0,00E+00	1,90E-03	1,31E-03	1,97E-03	-1,53E-02
POCP (“smog”) ³⁾	kg NMVOCe	2,08E-01	2,35E-02	9,36E-02	3,25E-01	3,67E-03	7,74E-04	ND	ND	ND	ND	ND	6,12E-01	ND	0,00E+00	7,71E-04	4,11E-04	6,81E-04	-7,26E-03
ADP-minerals & metals ⁴⁾	kg Sbe	1,06E-02	1,43E-06	2,18E-04	1,08E-02	1,86E-06	1,09E-06	ND	ND	ND	ND	ND	5,67E-03	ND	0,00E+00	4,37E-07	1,97E-06	1,57E-07	-2,18E-05
ADP-fossil resources	MJ	5,71E+02	4,50E+01	5,64E+02	1,18E+03	9,81E+00	2,01E+00	ND	ND	ND	ND	ND	9,36E+03	ND	0,00E+00	2,19E+00	7,61E-01	1,51E+00	-3,44E+01
Water use ⁵⁾	m ³ e depr.	1,68E+03	7,58E-02	8,94E+00	1,69E+03	5,01E-02	5,86E-02	ND	ND	ND	ND	ND	2,59E+02	ND	0,00E+00	1,06E-02	9,66E-03	8,23E-03	-4,79E-01

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	3,07E-06	5,76E-08	8,05E-07	3,94E-06	6,71E-08	7,36E-09	ND	ND	ND	ND	ND	7,26E-06	ND	0,00E+00	1,45E-08	7,08E-09	1,09E-08	-7,42E-08
Ionizing radiation ⁶⁾	kBq 11235e	4,27E+00	1,52E-02	7,71E+00	1,20E+01	1,18E-02	2,21E-02	ND	ND	ND	ND	ND	5,35E+02	ND	0,00E+00	2,45E-03	3,73E-03	1,43E-03	-1,89E-01
Ecotoxicity (freshwater)	CTUe	9,04E+02	2,35E+00	1,41E+02	1,05E+03	1,15E+00	2,51E+00	ND	ND	ND	ND	ND	1,05E+03	ND	0,00E+00	3,18E-01	3,38E-01	2,33E+01	-4,63E+00
Human toxicity, cancer	CTUh	3,14E-08	2,63E-10	8,37E-09	4,01E-08	1,12E-10	1,20E-10	ND	ND	ND	ND	ND	1,13E-07	ND	0,00E+00	2,54E-11	3,22E-11	1,88E-11	-6,59E-10
Human tox. non-cancer	CTUh	2,30E-06	3,27E-08	4,06E-07	2,74E-06	6,35E-09	5,44E-09	ND	ND	ND	ND	ND	5,77E-06	ND	0,00E+00	1,41E-09	1,95E-09	8,90E-10	-1,79E-08
SQP ⁷⁾	-	2,75E+02	6,19E+00	1,96E+02	4,78E+02	9,82E+00	1,26E+00	ND	ND	ND	ND	ND	3,12E+03	ND	0,00E+00	2,04E+00	1,18E+00	3,51E+00	-4,95E+00

