

# Product Environmental Profile

## INDOOR SELF-CONTAINED EMERGENCY LIGHTING LUMINAIRES LED



### LEGRAND'S ENVIRONMENTAL COMMITMENTS

• **Incorporate environmental management into our industrial sites**

Of all Legrand sites worldwide, over 85% are ISO 14001-certified (sites belonging to the Group for more than five years).

• **Offer our customers environmentally friendly solutions**

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

• **Involve the environment in product design and provide informations in compliance with ISO 14025**

Reduce the environmental impact of products over their whole life cycle.

Provide our customers with all relevant information (composition, consumption, end of life, etc.).



### REFERENCE PRODUCT

<b>Function</b>	Facilitate evacuation of the public, by ensuring illumination of 70 lumens for 1 hour, in order to avoid any risk of panic and to guarantee the visibility of any obstacles along the evacuation routes / entrance halls leading to the exit doors, in the event of their electrical power supply failure. This function shall be ensured for 10 years by its self-contained power supply.
<b>Reference Product</b>	
	Cat.No 6 616 01
	Emergency luminaire U21- STD Non Maintained - 1H - 70lm -Led.

The company reserves the right to change specifications and designs without notice. All illustrations, descriptions, dimensions and weights in the document are for guidance and cannot be held binding on the company.



### PRODUCTS CONCERNED

The environmental data is representative of the following products:

Cat. Numbers	Designation	lumen (lm)	Autonomy	Consumption (W)	IP	IK
6 616 01	Emergency luminaire U21- STD Non Maintained - 1H - 70lm -Led	70	1H	1.3	42	07
6 616 02	Emergency luminaire U21- STD Non Maintained - 1H - 100lm -Led	100				
6 616 05	Emergency luminaire U21- STD Non Maintained - 1H - 160lm -Led	160				
6 616 08	Emergency luminaire U21- STD Non Maintained - 1H - 200lm -Led	200				
6 616 09	Emergency luminaire U21- STD Non Maintained - 1H - 350lm -Led	350	3H	2.8		
6 616 11	Emergency luminaire U21- STD Non Maintained - 3H - 90lm -Led	90		2.9		

# Product Environmental Profile

## INDOOR SELF-CONTAINED EMERGENCY LIGHTING LUMINAIRES LED



### ■ CONSTITUENT MATERIALS

This Reference Product contains no substances prohibited by the regulations applicable at the time of its introduction to the market. It respects the restrictions on use of hazardous substances as defined in the RoHS directive 2011/65/EU.

<b>Total weight of Reference Product and 6 616 02</b>	<b>581 g</b> (all packaging included)
---	---------------------------------------

Plastics as % of weight		Metals as % of weight		Other as % of weight	
PC	<b>48.4 %</b>	Copper alloys	<b>1.7 %</b>	Electronic card	<b>17.5 %</b>
PP	<b>0.3 %</b>	Other metal	<b>0.3 %</b>	Batteries and accumulators	<b>8.1 %</b>
PS	<b>0.2 %</b>	Steel	<b>0.2 %</b>		
		Al	<b>&lt; 0.1 %</b>		
Packaging as % of weight					
PE	<b>0.1 %</b>			Paper	<b>17.8 %</b>
				Wood	<b>5.4 %</b>
<b>Total plastics</b>	<b>49.0 %</b>	<b>Total metals</b>	<b>2.2 %</b>	<b>Total others</b>	<b>48.8 %</b>

Estimated recycled material content: 17 % by mass.

Pour les autres références, utiliser les tableaux ci-dessous :

<b>Total weight of Product 6 616 05 / 6 616 08 / 6 616 11</b>	<b>674 g</b> (all packaging included)
---	---------------------------------------

Plastics as % of weight		Metals as % of weight		Other as % of weight	
PC	<b>41.6 %</b>	Copper alloys	<b>1.5 %</b>	Batteries and accumulators	<b>20.8 %</b>
PP	<b>0.3 %</b>	Other metal	<b>0.3 %</b>	Electronic card	<b>15.1 %</b>
PS	<b>0.2 %</b>	Steel	<b>0.2 %</b>		
		Al	<b>&lt; 0.1 %</b>		
Packaging as % of weight					
PE	<b>0.1 %</b>			Paper	<b>15.3 %</b>
				Wood	<b>4.6 %</b>
<b>Total plastics</b>	<b>42.2 %</b>	<b>Total metals</b>	<b>1.9 %</b>	<b>Total others</b>	<b>55.9 %</b>

Estimated recycled material content: 17 % by mass.

