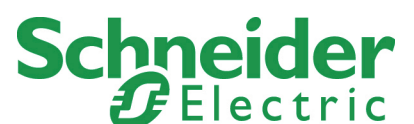


Emergency Lighting

BAES PYROS EVACUATION LED adressable

Product Environnemental Profil



Product Environnemental Profil – PEP

Product overview

The BAES PYROS evacuation led addressable product is dedicated to emergency lighting applications in compliance with French standards

This range consists of: 2 references (IP42/IP55) OVA 58310, OVA58311

The representative product used for the analysis is The BAES PYROS evacuation led addressable IP 55 ref: 58311.

The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with the similar technology.

The extrapolation rules are described in the following chapters.

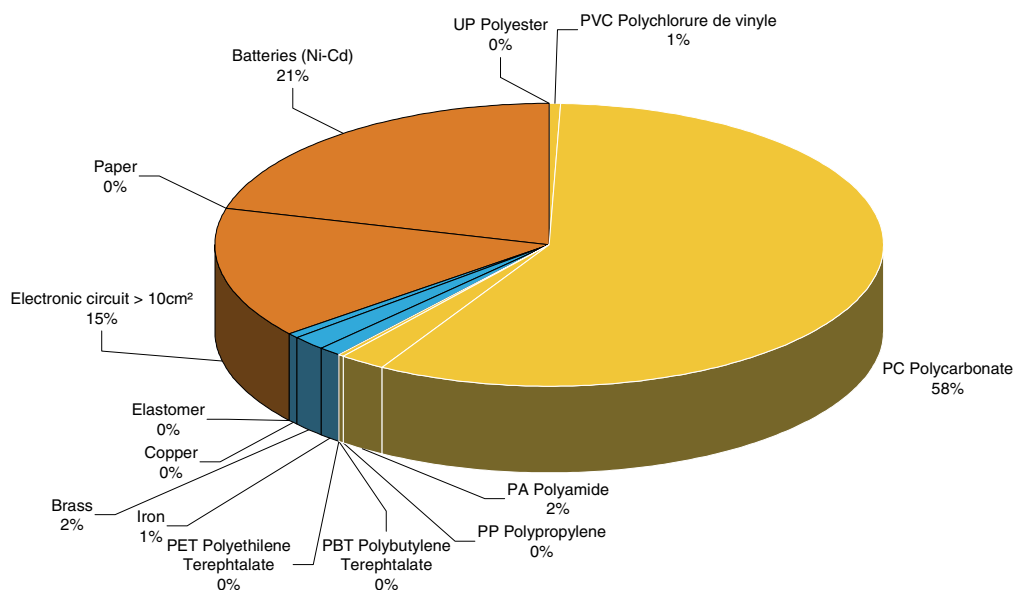
The environmental analysis was performed in conformity with ISO14040.

This analysis takes the stages of the life cycle of the product into account.

Constituent materials

The mass of the product range is from 637 g and 664 g no including packaging. It is 664 g for the BAES PYROS evacuation led addressable IP 55 ref:58311.

The constituent materials are distributed as follows:



Substance assessment

Products of this range are designed in conformity with the requirements of the ROHS directive (European Directive 2002/95/EC of 27 January 2003) and do not contain, or in the authorised proportions, lead, mercury, cadmium, chromium hexavalent, flame retardant (polybromobiphenyles PBB, polybromodiphenylthers PBDE) as mentioned in the Directive

Manufacturing

The product is manufactured at a Schneider Electric production site on which an ISO14001 certified environmental management system has been established.

Distribution

The weight and volume of the packaging have been reduced, in compliance with the European Union's packaging directive.

The BAES PYROS evacuation led addressable IP 55 ref:58311 packaging weight is 75,6g.

It consists of PE (Low Density, LDPE, Film) 0,2g, Paper (Recycled, With Deinking) 9,4g, Cardboard (kraft) 59g, PVC (Polyvinyl Chloride, Film) 7g.

The product distribution flows have been optimised by setting up local distribution centres close to the market areas.

Use

The products do not generate environmental pollution requiring special precautionary measures (noise, emissions, and so on) in using phase.

The dissipated power depends on the conditions under which the product is implemented and used.

The electrical power consumed by the BAES PYROS evacuation led addressable IP 55 ref: 58311 spreads out between 1,25 W and 1,9 W (standby mode 98% uptime 1,25W / active mode 2% uptime 1,9 W).

For maintenance:

During the product's lifetime, it should be necessary to replace the Batteries (Ni-Cd).

End of life

At end of life, the products have been optimized to decrease the amount of waste and valorise the components and materials of the product in the usual end of life treatment process.

The design and information have been achieved so as components are able to enter the usual end of life treatment processes as appropriate: depollution if recommended, reuse and/or dismantling if recommended so as to increase the recycling performances and shredding for separating the rest of materials.