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. This impact category deals mainly with the eventual impact of low-dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	1,15E+02	2,04E-01	3,56E+01	1,51E+02	1,59E-01	-2,48E+01	ND	ND	ND	ND	ND	3,35E+03	ND	0,00E+00	3,59E-02	8,42E-02	2,29E-02	-2,95E+00
Renew. PER as material	MJ	8,64E-03	0,00E+00	2,01E+01	2,01E+01	0,00E+00	-2,01E+01	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	-8,64E-03	0,00E+00	1,73E-01
Total use of renew. PER	MJ	1,15E+02	2,04E-01	5,57E+01	1,71E+02	1,59E-01	-4,49E+01	ND	ND	ND	ND	ND	3,35E+03	ND	0,00E+00	3,59E-02	7,56E-02	2,29E-02	-2,78E+00
Non-re. PER as energy	MJ	5,68E+02	4,50E+01	5,27E+02	1,14E+03	9,81E+00	-3,77E+01	ND	ND	ND	ND	ND	9,36E+03	ND	0,00E+00	2,19E+00	7,61E-01	1,23E+00	-3,44E+01
Non-re. PER as material	MJ	1,20E+00	0,00E+00	3,75E+01	3,87E+01	0,00E+00	-3,75E+01	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	-1,20E+00	0,00E+00	1,33E+01
Total use of non-re. PER	MJ	5,69E+02	4,50E+01	5,65E+02	1,18E+03	9,81E+00	-7,52E+01	ND	ND	ND	ND	ND	9,36E+03	ND	0,00E+00	2,19E+00	-4,39E-01	1,23E+00	-2,12E+01
Secondary materials	kg	1,84E-01	6,14E-03	1,64E+00	1,83E+00	4,25E-03	2,54E-03	ND	ND	ND	ND	ND	1,43E+00	ND	0,00E+00	1,13E-03	5,81E-04	5,54E-04	5,88E-01
Renew. secondary fuels	MJ	2,04E-02	3,72E-05	1,78E-01	1,99E-01	5,32E-05	1,82E-05	ND	ND	ND	ND	ND	5,46E-03	ND	0,00E+00	1,16E-05	2,15E-05	1,03E-05	2,05E-03
Non-ren. secondary fuels	MJ	2,69E-02	0,00E+00	0,00E+00	2,69E-02	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	3,96E-01	2,41E-03	6,02E-01	1,00E+00	1,44E-03	4,45E-04	ND	ND	ND	ND	ND	8,21E+00	ND	0,00E+00	3,60E-04	-1,10E-03	-2,24E-02	-1,50E-02

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	3,55E+00	2,34E-02	3,32E+00	6,90E+00	1,42E-02	2,91E-02	ND	ND	ND	ND	ND	1,44E+01	ND	0,00E+00	3,62E-03	3,68E-03	3,04E-03	-6,08E-01
Non-hazardous waste	kg	1,25E+02	4,08E-01	1,05E+02	2,30E+02	2,84E-01	2,77E+00	ND	ND	ND	ND	ND	4,12E+02	ND	0,00E+00	6,78E-02	1,83E+00	3,01E+01	-8,54E+00
Radioactive waste	kg	1,34E-03	3,70E-06	1,84E-03	3,19E-03	2,91E-06	5,24E-06	ND	ND	ND	ND	ND	1,15E-01	ND	0,00E+00	5,18E-07	9,37E-07	3,51E-07	-4,81E-05

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	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	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	1,89E-03	0,00E+00	1,22E+00	1,22E+00	0,00E+00	1,69E+00	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	3,94E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	2,49E-03	0,00E+00	0,00E+00	2,49E-03	0,00E+00	0,00E+00	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	1,02E-02	0,00E+00	0,00E+00	1,02E-02	0,00E+00	6,49E+00	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Electricity	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,72E+00	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy – Heat	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,77E+00	ND	ND	ND	ND	ND	0,00E+00	ND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	4,53E+01	3,37E+00	3,59E+01	8,46E+01	6,74E-01	1,49E+00	ND	ND	ND	ND	ND	2,15E+02	ND	0,00E+00	1,51E-01	5,40E-02	6,92E-02	-1,62E+00
Ozone depletion Pot.	kg CFC ₁₁ e	1,64E-06	4,19E-08	6,95E-07	2,37E-06	1,08E-08	1,68E-09	ND	ND	ND	ND	ND	3,61E-06	ND	0,00E+00	2,12E-09	6,64E-10	1,41E-09	-3,58E-08
Acidification	kg SO ₂ e	2,98E-01	1,46E-02	1,17E-01	4,30E-01	1,79E-03	5,70E-04	ND	ND	ND	ND	ND	9,02E-01	ND	0,00E+00	4,02E-04	3,81E-04	3,54E-04	-6,71E-03
Eutrophication	kg PO ₄ ³ e	9,22E-02	2,52E-03	5,34E-02	1,48E-01	4,32E-04	3,55E-04	ND	ND	ND	ND	ND	1,21E-01	ND	0,00E+00	9,91E-05	6,47E-05	1,52E-04	-1,47E-03
POCP ("smog")	kg C ₂ H ₄ e	1,66E-02	9,62E-04	7,87E-03	2,55E-02	1,62E-04	8,39E-05	ND	ND	ND	ND	ND	5,46E-02	ND	0,00E+00	3,52E-05	2,40E-05	2,96E-05	-5,58E-04
ADP-elements	kg Sbe	1,16E-02	1,38E-06	2,16E-04	1,18E-02	1,82E-06	1,07E-06	ND	ND	ND	ND	ND	5,67E-03	ND	0,00E+00	4,26E-07	1,96E-06	1,52E-07	-2,13E-05
ADP-fossil	MJ	5,31E+02	4,48E+01	4,45E+02	1,02E+03	9,62E+00	1,66E+00	ND	ND	ND	ND	ND	1,81E+03	ND	0,00E+00	2,16E+00	6,98E-01	1,49E+00	-3,12E+01