<b>Total weight of Product 6 616 09</b>	<b>720 g</b> (all packaging included)
---	---------------------------------------

Plastics as % of weight		Metals as % of weight		Other as % of weight	
PC	<b>38.9 %</b>	Copper alloys	<b>1.4 %</b>	Batteries and accumulators	<b>25.8 %</b>
PP	<b>0.3 %</b>	Other metal	<b>0.3 %</b>	Electronic card	<b>14.2 %</b>
PS	<b>0.2 %</b>	Steel	<b>0.2 %</b>		
		Al	<b>&lt; 0.1 %</b>		
Packaging as % of weight					
PE	<b>0.1 %</b>			Paper	<b>14.4 %</b>
				Wood	<b>4.3 %</b>
<b>Total plastics</b>	<b>39.5 %</b>	<b>Total metals</b>	<b>1.8 %</b>	<b>Total others</b>	<b>58.7 %</b>

Estimated recycled material content: 17 % by mass.

# Product Environmental Profile

## INDOOR SELF-CONTAINED EMERGENCY LIGHTING LUMINAIRES LED



### 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/EU concerning packaging and packaging waste. At their end of life, its recyclability rate is 98 % (in % of packaging weight).



### INSTALLATION

For the installation of the product, only standard tools are needed.



### USE

Changing battery(ies) packs: the modeling, based on 4 years battery lifetime, requires 2 additional cycles of battery pack replacement (from end of life of original battery supplied in the product) to reach 10 years operating time.

Cat. Numbers	Quantity	Designation	Weight
6 616 01	1	Battery AA Ni-Cd 0.8Ah 2.4V HT stick with connector (Ref 0 610 87)	47 g
6 616 02		Battery Cs Ni-Cd 1.5Ah 3.6V HT stick with connector (Ref 6 609 72)	140 g
6 616 05		Battery Cs Ni-Cd 1.5Ah 4.8V HT stick with connector (Ref 6 609 62)	186 g
6 616 08			
6 616 11			
6 616 09			

# Product Environmental Profile

## INDOOR SELF-CONTAINED EMERGENCY LIGHTING LUMINAIRES LED



### END OF LIFE

The product end-of-life factors are taken into account during 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. This product falls within the scope of the WEEE directive (2012/19/EU). Therefore it must be processed through local WEEE recycling/recovery channels.

**• Elements to process specifically:**

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 2012/19/EU:

- plastic parts with brominated flame retardant: 90 g
- electronic card: 102 g
- accu Ni-Cd: 47 g\*

(\* ) Hazardous waste as defined by European Commission decision 2000/532/EU.

**• Extended producer responsibility:**

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 86 %. 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 the end of life of this product.

Separated into:

- plastic materials (excluding packaging) : 46 %
- metal materials (excluding packaging) : 2 %
- other materials (excluding packaging) : 15 %
- packaging (all types of materials) : 23 %

For products covered by the PEP other than the Reference Product and 6 616 02, the recyclability rates are:	6 616 05 6 616 08 6 616 11	6 616 09
- Estimated recyclability rate of the product:	81 %	78 %
- Plastic materials (excluding packaging) :	40 %	37 %
- Metal materials (excluding packaging) :	2 %	2 %
- Other materials (excluding packaging) :	19 %	21 %
- Packaging (all types of materials) :	20 %	18 %



### 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.

For each phase, the following modelling elements were taken in account:

<b>Manufacture</b>	Materials and components of the product, all transport for the manufacturing, the packaging and the waste generated by the manufacturing.
<b>Distribution</b>	Transport between the last Group distribution centre and an average delivery point in the sales area.
<b>Installation</b>	The end of life of the packaging.
<b>Use</b>	<ul style="list-style-type: none"> <li>• Product category: active product.</li> <li>• Use scenario: for a 10 years working life, in continuous operation at 100 % rated load 1.3W 230V~ for 100 % of the time. This modelling duration does not constitute a minimum durability requirement.</li> <li>• Energy model: Electricity Mix; Europe 27 - 2008.</li> </ul>
<b>End of life</b>	The default end of life scenario maximizing the impacts.
<b>Software and database used</b>	EIME & database CODDE-2018-11

