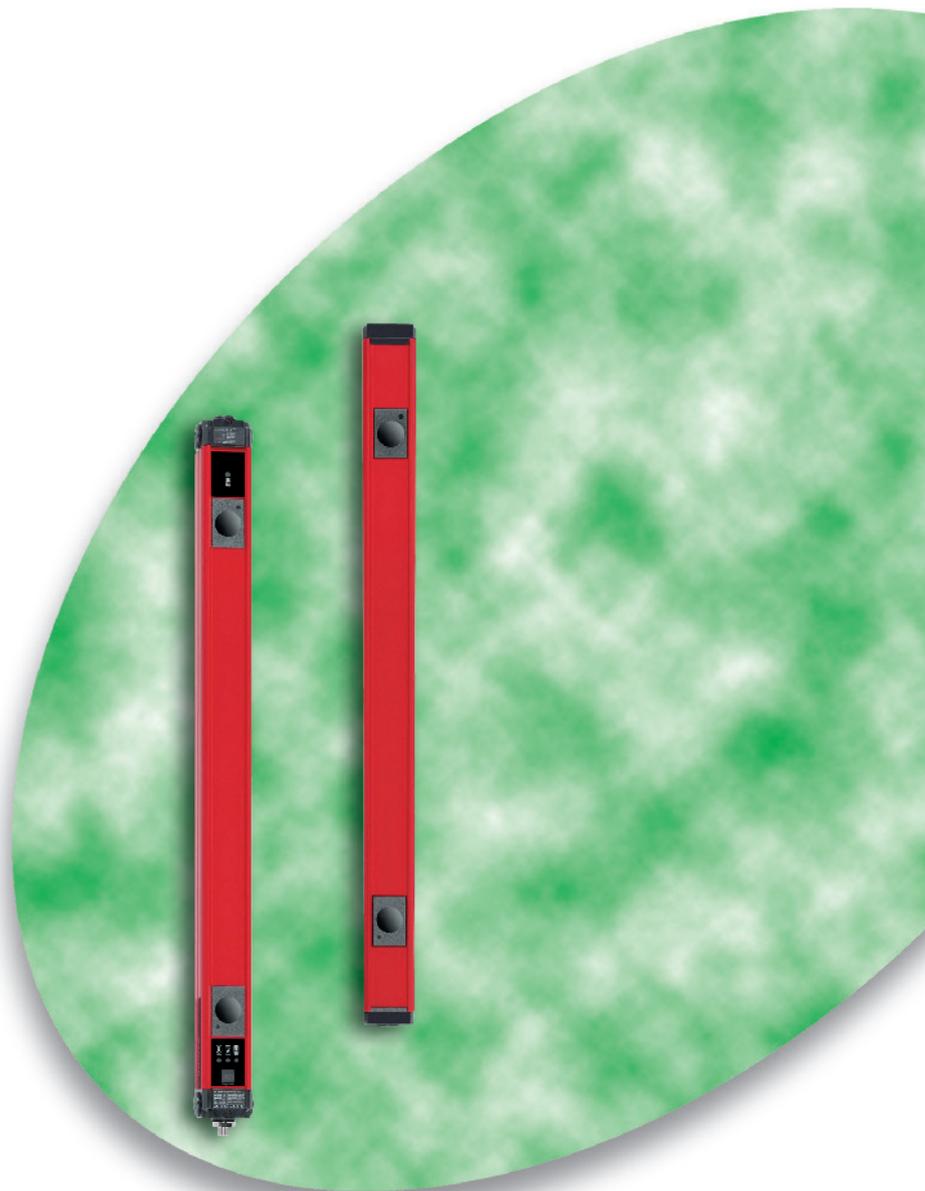


# Safety Light Curtains **XUSLP**

## Product Environmental Profile



# Product Environmental Profile - PEP

## Product overview

The main function of the XUSLP Safety Light Curtain is to safeguard the perimeter of a hazardous area. The range consists of 1 to 6 beam devices (transmitters, receivers, and reflectors).

This product is a 24 V DC input device that operates at 8.4 W with unloaded outputs. It can function from 0.8 to 70 m.