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ⁹⁾	kg CO ₂ e	4,51E+01	3,39E+00	3,59E+01	8,44E+01	6,79E-01	1,34E+00	ND	ND	ND	ND	ND	2,16E+02	ND	0,00E+00	1,52E-01	5,43E-02	6,94E-02	-1,64E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH₄ fossil, CH₄ biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO₂ is set to zero

SCENARIO DOCUMENTATION

DATA SOURCES

Manufacturing energy scenario documentation

1. District Heat, Finland, 2022, Finland, One Click LCA, 0.18 kgCO₂e/kWh
2. Diesel, burned in building machine, World, Ecoinvent, 0.10 kgCO₂e/MJ
3. Electricity, low voltage, residual mix, Finland, Ecoinvent, 0.65 kgCO₂e/kWh

Transport scenario documentation - A4 (Transport resources)

1. Market for transport, freight, lorry >32 metric ton, EURO5, 500 km
2. Market for transport, freight, sea, container ship, 47 km

Transport to the building site (A4) - Scenario documentation

Scenario parameter	Value
Capacity utilization (including empty return) %	-
Bulk density of transported products	150
Volume capacity utilization factor	-

Use stages scenario documentation - B6-B7 Use of energy and use of water

Scenario information	Value
Type of energy, consumption (kWh)	The use stage includes operational energy consumption only (module B6). The product does not require maintenance, repair, replacement or refurbishment during the reference service life. The LED lighting system has a total power consumption of 28 W per declared unit. Based on an assumed annual operating time and a reference service life of 50,000 hours for the LED components, the total operational energy consumption during use stage (B6) is 1400 kWh over the reference service life.
Freshwater consumption (m3)	No water consumption occurs during the use stage (B7).
Performance characteristics, E.g, Power rating, efficiency, capacity	The product is a wall-mounted illuminated mirror intended for indoor use. The LED lighting system is designed for a reference service life of 50,000 operating hours under normal indoor conditions.

End of life (C1-C4) - Scenario documentation

Scenario information	Value
Collection process: collected separately (kg)	Glass, aluminium and steel fractions are assumed to be collected separately for recycling. Cardboard packaging is also separately collected and recycled according to European average packaging waste treatment scenarios.
Collection process: Mixed waste (kg)	Plastic materials, electronic components and minor mixed waste fractions are assumed to be collected as mixed waste and treated according to applicable European waste treatment scenarios including energy recovery and landfill.
Recovery: re-use (kg)	0
Recovery: recycling (kg)	3,94
Recovery: energy recovery (kg)	0
Disposal (kg)	0
Scenario assumptions e.g. transportation (mode, km) & other	Transportation of end-of-life materials to local waste treatment facilities is assumed to take place by lorry. Transport distances are modelled using average European waste transport assumptions, approximately 50–250 km depending on the waste fraction and treatment route.

THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations from the PCR and EN 15804+A2 in the Environmental Product Declaration and its project report.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification.

The company-specific data and upstream and downstream data have been examined as regards plausibility and consistency. The publisher is responsible for ensuring the factual integrity and legal compliance of this declaration.

The software used in creation of this LCA and EPD is verified by EPD Hub to conform to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules and General Program Instructions.

Verified tools

Tool verifier: Magaly Gonzalez Vazquez

Tool verification validity: 27 March 2025 - 26 March 2028

Vera Durão, as an authorised verifier acting for EPD Hub Limited

30.05.2026

Vera Durão

