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# Product Environmental Profile

## Standard Luminaires and LVS

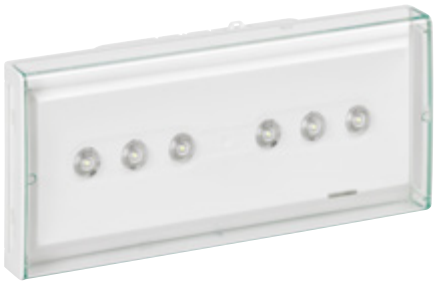
## LEGRAND'S ENVIRONMENTAL COMMITMENTS

**• Incorporate environmental management into our industrial sites**
Of all Legrand sites worldwide, over 80% are ISO 14001-certified (sites belonging to the Group for more than five years).

**• Involve the environment in product design**
Provide our customers with all relevant information (composition, consumption, end of life, etc.).
Reduce the environmental impact of products over their whole life cycle.

**• Offer our customers environmentally friendly solutions**
Develop innovative solutions to help our customers design more energy efficient, better managed and more environmentally friendly installations.

## REFERENCE PRODUCT

| | |
|---|---|
| **Function** | Facilitate the evacuation of public to outdoor with a lighting of 250 lumens for 1 hour, to avoid the risk of panic, highlighting potential obstacles to the lighting of escape routes and / or halls, where the power of lighting circuits no available. This function is guaranteed for 10 years with its autonomous power supply. |
| **Reference Product** |  |
| | Cat.No 6 621 62 |
| | LVS LUMINAIRES U34 LED - 1H DURATION WITH OPAL DIFFUSER - 250 LM. |



## PRODUCTS CONCERNED

The environmental data are representative of the following products:

| Cat. Numbers | Lumen (lm) | Autonomy - Consumption | IP | IK |
|---|---|---|---|---|
| 6 611 60 | 250 | 1 H - 2,3 W | IP 42 | IK 07 |
| 6 621 62 | | | | |
| 6 611 80 | 450 | 1 H - 2,8 W | | |
| 6 621 82 | | 1 H - 3 W | | |

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PEP ecopassport®

## CONSTITUENT MATERIALS

This Reference Product contains no substances prohibited by the regulations applicable at the time of its introduction to the market.
It does not contain substances covered by the RoHS Directive (2002/95/EC and its revision 2011/65/EC). It contains none of the 138 candidate list of the REACH regulation dated 19/12/2012.

| | |
|---|---|
| **Total weight of Reference Product** | **785 g** (with unit packaging) |

| **Plastics as % of weight** | | **Metals as % of weight** | | **Other as % of weight** | |
|---|---|---|---|---|---|
| PC | **38,8 %** | Copper alloys | **1,6 %** | Battery and accumulators | **19,5 %** |
| PP | **7,8 %** | Steel | **0,5 %** | Electronic cards | **13,2 %** |
| ABS | **4,8 %** | | | Cables / electrics wires | **0,2 %** |
| Other plastics | **2,9 %** | | | | |
| PA | **1,5 %** | | | | |
| PBT | **0,4 %** | | | | |
| PE | **0,2 %** | | | | |
| SBS | **0,2 %** | | | **Packaging as % of weight** | |
| PET | **0,1 %** | | | Paper (packaging) | **8,1 %** |
| Divers plastics | **0,1 %** | | | | |
| **Total plastics** | **56,9 %** | **Total metals** | **2,1 %** | **Total other and packaging** | **41,0 %** |

Estimated recycled material content: 11 % by mass.

## MANUFACTURE

This Reference Product comes from a site that has received ISO14001 certification.

## DISTRIBUTION

Products are distributed from logistics centres located with a view to optimize transport efficiency. The Reference Product is therefore transported over an average distance of 780 km by truck from our warehouse to the local point of distribution into the market in Europe.
Packaging is compliant with European directive 2004/12/EC concerning packaging and packaging waste. At their end of life the recyclability rate is 100 % (in % of packaging weight).

## INSTALLATION

Installation components not delivered with the product are not taken into account.

## USE

**Servicing and maintenance:**
changing 2 battery packs: the modeling is based on a lifetime of batteries 4 years, twice the battery pack below on a modeled life of 10 years (in addition with batteries supplied in the product).

| Cat. Numbers | Quantity | Type of batteries | Weight | % of the reference product's weight |
|---|---|---|---|---|
| 6 611 60 | 1 | Battery NiMH 2.2 Ah 3.6 V Cs | 154 g | 0 610 96 |
| 6 621 62 | | | | |
| 6 611 80 | 2 | | 308 g | |
| 6 621 82 | | | | |

**Consumable:**
no consumables are necessary to use this type of product.

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## END OF LIFE

Development teams integrate product end-of-life factors in the design phase. Dismantling and sorting of components or materials is made as easy as possible with a view to recycling or failing that, another form of reuse.