The representative product used for the analysis is XUSLP Z 2A 0600 Safety Light Curtain, which is a 2-beam, 600 mm-spacing product with up to 70 m range.

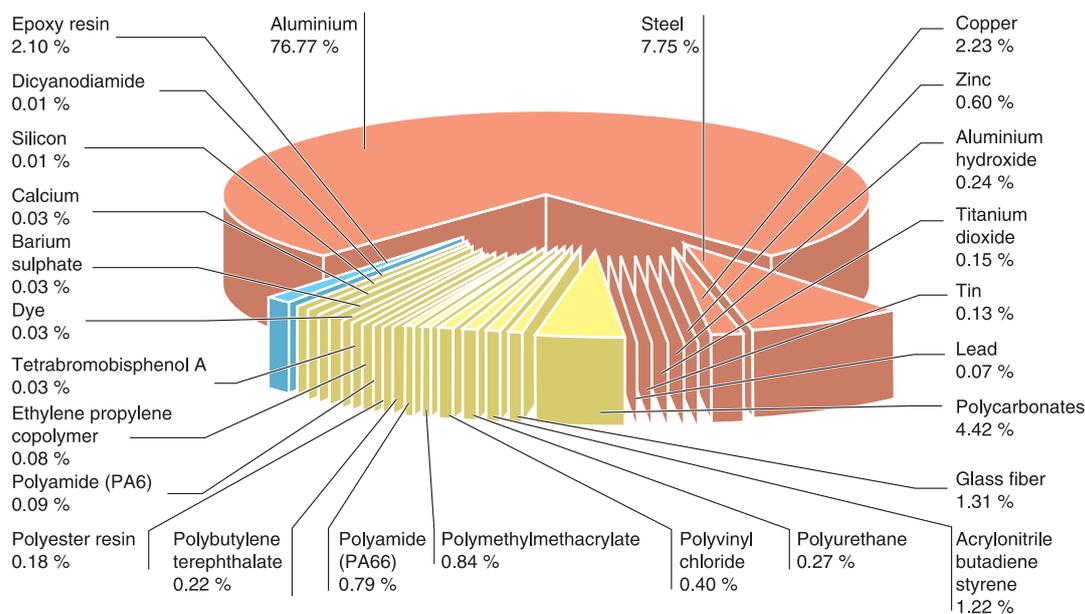
The environmental impacts of this referenced product are representative of the impacts of the other products of the range which are developed with the same technology.

The environmental analysis was performed in conformity with ISO 14040 "Environmental management: Life cycle assessment – Principle and framework".

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

## Constituent materials

The mass of the product line ranges from 4.5 to 10.4 kg with packing excluded. The product analysed is XUSLP Z 2A 0600 Safety Light Curtain. The constituent materials are distributed as follows:



The "Other" category includes different elements which represent less than 1 % of the product mass, such as Aluminium Hydroxide (Al(OH)<sub>3</sub>), Polyurethane (PU, flexible foam), and Polyvinyl Chloride (PVC).

Lead constitutes 0.07 % of the weight of the product.

All necessary steps have been taken with our services, suppliers and subcontractors to ensure that the materials used in the composition of the XUSLP Z 2A 0600 Safety Light Curtain do not contain any substances prohibited by the legislation that was in force <sup>(1)</sup> when the product or range was put on the market.

(1) List available on request.

## Manufacturing

XUSLP Safety Light Curtains are manufactured at an ISO 9001:2000 production site which complies with the regulations governing industrial sites.

## Distribution

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

The XUSLP Z 2A 0600 Safety Light Curtain packaging weight is 1.46 kg. It consists of cardboard, polyethylene foam end caps and blocks. (Net product weight 3.18 kg, gross 4.54 kg.) The packaging weight is approximately 25 % foam and 75 % cardboard.

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

# Product Environmental Profile - PEP

## Utilization

The product XUSLP Safety Light Curtain does not generate environmental pollution requiring special precautionary measures (noise, emissions, and so on).

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

The electrical power consumed by the XUSLP Z 2A 0600 Safety Light Curtain is 8.4 W with unloaded outputs and 10.6 W with loaded outputs.