The potential of recyclability of the products has been evaluated using the "Codde" recyclability and recoverability calculation method" (version V1, 20 Sep. 2008) and published by ADEME (French Agency for Environment and Energy Management).

According this method, the potential recyclability ratio is: 79%.

For more information on recycling, visit our website: "www.schneider-electric.fr".

Environmental impacts

The environmental impacts were analysed for the Manufacturing (M) phases, the Distribution (D) and the Utilisation (U) phases.

This product is included in the category 2 (assumed lifetime service is 10 years and using scenario: 1,25 W for 98% uptime).

The EIME (Environmental Impact and Management Explorer) software, version 4.0, and its database, version 10.0 were used for the life cycle assessment (LCA).

The calculation has been done on The BAES PYROS evacuation led addressable IP 55 ref:58311.

The electrical power model used is European model.

Presentation of the product environmental impacts

Environmental indicators		Unit	For BAES PYROS evacuation led addressable IP 55 ref:58311			
			S = M + D + U	M	D	U
Raw material depletion	RMD	Y-1	3,43E-13	1,95E-13	7,99E-18	1,48E-13
Energy depletion	ED	MJ	1,37E+03	1,49E+02	4,604	1,21E+03
Water depletion	WD	dm3	3,24E+02	60,718	1,879	2,62E+02
Global warming potential	GW	g □ CO2	2,11E+04	8,67E+03	1,88E+02	1,22E+04
Ozone depletion	OD	g □ CFC-11	2,09E-03	9,38E-04	8,93E-05	1,07E-03
Photochemical ozone creation	POC	g □ C2H4	6,07E+06	2,74E+06	3,79E+04	3,30E+06
Air acidification	AA	g □ H+	8,02	3,071	1,27E-01	4,822
Hazardous waste production	HWP	kg	4,713	1,874	2,71E-02	2,813
Water Eutrophication		dm3	5,08E+03	3,38E+03	60,937	1,64E+03
Air toxicity		g ~PO4	3,72	1,991	3,12E-02	1,698
Water toxicity		kg	3,07E-01	1,46E-01	3,86E-04	1,61E-01

The life cycle analysis shows that the U phase (M, D or U phase) is the life cycle phase which has the greatest impact on the majority of environmental indicators. The environmental parameters of this phase have been optimized at the design stage.

System approach

This range of products reduces the consumption of energy and the maintenance operations thanks to new led lightning source

As the product of the range are designed in accordance with the ROHS Directive (European Directive 2002/95/EC of 27 January 2003), they can be incorporated without any restriction within an assembly or an installation submitted to this Directive.

Please note that the environmental impacts of the product depend on the use and installation conditions of the product. Impacts values given above are only valid within the context specified and cannot be directly used to draw up the environmental assessment of the installation.

Product Environmental Profil – PEP

Glossary

Raw Material Depletion (RMD)	This indicator quantifies the consumption of raw materials during the life cycle of the product. It is expressed as the fraction of natural resources that disappear each year, with respect to all the annual reserves of the material.
Energy Depletion (ED)	<p>This indicator gives the quantity of energy consumed, whether it be from fossil, hydroelectric, nuclear or other sources.</p> <p>This indicator takes into account the energy from the material produced during combustion. It is expressed in MJ.</p>
Water Depletion (WD)	This indicator calculates the volume of water consumed, including drinking water and water from industrial sources. It is expressed in dm ³ .
Global Warming Potential (GWP)	<p>The global warming of the planet is the result of the increase in the greenhouse effect due to the sunlight reflected by the earth's surface being absorbed by certain gases known as "greenhouse-effect" gases.</p> <p>The effect is quantified in gram equivalent of CO₂.</p>
Ozone Depletion (OD)	This indicator defines the contribution to the phenomenon of the disappearance of the stratospheric ozone layer due to the emission of certain specific gases. The effect is expressed in gram equivalent of CFC-11.
Photochemical Ozone Creation (POC)	This indicator quantifies the contribution to the "smog" phenomenon (the photochemical oxidation of certain gases which generates ozone) and is expressed in gram equivalent of methane (C ₂ H ₄).
Air Acidification (AA)	<p>The acid substances present in the atmosphere are carried by rain. A high level of acidity in the rain can cause damage to forests.</p> <p>The contribution of acidification is calculated using the acidification potentials of the substances concerned and is expressed in mode equivalent of H⁺.</p>
Hazardous Waste Production (HWP)	<p>This indicator calculates the quantity of specially treated waste created during all the life cycle phases (manufacturing, distribution and utilization). For example, special industrial waste in the manufacturing phase, waste associated with the production of electrical power, etc.</p> <p>It is expressed in kg.</p>

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