# Product Environmental Profile

## INDOOR SELF-CONTAINED EMERGENCY LIGHTING LUMINAIRES LED



### SELECTION OF ENVIRONMENTAL IMPACTS

	Total for Life cycle		Raw material and manufacture		Distribution		Installation		Use		End of life	
	Value	Unit	Value	%	Value	%	Value	%	Value	%	Value	%
Global warming	6.10E+01	kgCO <sub>2</sub> eq.	4.23E+00	7 %	2.26E-02	< 1 %	8.07E-03	< 1 %	5.67E+01	93 %	5.27E-02	< 1 %
Ozone depletion	4.04E-06	kgCFC-11 eq.	3.78E-07	9 %	4.57E-11	< 1 %	4.94E-11	< 1 %	3.66E-06	91 %	1.33E-09	< 1 %
Acidification of soils and water	2.42E-01	kgSO <sub>2</sub> eq.	7.66E-03	3 %	1.01E-04	< 1 %	3.88E-05	< 1 %	2.34E-01	97 %	2.01E-04	< 1 %
Water eutrophication	3.03E-02	kg(PO <sub>4</sub> ) <sup>3-</sup> eq.	1.55E-02	51 %	2.33E-05	< 1 %	3.60E-05	< 1 %	1.44E-02	48 %	2.31E-04	< 1 %
Photochemical ozone formation	1.38E-02	kgC <sub>2</sub> H <sub>4</sub> eq.	8.79E-04	6 %	7.20E-06	< 1 %	2.75E-06	< 1 %	1.29E-02	93 %	1.57E-05	< 1 %
Depletion of abiotic resources - elements	1.84E-03	kgSb eq.	9.72E-04	53 %	9.03E-10	< 1 %	3.47E-10	< 1 %	8.63E-04	47 %	3.38E-09	< 1 %
Total use of primary energy	1.29E+03	MJ	1.01E+02	8 %	3.19E-01	< 1 %	1.11E-01	< 1 %	1.18E+03	92 %	5.76E-01	< 1 %
Net use of fresh water	2.03E+02	m <sup>3</sup>	2.86E-01	< 1 %	2.02E-06	< 1 %	2.23E-06	< 1 %	2.02E+02	100 %	4.59E-05	< 1 %
Depletion of abiotic resources - fossil fuels	7.03E+02	MJ	5.50E+01	8 %	3.17E-01	< 1 %	1.08E-01	< 1 %	6.47E+02	92 %	5.15E-01	< 1 %
Water pollution	3.44E+03	m <sup>3</sup>	1.05E+03	30 %	3.71E+00	< 1 %	1.26E+00	< 1 %	2.39E+03	69 %	5.98E+00	< 1 %
Air pollution	3.11E+03	m <sup>3</sup>	5.10E+02	16 %	9.25E-01	< 1 %	8.86E-01	< 1 %	2.59E+03	83 %	6.20E+00	< 1 %

The values of the 27 impacts defined in the PCR-ed3-EN-2015 04 02 are available in the digital database of pep-ecopassport.org website.

# Product Environmental Profile

## INDOOR SELF-CONTAINED EMERGENCY LIGHTING LUMINAIRES LED



### SELECTION OF ENVIRONMENTAL IMPACTS (CONTINUED)

For products covered by the PEP other than the Reference product, the environmental impacts of each phase of the lifecycle are calculated with coefficient under:

The intallation phase do not represent significant differences with the Reference Product	Rate 6 616 01 / 6 616 02	Rate 6 616 05 / 6 616 08			
		Manufacturing	Distribution	Use	End of life
Global warming	1	1.3	1.2	1.7	1.2
Ozone depletion					
Acidification of soils and water					
Water eutrophication					
Photochemical ozone formation					
Depletion of abiotic resources - elements					
Total use of primary energy					
Net use of fresh water					
Depletion of abiotic resources - fossil fuels					
Water pollution					
Air pollution	1.1		1.7		
	1.4		1.8		

The intallation phase do not represent significant differences with the Reference Product	Rate 6 616 01 / 6 616 02	Rate 6 616 09			
		Manufacturing	Distribution	Use	End of life
Global warming	1	1.4	1.2	2.2	1.3
Ozone depletion					
Acidification of soils and water					
Water eutrophication					
Photochemical ozone formation					
Depletion of abiotic resources - elements					
Total use of primary energy					
Net use of fresh water					
Depletion of abiotic resources - fossil fuels					
Water pollution					
Air pollution	1.7		2.3		

The intallation phase do not represent significant differences with the Reference Product	Rate 6 616 01 / 6 616 02	Rate 6 616 09			
		Manufacturing	Distribution	Use	End of life
Global warming	1	1.2	1.2	2.2	1.2
Ozone depletion					
Acidification of soils and water					
Water eutrophication					
Photochemical ozone formation					
Depletion of abiotic resources - elements					
Total use of primary energy					
Net use of fresh water					
Depletion of abiotic resources - fossil fuels					
Water pollution					
Air pollution	1.4		2.3		

Registration N°: LGRP-01143-V01.01-EN	Drafting rules: «PEP-PCR-ed3-EN-2015 04 02» Supplemented by «PSR-0007-ed1.1-2015 10 16»
Verifier accreditation N°: VH23	Information and reference documents: <a href="http://www.pep-ecopassport.org">www.pep-ecopassport.org</a>
Date of issue: 12-2019	Validity period: 5 years
Independent verification of the declaration and data, in compliance with ISO 14025 : 2010 Internal <input checked="" type="checkbox"/> External <input type="checkbox"/>	
The PCR review was conducted by a panel of experts chaired by Philippe Osset (SOLINNEN)	
PEP are compliant with XP C08-100-1 : 2014 The elements of the present PEP cannot be compared with elements from another program	
Document in compliance with ISO 14025 : 2010: «Environmental labels and declarations. Type III environmental declarations»	
Environmental data in alignment with EN 15804: 2012 + A1 : 2013	