• **Elements to process specifically**:
This product falls within the scope of the WEEE directive (2002/96/EC). Therefore it must be processed through local WEEE recovery/ recycling channels. In accordance with the requirements of this Directive, the following components must be removed and sent to specific channels for processing which comply with the WEEE Directive:

- PWB > 10 cm² (intermediate) : 104 g
- plastic parts with brominated flame retardant : 424 g

• **End of life channels**:
The sale of this product is subject to a contribution to eco-organisations in each country responsible for managing end-of-life products in the field of application of the European Waste Electronic and Electrical Equipment Directive.

• **Recyclability rate:**
Calculated using the method described in technical report IEC/TR 62635, the recyclability rate of the product is estimated at 79 %. This value is based on data collected from a technological channel operating on an industrial basis. It does not pre-validate the effective use of this channel for end-of-life electrical and electronic products.

Separated into:

- plastic materials (excluding packaging) : 51 %
- metal materials (excluding packaging) : 2 %
- other materials (excluding packaging) : 18 %
- packaging (all types of materials) : 8 %

## ENVIRONMENTAL IMPACTS

The evaluation of environmental impacts examines the stages of the Reference Product life cycle: manufacturing, distribution, installation, use and end-of-life. It is representative from products marketed and used in Europe,in compliance with the local current standards.

The following modelling elements were taken into account:

<table>
<tr><td>Manufacture</td><td>Unit packaging taken into account. As required by the "PEP ecopassport" programme all transport for the manufacturing of the Reference Product, including materials and components, has been taken in account.</td></tr>
<tr><td>Distribution</td><td>Transport between the last Group distribution centre and an average delivery to the sales area.</td></tr>
<tr><td>Installation</td><td>Installation components not delivered with the product are not taken into account.</td></tr>
<tr><td>Use</td><td>• Changing 2 battery packs: the modeling is based on a lifetime of batteries 4 years, twice the battery pack below on a modeled life of 10 years (in addition with batteries supplied in the product).
<table>
<tr><th>Cat. Numbers</th><th>Quantity</th><th>Type of batteries</th><th>Weight</th><th>% of the reference product's weight</th></tr>
<tr><td>6 611 60</td><td rowspan="2">1</td><td rowspan="4">Battery NiMH 2.2 Ah 3.6 V Cs</td><td>154 g</td><td rowspan="4">0 610 96</td></tr>
<tr><td>6 621 62</td><td rowspan="2">308 g</td></tr>
<tr><td>6 611 80</td><td rowspan="2">2</td></tr>
<tr><td>6 621 82</td></tr>
</table>
• No consumables are necessary to use this type of product.<br>
• Product category: active product.<br>
• Use scenario: for a 10 years working life, in continuous operation at 100 % rated load 2.3 W 230 V~ for 100 % of the time. This modelling duration does not constitute a minimum durabilty requirement.<br>
• Energy model: Europe-EU 27; electricity mixte AC, final consumer - 2002</td></tr>
<tr><td>End of life</td><td>In view of the data avalaible on the date of creation of the document, and in accordance with the requirements of the PCR of the «PEP ecopassport» programme, transport of the Reference Product by road only once, over a distance of 1000 km, to a processing site at end of life was counted.</td></tr>
<tr><td>Software used</td><td>EIME V5 and its database «Legrand-2012-08-22 version 2» made from the database «CODDE-2012-07»</td></tr>
</table>

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# Product Environmental Profile

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## ENVIRONMENTAL IMPACTS (continued)

