Product Environmental Profile

OptiLine 50 Power socket outlets

PEP ecoPASSPORT®

Schneider Electric

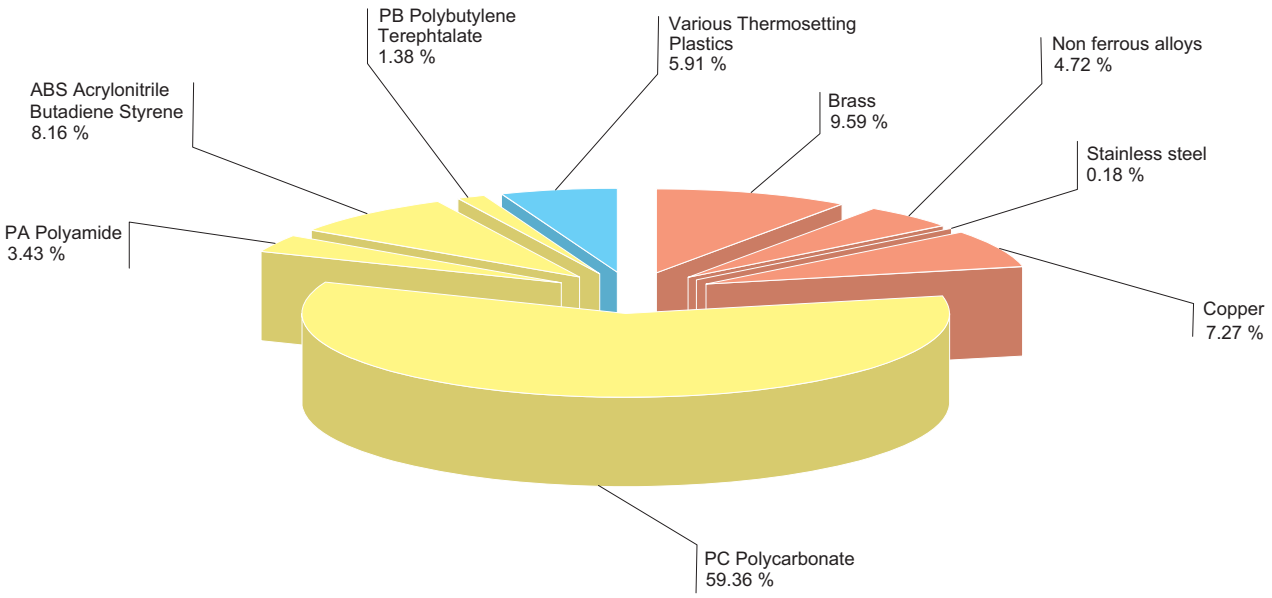
Product Environmental Profile - PEP

Product Overview

The main function of the OptiLine 50 power socket outlet product range is to distribute electricity to the end user in commercial buildings. It is a tool-less system based on OSI interface.
This range consists of socket outlets double 45 ºC, OSI termination.
The representative product used for the analysis is a power socket outlet, double 45 ºC (ref. no. INS 62000).
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 power socket outlet, double 45º (ref. no. INS 62000) is 87.5 g.
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 OptiLine 50 power socket outlet product range is manufactured at a Schneider Electric production site on which an ISO 14001 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 power socket outlet double 45 ºC (ref. no. INS 62000) packaging weight is 11.4 g. It consists of cardboard (8.4 g) and polyethylene (3 g).
The product distribution flows have been optimised by setting up local distribution centres close to the market areas.

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Utilization

The products of the OptiLine 50 power socket outlet range do not generate environmental pollution requiring special precautionary measures (noise, emissions, and so on).

End of life

At end of life, the products in the OptiLine 50 power socket outlet range can either be dismantled or grinded to facilitate the recovery of the various constituent materials.
The proportion of recyclable material is higher than 16 %.
This percentage includes the following materials: Steel, copper, non ferrous alloys and brass.
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 4.0, and its database, version V10 were used for the life cycle assessment (LCA).
The assumed service life of the product is 20 years.
The scope of the analysis was limited to a power socket outlet, double 45º (ref. no. INS 62000).
The environmental impacts were analysed for the Manufacturing (M) phases, including the processing of raw materials, and for the Distribution (D) and Utilization (U) phases.

Presentation of the environmental impacts

Environmental indicators	Short	Unit	One power socket outlet, double 45º, INS62000			
			S = M + D + U	M	D	U
Raw material depletion	**RMD**	Y-1	$7.441E^{-16}$	$7.4274E^{-16}$	$1.3622E^{-18}$	$0.00E^{+00}$
Energy depletion	**ED**	MJ	15.644	14.716	$9.2809E^{-1}$	$0.00E^{+00}$
Water depletion	**WD**	dm^3	4.385	4.271	$1.1397E^{-1}$	$0.00E^{+00}$
Global warming	**GW**	g ~CO_2	$9.7325E^{2}$	$9.245E^{2}$	48.748	$0.00E^{+00}$
Ozone depletion	**OD**	g ~CFC-11	$1.4242E^{-4}$	$1.1246E^{-4}$	$2.996E^{-5}$	$0.00E^{+00}$
Photochemical ozone creation	**POC**	g ~C_2H_4	$3.907E^{-1}$	$3.4827E^{-1}$	$4.2431E^{-2}$	$0.00E^{+00}$
Air acidification	**AA**	g ~H^+	$2.8054E^{-1}$	$2.7199E^{-1}$	$8.5499E^{-3}$	$0.00E^{+00}$
Hazardous waste production	**HWP**	kg	$9.7344E^{-3}$	$9.6523E^{-3}$	$8.2056E^{-5}$	$0.00E^{+00}$

The life cycle analysis shows that the manufacturing phase (M) 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.

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System approach

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.

N.B.: 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.

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 dm^3.

Global Warming (GW)

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 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 ethylene (C_2H_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 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.

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

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