This consumed power represents less than 13.3 % of the total power which passes through this product.

## End of life

At end of life, the products of the XUSLP Safety Light Curtain range must be dismantled to facilitate the recovery of the PCBs larger than 10 cm<sup>2</sup>. The remainder of the product can be grinded to facilitate the recovery of the various constituent materials.

The proportion of recyclable material is higher than 70 %.

This percentage includes the following materials: aluminium and copper.

The end of life details appear on the product end-of-life recovery sheet.

## Environmental impacts



The EIME (Environmental Impact and Management Explorer) software, version 1.6 build 611, and its database, version EIME were used for the life cycle assessment (LCA).

The scope of the analysis was limited to a XUSLP Z 2A 0600 Safety Light Curtain.

The assumed service life of the product is 10 years with a utilisation rate of the installation as follows:

- Detection Phase: 34 %
- Stand-by Phase: 66 %

The environmental impacts were analysed for the Manufacturing (M) phases, including the processing of raw materials, and for the Distribution (D) and Utilisation (U) phases.

### Presentation of product environmental impacts

Environmental indicators	Unit	For a XUSLP Safety Light Curtain					
		S = M + D + U	M	D	U	% M	% U
Raw Material Depletion	Y-1	3.17 10 <sup>-14</sup>	2.88 10 <sup>-14</sup>	1.54 10 <sup>-17</sup>	2.84 10 <sup>-15</sup>	90.99	8.96
Energy consumption	MJ	3.92 10 <sup>3</sup>	1.03 10 <sup>3</sup>	11.0	2.88 10 <sup>3</sup>	26.27	73.45
Water Depletion	dm <sup>3</sup>	6.71 10 <sup>2</sup>	2.47 10 <sup>2</sup>	1.07	4.23 10 <sup>2</sup>	36.81	63.03
Global Warming	g≈CO <sub>2</sub>	2.25 10 <sup>5</sup>	6.57 10 <sup>4</sup>	9.62 10 <sup>2</sup>	1.58 10 <sup>5</sup>	29.23	70.35
Ozone Depletion	g≈CFC-11	3.24 10 <sup>-2</sup>	1.55 10 <sup>-2</sup>	6.30 10 <sup>-4</sup>	1.63 10 <sup>-2</sup>	47.80	50.26
Photochemical Ozone Creation	g≈C <sub>2</sub> H <sub>4</sub>	86.7	31.3	1.20	54.2	36.07	62.55
Air Acidification	g≈H <sup>+</sup>	36.9	12.3	2.28 10 <sup>-1</sup>	24.3	33.45	65.93
Hazardous Waste Production	kg	2.63	4.63 10 <sup>-1</sup>	3.40 10 <sup>-4</sup>	2.16	17.64	82.35

The life cycle analysis shows that the Usage phase is the life cycle phase which has the greatest impact on the majority of environmental indicators.

# Product Environmental Profile - PEP

## System approach

Please note that the environmental impact values given above are only valid within the context specified and cannot be directly used to draw up the environmental assessment of the installation.

## 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)**

This indicator gives the quantity of energy consumed, whether it be from fossil, hydroelectric, nuclear or other sources.

This indicator takes into account the energy from the material produced during combustion. It is expressed in MJ.

### **Water Depletion (WD)**

This indicator calculates the volume of water consumed, including drinking water and water from industrial sources.

It is expressed in  $\text{dm}^3$ .

### **Global Warming Potential (GWP)**

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. The effect is quantified in gram equivalent of  $\text{CO}_2$ .

### **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 ( $\text{C}_2\text{H}_4$ ).

### **Air Acidification (AA)**

The acid substances present in the atmosphere are carried by rain. A high level of acidity in the rain can cause damage to forests.

The contribution of acidification is calculated using the acidification potentials of the substances concerned and is expressed in mode equivalent of  $\text{H}^+$ .

### **Hazardous Waste Production (HWP)**

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.

It is expressed in kg.



*We are committed to safeguarding our planet by "Combining innovation and continuous improvement to meet the new environmental challenges".*

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