| | | Total for Life cycle | | Raw material and manufacture | | Distribution | | Installation | | Use | | End of life | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mandatory indicators | **Global warming** | **1,30E+05** | **g~$CO_2$ eq.** | 8,80E+03 | **7 %** | 7,35E+01 | **< 1 %** | 0,00E+00 | **0 %** | 1,21E+05 | **93 %** | 6,05E+01 | **< 1 %** |
| | **Ozone depletion** | **2,83E-02** | **g~CFC-11 eq.** | 9,96E-04 | **4 %** | 5,19E-05 | **< 1 %** | 0,00E+00 | **0 %** | 2,72E-02 | **96 %** | 4,29E-05 | **< 1 %** |
| | **Water eutrophication** | **7,21E+02** | **g~$PO_4^{3-}$eq.** | 7,09E+02 | **98 %** | 1,22E-03 | **< 1 %** | 0,00E+00 | **0 %** | 1,20E+01 | **2 %** | 1,01E-03 | **< 1 %** |
| | **Photochemical ozone creation** | **1,18E+01** | **g~$C_2H_4$ eq.** | 3,27E+00 | **28 %** | 6,37E-02 | **< 1 %** | 0,00E+00 | **0 %** | 8,38E+00 | **71 %** | 5,26E-02 | **< 1 %** |
| | **Air acidification** | **3,26E+01** | **g~H+ eq.** | 3,08E+00 | **9 %** | 9,35E-03 | **< 1 %** | 0,00E+00 | **0 %** | 2,95E+01 | **90 %** | 8,00E-03 | **< 1 %** |
| | **Total energy depletion** | **2,61E+03** | **MJ** | 1,55E+02 | **6 %** | 9,28E-01 | **< 1 %** | 0,00E+00 | **0 %** | 2,46E+03 | **94 %** | 7,67E-01 | **< 1 %** |
| | **Water depletion** | **6,93E+02** | **$dm^3$** | 1,56E+02 | **22 %** | 8,81E-02 | **< 1 %** | 0,00E+00 | **0 %** | 5,37E+02 | **78 %** | 7,28E-02 | **< 1 %** |
| Optional indicators | **Raw material depletion** | **8,42E-14** | **$year^{-1}$** | 6,54E-14 | **78 %** | 1,27E-18 | **< 1 %** | 0,00E+00 | **0 %** | 1,88E-14 | **22 %** | 1,05E-18 | **< 1 %** |
| | **Air toxicity** | **3,87E+07** | **$m^3$** | 4,08E+06 | **11 %** | 1,38E+04 | **< 1 %** | 0,00E+00 | **0 %** | 3,46E+07 | **89 %** | 1,19E+04 | **< 1 %** |
| | **Water toxicity** | **2,06E+03** | **$m^3$** | 2,01E+03 | **97 %** | 1,02E-02 | **< 1 %** | 0,00E+00 | **0 %** | 5,31E+01 | **3 %** | 8,45E-03 | **< 1 %** |
| | **Hazardous waste production** | **1,58E-01** | **kg** | 1,33E-01 | **84 %** | 2,73E-05 | **< 1 %** | 0,00E+00 | **0 %** | 2,56E-02 | **16 %** | 2,26E-05 | **< 1 %** |

The environmental impacts of the Reference Product are representative of the products covered by the PEP, which therefore constitute a homgeneous environmental family.

## ENVIRONMENTAL IMPACTS (continued)

| Reference rate 250 lm: 6 611 60 - 6 621 62 | | | Phase of Installation doesn't present significant difference with the Reference Product | Reference rate 450 lm: 6 611 80 - 6 621 82 | | |
|---|---|---|---|---|---|---|
| IP 42 - IK 07 | 1 H | 2,3 W | | IP 42 - IK 07 | 1 H | 3 W |
| Manufacturing | Use | End of Life | | Manufacturing | Use | End of Life |
| 1 | | | Global Warming Potential | 1,1 | 1,3 | 1,2 |
| | | | Ozone Depletion Potential | | | |
| | | | Water Eutrophication | 1 | 1,9 | |
| | | | Photochemical Ozone Creation Potential | 1,2 | 1,4 | |
| | | | Air Acidification | 1,6 | | |
| | | | Energy Depletion | 1,2 | 1,3 | |
| | | | Water Depletion | 1,7 | 1,6 | |
| | | | Raw Material Depletion | 1,1 | 1,9 | |
| | | | Air toxicity | 1,6 | 1,4 | |
| | | | Water Toxicity | 1 | 1,3 | |
| | | | Hazardous Waste Production | | 1,4 | |

The values of these impacts are valid for the context specified in this document. They must not be used directly to draw up the environmental balance sheet for the installation.

| | |
|---|---|
| Registration number: LGRP-2015-295-V1-EN | Drafting rule: PCR: PEP-PCR-ed 2.1-FR-2012 12 11 supplemented by PSR: PSR-0007-ed1-FR-2013 04 09 |
| Authorisation number of checker: VH23 | Programme information: **www.pep-ecopassport.org** |
| Date of issue: 11-2015 | Validity period: 4 years |
| Independent verification of the declaration and data, in accordance with ISO 14025:2006<br>Internal ☒ External ☐ | |
| In accordance with ISO 14025:2006 Type III environmental declaration | |
| The critical review of the PCR was conducted by a panel of experts chaired by J.Chevalier (CSTB) | |
| The elements of the present PEP cannot be compared with elements from another programme | |